

The Sparta Game: Violence, proportionality, austerity, collapse

Josiah Ober and Barry Weingast. Stanford University

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Abstract: Although archaic/classical-era Sparta shared many features in common with other Greek city-states, Sparta was atypical in certain ways. Among features of Spartan society regarded as striking by historians, ancient and modern, were the stability of the constitutional system, which seemed impervious to the regime changes that affected many other Greek states; the strict caste system, whereby some native residents were hereditary state-owned slaves, whereas other natives lived entirely by the fruits of the slaves' labors; the systematic use of violence against slaves by their masters, justified by an annual declaration of war; norms of austerity and equality in respect to public consumption, along with substantial and growing inequality in wealth; sudden collapse from leading Greek-world state to minor regional state. These various features are related and they can be explained by a positive theory of political economy.

Introduction

In *The Wealth of Nations*, Adam Smith considered the question of why, in early medieval Europe, economic production remained at such a low level for so long. His answer was predicated on the rational choices that were made by economic agents who are assumed to have employed cost-benefit reasoning in light of prevailing sociopolitical conditions:

"[T]he occupiers of land in the country were exposed to every sort of violence. But men in this defenceless state naturally content themselves with their necessary subsistence; because to acquire more might only tempt the injustice of their oppressors" (Smith 1776: III.iii.12:405).

"In a rude state of society there are no great mercantile or manufacturing capitals. The individuals who hoard whatever money they can save, and who conceal their hoard, do so from a distrust of the justice of government, from a fear that if it was

known that they had a hoard, and where that hoard was to be found, they would quickly be plundered (Smith 1776: V.iii.9:911)."

In these and related passages, in order to explain the social origins and persistence of a low-performing economic order Smith focused on the motivations of individuals, who take other's expected behavior into account in planning their own actions, His explanation is in the form of what we would now call equilibrium theory. Smith's early medieval economy was in a state of equilibrium because no player in the "medieval economy game" had a move that would improve his own condition, given the moves he knew to be available to other players: The poor "occupiers of the land" did not move to improve their standing because they knew that if they did so the fruits of their efforts would be taken from them by the strong. Those who did have capital hoarded it, rather than investing it in potentially lucrative enterprises, because they distrusted an extortionate government.

The background condition that kept the early medieval economy unproductive, and the game in equilibrium, was what Smith reasonably enough calls injustice: When the basic rule of society (the underlying institutional order) is that "the strong will take what they can," and when the strong are strong enough to retain what they take against potential challenges, the outcome is a relatively poor but stable social order in which most people live relatively near the level of bare subsistence and any available surplus is hoarded rather than profitably invested.

In these two passages, Smith could just as well have been describing ancient Sparta, where helot-slaves were "exposed to every sort of violence," and the ruling Spartan citizen-elites were famously avaricious, secretive, and ostensibly avoided engagement in any sort of productive industry or trade. This paper suggests that contemporary versions of Smith's informal equilibrium theory can explain Sparta's regime stability, along with distinctive features of the social system of ancient Sparta: The coordinated social uses of systematic violence, the public façade of material equality among the citizen population, and the maintenance of a self-enforcing regime of austerity by an extensive body of citizens, and the severe demographic decline that led to Sparta's loss of standing in the Greek world.¹

¹ For a succinct and thoughtful account of these (among other) features of Spartan society, and a discussion of the apparent contradictions and thus fragility of Spartan society, see Hodkinson 1983.

² Helots were not chattels, in that they could not be bought and sold by those who managed them; and they often remained bound to a specific plot of land. Modern scholars therefore sometimes refer to helots as "serfs"; but classical Greeks used the same terminology for helots as they did for chattel slaves. See Cartledge 2011.

³ Population figures: Ober 2015, chapter 6, based on data in Hansen and Nielsen 2004. These figures are very rough estimates, but are comparable to other recent

Sparta as a limited access order

Sparta was, we suggest, a variant of what North, Wallis, and Weingast (2009) describe as the “limited access order,” a historically common alternative to the historically “open access order” characteristic of a handful of modern, developed states. The primary characteristic of the limited access order is that access to institutions, and the right to create new organizations, is monopolized by a small, ruling, rent-seeking elite. In common with other limited access states, the Spartan regime controlled the potential for disruptive violence among powerful elites by limiting access to institutions (especially to property rights, citizenship, and legal protection from violence) to those selfsame elites. Limiting access restricted opportunities for gaining valuable rents to the elite, who were then free to use violence, and threats of violence, to dominate others, and to expropriate surplus from them. Classical Sparta is an interesting variant on the limited access order because of the relatively large body of persons (citizen-elites) sharing in the distribution of rents, and because of the distinctive social rules that served to coordinate regime-sustaining violence across that large elite population. The history of archaic and classical Sparta sheds light on both the sources of stability and the reasons for the collapse of a particular form of limited access state.

