

**“Rulers Ruled By Women”**  
**An Economic Analysis of the Rise and Fall of Women’s Rights in Ancient Sparta**

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**ABSTRACT:** Until modern times, most women possessed relatively few formal rights. The women of ancient Sparta were a striking exception. Although they could not vote, Spartan women reportedly owned 40 percent of Sparta’s agricultural land, and enjoyed other rights that were equally extraordinary. We offer a simple economic explanation for the Spartan anomaly. The defining moment for Sparta was its conquest of a neighboring land and people, which fundamentally changed the marginal products of Spartan men’s and Spartan women’s labor. To exploit the potential gains from a reallocation of labor – specifically, to provide the appropriate incentives and the proper human capital formation – men granted women property (and other) rights. Consistent with our explanation for the rise of women’s rights, when Sparta lost the conquered land several centuries later, the rights for women disappeared. Two conclusions emerge that may help explain why women’s rights have been so rare for most of history. First, in contrast to the historical norm, the optimal (from the men’s perspective) division of labor among Spartans involved women in work that was not easily monitored by men. Second, the rights held by Spartan women may have been part of an unstable equilibrium, which contained the seeds of its own destruction.

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*In the days of [Spartan] supremacy a great deal was managed by women. What difference is there between women ruling and rulers ruled by women?*

-Aristotle on the women of Sparta<sup>1</sup>

## **I. Introduction**

For most of history, most societies have restricted the rights and ability of women to own and manage property. The women of ancient Sparta were a remarkable exception. Spartan women not only owned land (a rarity in the ancient world), but reportedly controlled 40 percent of Sparta's total agricultural terrain by the early 4<sup>th</sup> century B.C.. In addition, Spartan women were publicly educated, able to move about freely, outspoken to a degree that made them famous (Plutarch compiled a book of their sayings), and, even though not formally enfranchised, so politically influential that ancient scholars blamed them for Sparta's decline as a major power. And this was not simply another example of the enlightenment for which ancient Greece is famous: By most measures, Sparta was the *least* enlightened of the many Greek city-states.<sup>2</sup> The most democratic city-state, and the source of the greatest art, philosophy, and so forth, was Athens, where women were not allowed to own property, received little education, and faced severe restrictions on their ability to move about in public.<sup>3</sup>

Our goal in this paper is to investigate the Spartan exception, in order to understand better the circumstances under which societies grant women (and other disenfranchised groups) property

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<sup>1</sup>Quoted in Pomeroy (2002, 81).

<sup>2</sup>Sparta produced little in the way of great art, architecture, or philosophy, and was famous primarily for its fierce devotion to warfare. The historian Thucydides wrote, "If Sparta were deserted and only its temples and its ground plan left, future generations would never believe that its power had matched its reputation" (quoted in Forrest 1969, 28).

<sup>3</sup>For an economic analysis of the political institutions of Athens and Sparta, see Fleck and Hanssen (2006).

(and other) rights equivalent to those held by citizen men.<sup>4</sup> Our analysis focuses on economic incentives, and on how assigning residual claims can mitigate agency problems. In brief, we conclude that the unusual rights possessed by Spartan women resulted from the fact that these women were expected to perform tasks that were very valuable to men, and also very costly for men to monitor. By contrast, in most societies prior to the industrial revolution (including the rest of ancient Greece), the highest value use of women's time (from a man's perspective) was in tasks that either were easily monitored or had few incentive compatibility problems (i.e., raising children and other traditional "women's work"). Therefore, most men had little to gain from expanding women's rights, and women's rights remained correspondingly restricted.<sup>5</sup>

Why was Sparta different? The defining moment in Spartan history – and the impetus for Sparta's decision to give rights to women – was Sparta's conquest of a neighboring territory, Messenia, in the late 8<sup>th</sup> century B.C.. Through the conquest, Sparta obtained two valuable assets: the most fertile agricultural land in the region, and a captive labor force. This changed the marginal product of Spartan labor in three critical ways. First, the constant threat of revolt by the captive Messenians raised the return to Spartan men's time spent in the military, thus increasing the opportunity cost of their time spent in other activities. Second, the conquest changed the nature of Spartans' agricultural work from direct physical labor to the managing of estates worked by the

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<sup>4</sup>Of course, there have always been *individual* women who had great power and enjoyed great wealth (e.g., Cleopatra, Queen Elizabeth, Catherine the Great). And, of course, many men in many societies have not been allowed to own property. But anything even approaching equality of rights between men and women is far from the historical norm.

<sup>5</sup>Technological changes of more recent years have raised enormously the value of unobservable investment in human capital, and have been accompanied by an expansion of women's rights to own property (see, e.g., Geddes and Lueck 2002), just as our analysis of ancient Sparta would suggest.

captives, thus eliminating any inherent male productivity advantage due to greater physical strength.<sup>6</sup>

Third, the conquest provided an abundant supply of servile labor to perform household duties, so that the marginal product of Spartan women's time devoted to housework declined. Sparta responded by re-writing its constitution.

In order to analyze the constitutional changes (and related changes in social norms) that provided Spartan women with rights following the conquest of Messenia, we start from the premise that constitutions (and other aspects of legal systems) are designed rationally to meet the objectives of their designers.<sup>7</sup> In the case of Sparta, the designers were the men of Sparta, all of whom participated in policymaking with a remarkable degree of equality and had (compared to most societies) unusually homogenous interests.<sup>8</sup> When homogenous voters agree to a public policy, the likely goal is to generate collective gains that would not be achievable with individuals acting independently in a self-interested fashion. What collective gains did the Spartan constitution generate? Most obviously, the conquest of Messenia had raised the return to defense (primarily to

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<sup>6</sup>Because the captive Messenians provided the physical labor, the agricultural activities engaged in by Spartan citizens involved such things as riding out to estates, supervising land use, and choosing breeding stock, rather than engaging directly in terracing the land, planting trees, or handling animals for breeding, as would have been done in other city-states. Sparta was the only Greek city-state to base its agricultural production on captured territory and labor. This is not to say that all labor in the rest of Greece was free – slavery was common. But agricultural production in most city-states centered on the labor of citizens. See Hanson (1999).

<sup>7</sup>The idea that constitutions are designed to produce specifically desired outcomes has long been acknowledged, and is emphasized by Acemoglu (2005) in a recent review. For example, Acemoglu (2005, 13) characterizes Charles A. Beard's (1913) classic analysis of the U.S. Constitution as follows: "the primary objective of the government and the constitution is to ensure favorable economic conditions for those holding political power." See Ticchi and Vindigni (2003) for a model of endogenous constitutions, and Aghion, Alesina, and Trebbi (2004) on endogenous political institutions.

<sup>8</sup>Sparta was very democratic – for its citizens – by the standards of the time. As discussed later in this paper, all Spartan men went through the same educational system, spent adulthood as full-time soldiers, ate in military mess halls, owned estates in Messenia, and were expected to marry and have children. Indeed, the Spartans referred to themselves as *homoioi*, meaning "the equal ones" or "the similars." See, e.g., Freeman (1999, 97) and Hanson (1999, 385).

ensure continued control of the conquered territory), and defense is the quintessential public good. By establishing a system whereby men were required to devote themselves to full-time military service – constantly in the company of other men – the Spartans substantially reduced the potential for free-riding.

But to support a system of full-time military service by men, it was necessary that men do less agricultural work, which in turn inspired Spartan men to assign women some of the responsibility for the management of the agricultural estates. How were Spartan men to ensure that Spartan women devoted the appropriate (from the men's perspective) amount of time and effort to this activity? Direct monitoring by men was one possibility, but monitoring would have been very costly – management effort is difficult to observe, and full-time military service required the men to be on duty (and away from the household) frequently. An alternative was to grant women residual claims to the additional output resulting from their efforts.<sup>9</sup> In the case of Sparta, however, granting residual claims could not be done through private arrangements (between husbands and wives, for example), because circumstances would have arisen in which individual men would have found it in their interest to renege.<sup>10</sup> By instead establishing constitutional provisions that were in the interest of Spartan men *collectively*, men could commit to respecting women's rights.

Indeed, Sparta's post-Messenian conquest constitution served to improve both the *incentive*

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<sup>9</sup>For a review of studies emphasizing the importance of the underlying incentive structure in predicting asset ownership when monitoring is costly, see Milgrom and Roberts (1992). The major works on asset assignment and incentives include Alchian and Demsetz (1972), Grossman and Hart (1986), Barzel (1989), and Hart and Moore (1990). Also see Goldin (1986) on the role of monitoring costs in determining the occupational segregation of men and women.

<sup>10</sup>For discussions of the extensive literature on labor allocation and bargaining within the household, see, e.g., Pollak (1985), Becker (1991), and Lundberg and Pollak (1996). Note, however, that our analysis focuses not on bargaining within households, but rather on men's *collective* decisions, which in the case of Sparta were incorporated into its constitution.

and the *ability* of women to manage agricultural land. To improve the incentive, Sparta permitted women to inherit and bequeath land, a practice found nowhere else in mainland Greece – inheritance rules were responsible for women holding title to so much of Sparta’s land.<sup>11</sup> To improve the ability, Sparta implemented universal education for girls and granted women complete freedom of movement, both unprecedented in ancient Greece. In addition, Sparta’s laws and social norms discouraged Spartan women from engaging in the type of household activities that occupied the time of women elsewhere. As a result, under the new (post-Messenian conquest) Spartan constitution, Spartan women not only had formal title to property, but had the legal right, training, and capability to do with land what Spartan men did.<sup>12</sup>

Consistent with our explanation for the rise of women’s rights, when Sparta lost Messenia several centuries later, the role of women in Sparta reverted to the (non-rights) Greek norm. Furthermore, our analysis suggests that the same women’s rights that enabled Sparta to control Messenia for 300 years may also have made the *eventual* loss of Messenia – and thus the demise of women’s rights – inevitable. The reason is that these rights, which provided women with the proper incentives to manage Spartan estates, also raised the opportunity cost of having children. After Sparta enacted the reforms that provided women with so many rights (7<sup>th</sup> century B.C.), its population began to decline. By the early 4<sup>th</sup> century B.C., Sparta’s population was one-fifth of what it had been 200 years previously (Cartledge 1987, 37), the Spartan army no longer had the manpower necessary to maintain its position as the preeminent Greek military power, and Sparta lost its

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<sup>11</sup>Inheritance rules were critical because there was no market for land in ancient Sparta (or most elsewhere in Greece for that matter). Sections II and III of this paper discuss inheritance rules in more detail.

