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2 Military and political participation in archaic-classical Greece

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Ian Morris

Stanford University

Abstract: In this paper I examine the “bargaining hypothesis” about democracy by calculating military and political participation ratios in Greece (MPR and PPR). I find that high (>10%) MPR coincided with high PPR, but was only one path toward state formation. Except in extreme situations like the Persian invasion of 480, high MPR and PPR depended on specific patterns of capital accumulation and concentration. In situations of high capital concentration rulers could substitute high spending for high MPR and PPR, preserving desirable social arrangements. Through time, the importance of capital concentrations grew. War made states and states made war in ancient Greece, as in early-modern Europe, but in different ways.

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3 Introduction

John Ferejohn and Frances Rosenbluth ask “how norms, political structure, and warfare interacted in Greece, and why that combustible mix of full mobilization and politics turned out so differently across the great medieval divide” (Ferejohn and Rosenbluth 2004: 1). This is a good question. I’ve read a few things on early-modern state-formation, but haven’t thought about the issues in quite that way before. This memo is just a few preliminary comments about the Greek side of the equation. I think the answer to Ferejohn and Rosenbluth’s question may lie in the different roles of capital in classical and early-modern war. Really high military participation ratios (MPR) did coincide with high political participation ratios (PPR) in one phase of classical Greek history (basically the fifth century BC), and there must have been causal links between MPR and PPR; but this was only one path of state-formation in ancient Greece, depending on a particular pattern of capital accumulation and concentration, and other paths, driven by other patterns, led to quite different distributions of MPR and PPR. Their contrast of two ideal types may be too blunt to capture the variety on the Greek side; but overall, I’d say that the economic and institutional differences on either side of the medieval divide were so profound that there was never really much likelihood of early-modern mass mobilization paralleling the varied outcomes we see in archaic-classical Greece.

In sections 2 and 3, I define what I mean by “high” or “really high” MPR and PPR. In sections 4 and 5, I discuss two variables that seem crucial to me for understanding Greek MPR—fear and capital, then in section 6 sketch the major paths toward state formation in classical Greece, and sum up in section 7.

2 Levels of military participation

Ferejohn and Rosenbluth speak of “full mobilization” in classical Greece. But what does this mean? Reliable numbers are very hard to come by, but there has to be a quantitative basis to the discussion. There’s necessarily a lot of guesswork in the figures I offer, but here are a few cases to set some parameters.

At Marathon in 490 BC, the Athenians fielded 9,000 hoplites. They took no cavalry, and must also have left some troops in the city; if they had a total armed force of 10,000-15,000, out of a total resident population of maybe 200,000-250,000 in Attica, we get $MPR = 4-6\%$.

At Salamis in 480 BC, the Athenians had 180 ships. We can probably assume that they manned them all (though perhaps not at full strength of 180-200 men) from the population of Attica, requiring between 27,000 (skeleton crews) and 36,000 men. If the population of Attica was roughly the same as in 490, $MPR = 11-18\%$.

In 431 BC, Thucydides (2.13) says, Athens had 13,000 hoplites, 16,000 garrison troops, 1,200 cavalry, and 1,600 light infantry. Estimating Athenian naval forces is more difficult. Thucydides says 300 hulls were available. Plutarch (*Pericles* 11) says that Athens regularly put 60 ships to sea, meaning (at full strength) about 11,000-12,000 men;

but in the early 420s they sent out 250 ships (probably 45,000 men). We don't know who rowed; certainly many poor citizens, but Thucydides (1.143) makes it clear that non-Athenian mercenary rowers were important, and slaves were probably common too (Strauss 1986: 70-73 and Hunt 1998: 83-101 are useful on all this). Plus some of the 31,800 land troops may also have doubled up for naval campaigns (cf. Thucydides 3.16; 8.24, though admittedly these were special cases). As a conservative estimate, I'll say that another 10,000-15,000 Athenians would have served in the fleet in 431, for a total of 41,800-46,800, from a resident population in Attica of about 350,000. This means MPR = 12-13%, and I suspect this guess may be on the low side.

The Spartans normally called up 2/3 of their full citizen (Spartiate) class, but calculating MPR gets a bit difficult. At Plataea in 479 BC, Herodotus (9.11, 28-29) says they had 5,000 Spartiates, 5,000 *perioikoi* ("dwellers around," a subordinate status group), and 35,000 helots (plus there were Spartans at Mycale, allegedly on the same day [Herodotus 9.100-103]; arbitrarily, I'll say 5,000 more men, of whatever status). It's hard to estimate the population of Spartan territory in 479. Probably there were 30,000-35,000 members of Spartiate families, and Tom Figueira (2003) and Walter Scheidel (2003) both guess around 120,000 helots, using very different methods; but we really have no idea about the *perioikoi*. If we arbitrarily add another 30,000-35,000 souls, we get a total resident population of 180,000-190,000 and armed forces of 50,000, or MPR = 26-28% (i.e., basically every adult male in Laconia and Messenia!). Figueira believes that Herodotus' figures (above all the crucial one for helots) are about right; Scheidel (2003: 245) is surely right to be more skeptical.

Thucydides (5.68) gives us a chance to calculate the Spartans (Spartiates and *neodamodeis*, newly freed helots) at the battle of Mantinea in 418 BC. The number comes out to 4,484, but there are all kinds of problems, and most historians think it was in fact something like 9,000 men (Cartledge 1979: 253-57; Kagan [1981: 122] implies a lower number). At best, MPR = 5-6%.