In a related paper, Cox, North, and Weingast (2012) posit that a limited access order will be stable if and only if rents are distributed according to a “Proportionality Principle.” The proportionality principle holds that each member of the ruling elite must receive a share of rents that is proportionate to his potential to employ violence in ways that could disrupt the regime. When proportionality is respected, no one with the power to disrupt society has an incentive to do so, and no one with an incentive to disrupt has the power to do so. The result is stability. The Spartan regime doubled down on proportionality: Rents were distributed according to the potential of each Spartiate to use violence to *disrupt* the regime – but also according to his active and effective use of violence to *sustain* the regime.

The Spartan social order is interesting from the point of view of proportionality in that a system of military organization, based primarily on highly trained heavily armed infantrymen (hoplites) fighting in close order (in phalanx), rendered each one of an extensive body of elite citizens effectively equal to each other elite citizen in his potential to produce regime-threatening and regime-sustaining violence (Cartledge 1977, 1996). Thus, proportionality required equal distribution of rents to each member of this large body of “similar.” In reality, property and rents were distributed unequally; some Spartans were much wealthier than others (Hodkinson 2000). Proportionality was, however, respected insofar as the opportunity publicly to *consume* the benefits of rents was equalized among the

members of the citizen elite through social rules that restricted consumption (or at least public consumption) by the wealthy (Holladay 1977).

In common with other limited access states that respect proportionality, the Spartan system was at once stable and economically low-performing. Stable low economic performance is due to what Cox, North, and Weingast call the “Violence Trap.” The stability of the limited access state regime is based on proportional distribution with a fixed referent: “to each *according to his disruptive potential*.” This means that rents cannot be redistributed or reduced, in ways that would be more economically productive, without disrupting the existing social order. Thus the society is not able to move closer to the Pareto optimal situation in which at least someone gains, while none lose, by, for example, lowering rents and encouraging economically valuable forms of capital investment.

Proportionality, along with its relationship to the violence trap, explains why limited access states have been so common and so persistent in history, and why the transition from limited to open access is so difficult and relatively rare. In a paper on how the concept of development might be adapted to fit the conditions of Greek antiquity (Carugati, Ober, and Weingast in progress) we suggest that in late classical Sparta’s city-state rival, Athens, did in fact make the transition to a version of open access. The current paper presents the other side of the coin of ancient Greek development, explaining why Sparta, as a distinctive variant on the limited-access state, did not and indeed could not make that transition, and thus remained underdeveloped.

Classical Sparta’s social order

At Sparta’s demographic high point, there were ca. 9000 Spartiates: elite citizens who were adult males. If we include the families of Spartiates, this was perhaps 35,000 persons –roughly 15% of a total societal population (in the regions of Laconia and Messenia) of something like 250,000. Of that total, perhaps 160,000 or 65% were helots – i.e. slaves collectively owned by the Spartan elite, and managed by individual Spartan families.² Helots tilled the land of Laconia and Messenia, retaining enough to live at a level of subsistence, and turning over the rest to their Spartiate masters. A Spartiate was expected to devote his life to preparing for war and to the education of future citizens; he and his family lived (at least in principle) entirely from rents extracted from helots. The remainder of the

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population, some 55,000 or ca. 20%, were generically *perioikoi* (“marginals”), free but subordinate residents of some two-dozen dependent towns of Laconia who produced various goods and services and served as auxiliaries in the Spartan army. The domination of helots (and to a lesser extent of *perioikoi*) by Spartiates was expressly through violence and threat of violence, rather than by the ideologies of legitimate authority and subordination (e.g. divine kingship) common in many other premodern societies.³

The violence potential of each Spartan citizen was increased through standard and intensive military training (in the formal system of education and socialization known as the *agoge* – the ‘upbringing’). So long as the Spartiates were successful in coordinating their individually high violence potential, through law, mutual monitoring, and the tactics of the hoplite phalanx, they could effectively protect the regime against threats to the Spartan social order. Threats were internal (helot revolt) as well as external (rival Greek states and foreign invaders). Equality of violence potential was a result of the nature of phalanx warfare and the training it required. The high individual violence potential of each Spartan, conjoined with the coordination arising from respecting the rules that preserved proportionality, enabled the Spartan elite collectively to extract relatively high rents from a relatively large population of helots. Organized violence was sanctioned by an annual declaration of war against the helots by the Spartan state, and carried out through acts of terrorism. Young Spartan warriors in the organization known as the *krypteia* (the Hidden) regularly carried out terror-killings of helots who had in any way stood out from the mass, thereby (in Smith’s words) “tempt[ing] the injustice of their oppressors.”⁴

The Spartiates were known as the *Homoioi*: the “Equals” or “Similar” (Cartledge 1996). As ancient commentators noted (see below) and as recent scholarship on Sparta has emphasized, there was in reality considerable inequality within the ranks of the Spartiates in respect to distribution of wealth -- most obviously in the form of private land holdings.⁵ But proportionality was preserved because rich Spartans were limited in the public display and consumption of their wealth by a strict austerity regime.