<sup>12</sup>In our analysis, we treat “legal rights” (such as inheritance rules) and “social norms” (such as allowing women to move about freely in public) very similarly. Sparta was unique in both, and our goal is to explain why Sparta’s *combination* of rights and norms emerged and then (eventually) disappeared.

conquered land (the *raison d'être* for women's rights).

In sum, rights for Spartan women resulted not simply from women taking over a traditionally male task, but from women taking over a task that created incentive (and related) problems which could be mitigated by the formal granting of rights. In other words, Spartan women were not merely archaic versions of the “Rosie the Riveters” who took on “male” jobs following the vast mobilization of men into the military during World War II.<sup>13</sup> Although Spartan women indeed took responsibility for traditionally male tasks to allow Spartan men to participate in a full-time army, the shift in female labor depended upon – and occurred concurrently with – profound changes in Sparta's underlying institutions. Hence, our story is not about the influence of war per se, or even more generally about a shock that alters the division of labor. Rather, our story is about how such a shock, by shifting women's labor into tasks that men could not easily monitor, induced institutional changes that led to women's rights.

It is worth noting that the incentive problems arising from restrictions on women's rights to own property have long been recognized. For example, in his discussion of American and English laws preventing women from owning property, 19<sup>th</sup> century legal scholar Joel P. Bishop wrote that “the common law of married women, in so far as it is practically carried out, tends to make wives lazy. Why should they exert themselves when no fruits of their labor are their own?” (cited in Geddes and Lueck 2002, 1081). More recently, development economists have expressed similar concerns (especially with regard to women in sub-Saharan Africa): The International Food Policy

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<sup>13</sup>See, e.g., Goldin (1991), Mulligan (1998), and Acemoglu, Autor, and Lyle (2004) on the increase in wartime female labor participation in the U.S. during World War II. Acemoglu, Autor, and Lyle (2004) conclude that women were better substitutes for educated men than for uneducated men, similar to our conclusion that Spartan women became better substitutes for Spartan men when the major agricultural activity shifted from one of brawn to one of brains. For a discussion of the link between warfare and the expansion of political rights, see Ticchi and Vindigni (2006).

Research Institute (2005) writes that “Insecurity of tenure discourages women from investing time and resources in sustainable farming practices. This is especially true of agroforestry technologies because of the delay between investment and returns.”

Close in spirit to our analysis is Geddes and Lueck’s (2002) study of the 19<sup>th</sup> and early 20<sup>th</sup> century United States. Geddes and Lueck argue that women’s property rights expanded most quickly in states where the returns to investment in female human capital were highest, thus giving men the incentive to grant women residual claims. More generally, our paper builds on research demonstrating how rulers (or a ruling class) may benefit from expanding the rights of others.<sup>14</sup> Of course, rulers can restrict, as well as expand, the rights of those they rule: Spartan men granted a revolutionary set of rights to women, yet brutally repressed a neighboring population.

## **II. The Rise of the Spartan System**

This section explains how the conquest of Messenia led to rights for women. We present our argument in two steps. First, we discuss the ways in which the conquest changed the marginal product of labor for Spartan men and women. Second, we analyze the Spartan institutional response,

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<sup>14</sup>In a seminal paper, North and Weingast (1989) propose that rulers’ power to confiscate wealth weakens subjects’ incentives to create wealth; rulers may therefore gain from limiting their own discretion. Fleck and Hanssen (2006) posit that variations in democracy across the city-states of ancient Greece resulted from differences in agricultural terrain, which led to corresponding differences in the returns to the aristocracy from granting property and political rights to disenfranchised agricultural workers. Lizzeri and Persico (2004) propose that (some of) those in power in 19<sup>th</sup> century England voluntarily expanded the vote in order to promote their own wealth creation, which was hampered by lack of investment in public goods. Acemoglu and Robinson (2000, 2001) model an expansion of the franchise that is brought about by the threat of revolution; revolution is avoided because franchise expansion allows the rulers to commit to a promised redistribution of wealth. Barzel (2000) and Fleck (2000) also investigate the expansion of political rights as a means of committing not to confiscate wealth. For more on institutions and credible commitment, see North (1990, 1993), Kiser and Barzel (1991), Barzel (1992), Greif (1993, 1994), Weingast (1993, 1995, 1997), Greif, Milgrom, and Weingast (1994), Levy and Spiller (1994), Anderson (1995), Alston, Libecap, and Schneider (1996), Knack and Keefer (1997a, 1997b), Wittman (2000), and Hanssen (2004). For a discussion of constitutions specifically, see Persson and Tabellini (2003). On the expansion of democracy, see, e.g., Lipset (1959), Olson (1993), Londregan and Poole (1996), McGuire and Olson (1996), Llavador and Oxoby (2005).



which allowed Spartans to realize the gains made possible by the changes in labor productivity.

Before commencing, it is worth briefly discussing the historical basis for our analysis (Appendix I provides a much more detailed review). The Spartans left behind little written history; therefore, most accounts of ancient Sparta come from non-Spartan Greeks. These accounts are sufficiently informative to allow modern classicists to paint a reasonably accurate picture of Sparta's political, social, and legal institutions. There is a relative wealth of information about Spartan women and the rights they possessed, in large part because those rights (and those women) were considered sufficiently extraordinary to be worthy of comment.

Thus, the facts about ancient Sparta that we present in this paper are generally accepted by today's classical scholars. Where our analysis is novel is in its attempt to explain those facts as the outcome of rational efforts to address incentive problems.

### **The Conquest of Neighboring Land and People**

When Greek city-states first appeared (circa 800 B.C.), little distinguished Sparta from the rest of ancient Greece. It is important to emphasize this – nothing in Sparta's previous history would have led one to predict that Sparta would follow a different path than other Greek city-states with respect to its political and social institutions. As far as is known, early (pre-Messenian conquest) Sparta was no more militaristic, belligerent, etc., than other Greek city-states of the time.<sup>15</sup>

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<sup>15</sup>Murray (1993, 155) writes of the early Spartans, "They seem originally to have differed little from other early Greek communities. Their political constitution was normal in basic structure." The history of ancient Greece is typically divided into the Mycenaean Period (1300-1150 B.C.), the Dark Age (1150-800 B.C.), the Archaic Period (800-480 B.C.), and the Classical Period (480-323 B.C.). Although the city-state of Sparta shared its name with a famous kingdom of the Mycenaean period (Helen, whose flight inspired the Trojan War, was the wife of a Spartan king), the ancestors of the classical Spartans entered the region as part of what is often referred to as the "Dorian invasion" that followed (or may have precipitated) the collapse of Mycenaean civilization. The Dorian origins of the Spartans have been used by some to explain Sparta's unusual militarism; however, few scholars today accept this explanation (for one thing, other "Dorian" states, such as Argos, never developed institutions like those of Sparta).

It was the conquest of Messenia (circa 700 B.C.) that laid the foundation for Sparta's unique system. Messenia was one of the most agriculturally productive areas in all of Greece, containing a broad and fertile valley that was well-suited to growing grain (the Greek staple).<sup>16</sup> The reasons for the Spartan invasion remain unknown; however, it occurred at a time when concern for ensuring adequate foodstuffs was widespread throughout Greece, and many city-states were sending groups of citizens to found colonies elsewhere (Forrest 1969, 38). The initial fighting lasted 20 years and ended with a Spartan victory.<sup>17</sup> About thirty years later, the Messenians staged a bloody revolt, the Second Messenian War, probably timed to correspond to a Spartan military defeat by Argos.<sup>18</sup> At great cost, Sparta crushed the revolt and imposed a system of repressive rule over the Messenians, who became known as helots.<sup>19</sup>

#### The marginal product of Spartan men's time in military activity increased

Although the conquest garnered Sparta the richest, most fertile fields on the Peloponnese and a large captive labor force, the Second Messenian War made clear that keeping the territory and

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<sup>16</sup>Semple (1921, 55) writes that the Messenian grain fields "enjoyed a rare reputation for productivity from very early days." Most of Greece is, by contrast, hilly and rocky.

<sup>17</sup>See, e.g., Murray (1993, 157). This does not mean that warfare continued unabated for twenty years; wars in ancient Greece typically took the form of periodic battles (Hanson 1983).

<sup>18</sup>Scholars believe that in the aftermath of the initial war, the Messenians may have had a status comparable to the *perioikoi* ("those who live around"), who inhabited other parts of Sparta. The *perioikoi* possessed no political rights and were required to provide assistance to the Spartan military, but faced no other obligations, and were left to govern their own communities in an autonomous fashion (except with respect to foreign policy). See Cartledge (1987, 16).

<sup>19</sup>Forrest (1969, 31) suggests that the word "helot" derives from the root *hel-*, implying seizure or capture. Sparta's helots had no political rights and no freedom of movement, but were bound to particular parcels of land, from which they were required to provide a portion (probably one-half) of their output to the Spartan masters. Helots belonged to the Spartan state – individual helots could not be bought and sold, although the parcels on which they worked may have changed from one Spartan owner to another from time to time (see Hodkinson 2000, 124). In addition to the Messenian helots, there were also helots located in Laconia, the site of Sparta itself. However, the vast majority of helots were in Messenia; for this reason, the helots collectively were often referred to as "Messenians" (Cartledge 1987, 15).

people under Spartan control would require devoting substantial resources to military activities.<sup>20</sup> Xenophon (*Hell.*3.3.4-11), an Athenian who frequently visited Sparta, said of the Messenian helots, “They would gladly eat the Spartans raw.” The Messenians rose in rebellion numerous times over the centuries that followed the Spartan conquest, often timing their revolts to coincide with other problems faced by Sparta.<sup>21</sup> The threat of a successful helot revolt was no idle one: Although the helots lacked weapons, they outnumbered the Spartans by as many as ten to one.<sup>22</sup> In view of this constant threat, Sparta made an annual declaration of war on its Messenian helots, regardless of the actual state of affairs at that moment, both to symbolize the underlying nature of the relationship and to allow a quick response to provocations.<sup>23</sup>

#### The marginal product of Spartan women’s time in agriculture increased relative to Spartan men’s

In most of Greece, women participated very little in agricultural activities. For example, one of the most prominent ideas in Hesiod’s *Works and Days*, a recounting of the farming life in ancient Greece, was that “farming is the main work, and it is done by men. Women are ‘naturally’ fitted to work inside the house” (Fisher 1998, 193). Among Spartans, however, women and men were equally well suited to agricultural production. The primary agricultural task for Spartan citizens was

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<sup>20</sup>Pomeroy et al (1999, 137) write, “The Second Messenian War had been a terrifying revelation of the risks of the helot system, and the possibility of a repetition haunted the imaginations of Spartans and their enemies. One certain way of avoiding such a catastrophe, abandoning Messenia, was unthinkable. Consequently, the Spartans were forced to find another way.”