At Leuctra in 371 BC, there were most likely just 2,250 Spartiates, *perioikoi*, and *hypomeiones* (another inferior status group; Xenophon, *Hellenica* 6.4, with Cartledge 1979: 294). In this case, though, we suspect that only about half the Spartiates went with king Cleombrotus, so most likely the call-up of other status groups was also restricted. But even if we assume this was only a 50% effort, MPR would just be about 3-4%.

There are other cases, but this is enough to show that MPR varied. I'll discuss why in sections 3-4. For now, I just want to establish a benchmark for what constitutes a high MPR. The most useful comparisons, I think, are with other ancient Mediterranean states that had much lower PPRs than most *poleis*. Because of the limits of my knowledge I can only give a couple of examples, but I think they're helpful.

At the battle of Qarqar in 853 BC, Shalmaneser III of Assyria fought a coalition of 12 Syro-Palestinian kings (including Ahab the Israelite). The "Monolith Inscription" (trs. Pritchard 1958: 188-91) lists the coalition forces at nearly 60,000+ men and 3,940 chariots. Since we do not know the populations of the 12 kingdoms, we cannot calculate MPR; but most historians assume that Shalmaneser had about as many troops as his foes (e.g., van de Mieroop 2004: 227; cf. Fales 2000). In 845 he says he used 120,000 troops against another Syrian coalition (Saggs 1984: 253). No one seems to know how precise these figures are, but the experts apparently all treat them seriously. It's also hard to estimate the pool the Assyrians drew on for manpower, but putting various recent

discussions together (Bedford, forthcoming), it seems that it must have been around 2 million. If we estimate Shalmaneser's forces in the 60,000-120,000 range, MPR = 3-6%.

The most notorious Near Eastern figures are Herodotus' count (7.184, 187) of 2,317,610 combatants in the Persian force invading Greece in 480 BC, for a total of 5,283,220 men (not including courtesans, female cooks, and eunuchs). Walter Scheidel has estimated the population of the empire at around 20 million-25 million, so this would make MPR = 20-25%. Other Greeks (like Simonides: Herodotus 7.228) believed something like these figures, but so far as I know, no one else does. N. G. L. Hammond (1988: 534) decided there were 650,000 men (MPR = 2.5-3.25%), but had no very obvious reasons for doing so. Pierre Briant, by contrast, only speaks of reducing Herodotus' figures "by 25, 50 or 60 percent" (1999: 117), which would leave over 2 million men (MPR = 8-10%).

It's hard to know what to do with information of this caliber, except to observe that Persian forces could be huge, and it took several years to assemble them for really big campaigns. Herodotus' narrative makes little sense unless Xerxes had at least a few hundred thousand men; and as Hammond points out, Mardonius must still have had a good 150,000 men in 479, and the original force must have been at least two or three times as big. Maybe his guess isn't far wide of the mark.

It'd be good to gather more data, but even these factoids suggest that the Athenian MPR in 490 BC and Sparta's efforts in 418 and 371 were not particularly high. The rough figures I've suggested for Assyria and Persia are a bit lower (around 3%, as against 4-6%), but not much. The figures that really jump out are the Athenians in 480 (11-18%) and 431 (12-13%), and Sparta in 479 (26-28%). I will define MPRs over 10% as being "high," and will try to explain the high scores in sections 4 and 5.

3 Levels of political participation

The basic facts are well known, so I'll be brief.

At Athens, the assembly of all male citizens over age 18 was the most important decision-making body by 507 BC. It probably increased its powers in the early fifth century, but Aristotle thought that it lost ground after 480, because of the prestige that the more aristocratic Areopagus council garnered for organizing resistance against Persia. But it regained its losses, and more, with Ephialtes' reforms in 462/1. The Council of 500, on which nearly all Athenian citizens over 30 served during their lives, drew up the agenda, and anyone who showed up to the assembly could speak. Most likely there were 30,000-40,000 adult male citizens in a resident population of 300,000-350,000 in these years, and typically 6,000-8,000 showed up for assembly meetings (Hansen 1985). This gives us PPRs of 9-13% for the "imagined community" of all citizens, and 2-3% for the citizens who actually showed up on any given day.

At Sparta, all Spartiates over 30 could attend the monthly assembly. Unlike the Athenian assembly, there was little or no debate; the Council of Elders proposed, and the assembly voted (by shouting). The kings and Elders had the right to overturn "crooked" assembly decisions, but throughout classical times the assembly was an important institution (Andrewes 1966), even if masters of the patronage game could work around it (Hodkinson 1983). Given the small number of Spartiates, probably all of them could have attended any given assembly if they'd wanted to; but as Spartiate numbers fell from about 8,000 in 479 BC to just 1,500 or so a century later, PPR declined from about 4% to

probably under 1%. So, if we compare the Athenian imagined community with the Spartan assembly, Sparta's PPR was always low; if we compare actual attendance, Spartan PPR was higher than Athenian in the early fifth century, but lower in the fourth.

In both the Assyrian and Persian Empires, PPR was very low. In ninth-century Assyria, the kings ruled through a coalition of top aristocrats, often called the *mar banûti* (sons of heaven). These men provided military levies for the king, in return getting vast estates and plenty of plunder. By the time of Shalmaneser III's death in 824 the system was breaking down, and the kings had to concede increasing amounts of power to local governors. The commander-in-chief Shamshi-ilu waged wars in his own name, and during "the Interval" (782-745 BC) local governors started calling themselves kings. Tiglath-Pileser III broke the cycle after 744 BC, recruiting troops directly (often from deported prisoners of war), and restructured politics (Kuhrt 1995: 493-540). Between c. 900 BC and its territorial maximum around 640 BC, the empire's population grew from about 2 million to perhaps 10 million; a PPR of even 0.1% would have required 2,000-10,000 people to have been involved in major decision-making (harder to define in an empire than in a city-state, of course). I doubt that this was the case.