The austerity regime limited (public) consumption by each Spartiate to a level roughly indexed to the productive capacity of the least-wealthy Spartan. As we

³ Population figures: Ober 2015, chapter 6, based on data in Hansen and Nielsen 2004. These figures are very rough estimates, but are comparable to other recent estimates of Spartan and Peloponnesian population. Spartan rule by domination, profoundly resented by other residents of Laconia and Messenia: Xenophon *Hellenica* 3.3.6, with Cartledge 2011: 86.

⁴ On helotage, see further: Ducat 1990; Luraghi and Alcock 2003; Hodkinson 2008.

⁵ Holladay 1977: 118-19; Hodkinson 1997, 1998, 2000; Thommen 2014.

have seen, each Spartan, in principle, contributed equally to the employment of violence against the regime's enemies (internal and external). Each also, in principle, contributed equally to elite consumption through regular contributions to one of a number of regimental "dining associations" (*sussitia* or *phitidia*). It was a requirement of Spartan citizenship to belong to one of these associations. Each Spartiate's contribution came from the rents extracted from the lands and the helots he controlled. By taking his meals in his regimental association, each Spartiate consumed food provided by those shared contributions on an equitable basis with his fellows. Because each Spartan was socially required to eat with his association members, and because the meals were equally provided by each association member, public consumption of food was standardized across the ranks of the Spartiates.

Because food contributions and consumption were equal, although wealth was unequal, in principle no Spartiate ate above the level that could be provided by the poorest member of his club. Within each association and, assuming (perhaps counterfactually) that the poorer Spartiates were evenly distributed across the associations, across Spartan society as a whole, the wealthiest Spartiate in principle ate at a level determined by the poorest of his fellow Spartiates. Likewise, strong law-like norms restricted display of private wealth in housing or dress. Spartans were meant to be "similar" in public appearance as well as in public consumption. Thus, despite the fact of unequally distributed wealth, Spartans could imagine themselves as sharing equally in the rents extracted from the subject population. Imagination could not deviate too far from practice, because those rents could be extracted only if there were a high level of cooperation in violence among the many elite citizens who were equal in their violence potential. If the distribution of rents were explicitly unfair, such that the poorer Spartiates lost their incentive to cooperate in the provision of regime-sustaining violence, the system would quickly have collapsed.

The system was stable, and Sparta remained a dominant state in the Greek world, for some 180 years. Yet Sparta eventually did collapse as a major Greek power, and lost control of most of its helot population due to a demographic decline: There were finally too few Spartans to address internal and external threats. The number of Spartiates dropped from a high of ca. 9000 in the mid sixth century BCE to about 1300 by 371 BCE. A generation later, the number was even smaller. Writing in the later fourth century, Aristotle noted that, "some Spartans have come to have far too many possessions, while others very few indeed; as a result, the land has

fallen into the hands of a small number... although the land was sufficient to support 1500 cavalry and 30,000 hoplites, the number [of Spartans] fell to below 1000.”⁶

Aristotle explains the demographic decline in the number of Spartan citizens by reference to socio-economic rather than biological causes. We suggest that Aristotle was correct in identifying material inequality as the underlying cause. The two primary intertwined social mechanisms were the rules of inheritance that allowed women to inherit real estate and encouraged the consolidation of estates in the hands of a relatively few families, and the continuous pressure of downward mobility conjoined with limits on upward mobility. The role of the inheritance system, which enabled wealthy women to be heirs, and in turn to marry wealthy men, has been explored in detail by other recent work by social scientists (Fleck and Hanssen 2009). Here we focus on the role of downward mobility; that is, the tendency of the poorest of the Spartan elite (those on the losing side of an inheritance system that consolidated a limited pool (land and labor) into fewer hands, to be demoted from the ranks of the Spartans. Demoted Spartans no longer had an incentive to participate in the cooperative violence regime.