<sup>21</sup>For example, the helots revolted when Sparta suffered a major earthquake in 465 B.C. (Freeman 1999, 198).

<sup>22</sup>Modern estimates place the total number of helots in the range of 200,000, while Sparta at its peak had no more than 10,000 male citizens (Cartledge 1987, 174). One of the more conservative guesses was by Herodotus, who estimated that the helots outnumbered the Spartans on an order of seven to one (quoted in Jameson 1992, 136).

<sup>23</sup>Because of the declaration, a Spartan suffered no “blood-guilt” (and faced no punishment) if he killed a helot, regardless of the circumstances under which the killing took place (Cartledge 2003, 73).

not plowing, planting, and harvesting (as it was for the citizens of other Greek city-states), but rather the management of helot-worked estates. Xenophon (*Hell.3.3.5*) discusses the agricultural activities engaged in by Spartans – choosing animals for breeding, approving cultivation patterns, obtaining appropriate seed stock, and so forth. Such work put a premium on intelligence, rather than strength, so that an educated Spartan woman was potentially a perfect substitute for an educated Spartan man.

#### The marginal product of Spartan women's time in the household decreased

In addition to working the fields, helots served in the household, substantially reducing the marginal product of time spent by Spartan women on traditional household activities. Pomeroy (2002, 51) writes, “Because before the fourth century the economy of Sparta more than elsewhere in the Greek world depended on the labor of those who were not free, . . . , the ‘production’ aspect of the *oikos* [household] was minimal. . . . Therefore, housekeeping was not a time-consuming job for women.” Again, this contrasted sharply with the lot of women in other Greek city-states, where virtually all female labor was directed towards household production (e.g., Blundell 1995).

#### **The Spartan Institutional Response**

These changes in labor productivity provided a rationale for allocating men's and women's time differently in Sparta than elsewhere in ancient Greece. However, that alone cannot explain the rise of women's rights, or the more general changes in Sparta's formal (and informal) institutions.<sup>24</sup> Rather, the new Spartan institutions were a product of the incentive problems that the new division of labor created. Specifically, the new institutions were designed to give men and women the ability and motivation to allocate time to activities that generated large benefits for Sparta, but would have been under-provided otherwise.

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<sup>24</sup>Note that if transaction costs are zero, market forces will automatically allocate resources to the highest value uses. But when transaction costs are positive, institutions play a critical role in aligning incentives.

The unique Spartan system developed through a series of institutional reforms known as the “Laws of Lycurgus” or the “Lycurgan reforms.” The reforms resulted in a new constitution, the Great Rhetra. They were largely in place by the end of the 7<sup>th</sup> century B.C., roughly fifty years after the Second Messenian War, and served a clear purpose: to maintain Sparta’s Messenian holdings (Murray 1993, 157). As Thucydides put it, “most [post-Messenian conquest] institutions among Spartans have always been established with regard to security against the helots” (*Hist.*4.80.3).

#### For men: full-time military service

The most famous of the Lycurgan reforms was Sparta’s establishment of a full-time standing army, consisting of the entire male citizenry. Freeman (1999, 97) writes:

Sparta was unique among city-states in being able to support a full-time army. It was a condition of citizenship that citizens maintained themselves from private plots in Messenia farmed by the helots. They were thus free for year-round training which was needed to maintain their hold on the class that supported them.<sup>25</sup>

The process of developing Spartan warriors began at birth, when male infants were examined by a public commission to determine whether they should be allowed to live.<sup>26</sup> At the age of 7, each Spartan boy was taken from his family and enrolled in the *agoge*, a system of public education that required him to live, eat, and sleep with other boys until he reached the age of 20.<sup>27</sup> From age 20

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<sup>25</sup>In other Greek city-states, the citizen-farmers who worked the fields also formed the city-state’s army, with each soldier returning to his principal occupation – farming – once hostilities had ceased. Hanson (1999, 301) writes, “Outside of Sparta, hoplites [Greek infantrymen] spent little time training for war.” By contrast, in Sparta, as Hanson (1999, 385) writes, “Males did not farm. They trained constantly for battle.”

<sup>26</sup>Plutarch (*Lyc.*16.1-2) writes, “The father did not decide whether to raise a baby; rather he took it and carried it to some place called Lesche where the elders of the tribe sat and examined the infant, and if it were well-built and sturdy, they ordered the father to rear it.”

<sup>27</sup>The *agoge* (meaning “upbringing”) separated those aged 7 to 17 (the *paides*, or “boys”) from those aged 18 to 20 (the *paidiskoi*, or “youths”). For both groups, however, the physical aspect of the training was rigorous, designed to develop tough, brave men with the ability and mental preparedness to attack and kill helots. The youngest boys were required to go barefoot in all seasons, and from ages of 12 through 17, systematic surveillance and discipline by older boys was the norm; Cartledge (2001, 86) writes, “this second stage resembled nothing so much as a paramilitary assault course.” An elite few of the older boys were

through age 60, all Spartan males were full-time soldiers, obligated to dedicate themselves to constant training. Those under the age of 30 were required to live in barracks, while those over the age of 30 and married (all Spartans were expected to marry, so as to beget more soldiers) were allowed to live at home, but continued to take meals communally, dining in military messes (known as *sussitae*) until the age of 60. Thus, by constitutional design, men's time was allocated nearly entirely to military activities. Through the classical period, Sparta had the only truly professional army in Greece.<sup>28</sup>

### Women's ownership of land

The high return to men's time spent in military service made it desirable (as far as men were concerned) to involve women in managing the helot-worked estates. But Spartan men would have been unable to observe precisely *how* women were managing these estates – management, by its very nature, involves things that are costly to observe. A standard way of providing proper incentives with respect to a costly to observe activity is to assign residual claims to the person undertaking the activity.

In most Greek city states, the legal regime would not have allowed individual men to enter into binding contracts with their wives over residual claims. Indeed, the typical Greek city-state did not even allow women to achieve legal maturity; rather, females remained throughout their lives

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assigned to a group known as the *Kryptoi*, and, armed only with knives, sent to Messenia and required to survive on their own (primarily by robbing and killing helots).

<sup>28</sup> Cartledge (2001, 89) sums it up as follows:

[I]t was the helots who, by freeing the Spartan citizens en bloc from all productive labor (other than warfare), enabled their masters to develop their uniquely military society, a workshop of war. But at the same time it was also the helots who so outnumbered the Spartan citizen population . . . who, as the enemy within, 'lying in wait for their masters' in the phrase of Aristotle (*Pol.* 1269a37-9), necessitated as well as enabled the Spartans military mode of life, and their unique transformation of a *polis* [city-state] into a military-police state.

under the guardianship of a male.<sup>29</sup> Thus, most Greek women could not own land, could not inherit property, and could not pass property on to their heirs. Indeed, women were even limited in the non-land property they were allowed to possess; for example, Athenian women were restricted by law from entering into a contract involving more than one *medimnos* of barley, enough to feed a family for approximately five days.<sup>30</sup> Even with respect to the most important form of physical property wives in most city-states possessed, their dowries (which were explicitly intended for their support), husbands made all management decisions.<sup>31</sup>

By contrast, the rules governing Spartan women's rights to acquire and manage property gave women an economic status close to that of men. Notably, Spartan daughters inherited the entire family estate when they had no living brothers, and shared the estate otherwise (albeit, receiving smaller portions than would a son).<sup>32</sup> Furthermore, a Spartan woman's dowry was usually land (also unique in Greece) and remained entirely in her own possession throughout marriage – Cartledge (2001, 120) refers to Spartan dowries as “a form of anticipatory inheritance.” Inheritance rules were critical because there was no market for land in ancient Greece (estates were bequeathed, not sold). Elsewhere in Greece (where women could not inherit land) the estate would pass to a non-blood relation of the wife (a brother or uncle of her husband, for example) if the husband died and she had

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<sup>29</sup>They therefore had to depend upon a *kyrios*, or guardian (father, husband, or, if widowed, son's guardian, or son) to make decisions regarding any and all physical property, and to represent them with respect to any legal issues that arose. See Blundell (1995, 66-7).

<sup>30</sup>See Blundell (1995, 114). Although a woman had use of certain moveable goods – furniture, clothing, jewelry – she could only sell them with the permission of a male guardian (husband, father, brother).

<sup>31</sup>For an economic analysis of dowries, see Botticini and Siow (2003).

<sup>32</sup>See, e.g., Blundell (1995, 155-6).

no sons.<sup>33</sup> Had this been the case in Sparta, it would have reduced women's incentives to devote effort to managing the Spartan estates in a manner that maximized long run returns.<sup>34</sup>

As a result of Sparta's unique inheritance rules, Spartan women may have owned as much as 40 percent of Sparta's agricultural land – Aristotle's estimate – by the late classical period (Cartledge 1987, 167).<sup>35</sup> The fact that women owned land (and so much land!) in ancient Sparta is truly astounding. Fisher (1998, 196) writes, "In all Greek states, land remained the economic asset that carried the greatest value and status in terms of political, social, and symbolic power." Only in Sparta was this status granted to women.<sup>36</sup>

Why did Sparta resort to constitutional rules to provide women with property rights, rather than relying on private arrangements, such as those that husbands and wives often make? The reason is that, under typical Greek rules, private arrangements would not have been enforceable. For example, elsewhere in Greece, if a husband died in battle, any promises he had made to his wife and daughters regarding his estate would have been undone by the fact that women could neither own

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<sup>33</sup>Under the standard Greek inheritance regime (e.g., in Athens), a husband's brother, father, or uncle would gain control of the family estate upon the husband's death if there were no sons of age. The difference between Spartan and Athenian inheritance rules is made clear by the terminology used: Cartledge (2003, 169) writes, "Heiresses in Sparta – that is, daughters without legitimate brothers of the same father – were called *patrouchoi*, which literally means 'holders of the patrimony,' whereas in Athens they were called *epikleroi*, which means 'on (i.e., going with) the *kleros*' (allotment, lot, or portion). Athenian *epikleroi*, that is, served merely as a vehicle for transmitting the paternal inheritance to the next male heir and owner, whereas Spartan *patrouchoi* inherited in their own right."

<sup>34</sup>For economic analyses of inheritance rules, see, e.g., Bernheim, Shleifer, and Summers (1985), Becker (1991), Baker and Miceli (2005).