The Persian Empire worked differently, particularly after Darius I's creation of the satrapy system around 520 BC. A large court followed the emperor around between his residences, and he negotiated by letter with the scattered satraps. To make PPR = 0.1% we would need to define 20,000-25,000 subjects of the empire as being actively involved in politics; again, this seems wrong.

In Assyria and Persia, PPR was extremely low (<0.1%). In Athens and Sparta it was at least an order of magnitude higher; and if we calculate PPR relative to the imagined political community, Athens scores two orders of magnitude higher.

4 Military participation ratios: fear factor

There's an obvious explanation for the high Spartan and Athenian MPRs in 480/79: the fear factor. Persia posed an existential threat. Xerxes planned to destroy both cities. The Athenians had submitted to Persia in 506, hoping for protection against Spartan attack. The act of submission—sending earth and water—constituted a religious as well as a political act, recognizing Ahuramazda's cosmic order and Darius I's place as its representative on earth (Kuhrt 1995: 676-82). The attack didn't materialize, but that didn't matter; when the Athenians backed the Ionian Revolt in 499, they obligated Darius to punish them. Punishment for rebels was severe: around 520 Darius described how when he captured the rebel Tritantaechmes "I cut off both his nose and his ears and put out one eye. He was kept bound at my palace entrance, and all the people saw him. Afterward I impaled him at Arbela" (DB 3.85-91). In 494 Darius devastated the Greek rebels of Ionia so badly that their cities never recovered. The Athenians were so traumatized that when Phrynichus produced a tragedy called *The Sack of Miletus* in 492, the Athenians fined him and banned it from being staged again. In 490 Darius destroyed Eretria (which wasn't even a rebel city). He'd apparently planned to massacre everyone, but at the last moment relented, and transported the survivors to southwest Iran (Herodotus 6.119). Athens and Sparta had a lot to be worried about. Sparta had opposed Persia since 546 (Herodotus 1.153), and to make their commitment to fighting credible, both Athens and Sparta broke one of antiquity's most serious religious laws. When Darius sent ambassadors demanding earth and water, they killed them. The Athenians

threw them off a rock, like condemned criminals, while the Spartans threw them down a well, telling them to take all the earth and water they wanted (Herodotus 7.133). Xerxes didn't even bother asking Athens or Sparta to submit in 481. Everyone in Athens and Sparta knew that defeat meant death, slavery, or (at the very least) transportation. Hence their all-or-nothing efforts.¹

Sparta in fact had a double fear: defeat meant destruction at Persia's hands, but a full Spartiate effort leaving the helots unsupervised might mean an uprising and destruction at helot hands. That may be why Herodotus says that the Spartans took 35,000 helots to Plataea. The figure (which, as Walter Scheidel points out, may be too high) implies that they basically emptied Laconia and Messenia. This was a one-time effort, never repeated (the theory that helots normally made up the bulk of the Spartan phalanx [Hunt 1997] is probably mistaken [Figueira 2003: 219 n. 48]). Sparta never again reached MPR = >25%. I'd guess that the dire (but less dire than 480-479) emergency of Mantinea in 418, where MPR = <6%, represents the Spartan maximum under "normal" conditions.

This suggests that when fear was strong enough, it could drive up MPR, regardless of PPR. But Athens' high MPR in 480 (11-18%) differs in two ways. First, if fear of destruction was the motor, why was MPR so much lower (4-6%) in 490? And second, why did high MPR become the normal situation in Athens, but not in Sparta? We don't have the data we'd need to quantify MPR in most years in the fifth century, but it was clearly high. In the early 450s Athens had a huge fleet in Egypt² and hoplites fighting in Halieis, Megara, Aegina, Cyprus, and Phoenicia. When the Corinthians tried to take advantage of this, a force of Athenian boys and old men defeated them (Thucydides 1. 105-106). MPR was surely >10% in every year between 460 and 454 (or even 447).

5 Military participation ratios: capital and the state

We all know why MPR was so high in Athens from 480 on: because of the fleet. Themistocles persuaded the assembly to spend the state's tax revenues from the huge silver strike of 483/2 on building triremes, and from then on large numbers of Athenians regularly rowed in the fleet. The Old Oligarch and Aristotle famously linked this form of high MPR with high PPR and the democratic power of the poor.

Thucydides (1.13) says Ameinocles of Corinth built the first triremes in Greece, for Samos, around 700 BC; and that Corinth and Corcyra fought the first naval battle,

¹ A digression—while the fear factor increased MPR significantly in 480-479, the hate factor apparently worked less well. There's endless debate over whether hate or fear of Persia counted for more in the Delian League in the 470s; either way, as outright fear declined, the subject cities became less willing to contribute. By the 420s Persia inspired little hate or fear; Sparta negotiated for Persian aid in 424, and in 411 signed away Ionia. Several *poleis* took Persian money to fight Sparta in 394; in 334 Alexander couldn't trust the Greeks to fight Persia, and in 334/3 some Ionians preferred Persian to Macedonian rule. Diodorus (14.45-46) says that Dionysius I deployed a combination of fear and hate effectively against Carthage in 398, but his army evaporated in 396 (see section 6 below). Pyrrhus had a similar experience in 278-276. Syracuse, Akragas, and Leontinoi submitted to him out of fear of Carthage, only to find him even worse than the Carthaginians; so they then defected to Carthage.