Individual Spartiates (along with their families) regularly dropped out of ranks of the elite (thus lost their citizenship and its privileges) due to a failure to fulfill the duties incumbent upon each Spartiate. Those duties included effective violence provision: A Spartiate could be expelled from the elite for failing in his duty in war. A Spartiate who fell beneath the standard of conduct in the phalanx was demoted to the ranks of the inferior status group called “the Tremblers.” But, following Aristotle, it is probable that a more common reason for demotion was a failure to provide the assigned share of food to a regimental dining club. The status group known as “the Inferiors” was probably composed of former Spartiates who had been unable to maintain their contributions, due to poverty.⁷

These losses were not offset by non-elites rising into the ranks of the Spartiates.⁸ Although *perioikoi* were, increasingly, brought into the Spartan army, and some helots who served in the army were liberated so as to become, in effect, *perioikoi*, the sharp cutting edge of Sparta’s infantry remained the citizens who had trained together in the *agoge*. Provisions for bringing new members into the ranks of the Spartan citizen elite were clearly inadequate to make up for those who were

⁶ Aristotle, *Politics* 1270a-1271a. Accordingly to Aristotle, by his time some two-fifths of Spartan territory was owned by women. See, further, Fleck and Hanssen 2009.

⁷ On demotion of citizens, see MacDowell 1986: 42-46, Huxley 1971: 511.

⁸ On the possibility of naturalization of certain non-citizens (foreigners, sons of demoted Spartans, and illegitimate children of Spartan men) into the ranks of the Spartiates, through participation in the *agoge* as *mothokes*, see MacDowell 1986: 46-50.

demoted from it. As a result, there were eventually too few elite citizens/violence specialists to deal with exogenous shocks (external enemies) and too few to control the large internal slave population. The result was the collapse of Sparta as a major player on the Greek inter-state scene.

Again we see an interesting variant on the natural state and its “violence trap.” While stable for a long time due to proportionality, the reality of inequality created a slow-motion demographic dynamic that ultimately doomed the system. Notably, the violence trap retained its hold to the end. There was no way for the regime to redistribute rents in a way that would not be fatally destabilizing, even though the ongoing demographic decline would clearly render the system non-viable. Thus, while the Spartan system is a unique variant on the limited access state, it was subject to the same constraints that impede other limited access states from transitioning into a more economically productive (or in this case, long-term viable) social order.

Historical emergence of large elite, equality, austerity

Recent classical scholarship has placed the origins of the Spartan order, described above, in the seventh or early 6th century BCE. By the 8th century BCE, the Greek world had emerged from the relatively impoverished and demographically depressed conditions of the Early Iron Age and many Greek communities crystallized as city-states (*poleis*). Sparta, centered on a group of villages in the territory of Laconia (Peloponnesus: Southern Greece), seems to have been a fairly ordinary, if large, aristocratic proto-polis, dominated by a relatively small elite. In the 8th century Sparta may perhaps have already developed exceptionally strong (compared to other mainland Greek *poleis*) status distinctions among natives. Some Laonians may already have been locally enslaved (i.e. Laconian helots). There is, however, no reason to believe that there was yet an extensive citizen body, or strong forms of intra-elite equality, or austerity. In the expansion era (later 8th – 7th century BCE), while some leading Greek *poleis* were establishing colonies in the western Mediterranean and Black Sea regions and intensifying agricultural exploitation of home territories, Sparta focused primarily on a path of military expansion against its immediate western neighbor: the region of Messenia (southwestern Peloponnesus: now centered on the town of Kalamata).⁹

The ancient sources make it clear that the conquest of Messenia proved difficult. The conquest was completed by the end of the 7th century and the entire population of Messenia was eventually reduced to helotage. In the early 6th century,

⁹ Background history of early Greece: Ober 2015, chapter 6. Early history of Sparta and the problem of “Laconian helots”: Cartledge 1979.

after the victory over the Messenians, but perhaps before the final division of Messenian lands among the Spartiates and complete transformation of the Messenian population into helots, Sparta turned its expansionist efforts northwards. In attempting to annex Tegea, a polis in the mountainous region of Arcadia, Sparta appears to have over-reached: The initial campaign against Tegea was a failure, ending in the capture and enslavement of a substantial number of Spartans. Sparta later defeated Tegea, but, rather than reducing the Tegeans to the status of helots, the Spartans made Tegea into an unequal ally of the Spartan state (Herodotus 1.65-68).

At some point in the course of the seventh or early sixth century, whether before or after the defeat at Tegea, Sparta reached a point of existential crisis: Although the ancient sources are not very informative, it seems likely that military setbacks led the Spartan elite to fear that Sparta could lose control over Messenia.¹⁰ At this point, we suggest, the ruling coalition (assumed to be at this time a fairly small body of wealthy Spartans) recognized that the only way forward was to increase mobilization rates and build morale among those who were mobilized. In light of the (*ex hypothesi*) difficult military situation, the elite needed to offer substantial concessions to new recruits in order to persuade them to take the necessary risks. This produced a moment (or an era) of relatively radical franchise inclusiveness traditionally attributed to the lawgiver Lycurgus, whereby the citizen elite was substantially enlarged. The members of the old elite retained their large land holdings and control over helots in Laconia. But each of those (free, adult, male) Spartans who mobilized against the enemy was offered a substantial share of the land taken from the Messenians, and a share in the labor of a Messenian population in the process of being helotized.