<sup>35</sup>Interestingly, if every couple had two children and (as modern classicists suggest) each Spartan female inherited half the estate if she had a sister and one-third of the estate if she had a brother, females would inherit 41.67 percent of all land (assuming couples have a 50 percent chance of having a son and a daughter, a 25 percent chance of having two sons, and a 25 percent chance of having two daughters).

<sup>36</sup>To be clear, we are not arguing that men gave women 40 percent of the land so that women would have the proper incentives with respect to that 40 percent, and that 40 percent alone. Rather, our point is that a good incentive structure required that women have the rights to inherit and bequeath property. And those rights of inheritance and bequest led to women owning 40 percent of Sparta's land.



nor inherit land. This would have been of little concern to men in most of Greece, because women's activities in the typical Greek household produced output that was easily observed. In the case of Sparta, however, the unobservable nature of women's activities meant that men collectively had much to gain by giving women secure rights to property.

Spartan men granted women property rights, but not political rights. It has been suggested that, in other circumstances, granting political rights may be necessary to render a commitment to property rights credible (e.g., Fleck 2000, Acemoglu and Robinson 2001, Fleck and Hanssen 2006). However, Spartan men evidently garnered such large *collective* benefits from women's rights that it was in the collective interest to prevent *individual* men from renegeing. For example, an individual Spartan man might well have wished to strip his sister-in-law (or his niece) of her inheritance rights in order to obtain his brother's estate, but if he were allowed (by other Spartan men) to do so, the incentive for other Spartan women to do what Spartan men collectively desired would have been weakened. This suggests that Spartan women's property rights were "fragile," in the sense they risked being abandoned once no longer in the collective male interest. And indeed, the loss of Messenia was followed by the disappearance of women's rights (see what follows).

Of course, rendering ownership of the helot estates secure for women (and for men, as well) required keeping Messenia subdued. Thus, ensuring that Spartan men had the proper incentives vis a vis their military duties was important in providing women with the proper incentive vis a vis estate management. To understand the nature of potential male shirking, one must recognize that the essential attribute of the Spartan soldier was not unusual prowess at arms – Greek warfare was such that individual skill with weaponry and collective military strategy mattered little to success on the battlefield. What mattered greatly was discipline and bravery: the willingness to hold one's

place in the hoplite phalanx.<sup>37</sup> The ultimate offense a Spartan could commit, therefore, was to show cowardice on the field of battle – a Spartan who abandoned his shield and fled was publicly stripped of his citizenship and his estates.<sup>38</sup> Presumably, this helped men commit collectively to defense; however, it also meant that when cowardice occurred, it not only disgraced a family, but impoverished it.

In this light, we can understand what may otherwise appear to modern eyes as a noncredible threat or simple barbarism: Spartan women reputedly had the right to kill their cowardly sons (e.g., Pomeroy 2002). Although the prospect of a mother killing her son is shocking, it would clearly strengthen men's commitment *not* to be cowards. Furthermore, it was evidently incentive

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<sup>37</sup>Hoplite infantrymen were arranged in a tightly grouped formation known as a phalanx, with each holding a short thrusting spear in his right hand and a shield on his left shoulder. The enormous shield sheltered both his own left side and his companion's right. Opposing phalanxes assembled on open plains and marched on each other. Hanson (1999, 272) writes, "In phalanx warfare much must have rested on just this ability to march in deliberate set order, without allowing fatal gaps to appear between hoplites, without flinching at the moment of collision" (Hanson makes the point that once on the battlefield, Spartans fought like other Greeks). See Hanson (1983) for a detailed description of hoplite warfare.

<sup>38</sup>The Spartan ideal when victory was not possible was to die *en taxei*; that is, "at one's station" (Cartledge 1998, 189). In the famous battle against the Persians at Thermopylae (480 B.C.), a small band of Spartans and their allies held off a vastly more numerous Persian army for several days, then died *en taxei*. A monument was erected with the following inscription:

Go tell the Spartans, stranger passing by,  
That here, obeying their commands, we lie.

See Pomeroy et al (1999, 194-6). Contrast this with the attitude reflected in a famous poem by Archilochus of Paros:

Well, some Thracian is enjoying the shield which I left  
– I didn't want to, and it was a perfectly good one –  
behind a bush. But I saved myself.  
What do I care about that shield? To hell with it;  
I'll get another one just as good."

(Translation from Pomeroy et al 1999, 117.) Interestingly, according to Plutarch, Archilochus visited Sparta, but when the Spartans learned he had written a poem stating it was better to throw away one's shield than die, he was told to leave immediately (see Harris 2003).

compatible, given reported instances of Spartan women actually killing cowardly sons.<sup>39</sup> The reason women were willing to do this is summarized by Pomeroy (2002, 60):

Since Spartan women could manage their own property and lived close to their kinsmen and friends in a relatively well-protected territory, widowhood and the loss of a son were probably not such frightening and dreary prospects as the comparable situations were at Athens. Defeat by helots or by a foreign power and the ensuing rape, slavery, or even death were more terrifying.

Finally, the explanation for another Spartan idiosyncrasy, the Spartan attitude towards adultery, may also lie in the need to provide women with secure property rights. While adultery was a crime in most city-states – where a woman found dallying with a man could be sold into slavery – in Sparta, adultery was not even sufficient grounds for divorce.<sup>40</sup> If adultery were reason to confiscate a woman's estate (as cowardice was for confiscating a man's estate), there would be a potentially serious commitment problem: A man might make false accusations in order to deprive a woman of her land. And if this were possible, it would of course undermine a woman's incentive to manage the family estates. Thus, in Sparta, allegations of adultery, whether true or false, did not threaten a woman's rights to her property.

#### Other incentives to encourage women to manage estates well

Broadly speaking, public policy can encourage a desired activity by increasing rewards or decreasing opportunity costs. The property ownership rules described above increased the rewards

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<sup>39</sup>Pomeroy (2002, 59-60) recounts a number of instances of Spartan women killing their cowardly sons, and being *revered* for it. She concludes, "That mothers were reputed to enjoy the patriarchal power of Roman fathers and could kill their adult offspring who had disgraced them by their lack of patriotism is unprecedented in the ancient world. It is striking that both Greek and Roman traditions assert that the Spartan mother could pass judgement on an adult son unilaterally and behave so violently against her own offspring."

<sup>40</sup>In *Life of Lycurgus*, Plutarch notes that punishment for adultery was unknown in Sparta. See the discussions in Blundell (1995, 154) and Pomeroy (1975, 37).

women received for their efforts in management. Sparta's unique institutions also decreased the opportunity cost of those efforts. The principal income-generating women's activity in ancient Greece was weaving (the source of all textiles). Blundell (1995, 141) describes the typical Greek view that weaving was "the quintessential female accomplishment" (even upper class women were encouraged to weave). However, the Spartan reforms mandated that all weaving in Sparta be done by servants.<sup>41</sup> This was a rational policy response. Elsewhere in Greece, weaving unambiguously created wealth.<sup>42</sup> In Sparta, promoting weaving for income would have weakened Spartan women's incentives to engage in estate management, which, at the margin, was a more productive activity as far as Spartan men were concerned.

Furthermore, the Spartan system reduced the amount of time that a Spartan woman needed to spend on housework and childcare. First, the captive labor force ensured an abundant supply of servants. Second, starting at age 7, children of both sexes went to public schools, with boys moving away from home permanently. Third, men ate at military messes from ages 7 to 60. Fourth, by convention, a proper Spartan household was somewhat austere (i.e., "spartan").<sup>43</sup>

### Human capital for women

To manage the helot estates well, women needed the appropriate human capital. The Spartan

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<sup>41</sup>Xenophon (*Lac. Pol.* 1.1). The anti-weaving mandate was not applied dogmatically; Spartan women who engaged in weaving would probably not have been prosecuted, and women may have woven for ritual occasions (Pomeroy 2002, 30-1). However, weaving to provide household clothing or to add to household income was considered demeaning, and discouraged accordingly.

<sup>42</sup>Outside of Sparta, weaving was one of the few respectable means for a woman to augment her income. Typically, only what a woman wove was truly her own – she kept it if divorced or widowed. See Blundell (1995) and Katz (1998, 117) for more detail. By contrast, Pomeroy (2002, 51) writes of Spartan women, "there is no evidence that their textiles were exchanged or sold, or that women were obliged to weave in order to provide clothing for their families."

<sup>43</sup>Pomeroy (2002, 51) writes, "Textual and archaeological evidence indicates that before the Roman period Spartan houses were insubstantial: they need not have been used for long term storage, since helots were required to supply agricultural products annually."

constitution mandated that all Spartan girls (as well as Spartan boys) be publicly educated.<sup>44</sup> The rate of literacy among Spartan women was probably equal to, if not higher than, that of Spartan men.<sup>45</sup> This differed dramatically from what was found elsewhere in Greece, where although some girls may have been taught at home to read and write, many learned little beyond general housekeeping.<sup>46</sup>

The Lycurgan reforms established several other practices consistent with a desire to increase women's human capital. First, Spartan women married at a later age than did women elsewhere in Greece, and were closer in age to their husbands.<sup>47</sup> This additional maturity presumably rendered them more capable of managing the property of the household, which they had to do largely without their husbands during the first 5 or so years of marriage. (Recall that husbands resided in the barracks until age 30, and were full-time soldiers until age 60.) Second, Spartan girls and women were as well fed as their male counterparts, which was true nowhere else in the Greek world and

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<sup>44</sup>In other city-states, boys were sent to private academies, but only if the family so desired.

<sup>45</sup>Pomeroy (2002, 8) writes, "the cultural level of [Spartan] girls may well have been superior to that of boys, inasmuch as the latter had to devote so much attention to military training." She also notes that when a list of the philosopher Pythagoras's followers was compiled, five of the 17 women on the list were Spartan, as compared to only three of the 218 men. Plato (*Laws* 806A, cf. *Rep.* 5.452A) states that Spartan women took as much pride in their education as did Spartan men, and also praises Spartan women's skill at philosophical discussion (Pomeroy 2002, 24).

<sup>46</sup>There were some educated women in Athens, but the Athenian ideal is reflected in the *Oeconomicus* of Xenophon, who describes the appropriate "education" (principally comportment and household management) for a new Athenian wife, who would be in every way subordinate to her husband (see Katz 1998, 230). Many of the best educated women in Athens were courtesans (*hetaira*), who were usually not Athenian citizens. For example, Pericles lived openly with the non-Athenian courtesan Aspasia, who was noted for her intelligence and political savvy (see Pomeroy 1975, 89).