² I just don't buy arguments that Thucydides (1.104, 109-110) was wrong (or there's textual corruption) in saying that 200 triremes went to Egypt in 460 and 50 more in 454, and in calling it a multitude (*πολλων*, 1.110.1).

around 664. But fleets were tiny until about 525, and probably consisted mostly of little penteconters (Wallinga 1993).

State structures were the main reason that naval war was so undeveloped in archaic Greece. Our knowledge is spotty, but until at least 550 “the state” normally seems to consist of a few aristocrats, agreeing to give up certain powers in order to take turns making decisions that affect the whole territory. Almost all early law is procedural, regulating who’s in charge when, setting limits on their authority and punishments for men who refuse to give up office. Already in the mid-seventh century, aristocrats who tried to seize sole power were stigmatized as *tyrannoi*. From Hesiod’s *Works and Days* (c. 700) on, the colleges of aristocrats seem very susceptible to popular opinion; compared to the impression we get in Egyptian and Near Eastern sources, the poor exercised a lot of control over archaic aristocrats (Morris 2000: 155-91).

States didn’t do much in archaic Greece. Their revenues apparently came almost entirely from indirect taxes (especially harbor and market dues) and income from land or other properties belonging to the community as a whole (including a tax on mineral deposits, like the Athenian silver; Andreades 1933). Officers spent most of their meager resources on religion.³ States barely invested in infrastructure. The *diolkos*, a narrow road built across the isthmus of Corinth around 600, giving ships a shortcut and the Corinthian state a chance to charge tolls, was unique; so too Eupalinos’ sixth-century tunnel, cut a mile through a mountain to bring water to Samos town. Most *poleis* had fountain houses and fed through clay water pipes, but not much else. Roads and harbors were crude. The major activity may have been the issue of coinage, which probably began in a few places around 570. In Athens, though, there were apparently several competing mid-sixth-century mints, which may indicate non-state coinages. Many states didn’t release a coinage of their own. Even colonization was probably largely in private hands.

These states concentrated very little capital. Some of the tyrants may have changed this a little, instituting direct taxes. The Cypselids of Corinth and Polycrates of Samos certainly had reputations for wealth. But, as Andreades pointed out (1933), they also had higher expenses, running a court and a bodyguard.

The archaic aristocrats were just as weak as the states they ran. Most premodern aristocracies monopolize ideological, economic, or military sources of power (borrowing Mann’s [1986] terminology). Iron Age Near Eastern rulers claimed to have special access to the gods (or, in Egypt, to *be* gods), controlled vast financial resources, and led armed forces with expensive cavalry, chariots, and fortifications. Archaic Greek aristocrats failed to master any of these sources of power. The separation between secular and sacred authority in Greece was remarkable (Herodotus [1.132] was shocked that in Persia no one could sacrifice without a magus present). In 480, the richest man in Athens could afford to outfit a trireme at his own expense (Herodotus 8.17); but the richest man in Lydia that

³ Prior to 750, there were virtually no temples in Greece. People built a few thousand temples in the seventh century. Most were not much more expensive than fancy houses, but the bigger *poleis* put up hundred-footers by 700, and all-stone temples appeared before 650. By 600 temples could consume enormous amounts of labor and resources (Salmon 2001). In the sixth century, when we have information, the state organized and financed their construction. Akragas raised 200 talents to build the temple of Zeus in the 570s (Polyaenus 5.1.1), and Coulton (1977: 192 n. 27; cf. De Angelis 2003: 163-69) calculates that temple-building at Selinous between 550 and 460 cost 1,500-2,000 talents. Both Coulton and De Angelis assume that an average layout of just 17-22 talents p.a. was beyond Selinous’ capacity, so wealthy individuals must have made large contributions.

year was worth hundreds of times as much (Herodotus 7.28). Lacking ideological, economic, and military power, archaic Greek aristocrats had to negotiate political authority as best they could.

Not much work has been done on Greek standards of living, but I've argued from skeletal and housing evidence that there were steady improvements from the eighth century through the fourth. By 300 BC, per capita consumption in Greece was probably 50% higher than it had been in 800, despite a ten-fold increase in population size. Further, the improvements seem to have been very broadly distributed. The main motor for this growth, I suggest, was the Greeks' ability to exploit their geographical position for Mediterranean trade. Gains from trade benefited many peoples around the basin, but the Greeks above all. The settlement of southern Italy and Sicily, doubling the amount of good arable land in Greek hands, was probably crucial, along with the clarification of property rights (in their own persons as well as in land) that citizenship gradually brought about (Morris 2004; 2005).

Borrowing terms from Tilly (1992: 18), we might say that in archaic Greece there were high accumulations of capital, but low concentrations. Hoplite war, as it developed from about 700 BC, was perfectly suited to this situation. Hoplite warfare was capital-intensive, but most of the costs were privately borne.⁴ Hoplites normally provided their own arms and armor. In the fourth century, a good suit of armor cost 300 drachmas. Hunt (1998: 100 n. 89) suggests that mediocre armor would probably cost 100 drachmas. If the Athenian state had had to equip its hoplites at Marathon, it would have cost 150-450 talents. If we can amortize a suit of armor across twenty years (a guess), this represents 7.5-22.5 talents/year—not far short of what Selinous spent on temples. In classical times Athens paid each hoplite 1 drachma/day for a servant to carry his armor, etc.; the Marathon campaign only lasted a couple of weeks, but even this would have needed another 20+ talents. Outsourcing hoplite war to private suppliers saved *poleis* a lot of money.