Those men who took up the offer were mobilized, trained and armed. Over time they became effective equals of the old elite, and of one another, in their capacity to employ violence. The expanded citizen elite, “the Sparitates” (aka “the *Homoioi*”), won the war against the Tegeans and pacified the Messenians. The ca. 9000 Spartans who participated and survived were duly rewarded with shares of Messenian land. That land was divided (or redivided) such that every Spartiate ended up with a basic land allotment (*kleros*) and control over some helotized Messenians to work it.

The Lycurgan equilibrium

¹⁰ The treaty that led to alliance with Tegea specified that the Tegeans were to not to give sanctuary to Messenian refugees: Holladay 1977: 125-26. Persistent Spartan fear of helot uprising: Cartledge 2001: 127-52.

The old elite had had two goals in expanding the franchise: survive the existential crisis and retain their existing wealth – mostly in the form of land in Laconia. The only path that they could devise to achieving both goals was to increase the size of the citizen body and thereby increase collective violence potential in the face of the external (Tegean) and internal (Messenian) threats. The existential threat was severe enough to force a moment in which access to certain privileges was opened to a broader franchise. Access to citizenship meant a share in some anticipated (Messenian) rents, although not ancestral (Laconian) rents. After this one-time expansion of the franchise, the expanded ruling elite respected (we suggest) the proportionality principle. The old elite was now a wealthy subset of a new and extensive military elite: a large group of citizens with equal and high violence potential. The continued active cooperation in respect to violence of that new elite was essential if the numerous helots (in Messenia and in Laconia) were to be kept under control and external rivals kept at bay. Because the members of the new citizen elite were equal in their capacity for disruptive and productive (to the Spartan regime) violence, proportionality required that rents be equal. But, if the old elite were to retain their large private holdings in Laconia, “equal rents” would have to be calculated in some way other than “equal wealth.”

This, we hypothesize, is the origin of the Spartan austerity regime: According to the mature “Lycurgan” system (i.e. the system that crystallized by the mid sixth century, if not before) the consumption benefits from rents would be equalized, although wealth would remain unequal, through the following mechanism: Each Spartan was a member of a military regiment. During the recent existential wars, the members of each regiment had (we suppose) eaten together, sharing more or less equitably in what could be secured by plunder or purchase. Now, in the post-war era, that system would be retained: Spartiates would dine in public, by regiments, rather than in private, by families. Each Spartiate would, in rotation, bring to his regimental mess an equal and fixed quantity of agricultural produce that had been extracted as rents from land and helots he controlled. Each member’s land and helots were (at least) sufficient to produce an individual contribution adequate to feed the other members of the regiment for an equal and fixed period of time. All members of the regiment would dine from these equal contributions (i.e. from rents extracted by individuals through the collective violence regime), and from these contributions only. No Spartan would be humiliated by differences among the size or lavishness of the individual contributions, because, by the new rules, the

contributions would be standardized: the same amount and the same quality of food from each, and to each.¹¹

Thus, although the old elite had bigger land holdings (their lands in Laconia as well as whatever part they had in the Messenian land distribution), they would not (at least publicly) benefit more than any other Spartan from rents secured by cooperation in violence. The wealthy, like all others, would consume on a daily basis at a standard level *set by what the least-advantaged of their regimental fellows was able to provide*. Proportionality required that the quality and quantity of the standard contribution – i.e. the contribution of the wealthier and poorer members alike, and thus the quantity and quality of food that each Spartan would eat day in and day out – must be determined by what the least well-off Spartan (in each regiment) was able to provide. Thus the poorest Spartan contributed, both at the level of his rent share and his violence provision, at a level that was equal to that of the wealthiest, and the wealthiest dined at the level of the poorest. The result was austerity: that is, everyone but the poorest consumed (in public) at a level *below* what his wealth would otherwise have allowed.¹²

This system preserved proportionality, along with wealth inequality, in that no Spartan would (in public and in principle) consume more as a result of the collective violence regime than another. Moreover, it preserved intra-elite social equality, in that no Spartan was shown up as being effectively inferior to another: Each Spartan was fully dependent on the least of his fellows for what he ate, just as he was dependent on each of his fellow infantrymen to perform correctly in the phalanx. As soon as a Spartan was unable to provide for his fellows on equal terms, in regard to material contributions or military service, he was expelled from the ranks of the equals. His expulsion was required by the proportionality principle, which forbids equal distributions (of, in this case, food, honors, access) to those who are unequal in their violence potential, either to disrupt the system or (as in the Spartan case) to preserve it.