<sup>47</sup>In other Greek city-states, the new wife typically would be 12 to 14 years old, and her husband 30. In Sparta, the new wife typically would be 18-20, and her husband only 5 or so years older than she. See, e.g., Pomeroy (2002, 136) and Blundell (1995, 151).

again demonstrates a high degree of concern with (and investment in) women.<sup>48</sup>

Spartan women were also allowed complete freedom of movement, which was unique in ancient Greece. In Athens, for example, women were kept physically separate from men other than their husbands, consigned to their own sections of the household, frequented only certain public areas, and left the house only under well-defined circumstances.<sup>49</sup> By contrast, Spartan girls exercised publicly alongside boys (and often in the nude), and Spartan women engaged in public physical competitions (including races and wrestling matches). Crucially, Spartan women were competent on horseback. Pomeroy (2002, 21) writes, "Spartan women could drive out or ride out to survey their property as men did. Driving horses or riding them endowed Spartan women with an autonomy that was unique for women in the Greek world." Such autonomy was necessary for women to manage the helot estates, which were scattered around the countryside.<sup>50</sup>

### **III. Did the Same Mechanism Lead to Women's Rights Elsewhere?**

It is worth considering briefly whether our explanation for women's rights in Sparta is consistent with the presence or absence of women's rights elsewhere in Greece, and in Greece's cultural cousin, Rome.

#### **Ancient Greece**

How did Sparta compare to the rest of Greece in its treatment of women? So far, we have contrasted Sparta principally with Athens, which we have treated as a representative Greek city-state.

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<sup>48</sup>Pomeroy (2002, 133). Further indicating that Spartan women and men had access to the same food, Spartan women drank wine, which was reserved for men elsewhere in ancient Greece.

<sup>49</sup>See Pomeroy (1975, chapter V) for a discussion.

<sup>50</sup>Sparta was located roughly 30 miles from Messenia. Spartans also possessed estates on the nearer Laconian plains (e.g., Hodkinson 2000, 129).

In fact, Athens differed in many ways from other Greek city-states: It was larger, wealthier, and more democratic. In its *treatment of women*, however, Athens is considered to have been close to the Greek norm. By contrast, Sparta's uniqueness is attested to by the fact that other Greeks wrote so much about Spartan women.<sup>51</sup> That said, few details exist about the status of women in most of Greece. Indeed, there is only one Greek city-state other than Athens and Sparta for which *detailed* information on women's rights exists: Gortyn, located on the island of Crete. The basic facts about Gortyn are consistent with our explanation of women's rights in Sparta.<sup>52</sup>

Although Gortyn did not conquer a neighboring territory, Gortyn's system of agricultural production was based on local serfs, and Gortyn males lived communally in order to train for military combat. In this respect, Gortyn was more like Sparta than were any of the other mainland Greek city-states, none of which maintained standing armies. Yet the threat of a revolt by serfs in Gortyn was much less than the threat of revolt by the helots in Messenia – Gortyn's serfs were a local population rather than residents of a conquered land, and never sought to rebel as far as is known.<sup>53</sup> Furthermore, the fact that the serf population was locally-based reduced the amount of time that a Gortyn man needed to be absent from home.

Our analysis would therefore lead us to predict that rights for the women of Gortyn would be less extensive than for the women of Sparta, although more extensive than elsewhere. And that

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<sup>51</sup>Cartledge (2003, 123) writes, "Sparta was a major exception to the rule that the Greek cities observed pretty much the same customs as each other in respect of the position and behaviour of their women. Herodotus makes it abundantly clear by a variety of means that the women of Sparta were different, even 'other'."

<sup>52</sup>See Blundell (1995) and Pomeroy (1975) for more detail on the women of Gortyn. What is known today about women's rights in Gortyn comes from inscriptions dating from the 5<sup>th</sup> century B.C. (e.g., Blundell 1995, 75).

<sup>53</sup>They would have been similar to Sparta's local "Laconian" helots, who mostly remained loyal to the Spartan state throughout its history.

is what we find. Like Spartan women (and unlike all other women on mainland Greece), the women of Gortyn could inherit agricultural land. However, the daughter of a Gortyn citizen who died without sons was required either to marry her father's nearest relative (paternal uncle or cousin) – a common practice in Athens – or surrender to this man half of her inheritance in return for the right to marry someone else *in the family line*.<sup>54</sup> As a result, the women of Gortyn never owned more than a small fraction of Gortyn's land. In Sparta, by contrast (as discussed earlier), the daughters of a citizen who died without male heirs received the entire family estate with no strings attached. And, in further contrast to Sparta, the women of Gortyn were educated at home (not in a public school system), encouraged to weave, not exempted from traditional household labor, and expected to marry at age 12 (as in Athens) rather than at age 18 (as in Sparta). Finally, although adultery was not a criminal offense in Gortyn, as it was in Athens, neither was it treated as casually as in Sparta – the cuckolded Gortyn husband was due monetary compensation (Blundell 1995, 159).

To the best of modern knowledge, no one ever compiled a compendium of the sayings of the women of Gortyn, or claimed that Gortyn consisted of “rulers ruled by women.” But the women of Gortyn clearly had more rights than women almost anywhere else in ancient Greece. In short, Gortyn fell somewhere between Sparta and Athens in the rights enjoyed by its women. As Pomeroy (1975; 39, 42) puts it:

At Gortyn, the geographic separation between the sexes was less marked, warfare was not as constant, and, as a result, the powers of the women of Gortyn were less than those of Sparta. . . . A chronological arrangement of the codes of Dorian Sparta and Gortyn and the code of Ionian Athens shows that the Spartan code . . . was the most favorable to women. The Athenian . . . was the most restrictive.

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<sup>54</sup>See Blundell (1995, 158). Furthermore, although a woman of Gortyn could inherit land, she was not allowed to inherit livestock, a major source of wealth on Crete.



## Ancient Rome

The role of women in ancient Rome provides an additional test of our explanation for Spartan women's rights. There are two reasons for us to look at Rome. First, Rome's political and military institutions initially resembled those of Athens. Second, Rome eventually established a full-time professional army, which made Rome somewhat akin to Sparta.

Early in the Roman Republic (circa fourth century B.C.), Rome's institutions were much like those of late Archaic Period/early Classical Period Greek city-states: Rome was small, somewhat democratic, and supported by a citizen army in which all men fought, returning to their farms between sporadic battles.<sup>55</sup> And Roman women of this period, like the women of classical Athens and elsewhere in Greece (Sparta and Gortyn excepted), did not own property.

As the Roman Republic evolved into the Roman Empire, the army gradually professionalized, changing from an institution manned as needed by all citizens to one composed of full-time professional soldiers.<sup>56</sup> Yet the institutions governing rights for Roman women changed little over the same period. As Pomeroy (1975, 150) writes of Roman women at the height of the Empire,

The weakness and light-mindedness of the female sex (*infirmitas sexus* and *levitas animi*) were the underlying principles of Roman legal theory that mandated all women to be under the custody of males.

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<sup>55</sup>Rome began as an iron age village, which came under Etruscan rule circa the 6<sup>th</sup> century B.C. – early Roman institutions thus borrowed much from the Etruscans, and the Etruscans had borrowed much from the Greeks (e.g., Syme 1979; Crawford 1993; Le Glay et al 2001; Boatwright et al 2004; MacKay 2004). The early Roman army employed the Greek hoplite phalanx, in which all men with a certain level of wealth served as needed, assembling in the Field of Mars in response to a trumpet blast when defense (or attack) was required. Similarly, citizen-soldiers (hoplites) in Athens and other mainland Greek city-states – Sparta excepted – gathered as necessary in response to occasional calls to arms. See Webster (1979, 19-22) for detail.

<sup>56</sup>Webster (1969, 19-46) describes the evolution of the basis of the Roman army from universal service, to service by lot, to voluntary service. See also Keppie (1984) and MacKay (2004).

Thus, even in Imperial Rome, Roman women remained for their entire lives under the direction of a legal guardian, without whose approval a woman could transact no business, make no contracts, nor accept an inheritance.<sup>57</sup> And although some Roman women could inherit wealth (unlike Athenian women), the amount was strictly limited by statute, and bequests from mother to daughter were not allowed. Therefore, while the average Roman woman may have possessed more rights than her Athenian counterpart, neither law nor custom gave her freedom or economic power equivalent to that enjoyed by the average Spartan woman.<sup>58</sup>

In sum, despite its professional army (something it had in common with Sparta), Rome never provided its women with the rights possessed by Spartan women. Why not? Because only a minority of Roman males served in the Roman army, whereas the entire male citizenry served in the Spartan army.<sup>59</sup> Furthermore, most Roman soldiers served substantially fewer years than did the Spartans.<sup>60</sup> Finally, enlisted Roman soldiers were not allowed to marry while serving (although

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<sup>57</sup>This was typically the *pater familias* (“father of the family”). A married woman did not automatically come under the control of her husband, as in Athens; rather, certain conditions had to be negotiated (the process of *manus*).

<sup>58</sup>Although relatively little is known about how Roman girls were educated, it appears that some young girls may have attended public elementary school, but because girls married in their early teens, they did not study for as long as boys did. Contraceptives were widely employed, yet adultery was a public offense – for women, not for men – and the guardian was permitted to impose the punishment of death. Rape was a crime that could be prosecuted only by a woman’s guardian. Not surprisingly, opportunities for education and control of property were even more restricted for lower class women; see, e.g., Balsdon (1975), Pomeroy (1975). For example, to bequeath property, a freedwoman had to be worth at least 100,000 *sesterces*, roughly \$5000 (Pomeroy 1975, 198).

<sup>59</sup>Bean (1973, 210) consults a range of scholarly works and concludes that the Roman army numbered roughly 1 percent of the total population: from 300,000 to 500,000 men between 1 and 350 A.D., out of a total population of 50 million. The Emperor Augustus’ famous inscription, *Res Gestae Divi Augusti*, cites a 14 A.D. census indicating a (male) citizen population of nearly 5 million, which still leaves the Roman army accounting for, at most, 10 percent of the male citizen population. (See Boatwright et al 2004 for a description of Augustus’ *Res Gestae*, which means “things done.”) By contrast, *all* Spartan males between 20 and 60 served in the army, while all Spartan males under 20 trained for service.

<sup>60</sup>While each Spartan served until age 60, Roman soldiers served an initial six years, and could reenlist for an additional 16 (after which the soldier would receive a plot of land as a retirement benefit).

camp followers were common), so that most Roman soldiers had no estates to be managed in their absence, and no wives to manage estates in any case. Officers, drawn primarily from the upper class, were exempted from the no marriage rule, and may have possessed estates near Rome. But such men were too few in number to inspire fundamental changes in laws regarding women.