The biggest cost, though, was training. A phalanx depended totally on discipline and coordination (Hanson 1989: 96-125), which meant citizens giving up their time to train (Pritchett 1974: 209-219). Herodotus emphasizes that when the Persians and Spartans clashed in 480, Xerxes learned that he “had in his army many men, but few soldiers” (7.210; cf. 9.62). In creating hoplites, drawn probably from the wealthier 25-33% of the peasantry, *poleis* invested heavily in human capital, and private citizens bore nearly all the costs. This was perfectly suited to societies with high accumulation and low concentration of capital, and had major consequences. For all archaic *poleis* except Sparta (to which I'll return), war was an amateur affair, with campaigns fought in the agricultural off-season, and regularly settled by a single battle. Hoplites didn't go far from home and didn't do sieges. High hoplite MPR and (at least informally) high PPR came together. And despite the hoplites' obvious vulnerability on rough ground, the *poleis* largely refrained from deploying light infantry before the Peloponnesian War. Most *poleis* fielded a few cavalry, but these too were privately funded. Most of the time it was only in Thessaly and Sicily that enough men could support horses to constitute a serious battlefield presence.

⁴ There were exceptions, like Dionysius I's military buildup in 399/8 (Diodorus 14.41-43).

There are plenty of examples of *poleis* whose hoplites didn't train enough, and collapsed easily; mercenaries might have been more cost-effective (see Xenophon, *Hellenica* 6.1.5). But archaic states just didn't have the resources to hire mercenaries. When Egypt rebelled against Assyria in the 660s, Psamtik/Psammetichus hired Greek and Carian hoplites (Herodotus 2.152-54). In the 590s Greek mercenaries carved their names on statues at Abu Simbel, and Sappho's brother served as a mercenary for Babylon. But the *poleis* relied on their own citizen militias. Nino Luraghi (1994: 166-72) argues that Hippocrates of Gela used Greek and Sicel mercenaries in the 490s, funding them by maneuvers like selling the population of Zancle into slavery (Herodotus 6.23; I'll come back to Hippocrates in section 6).

Sparta's conquest of Laconia and Messenia produced a rather different outcome. Virtually everything about early Spartan history is disputed (the papers in Hodkinson and Powell [1999] and Luraghi and Alcock [2003] give a good sense of this), so I'll just state my own opinions (I largely follow Parker 1993 and Shaw 1999 on chronology). The Spartans probably conquered Laconia in the ninth century, reducing the population to helotage, exploiting and developing belief in ethnic difference between Dorian Spartiates and Achaean natives. When population growth increased competition for resources all over the Mediterranean in the eighth century, Sparta responded (probably around 700) by conquering Messenia and extending helotage. Most likely the Spartiate-helot system that we know from our texts only really started taking shape after the Second Messenian War (end of the seventh century), with Spartiates becoming full-time warriors, supported by state-owned serfs (I find van Wees 2003 much more convincing than revisionist theories like Ducat [1990] and Luraghi [2002; 2003]). Sparta invested more in a certain kind of human capital than any other *polis* (although—as Josh Ober points out in his paper—there were other kinds of human capital that they conspicuously neglected).

In one sense the Spartiates were an extreme version of the archaic citizen bodies developing elsewhere, taking equality, high MPR, and high PPR to unusual levels. In another, they were completely different, giving the state remarkable powers, and preserving strong military kings. They tried extending serfdom into Arcadia in the 560s, but had reached the limits of their striking power (Herodotus 1.66-68).

The big change comes in the late sixth century, when some states created much larger concentrations of capital. Thucydides says that “as the importance of acquiring money became more and more evident, tyrannies were established in nearly all the cities, revenues increased, shipbuilding flourished, and ambition turned toward sea-power” (1.13.1). Corinth exploited its position controlling the isthmus to become rich, then, “when the Greeks began to take more to seafaring, the Corinthians acquired a fleet, put down piracy, and, being able to provide trading facilities on both the land and the sea routes, made their city powerful from the revenues which came to it by both these ways” (Thucydides 1.13.5).

Thucydides' reconstruction faces all the usual source problems, but I think it's pretty much right. Seaborne trade expanded drastically in the sixth century. The relationship between Greek pottery and actual trade remains obscure, but running a big excavation of an indigenous sixth-century-BC Sicilian settlement (Morris et al. 2001; 2002; 2003; 2004; Morris and Tusa 2004) has made me acutely aware of the penetration of Greek material culture into the west Mediterranean hinterlands. Around 600 BC, barely 5% of the finewares on indigenous sites (including Sardinia, mainland Italy,

southern France, and eastern Spain) are Greek⁵ (mainly Corinthian). By 550, it's more like 15% (mainly Ionian); by 500, closer to 25% (now mainly Athenian); and by 400, almost all fine ceramic production is Athenian in style. Greek wine amphoras show up everywhere in the sixth century (Albanese Procelli 1996; Dietler, forthcoming). Overall, only a very small percentage of Mediterranean products were moved far from the site of production, but small changes at the margin had massive consequences for Greece. The major jump in house sizes all around Greece comes c. 500 (Morris 2005) and the great bursts of state-funded temple-building also come in the late sixth century. I suggest that trade passed a crucial threshold between 550 and 500, and that by the end of the sixth century taxes on it allowed the office-holders in those cities that were heavily involved to concentrate much more capital than anyone had seen before. Those cities (Corinth, the Ionians [before the 494 destructions], the Aegean islanders [Samos, Chios, Lesbos, Aegina, Naxos], Athens, Syracuse) emerged as naval powers, particularly when tyrants controlled their institutions. Tyrants presumably had to negotiate the release of capital with local aristocrats, which must have created some of the same problems that early-modern absolutist monarchs faced; but they could apparently concentrate wealth more effectively than oligarchies, which had to agree to tax themselves.