The basis of the Spartan system in proportionality has implications for how we conceptualize the original distribution (or redistribution) of Messenian lands among the Spartiates. The Lycurgan system created a condition in which the level of each Spartan's food consumption was set by the amount and quality of food provided by the poorest Spartan. The wealthy therefore had an incentive to divide the land of Messenia relatively equitably (or to acquiesce in that equitable

¹¹ In reality, there were probably some inequalities introduced in the form of "additional" contributions of hunted game and perhaps other products (Hodkinson 1983: 254). But these were supplementary to the fundamental equal contribution.

¹² The reality of Spartan austerity is defended against skeptics by Holladay 1977; see also Hodkinson 1998.

distribution). Equitable distribution kept the size of the smallest share large enough to keep each Spartan's level of consumption acceptably high – at least well above bare subsistence. This is a (perverse, in that it is based on violence) version of John Rawls' (1971) "difference principle" of distributive justice. Rawls' difference principle holds that, once basic rights (liberties) have been secured for each member of a society, inequality in distribution is justified only to the extent that it benefits the least-advantaged member of society. Admittedly we do not know why the Spartan's chose *this* solution, among various alternative approaches to preserving proportionality and wealth inequality; we can only say that, if the proportionality principle holds, and if we assume that the old elite preferred to keep their existing wealth, the "Lycurgan" regime of austerity was within the relatively constrained set of solutions available to them.¹³

We propose that the rest of the Lycurgan system (austerity in dress and housing, intensive focus on military training of citizens, collective responsibility for the education of citizen-youths, social panopticon of mutual monitoring by citizens) coalesced around the equilibrium of "wealth-inequality counterbalanced by consumption-equality through austerity in public dining." The Lycurgan system formalized equal consumption, and thus preserved proportionality, while also allowing for private property and considerable inequality of actual wealth. The system ensured that each Spartan was freed from the need to engage in ordinary forms of labor, and could therefore concentrate his efforts on developing skills as a warrior: Because the system was reasonably stable, each Spartiate could rationally invest deeply in the very specialized forms of human capital that made for excellence in hoplite warfare (Cartledge 1977). Sparta, as a society, was therefore an active participant in the trend of local and individual specialization, based on identification of comparative advantages, that, elsewhere, drove economic growth across the ecology of Greek states in the archaic and classical eras (Ober 2015).

For a social system to be stable in the absence of a third-party coercive authority, it must be self-enforcing: That is, the participants in the system must, themselves, act effectively, and when necessary collectively, against deviations from it. In order to maintain the Lycurgan system over time, each Spartan must do his part in educating the next generation of warriors – that is, in ensuring that each young Spartan invested deeply and uniquely in the sorts of human capital necessary for productive violence provision. Each Spartan must also take part in monitoring all

¹³ Other approaches – e.g, progressive taxation, and using tax revenues to provision the regimental messes; differential contributions to the messes collected and then divided equally – might seem either to require more bureaucratic apparatus (which the early polis was not prepared to provide) or would make the inequality of rents more obvious. The system as it was adopted allowed each individual to "feast his fellows" in turn, as an individual and equally capable benefactor.

others. Monitoring was essential in order to avoid free-riding -- defection from the cooperative regime by failing to contribute to it while still reaping its benefits. A cascade of free riding would lead to a “race to the bottom” that would quickly end in inadequate violence provision, and thus the collapse of the master-helot social order.

Because of severe and persistent internal and external threats, each Spartiate faced the likelihood of catastrophic loss if the system were to collapse – i.e. if the citizens were unable to coordinate violent responses to threats by helots and external rivals. Thus each had an adequate incentive to sustain the system, even though austerity meant that all but the poorest Spartiates were consuming at a level below that which would otherwise have been available to them in light of their privately-held wealth. The mechanism for coordination against defection was provided by common knowledge of the rules – the famous (in Greek antiquity) Spartan adherence to their common master: the laws.¹⁴

Mutual monitoring ensured, for example, that each Spartiate treated his helots equally badly, engaged in the appropriate level of military training, shared in training of the youth, did not cheat too blatantly by indulging in private luxury, did his part in violence provision in the phalanx and against the helots, and did his part in providing rations for his dining club from the rents extracted from his land and helots. He who failed in any way could expect to be reported to the authorities (King, Gerousia, ephors). If he were found to have failed in a substantial way, the defector was demoted to the level of Tumbler or Inferior. This collective enforcement of the rules pushed back against the tendency of the rich to consume and display their unequal private wealth in unacceptable ways within the community. Yet it also left them ample opportunity to display wealth in socially acceptable ways (e.g. chariot races in Laconia and at Olympia and Delphi). It also pushed back against the “tragedy of the commons” – that is, the individual utility-maximizing tendency of each Spartan to under-supply violence, training, education of the youth, while free-riding on the provision of those public goods by others. The imminent danger of a commons tragedy underpins the Spartan social panopticon.¹⁵