The case of Rome thus supports our argument that women's involvement in unobservable productive activity led to women's rights in Sparta. A militarily-oriented state with a professional army patrolling conquered territories was not sufficient.

#### **IV. The Decline of Women's Rights in Ancient Sparta**

We have proposed that the rights held by Spartan women resulted from the combination of (i) the potential gains from changing the division of labor following Sparta's conquest of Messenia and (ii) the need for new institutions to support that new division of labor. If our argument is correct, then we should observe that women's rights declined following the loss of Messenia.

When Sparta suffered defeat at the hands of Thebes in 370 B.C., Messenia successfully revolted, and was never again under Spartan control. Consistent with our argument, Spartan women lost the rights and responsibilities that had made them famous. No records of formal alterations to the Spartan constitution survive; furthermore, political institutions in all the city-states of ancient Greece were fundamentally and permanently transformed by the Macedonian invasion in the late 4<sup>th</sup> century, roughly 30 years after Sparta lost control of Messenia. Therefore, precisely tracking the change in the status of Spartan women over time is impossible. However, it is clear that by the Roman period (post-146 B.C.), Spartan women were being praised for their moderation, husband-love, dignity, and decorum – the domestic virtues long-valued elsewhere in Greece (Cartledge 1989). Similarly, the role of women in Spartan public life was reduced to participation in religious

ceremonies, again in line with the standard elsewhere in Greece (Cartledge 1989). Sparta even established a magistrate to oversee the public behavior of Spartan women, something inconceivable in earlier days, when Spartan women “ruled” men.

### **Did Spartan Women “Cause” the Decline of Women’s Rights?**

Aristotle blamed the loss of Messenia on Spartan women and, specifically, on the power that control of property enabled them to exercise.<sup>61</sup> Could he have been correct? The immediate cause of Sparta’s loss of Messenia was that Sparta’s population had declined to the point where it could no longer field a formidable army.<sup>62</sup> The reason for the decline in population has been inconclusively debated; however, it certainly derived from the Spartan system, because the local non-citizen population apparently reproduced without problem (Pomeroy 2002, 101). Furthermore, excessive death in battle does not appear to have been the cause. In the first place, there is no evidence that Spartans went to war, or died in battle, more frequently than did citizens of other city-states (see Cartledge 1987, 167).<sup>63</sup> In the second place, Spartan rules permitted extra-marital liaisons as long as the objective was the production of children (Blundell 1995, 154; Pomeroy 1975, 37).

So the question becomes: What in the Spartan system caused Sparta’s population to fall so

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<sup>61</sup>Blundell (1995, 155) writes that Aristotle “clearly attributes the political decline which Sparta experienced in his own lifetime to the influence of females (*Politics* 1269b-1270a).”

<sup>62</sup>Cartledge (1987, 37), citing Herodotus and other commentators of the time, concludes that Sparta may have had a fighting force of as many as 8000 citizen males in 480 B.C.; 100 years later, its male citizenry of military age was one-fifth that size. Population estimates for the ancient world need be treated with care – see, e.g., Zorn (1994). Nonetheless, a strong consensus among classicists holds with regard to this paper’s two most important population-based claims: 1) The Messenians vastly outnumbered the Spartans, and 2) the Spartan population fell precipitously over the centuries preceding its loss of Messenia. For a discussion of estimating populations for ancient Greek *poleis*, see Hansen (2006, 73-76). For an overview of the current state of knowledge about Sparta, including population estimates, see Shipley (2004).

<sup>63</sup>A major earthquake hit Sparta in 465 B.C. (and inspired a helot revolt). The earthquake’s effect on Sparta’s population is not known, but it is worth noting that a dispensation presumably intended to increase birth rates by granting special privileges to fathers of three or more sons was enacted circa 500 B.C., several decades before the earthquake.

precipitously? The likely answer is women's rights. By giving women property and human capital, the Lycurgan reforms raised the opportunity cost of having children. Furthermore, because Spartan women had substantial control over their own time (as well as wealth), they had a greater range of choice in how to respond to that increased opportunity cost. As Lacey (1968, 205) writes, "Rich women, . . . , do not commonly bear large families, especially when, as in Sparta, they are independent and not subordinated to their husbands." Or, as Cicero put it more poetically:

Spartan maidens care more for wrestling, the [river] Eurotas, the sun, dust, and military exercise than for barbarous fertility. (*Tusc.*2.36)

Decreased fertility in Sparta should not surprise modern scholars: Today, nations with well-educated, well-paid, well-to-do women generally have low birth rates.<sup>64</sup>

At least two other aspects of the Spartan system could have contributed to low birthrates. First, like women in today's developed democracies (which have low birthrates), Spartan women enjoyed the freedom of movement, education, and wealth necessary to make the use of contraceptives common. As Pomeroy (2002, 63-66) explains, "Spartans are the only respectable Greek women we know of who are specifically reported to have exercised control over their fertility."<sup>65</sup> Second, the financial incentive to have children would have been weakened by the fact that when a Spartan woman had a son, his labor was used largely to produce a public good (military defense), rather than a private good (output from the family farm).

Sparta apparently recognized that birthrates were undesirably low, and in response, attempted

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<sup>64</sup>On the way in which increases in the opportunity cost of women's time have influenced modern fertility, see, e.g., Galor and Weil (1996) and Greenwood, Seshadri, and Vandenbroucke (2005). On the modern division of agricultural labor between men and women and its effect on birthrates, see, e.g., Boserup (1990). Also see Braunstein and Folbre (2001), who model the effects of the assignment of property rights within the household on the allocation of women's labor between production and child-rearing.

<sup>65</sup>On contraception and female labor force participation in modern times, see Goldin and Katz (2002).

to increase the incentive to produce children. First, while elsewhere in Greece motherhood was simply taken for granted, in Sparta it was celebrated to an extraordinary degree. For example, Sparta allowed commemorative grave markers only in two circumstances: for men who had died in battle and for women who had died in childbirth (Pomeroy 2002, 52). Anecdotes demonstrating the symbolic importance of Spartan motherhood abound, and Pomeroy (2002, 51) writes, "Spartans were the only Greek mothers who were famous in antiquity qua mothers."<sup>66</sup> Second, Sparta introduced a dispensation about 500 B.C. (150 years after the Second Messenian War) that provided special privileges to fathers of three or more sons (Cartledge 1987, 169). And, although public education was not established specifically to increase birthrates, it did reduce the per child costs parents faced.

In the end, these incentives were insufficient to stop Sparta's population decline. And, consequently, Sparta lost the land and captive labor force that had led Spartan men to grant rights to women in the first place. Because Aristotle blamed Spartan women for Sparta's downfall, the Spartan policy of giving rights to women was, in his view, a mistake. Our analysis suggests otherwise. Quite simply, without its full-time military, Sparta could not have held Messenia, and without granting rights to women, Spartan men could not have devoted themselves so exclusively to military activities. In other words, without rights for women, the Sparta of legend might not have existed. So Sparta's declining population was an undesired, though perhaps unavoidable, consequence of granting women the rights necessary to the establishment and maintenance of Sparta's military prowess.<sup>67</sup>

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<sup>66</sup>One famous anecdote recounted by Plutarch has a Spartan woman responding to an Athenian woman's boast about the quality of her woven material by pointing to her four strapping Spartan sons, and saying that sons, not weaving, should be "the work and pride of an honorable woman" (Pomeroy 2002, 30).

<sup>67</sup>Two additional features of Spartan institutions – both linked to women's rights – may have contributed to the decline of Spartan military power. The first was a tendency towards assortative mating (i.e., wealthy with wealthy). Such sorting is an expected consequence of women controlling substantial

## V. Conclusion

The experience of the last 100 years may give one the impression that the granting of rights to women (or to any disenfranchised group) is the result of “progress and enlightenment.”<sup>68</sup> Yet more than two thousand years ago the women of Sparta had an extraordinary set of rights, and Sparta was no beacon of enlightenment.

Our explanation for the Spartan anomaly turns on the fact that Sparta, uniquely among the Greek city-states, based its agricultural production on occupied land and a captive labor force. This raised the return to Spartan men of specializing in military activities (to keep the labor force from revolting), and eliminated the male-female productivity difference that otherwise would have existed in agricultural activities (by limiting those activities to a management role). It thus became desirable for Spartan men to assign substantial responsibility for agricultural management to Spartan women. However, in order for women to fill that role effectively, they had to be given the appropriate incentives in the form of secure rights to property, discouraged from spending time in alternative income-generating activities, and provided with the proper human capital. And so Spartan men rewrote the constitution, establishing Sparta’s unique institutions.

Could the Spartans have chosen alternative institutions that would have served them better (say, by allowing them to control Messenia while avoiding a drop in population)? That question is

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wealth. Combined with the Spartan requirement of a minimum wealth level for citizenship, assortative mating appears to have led to the demotion of some citizens to a lower, non-citizen rank. (However, some of these demoted citizens were nonetheless enrolled in the army, at least on occasion – see Cartledge 1987, chapter 10 for a discussion.) The second was that Spartan men lived in barracks until age 30. This is not to say that men under 30 could not visit their wives or have children, but living apart presumably made procreation less convenient. Of course, if Sparta had followed typical Greek marriage patterns (ages 12 to 14 for females and age 30 for males), living in barracks until age 30 would not have kept husbands and wives apart. But marrying at typical Greek ages would not have been conducive to Sparta’s investment in women’s human capital.

<sup>68</sup>Indeed, whether rights are granted to women is today used as an *indicator* of progress and enlightenment; see, e.g., World Bank and International Monetary Fund (2005).

obviously unanswerable, but there are three things to note. First, the Spartans, themselves, chose these institutions over alternatives, and (as ancient and modern scholars agree) chose with the principal objective of maintaining rule over Messenia. Second, the institutions “worked” in the sense of meeting that objective for many generations – Sparta ruled Messenia for nearly three centuries. Third, employing these institutions – including women’s rights – Sparta rose to become the most powerful city-state in ancient Greece.

More than two millennia later, John Stuart Mill argued that granting rights to women would produce a “doubling the mass of mental faculties available for the higher service of humanity” (Mill 1869, 525). One reason his ideas – and those of the many women who campaigned for formal rights – prevailed is that technology was changing the ways in which women’s “mental faculties” could benefit men. The evidence presented in this paper suggests that formal rights are granted to women (as a class) when women employ their mental faculties in activities that are very valuable, very costly for men to monitor, and would be under-provided in the absence of secure rights. Prior to the modern era, such circumstances were highly unusual.