I want to make two points about this. First, there's a good amount of overlap (though it's far from 1:1) between this list and the cities that gave major political power to the poor between 525 and 490. Second, naval power actually depended on two things. One was a state concentration of capital, to pay for triremes.⁶ Victory in war or a big silver strike might cover the start-up costs, but states had to be confident of continuing revenues, and the only plausible source is taxes on high levels of imports and exports.

The other foundation of naval power was human capital. The difference between good and bad rowers was often decisive (spectacularly so in Thucydides 2.84). The Athenians famously learned to be great sailors by being paid by the state to row in peacetime (e.g., Xenophon, *Memorabilia* 3.5.18, and Pritchett 1974: 225-27), but in the early stages of naval power, investment in human capital must have come mainly from private sources. Those cities that depended most heavily on trade would also be the ones who had most skilled sailors available (just as when the English built up their fleet in the sixteenth and seventeenth centuries, they relied disproportionately on manpower from the West Country, which had disproportionate concentrations of fishermen and pirates). Although Athens only built a major fleet in 483/2, already by 480 Athenian sailors were more skilled than Xerxes' Phoenicians (Herodotus 8.11, 17; cf. 8.93; Strauss 2004: xviii-xxi, and *passim*).

⁵ I'm skipping over another difficulty here, of telling Aegean fabrics from imitations of them made in the western colonies. Chemical analysis keeps showing that even the most expert visual inspection can be misleading (most recently, see Barone et al. 2004).

⁶ The standard assumption is that it cost 1 talent to build a hull, 1 per ship for rigging, and that a ship amortized out across 20 years. Gabrielsen (1994: 142) argues that costs varied, but the figures collected by Pritchett (1991: 473 nn. 704, 705) are good enough for me. In the fifth century pay for rowers would cost between 3 obols and 1 drachma per day, adding up to 1/2 to 1 talent/month/ship for wages. To support 50 triremes for a summer's campaign, then, Chios needed 100 talents up front, plus potentially as much as 80-155 talents per year (5 for maintenance and replacement, and 75-150 for wages if all men were citizens or mercenaries). Thucydides (8.15) says that the Chiots used some slaves; depending on the types of slaves used (state-owned galley slaves, or slaves rented from other owners), this might have lowered costs.

As late as c. 525 Sparta had been able to take naval action, because fleets were still very small (Herodotus 3.46-56). But by the end of the century, as maritime states concentrated capital and built triremes, exploiting the privately funded human capital of their own seamen and (at least in the fifth century) investing further in it with state wages, Sparta could not compete. Eric Jones (2000: 187) talks about an “optimality band” in which economic growth can happen, where the state is strong enough to protect property rights but not strong enough to be a predator. There was a similar optimality band for high naval MPR: there had to be a combination of broadly dispersed wealth (providing opportunities for many citizens to learn to row) with significant concentrations of wealth in state hands; but if the state’s wealth was too great, or preexisting PPR too low, the state might have used slave oarsmen as cheaper manpower. Some of the earliest naval powers (Samos, Syracuse) had tyrants, but there was a strong navy-democracy (in fact, navy-democracy-chattel slavery) correlation in the fifth century. Ober is probably right to suggest that democratic activity developed other types of human capital: the Athenians prided themselves on just being smarter than their enemies, and Herodotus’ and Thucydides’ narratives suggest there was something to this.

6 Paths toward state-formation

Thucydides (2.13) said Athens had 300 triremes in 431 BC. Putting them all to sea would have called for 60,000 crew, well beyond Athens’ manpower, even if the 31,800 land troops were pressed into service. But Athens’ leaders didn’t try to push their MPR up; instead, they used concentrated capital to purchase coercive power, hiring mercenary rowers, putting oars into slaves’ hands, and using in-kind contributions of ships and men from Samos, Chios, and Lesbos. In the early 420s Athens could put up to 250 ships to sea (Thucydides 3.17, with Kallet-Marx 1993: 130-34, 150-51); the only limit on Athenian military power was financial.

As Emily Mackil points out in her paper, the size of armies in important classical wars wasn’t determined by population and MPR: leading *poleis* built up state power by getting other people to fight for them. It seems to me that there were four main paths of state-formation in Greece between the sixth and the fourth centuries, which we can range along a spectrum from coercion-intensive to capital-intensive (cf. Tilly 1992: 1-37. My interpretation of how Tilly’s framework helps make sense of the data differs somewhat from Walter’s excellent treatment at another conference [Scheidel 2004]).

i) Sparta I. Hans van Wees (2003) has reminded us that Sparta’s conquest of Messenia was not unique; but it was certainly more successful than other archaic efforts at state-formation through conquest. It allowed Sparta to develop an unprecedented hoplite war machine, although (as noted above) the Spartans discovered the limits of their ability to project power in Arcadia in the 560s.

ii) Sparta II. After 550, Sparta stopped annexing territory and reducing its people to serfs, and started making alliances with oligarchs. Modern historians call this new organization the Peloponnesian League (I think Ste. Croix 1972: 96-151 is still the best account). They seem to have made bilateral treaties with nearly all Peloponnesian cities except Argos and the Achaeans, and with Aegina and Megara outside the Peloponnese. The allies swore to “follow the Spartans wherever they lead”; in return, the Spartans

pledged to come “with all strength and in accordance with its ability” to the aid of any ally attacked by an outside force. Allies were allowed to go to war with each other, and, after a meltdown in 506, acquired the ability to veto any Spartan plan. The League involved no tax, tribute, or other capital contributions; the allies just provided hoplites.