The Lycurgan system proved highly effective in the first several generations: Extracting high rents from the helots allowed the large citizen population of Spartans to become uniquely specialized in organized violence – and thus able to dominate their neighbors (Cartledge 1977). After the difficult war against Tegea

¹⁴ Incentive compatibility and legal mechanisms as foundation for a self-reinforcing order predicated on coordinated collective action against defection: Weingast 1997; Ober 2012. Spartan devotion to their laws: Herodotus 7.104; Plutarch *Life of Solon*; Xenophon, *Constitution of the Lakedaimonians*.

¹⁵ Spartan mutual monitoring and public authorities: Cartledge 2001. Commons tragedy: Hardin 1968. How the tragedy can be avoided by social arrangements: Ostrom and others 2002.

demonstrated the problems of extending the helotage regime into other parts of the Peloponnese, the Spartans shifted their strategy, away from overt military expansion, to creating unequal alliances with other Peloponnesian states. The elites of those states rationally agreed to acquiesce in Spartan hegemony, and thus to support Spartan foreign policy, so long as Sparta's violence specialists were potentially available to defend local oligarchies against the threats of tyranny and democracy and did not interfere in local affairs.¹⁶ This is the basis of Sparta's late sixth/fifth century Peloponnesian League. The system was tested in the Persian Wars (early fifth century BCE), in mid-fifth-century conflicts with Athens, and then the long Peloponnesian War (431-404 BCE) recorded by Thucydides.

Despite some setbacks, the system proved to be robust to challenges. But, in 371 BCE, at the Battle of Leuctra, fought in Boeotia against a coalition led by the polis of Thebes, there were only 1300 Spartan warriors in the phalanx. This number proved to be inadequate to stand against well-trained opponents employing new phalanx tactics. After the severe defeat at Leuctra, Sparta lost control of Messenia and quickly declined to the level of minor regional power.¹⁷

Demographic decline and security failure

How and why did the population of Spartan citizen elites decline so catastrophically, by 371 BCE? It is worth noting that in the fourth century BCE the overall population of the Greek world was growing. The fourth century was the era in which the overall Greek population appears to have reached its premodern apex. At least part of the classical-era population growth must be attributed to biological reproduction, although part can be explained by extension of Greek culture to formerly non-Greek communities (Ober 2015: ch. 4). The simple answer for why Sparta's citizen population declined seems to be that, generation after generation, a significant number of Spartans were demoted from the ranks of the citizens (pushed down to the level of Tremblers or Inferiors). Meanwhile, by the limited access logic that governed the Lycurgan regime, relatively few new full citizens equals were naturalized. The question is why the demotions were so persistent.

We can presume that the landholdings and helots controlled by those who were demoted from the ranks of the Homoioi were taken over by other Spartiate families. The takeovers were evidently private, and not regulated by any principle of

¹⁶ On the difficulties faced by Greek oligarchs in maintaining their hold on a given polis after the rise of democracy as an alternative form of social order, see Simonton 2012.

¹⁷ Peloponnesian League: Thucydides book 1; all states in the League oligarchies: Thucydides 1.19. Battle of Leuctra and its aftermath: Buckler 2003: chs. 7-8.

equitable redistribution. Through processes of acquisition and inheritance, some wealthy Spartan families became much wealthier over time: Holdings in Laconia had always been unequal and the initial Messenian distribution of land was probably not perfectly equal. Larger and smaller families were differentially affected by conditions of partible inheritance. Wealthy heiresses married wealthy men, consolidating family holdings. Some families will have had greater and lesser success in estate management, better and worse luck. The upshot was that, over the six to eight generations after the establishment of the Lycurgan system, and especially in the late fifth and early fourth century, Spartan landholdings tended to become increasingly unequal (Hodkinson 1983, 2000).

The “pie” of rents based on land held in Laconia and Messenia and on the labor of helots was essentially fixed: For the reasons identified by Adam Smith, in the passages quoted at the beginning of this paper, there was little endogenous economic growth in Laconia and Messenia – unlike other regions of the Greek world. This “stable-sized” rent pie was divided unequally among an ever-shrinking citizen elite. Thus, as some slices of the pie shrunk to the point that the owner of the slice was dropped from the ranks of the citizens, other slices grew accordingly. Moreover, as there were fewer Spartiates to share in the pie, the size of the average (although probably not the median) slice must have increased.