## BIBLIOGRAPHY

- Acemoglu, Daron. 2005. "Constitutions, Politics, and Economics: A Review Essay on Persson and Tabellini's 'The Economic Effect of Constitutions'." NBER Working Paper 11235
- Acemoglu, Daron, David H. Autor, and David Lyle. 2004. "Women, War, and Wages: The Effect of Female Labor Supply on the Wage Structure at Midcentury." *Journal of Political Economy* 112: 497-551
- Acemoglu, Daron, and James A. Robinson. 2000. "Why Did the West Extend the Franchise? Democracy, Inequality and Growth in Historical Perspective," 115 *Quarterly Journal of Economics* 1167-1199.
- Acemoglu, Daron, and James A. Robinson. 2001. "A Theory of Political Transitions," 91 *American Economic Review* 938-963.
- Aghion, Phillipe, Alberto Alesina, and Francesco Trebbi. 2004. "Endogenous Political Institutions," 119 *Quarterly Journal of Economics* 565-611
- Alchian, Armen A., and Harold Demsetz. 1972. "Production, Information Costs, and Economic Organization." 62 *American Economic Review* 777-797.
- Alston, Lee J., Gary D. Libecap, and Robert Schneider. 1996. "The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier," 12 *Journal of Law, Economics, & Organization* 25-61.
- Anderson, J.K. 1974. *Xenophon*. New York: Charles Scribner's Sons
- Anderson, Terry L. 1995. *Sovereign Nations or Reservations*. San Francisco: Pacific Research Institute for Public Policy.
- Baker, Matthew, and Thomas J. Miceli. 2005. "Land Inheritance Rules: Theory and Cross-Cultural Analysis." *Journal of Economic Behavior and Organization* 56: 77-102
- Balsdon, J.P.V.D. 1975. *Roman Women: Their History and Habits*. Westport, CT: Greenwood Press
- Barzel, Yoram. 1989. *Economic Analysis of Property Rights*. Cambridge: Cambridge University Press.
- Barzel, Yoram. 1992. "Confiscation by the Ruler: The Rise and Fall of Jewish Lending in the Middle Ages," 35 *Journal of Law and Economics* 1-13.
- Barzel, Yoram. 2000. "Property Rights and the Evolution of the State." *Economics of Governance* 1: 25-51.

- Bean, Richard. 1973. "War and the Birth of the Nation State," 33 *Journal of Economic History* 203-221
- Beard, Charles Austin. 1913. *An Economic Interpretation of the Constitution of the United States*. New York: The Free Press, 1965.
- Becker, Gary S. 1991. *A Treatise on the Family*. Cambridge: Harvard University Press.
- Bernheim, B. Douglas, Andrei Shleifer, and Lawrence H. Summers. 1985. "The Strategic Bequest Motive." 93 *Journal of Political Economy* 1045-1076
- Blundell, Sue. 1995. *Women in Ancient Greece*. Cambridge: Harvard University Press
- Boatwright, Mary T., Daniel J. Gargola, and Richard J.A. Talbert. 2004. *The Romans: From Village to Empire*. New York: Oxford University Press
- Boserup, Ester. 1990. *Economic and Demographic Relationships in Development*. Baltimore: The Johns Hopkins University Press.
- Botticini, Maristella, and Aloysius Siow. 2003. "Why Dowries?" 93 *American Economic Review* 1385-1398.
- Braunstein, Elissa, and Nancy Folbre. 2001. "To Honor and Obey: Efficiency, Inequality, and Patriarchal Property Rights." 7 *Feminist Economics* 25-44.
- Cartledge, Paul. 1987. *Agesilaos and the Crisis of Sparta*. Baltimore: Johns Hopkins University Press
- Cartledge, Paul. 1989. *Hellenistic and Roman Sparta*. London: Routledge Press
- Cartledge, Paul. 1998. "War and Peace" in Paul Cartledge, ed. *The Cambridge Illustrated History of Ancient Greece*. Cambridge: Cambridge University Press. 167-192
- Cartledge, Paul. 2001 *Spartan Reflections*. Berkeley: University of California Press
- Cartledge, Paul. 2003 *The Spartans*. New York: Overlook Press
- Crawford, Michael. 1993. *The Roman Republic*. Cambridge: Harvard University Press
- Fisher, Nick. 1998. "Work and Leisure" in Paul Cartledge, ed. *The Cambridge Illustrated History of Ancient Greece*. Cambridge: Cambridge University Press. 193-219
- Fleck, Robert K. 2000. "When Should Market-Supporting Institutions Be Established?" 16 *Journal of Law, Economics, & Organization* 129-154.

Fleck, Robert K., and F. Andrew Hanssen. 2006. "The Origins of Democracy: A Model with Application to Ancient Greece." 49 *Journal of Law and Economics* 115-146.

Forrest, W.G. 1969. *A History of Sparta 950-192 B.C.* New York: Norton

Freeman, Charles. 1999. *The Greek Achievement.* New York: Allen Lane Penguin Press

Galor, Oded, and David N. Weil. 1996. "The Gender Gap, Fertility, and Growth." 86 *American Economic Review* 374-387.

Geddes, Rick, and Dean Lueck. 2002. "The Gains from Self-Ownership and the Expansion of Women's Rights." 92 *American Economic Review* 1079-1092.

Goldin, Claudia. 1986. "Monitoring Costs and Occupational Segregation by Sex: A Historical Analysis." 4 *Journal of Labor Economics* 1-27.

Goldin, Claudia D. 1991. "The Role of World War II in the Rise of Women's Employment." 81 *American Economic Review* 741-756

Goldin, Claudia and Lawrence F. Katz. 2002. "The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions." 110 *Journal of Political Economy* 730-770.

Greenwood, Jeremy, Ananth Seshadri, and Guillaume Vanderbroucke. 2005. "The Baby Boom and the Baby Bust." 95 *American Economic Review* 183-207.

Greif, Avner. 1993. "Contract Enforceability and Economic Institutions in Early Trade: the Maghribi Traders' Coalition," 83 *American Economic Review* 525-548.

Grief, Abner. 1994. "On the Political Foundations of the Late Medieval Commercial Revolution: Genoa during the Twelfth and Thirteenth Centuries," 54 *Journal of Economic History* 271-287.

Grief, Abner, Paul Milgrom, and Barry R. Weingast. 1994. "Coordination, Commitment, and Enforcement: The Case of the Merchant Guild," 102 *Journal of Political Economy* 745-776.

Grossman Sanford J., and Oliver D. Hart. 1986. "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration." 94 *Journal of Political Economy* 691-719.

Hansen, Mogens H. 2006. *Polis: An Introduction to the Ancient Greek City-State.* New York: Oxford University Press

Hanson, Victor D. 1983. *Warfare and Agriculture in Classical Greece.* Pisa: Girding Editor e Stampatori

Hanson, Victor D. 1999. *The Other Greeks: The Family Farm and the Agrarian Roots of Western Civilization.* Berkeley: University of California Press

- Hanssen, F. Andrew. 2004. "Is There a Politically Optimal Level of Judicial Independence?" 94 *American Economic Review* 712-729
- Harris, William. 2003. "Archilocus: First Poet After Homer." Manuscript, Middlebury College
- Hart, Oliver, and John Moore. 1990. "Property Rights and the Nature of the Firm." 98 *Journal of Political Economy* 1119-1158.
- Hodkinson, Stephen. 2000. *Property and Wealth in Ancient Sparta*. London: Gerald Duckworth and Co
- International Food Policy Research Institute (IFPRI). 2005. "Women: Still the Key to Food and Nutrition Security." <http://www.ifpri.org/pubs/ib/ib33.pdf>
- Jameson, Michael H. 1992. "Agricultural Labor in Ancient Greece," 135-46 in Wells, Berit (ed.), *Agriculture in Ancient Greece*. Stockholm: Proceedings of the 7<sup>th</sup> International Symposium at the Swedish Institute at Athens
- Katz, Marilyn A. 1998. "Women, Children, and Men" in Paul Cartledge, ed. *The Cambridge Illustrated History of Ancient Greece*. Cambridge: Cambridge University Press 100-138
- Keppie, Lawrence. 1984. *The Making of the Roman Army: From Republic to Empire*. London: Routledge Press
- Kiser, Edgar, and Yoram Barzel. 1991. "The Origins of Democracy in England." 3 *Rationality and Society* 396-422.
- Knack, Stephen, and Philip Keefer. 1997a. "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation," 112 *Quarterly Journal of Economics* 1251-1288.
- Knack, Stephen, and Philip Keefer. 1997b. "Why Don't Poor Countries Catch Up? A Cross-National Test of Institutional Explanation," 35 *Economic Inquiry* 590-602.
- Lacey, Walter K. 1968. *The Family in Classical Greece*. Ithaca, NY: Cornell University Press
- Le Glay, Marcel, Jean-Louis Voisin, and Yann Le Bohec. 2001. *A History of Rome*. Malden, MA: Blackwell Publishers
- Levy, Brian, and Pablo T. Spiller. 1994. "The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation," 10 *Journal of Law, Economics, & Organization* 201-246.
- Lipset, Seymour Martin. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," 53 *American Journal of Political Science* 69-105.

- Lizzeri, Alessandro, and Nicola Persico. 2004. "Why Did the Elites Extend the Suffrage? Democracy and the Scope of Government, With an Application to Britain's 'Age of Reform'," 119 *Quarterly Journal of Economics* 707-765.
- Llavador, Humberto, and Robert J. Oxoby. 2005. "Partisan Competition, Growth, and the Franchise." 120 *Quarterly Journal of Economics* 1155-1189.
- Londregan, John B., and Keith T. Poole. 1996. "Does High Income Promote Democracy?" 49 *World Politics* 1-30.
- Lott, John R. Jr., and Lawrence W. Kenny. 1999. "Did Women's Suffrage Change the Size and Scope of Government?" 107 *Journal of Political Economy* 1163-1198
- Lundberg, Shelly, and Robert A. Pollak. 1996. "Bargaining and Distribution in Marriage." 10 *Journal of Economic Perspectives* 139-158.
- MacKay, Christopher S. 2004. *Ancient Rome: A Military and Political History*. New York: Cambridge University Press
- McGuire, Martin C., and Mancur Olson. 1996. "The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force," 34 *Journal of Economic Literature* 72-96.
- Milgrom, Paul, and John Roberts. 1992. *Economics, Organization, and Management*. Prentice Hall: Englewood Cliffs, NJ.
- Mill, John S. 1869. *The Subjection of Women*. Reprinted (1971) in *Three Essays by John Stuart Mill*. London: Oxford University Press.
- Mulligan, Casey B. 1998. "Pecuniary Incentives to Work in the United States During World War II." 106 *Journal of Political Economy* 1033-1077.
- Murray, Oswyn. 1993. *Early Greece*. Cambridge: Harvard University Press
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press
- North, Douglass C. 1993. "Institutions and Credible Commitment," 149 *Journal of Institutional and Theoretical Economics* 11-23.
- North, Douglass C. and Barry R. Weingast. 1989. "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth Century England," 49 *Journal of Economic History* 803-832.
- Olson, Mancur. 1993. "Dictatorship, Democracy, and Development." 87 *The American Political Science Review* 567-576.