This new direction was very successful. As early as 546, according to Herodotus (1.68), “They had subdued the greater part of the Peloponnese,” and in 481 even Athens recognized Sparta as the most powerful Greek city. The Peloponnesian League was still expanding as late as 510-508, when it probably briefly included Athens, but it too then reached its limits, as the concentration of wealth in maritime states changed the rules of the game.

iii) Sicily. In the western colonial world, citizen communities were always more fragmented than those of the Aegean (Jackman 2005), and broadly shared socioeconomic trends (like the increase in wealth through trade in the late sixth century) had complicated results. As we might expect, there were democratic uprisings in the large, maritime city of Syracuse in 491 and 485; but whereas the upsurge in wealth coincided with the decline of tyranny in the Aegean, it coincided with its expansion in Sicily.

Thucydides (1.17) says that the Sicilian tyrants were the only ones who ever achieved much. Particularly in Syracuse, tyrants used the new wealth to hire mercenaries, and, according to Thucydides (1.14), they were among the first Greeks to use triremes in large numbers.⁷ They also had access to more cavalry than Aegean states, since Sicilian aristocracies consistently seem to have been richer than those of the Aegean (e.g., Diodorus 13.81, 84). Their open frontiers with native Sicily were also important, allowing them to develop very large territories and at least sometimes to enslave indigenous labor forces. Finally, Sicilian states did not hesitate to destroy other Greek cities, selling some of their enemies into slavery, and relocating others to their own city (Demand 1990: 45-58). David Lewis (1994: 140) suggested that Dionysius I’s goal was that “There would be a great Syracuse, and not much else in the way of Greek towns.” This was typical of ancient Mediterranean state-building (e.g., Assyria, Babylon, Persia, Macedon, Rome; also in the New World, especially Teotihuacan), but was almost unheard-of in the Aegean. The tyrants of Gela, Syracuse, and Akragas all pursued these strategies in the 490s-460s, and Dionysius I of Syracuse later renewed them.

The overall effect was to exploit divisions within the citizen community. Tyrants regularly turned mercenaries against their own citizens, or fought either the aristocratic cavalry or middling hoplites while the other group sat by or helped the tyrants. They also enrolled their mercenaries as citizens, and sent mercenaries and citizens of destroyed cities away to found new cities.

Sicilian state-formation was much more capital-intensive than either Spartan strategy, although its fiscal base was apparently fragile. Dionysius could raise enormous resources, conscripting 60,000 free men to extend the city’s walls in 401 (if we believe Diodorus 14.18). In 399 he offered top wages to mercenaries all over the west Mediterranean, built 160 ship sheds, refitted his 110 triremes, and built 200 new ships, including quadriremes. Tradition had it that his technicians invented quinqueremes and war catapults at this time (Diodorus 14.41-44). But it’s not clear that Dionysius had any

⁷ There’s some chronological confusion in 1.14—Thucydides says this was before the death of Darius (486 BC), but in fact Gelon only became tyrant of Syracuse in 485. But Thucydides obviously means the 480s.

permanent tax revenues other than the conventional customs and excises. Andreades (1933: 122) suggested on the basis of [Aristotle], *Oeconomica* 2.2.20 that he established a two-stater poll tax, but in fact the passage speaks only of a ruse through which the tyrant tricked each citizen out of two staters. [Aristotle] does, however, allude to Dionysius taxing animal husbandry so heavily that Syracusans gave up the activity (leading, of course, to another money-grubbing trick by the tyrant), and Diodorus (14.106) says that when Dionysius transplanted the Caulonians to Syracuse in 389, he gave them five years' exemption from taxation. However, we don't know whether this refers to direct taxes that Syracusan citizens otherwise had to pay, or just to indirect taxes. Possibly Dionysius created a system of direct taxation, but I suspect that he relied—probably like Persia, Carthage, and many other ancient states—on a huge one-time fundraising effort, then hoped to win his wars in one campaign (and perhaps to pay off his debts with plunder). His greatest effort, in 397, certainly sounds that way. Diodorus (14.47) says he assembled 83,000 troops, many of them mercenaries, and destroyed Motya; but his army evaporated in 396, and Himilco put Syracuse under siege. Diodorus (14.78) mentions that Dionysius dismissed 10,000 mercenaries, paying them off by giving them the territory of Leontinoi (though he adds that he recruited others). It sounds as if Dionysius ran through his resources in 397, and had little left to fight on in 396/5. By the time he attacked Rhegion in 390, Diodorus (14.100) puts his forces at just a quarter of what he'd had in 397.

The use of mercenaries lowered MPR. The incorporation of the mercenaries as new citizens reversed this, but lowered civic political power still more by encouraging divisions. The Syracusan tyrants Gelon, Hiero, and Dionysius I were among the most powerful men in Greece in their days, and under Dionysius I Syracuse was probably the biggest city in the Greek world (50,000-100,000 people). Dionysius generally had the worst of it in his wars with Carthage, but he controlled most of Greek Sicily and parts of southern Italy, and was a force to be reckoned with in the Adriatic and Aegean. Ultimately both the Deinomenid (485-463) and Dionysian (406-357) tyrannies collapsed in chaos. Managing all the factions they created was difficult, and in both cases collapse came abruptly as soon as splits within the elite became serious.