As has Hodkinson (1983), among others, has noted, a central contradiction in the Lycurgan system is the tension between the official focus of the regime on the primacy of public interests, and the reality of a persistent attention by individual Spartans to their private (family) interests. The central public interest was in security and the stability of the regime. Stability meant respecting proportionality. Security meant that proportionality must pertain among a large body of elite citizens, each highly adept at the provision of productive violence. Proportionality is scalable: that is, as the numbers of Spartiates shrunk, proportionality was respected so long as those expelled from the ranks lost the power to disrupt the system upon their expulsion.¹⁸ On the other hand, security was not indefinitely downwardly scalable: as the loss of Sparta’s standing in the Greek world after the battle of Leuctra demonstrated, when the numbers of Spartiates dropped beneath a certain point, security could no longer be guaranteed. Aristotle identified this deadly

¹⁸ In fact the “inferior” status classes were a potential source of disruption, if (and only if) they could overcome collective action problems – as at least two conspiracies to overthrow the regime in the late fifth and fourth century demonstrated: details in Cartledge 1987. Sparta’s solution to this problem was to foment collective action problems by seeking to prevent the emergence of common knowledge about preferences for regime change among the sub-elite; as Simonton 2012 has shown, this was a standard approach to destabilization by Greek oligarchs in other city-states throughout the classical era.

dynamic readily enough, *ex post*. Even if the Spartan leadership did recognize it *ex ante*, however, the proportionality principle forbade regime adjustments profound enough to do anything about it.

But there is still a puzzle to be solved: Presumably the Spartan elite had, collectively, recognized the need to expand the franchise at the moment of existential crisis that precipitated the Lycurgan reforms. Why could a similar recognition of the danger to collective security of ever-falling numbers of citizen soldiers willing and able to defend the regime not have led to a rebooting of the system before the (in retrospect, predictable) crash? Why did the Spartans content themselves with the band-aid of relying more and more on the military contribution of the *poioikoi*, as the vital cutting-edge of expert citizen-soldiers grew ever thinner and more fragile? At least one answer is provided by the logic of the standard commons tragedy, in which very modest cheating on the margin (the addition of one extra sheep by each shepherd to the common grazing ground in the standard example: Hardin 1968) by each of a number of participants in a society ends in fatally degrading an essential public good. As we have seen, the mutual monitoring of the social panopticon was designed to *prevent* visible kinds of cheating, in the form of free riding on the system. Over all the monitoring system seems to have worked. So what went wrong, such that the public good of collective security was incrementally degraded by the expulsion of one after another Spartiate from the ranks of the citizens?

The individual Spartan's decision to collaborate in the expulsion from the ranks of the citizen elite of a given citizen, who had indeed failed in the provision of agreed-upon contributions (of goods in the way of the standard food contribution to a dining club or services in the way of violence provision) was in conformity with the rules. To demote those who failed was to act in obedience to the law. Obeying the law provided a public good. Meanwhile, each demotion marginally *improved* the material situation of whichever of the remaining members of elite took over the expelled member's land. There were, therefore, both public (rule following) and private (potential individual benefit) reasons for each Spartiate to collaborate in the expulsion of the least successful member of the community. As a side benefit, by the logic of the austerity regime, the average level of quality and quantity of food in the dining club would *increase* marginally with the expulsion of the least well-off contributor, thus benefitting all remaining members.

At the moment of decision regarding demotion of a citizen, the combined weight of the *public* good of legal obedience, the *private* good of potential individual benefit, and the *club* good of improved consumption was likely to over-balance any concerns about the marginal degradation of the aggregate capacity of the citizen elite to ensure collective security. The aggregate weight of public, private, and club goods created what was, from the perspective of the public good of security, a

perverse incentive to expel weaker members from the elite group. The perverse incentive may have strengthened in the late fifth and fourth centuries, for reasons having to do with the Peloponnesian War and its aftermath. The general point we seek to make is that the perverse incentive was, in light of the proportionality principle, strong enough to block the formation of a collective will to reform the system in any very fundamental way. Reform would need to be substantial if it were to preserve a number of elite violence providers adequate to guarantee the security of the Spartan society. In the game being played by the citizens of classical-era Sparta, substantial reform was off the table.

It is important to note, in conclusion, that while some expulsions may have been badly motivated (rivalry, enmity, etc.) there need be no malicious intent: The system collapsed because each Spartan played the game according to the rules: Each did his job in maintaining the Laws of Lycurgus – as his ancestors had long done before him. Those most vulnerable, because poorest, were most likely to be put into the position of having to violate the rules, and their expulsion was most likely to benefit the rest. By 371 BCE the effect of maintaining the rules of the game rendered Sparta's social system fatally vulnerable to the combined pressure of the external shock of enemy attack and the internal threat of endemic helot discontent.

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