- Osborne, Robin. 1987. *Classical Landscape with Figures*. New York: Sheridan House
- Persson, Torsten and Guido Tabellini. 2003. *The Economic Effects of Constitutions*. Cambridge: MIT Press:
- Pollak, Robert A. 1985. "A Transaction Cost Approach to Families and Households." 23 *Journal of Economic Literature* 581-608.
- Pomeroy, Sarah B. 1975. *Goddesses, Whores, Wives, and Slaves: Women in Classical Antiquity*. New York: Schocken Books
- Pomeroy, Sarah B. 2002. *Spartan Women*. New York: Oxford University Press
- Pomeroy, Sarah B., Stanley M. Burstein, Walter Donlan, and Jennifer Tolbert Roberts. 1999. *Ancient Greece: A Political, Social, and Cultural History*. New York: Oxford University Press
- Russell, D.A. 1973. *Plutarch*. London: Gerald Duckworth & Co.
- Semple, Ellen Churchill. 1921. "Geographic Factors In the Ancient Mediterranean Grain Trade," 11 *Annals of the Association of American Geographers* 47-74.
- Shipley, Graham. 2004. "Lakedaimon," in Hansen, M.I., and T.H. Nielsen, eds., *An Inventory of Archaic and Classical Poleis*. New York: Oxford University Press
- Syme, Ronald. 1979. *The Roman Revolution*. New York: Oxford University Press
- Ticchi, Davide, and Andrea Vindigni. 2003. "Endogenous Constitutions," IIES Seminar Paper No. 726.
- Ticchi, Davide, and Andrea Vindigni. 2006. "On Wars and Political Development: The Role of International Conflicts in the Democratization of the West," Center on Institutions and Governance Working Paper No. 11. Institute of Governmental Studies, University of California, Berkeley.
- Webster, Graham. 1979. *The Roman Imperial Army*. New York: Harper and Row
- Weingast, Barry R. 1993. "Constitutions as Governance Structures: The Political Foundations of Secure Markets," 149 *Journal of Institutional and Theoretical Economics* 286-311.
- Weingast, Barry R. 1995. "The Economic Role of Political Institutions: Market Preserving Federalism and Economic Development," 11 *The Journal of Law, Economics and Organization* 1-31.
- Weingast, Barry R. 1997. "The Political Foundations of Democracy and the Rule of Law," 91 *American Political Science Review* 245-263.

Wittman, Donald. 2000. "The Wealth and Size of Nations." 44 *Journal of Conflict Resolution* 868-884

World Bank and International Monetary Fund. 2005. *Global Monitoring Report*. Washington, DC: The International Bank for Reconstruction and Development / The World Bank.  
(<http://siteresources.worldbank.org/GLOBALMONITORINGEXT/Resources/complete.pdf>)

Zorn, Jeffrey R. 1994. "Estimating the Population Size of Ancient Settlements: Methods, Problems, Solutions, and a Case Study," 295 *Bulletin of the American Schools of Oriental Research* 31-48

## APPENDIX I

### Historical Sources

In this appendix, we will review the sources upon which we draw. Explaining the nature of these sources is important because the ancient Spartans did not leave a detailed historical record.<sup>69</sup> Most of the historical accounts of ancient Sparta come from writings by non-Spartans; nonetheless, modern classicists have been able to paint what they believe to be a reasonably accurate picture of the political, social, and legal institutions of ancient Sparta. Although we rely principally on secondary sources, a description of the primary sources may help the reader gauge how accurately we have depicted (and *can* depict) ancient Sparta.

#### Primary Sources

The most extensive information about Sparta's political and social system, and about the role of women within the Spartan system, comes from two sources: Xenophon and Plutarch. Xenophon (430-356 B.C.) was an Athenian who lived in Sparta for twenty years, and is even reported to have sent his sons through the Spartan *agoge*.<sup>70</sup> In his *Spartan Constitution (Lacedaimonion Politeia)*, Xenophon set himself the task of understanding how Sparta, with its small citizen population, became a major power. He credits the institutions designed by Lycurgus, which Xenophon says were ideal for producing outstanding hoplites (i.e., Greek infantrymen). Despite the fact that Xenophon lived among the Spartans for two decades, he expresses uncertainty as to how strictly the Laws of Lycurgus were enforced at the time he was writing (it is possible that Xenophon wrote after 370 B.C., when Sparta lost Messenia). In any case, Xenophon provides the most complete extant description of the role of citizen women in Spartan society under the Lycurgan constitution.

Plutarch, also a Greek, was born 400 years after Xenophon.<sup>71</sup> His *Life of Lycurgus* had a profound effect on later conceptions of Spartan society. Plutarch is known to have visited Sparta and to have conducted research in the official Spartan archives. As a pseudo theme park for Roman tourists, Roman-era Sparta was very concerned with preserving and interpreting Lycurgan customs and law; it even had officials assigned to that task. In addition, Plutarch cites the work of many scholars and poets from earlier years, much of which has since been lost. Although Plutarch never mentions Xenophon (so that it is not known if Plutarch read him), the picture Plutarch paints of classical Sparta – and of Spartan women – is very similar to Xenophon's. Plutarch praises the Spartan educational system (which he says instilled virtue and ambition in women), and expresses

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<sup>69</sup>With few exceptions, Sparta's citizens produced little enduring poetry, art, or architecture. One of the exceptions is Alcman, a Spartan poet from the Archaic period, whose poems about women were performed publicly (likely sung or chanted by a female chorus) well beyond his own lifetime.

<sup>70</sup>While in Asia, fighting as a mercenary, Xenophon joined a force commanded by the Spartan Agesilaus; when Agesilaus was recalled to Sparta, Xenophon went with him. Sparta subsequently entered into battle with Athens, and Xenophon fought on the Spartan side. For this, the Athenians exiled him and Sparta granted him an estate near Elis, where he lived until Sparta's defeat at Leuctra in 370 B.C. (Sparta lost Messenia in that battle), after which the Spartans expelled him. He is believed to have then retired to Corinth, and to have lived there for the rest of his life. See Anderson (1974).

<sup>71</sup>Plutarch lived from circa 46 to 120 A.D.; see Russell (1973).



admiration for the Spartan practice waiting until females reached physical maturity before marrying them off. In addition to his *Life of Lycurgus*, Plutarch wrote *Sayings of Spartan Women*, in which he compiled a number of memorable aphorisms.

Classicists have derived additional information about ancient Sparta from the works of the philosophers Plato (429-347 B.C) and Aristotle (384-322 B.C.). Plato's *Republic* was heavily influenced by his interpretation (and idealization) of Spartan institutions. For example, the *Republic* prescribes for women a full program of state-administered education, late marriage, and physical exercise. Aristotle wrote *The Constitution of the Spartans*, which unfortunately no longer exists; however, Aristotle also discusses Spartan institutions and Spartan women extensively in his *Politics*. As noted in the body of this paper, Aristotle attributes Sparta's decline to the rules allowing Spartan women to own and manage property. Aristotle's discussions have allowed modern classicists to infer much about Spartan laws governing real property and inheritance (Pomeroy 2002, 140).

A number of sources provide more fragmentary information about Sparta; this, too, classicists have synthesized. Included in that list are: Critias, an Athenian (and contemporary of Plato) who wrote a treatise (only parts of which remain) on the Spartan constitution; Ephorus (a contemporary of Aristotle), whose work also survives only in fragments; Phylarcus, a third century B.C. Athenian historian on whose work Plutarch drew; Sosibius of Lacedaemon, a historian from the Hellenistic period who specialized in Sparta. Spartans were also portrayed in classical Athenian poetry and drama. The historians Herodotus and Thucydides discuss Sparta and Spartan institutions in some detail, but do not focus on Spartan women.<sup>72</sup>

### Archaeological Evidence

Archaeological evidence from ancient Sparta is sketchy because the Spartans, with their emphasis on austerity, left few physical traces (see the quote from Thucydides in footnote 2 of Section I). That said, Pomeroy (2002, 169-170) points out that Athenian vase painting almost always presents citizen women in the confines of the household, typically engaged in "traditional woman's work" such as weaving. By contrast, the few figurines and vases that have been found in Sparta portray women engaging in athletic competitions or playing musical instruments as part of co-ed ensembles. Pomeroy takes this as additional evidence of the profound differences between how women lived in Athens and Sparta.

### Secondary Sources

The secondary sources on which we have relied are listed in the bibliography. We have cited most prominently the works of Sarah Pomeroy (Distinguished Professor of Classics and History, Emerita, Hunter College & The Graduate School, CUNY) and Paul Cartledge (Professor of Greek History and Chairman of the Faculty of Classics at Cambridge University). Professor Pomeroy has written a number of books and articles on the women of ancient Greece, and has also co-authored a standard textbook on ancient Greece (cited in our bibliography). Professor Cartledge is perhaps today's leading expert on ancient Sparta; in addition, he was one of the first to single out Spartan women for special attention, in an essay published in 1981 and included in his volume *Spartan Reflections*. Although Pomeroy and Cartledge disagree at points (for example, Cartledge is

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<sup>72</sup>See Pomeroy (2002, 139-155) for a review of these sources.

somewhat more skeptical about the reliability of Plutarch's accounts of Spartan women's political influence), both Cartledge and Pomeroy accept Aristotle's description of the laws governing female property holdings (and neither accepts Aristotle's conclusion that allowing females to own property was a mistake). In recent work, Stephen Hodkinson (e.g., Hodkinson 2000) generally concurs with Cartledge and Pomeroy vis a vis Spartan women, although he suggests that landholdings in archaic Sparta may have been less equally distributed (between rich and poor) than is generally thought. Finally, Graham Shipley's (2004) review of ancient Sparta is part of an inventory of Greek city-states that attempts to incorporate material about all known *poleis*. Because the inventory touches (at least briefly) upon more than 1000 *poleis* in its 1400 pages, the space dedicated to any single *polis* is relatively small, but it nevertheless establishes Sparta's uniqueness.