The Sicilian tyrants (plus Anaxilas of Rhegion) were very different from early modern absolutist rulers, of course, but their spectacular state-building does show that a simple contrast between classical Greek/democratic and early-modern/absolutist ideal types obscures some important details.

iv) Athens. The Athenian experience was different again. The details are well known, so I'll be brief. After becoming a naval power in 483/2, Athens got control of the anti-Persian alliance in 478. Numerous Aegean cities agreed voluntarily to surrender security policy to Athens, effectively paying a tax to buy cheap protection and a share in plunder from Persia. Initially many cities paid in kind, providing ships and men, but relatively quickly they commuted this to cash. Athens then used this money both to pay its own citizens to control the war machine (investing in their skill as rowers) and to hire mercenaries and slaves to enlarge the armed forces without broadening the MPR or PPR.

As early as 476 Athens showed that free riders would not be tolerated, and—slowly at first, but accelerating in the 420s—centralized legal, financial, administrative, and religious affairs in their own city. I have suggested in another (long) paper that what we usually call the Athenian Empire is best understood as a process of

state-formation, with the Aegean moving toward becoming a territorial state, with Athens as its capital; and that—contrary to what is commonly assumed—the reason Athens failed in this was not some built-in structural flaw (as argued by Runciman [1990]), but simply because of human error in 415-413 and, even worse, in 405 (Morris 2001).

7 Conclusion

After the failure of the original Spartan strategy in Arcadia in the 560s, the three major state-formation processes of the fifth century all allowed states to expand their military manpower and effectiveness without expanding MPR or PPR. The Spartan strategy (II) was coercion-intensive; the Sicilian and particularly the Athenian strategies were capital-intensive. The Spartan state basically lost the struggle for capital with its own aristocracy in the late-sixth or early-fifth century, and saw its Spartiate manpower collapse. The Spartan state could not raise capital, and did not even have its own currency. The famous war assessment inscription (probably dating to 427: see Meiggs and Lewis 1969: no. 67) includes a baffling variety of coinages, and even a gift of raisins. In the end Sparta could only defeat Athens by getting massive cash injections from Persia.

As we move from the sixth through the fourth century, capital dominates state-formation more and more. It could even be disengaged from the polis framework; in 407 Hermocrates, who had fled Syracuse in 410, returned with Persian gold, hired 1,000 mercenaries plus refugees from Himera (destroyed by Carthage in 409), and tried to force his way back into Syracuse. When this failed he seized the ruins of Selinous (also destroyed by Carthage in 409). His ranks swollen by returning Selinuntians, he soon had 6,000 warriors. Hermocrates was only interested in seizing power at Syracuse, but to raise money he raided Phoenician Motya and Panormos. He collected the Syracusan corpses from the battlefield at Himera and brought them back to Syracuse for proper burial, to upstage the demagogue Diocles. The Syracusans exiled Diocles, as Hermocrates hoped, but did not recall Hermocrates, who then died in a failed coup (Diodorus 13.63, 75). Timoleon's better-known exploits in Sicily between 344 and 338 (arriving with cash and 600 mercenaries, ending up defeating Carthage and recolonizing the island with Greeks; Plutarch, *Timoleon*; Smarczyk 2003) illustrate the same possibilities that concentrated capital and a market in mercenaries opened up to super-rich adventurers. And lest we assume that this was just some Sicilian oddity, tiny Phocis' ability to hold off Thebes and all her allies (but finally not Macedon) after seizing the treasures of Delphi in 356 illustrates similar trends in the Aegean.

I suggest that the interaction of MPR and PPR depended on the balance between capital accumulation and concentration, the level of military technology, the geopolitical situation, and the development of markets for mercenaries. The details were complicated, but there were general trends. In the sixth century, when accumulation was moderate and broadly based and concentrations low and external geopolitical threats weak (except in Ionia), MPR was at least as high as in the Near Eastern empires, and PPR was equally broad (if rather weak, given that aristocratic councils or tyrants could generally work around popular assemblies). We might call the outcome hoplite republics.

As trade (particularly in staple goods to feed booming populations) crossed a crucial threshold between 525 and 500 BC, accumulation in private hands increased, concentrations in state hands jumped sharply, and external threats from Persia and Carthage became acute. Large-scale naval warfare became both possible and necessary.

MPR rose sharply in many cities, and PPR with it. The consequence was radical democracy in some cities, but also a trend toward controlling MPR and PPR by hiring mercenary and/or slave manpower.

By the end of the fifth century, capital concentration and the market in coercion reached the point that a few super-rich individuals could take on entire states. In the 370s Jason of Pherae concentrated so much wealth by bringing together the formerly disunited Thessalian cities that Xenophon (*Hellenica* 6.4.28, 33) thought he was about to take over southern Greece. After his murder in 370 no one could replace him; but Philip of Macedon's comparable reorganization of Macedon did lead to Athens' and Thebes' submission in 338. The Greeks clearly thought his murder in 336 would have the same consequences as Jason's, but Alexander proved them badly wrong.

Overall, states made war and war made states in archaic-classical Greece just as in early modern Europe, but the economic and institutional frameworks were very different. That's why the mix of high MPR and PPR turned out so differently on either side of the great medieval divide.

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