ABSTRACT: Throughout most of history, women as a class have 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 rest of the world, 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.

For helpful comments, we thank Paul Cartledge, Beth Davenport, Dino Falaschetti, Barbara Hanssen, Lea Kosnik, Dean Lueck, Randy Rucker, Wendy Stock, Chris Stoddard, Doug Young, and seminar participants at Montana State University and the Property and Environment Research Center (PERC).
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

I. Introduction

Throughout history, men have kept most rights to themselves. Women have typically faced legal restrictions on their ability to contract and to own property, and women’s freedom of movement and opportunities for education have been limited. Even in the democracies of recent years (e.g., Britain, the United States), women’s rights were severely restricted until the 20th century. Of course, there have long been individual women who exercised substantial power and controlled substantial wealth (e.g., Cleopatra, Queen Elizabeth). But the simple fact is that women as a class, rather than owning property, have usually been property, of fathers, brothers, husbands, or consorts.

There is a remarkable exception to this historical norm: ancient Sparta. Not only did Spartan law grant women the right to hold property, but women reportedly owned as much as 40 percent of Spartan land by the early 4th century B.C.. In addition, Spartan women were publicly educated, able to move freely on their own, 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. 2 The most democratic city-state, and

1Quoted in Pomeroy (2002, 81).

2Sparta 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
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.

What inspired the men of Sparta to cede rights to women? 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 8th 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 in other activities. Second, the conquest changed the nature of Spartans’ agricultural work from direct physical labor to the managing of estates worked by captive labor, thus eliminating any inherent male productivity advantage due to greater physical strength. 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.

Such shifts in returns to particular activities may provide the impetus for corresponding changes in the allocation of labor – in the Spartan case, more time spent by men on military tasks and more time by women in agricultural production. However, whether such changes actually occur

reputation” (Forrest 1969, 28).

1 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.
The idea that constitutions (like policies) 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.”

Sparta was very democratic – for its citizens – by the standards of the time. 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).

*The idea that constitutions (like policies) 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.”*
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 away frequently. An alternative was to grant women residual claims to the additional output resulting from their efforts.\footnote{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.} However, in this instance, granting residual claims could not be done through private arrangements (between husbands and wives, for example), because circumstances would have arisen in which individual Spartan men would have found it in their interest to renege.\footnote{For discussions of the extensive literature on labor allocation and bargaining within the household, see, e.g., 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.} By instead establishing constitutional provisions that were in the interest of Spartan men \textit{collectively}, men could commit to respect women’s rights. In short, the source of rights for Spartan women was not simply the fact that women took over a traditionally male task, but rather that women took over a task that created incentive problems which could be mitigated by the formal granting of rights.

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 women’s rights may have – in the long run – contributed to the loss of Messenia and, thus, to the ultimate demise of women’s rights. The reason is that the
rights that provided women with the proper incentives to manage Spartan estates also raised the opportunity cost of having children. Hence, after Sparta enacted the reforms that provided women with so many rights (7th century B.C.), its population began to decline. By the early 4th 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 conquered land (the raison d'être for women’s rights).

This discussion of Sparta women may remind readers of “Rosie the Riveter” of World War II fame. But although there are parallels, there is a fundamental difference. Goldin (1991), Mulligan (1998), and Acemoglu, Autor, and Lyle (2004) describe the dramatic increase in war-time female labor participation in the U.S., as women took on previously “male” jobs following the vast mobilization of men into the military. Similarly, Spartan women took responsibility for traditionally male tasks to allow Spartan men to participate in a full-time army. However, the increase in “labor force participation” by Spartan women depended upon – and occurred concurrently with – profound changes in the underlying institutions. Thus, 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 were difficult for men to monitor, induced institutional changes that led to women’s rights.

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8Goldin (1991) focuses on married women, and examines whether the war produced a permanent change in their labor participation, or merely continued a trend. Mulligan (1998) suggests that non-pecuniary factors, rather than rising money wages, explain the increase in war-time labor participation. Acemoglu, Autor, and Lyle (2004) investigate the relationship between cross-state mobilization rates and female labor participation, and conclude that the War indeed shifted female labor supply. Interestingly, Acemoglu, Autor, and Lyle also conclude that women were closer substitutes for more educated men, similar to our conclusion that Spartan women became better substitutes for Spartan men once the major agricultural activity shifted from one of brawn to one of brains.
Close in spirit to our analysis is Geddes and Lueck’s (2002) study of the 19th and early 20th 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. In view of their results, and of our analysis of Sparta, we can suggest why women’s rights have been so rare for most of history. Until recently, the highest value use of women’s time (from a man’s perspective) was generally in tasks that were easily-monitored or had few incentive compatibility problems (i.e., traditional “women’s work”). Men thus had little to gain from expanding women’s rights. However, when technology changed, so did the optimal (for men) set of rights for women.

In short, Spartan men ceded property rights to women because it was in their own interest to do so. Thus, this paper builds on research demonstrating how rulers (or a ruling class) may benefit from expanding the rights of others. 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 used brutal repression to keep a neighboring population in servitude. This generated wealth sufficient for Sparta to become, for a time, the most powerful city-state in ancient Greece.

For example, 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 (forthcoming) develop a model which they use to explain variations in democracy across the city-states of ancient Greece. Their explanation turns on differences in the nature of agricultural land, 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 19th 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.

II. The Rise of the Spartan System

This section explains how the conquest of Messenia led to rights for women.\footnote{The rights granted Spartan women were so unique that they drew extensive commentary from contemporary observers, and it is largely due to these comments that such a wealth of information about the women of Sparta exists today (for a discussion of original sources, see Pomeroy 2002). Although the facts we present in this paper are generally accepted by classical scholars, our interpretation of those facts is novel in its focus on economic incentives. Note that when we contrast Spartan practices with those of other city-states, we refer primarily to Athens, because Athens is one of the few other places in Greece for which detailed information about women’s rights is known (the consensus is that other city-states resembled Athens much more closely than they resembled Sparta in terms of laws regarding women). We will discuss a third city-state (Gortyn) later in the paper.} 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, which allowed Spartans to realize the gains made possible by the changes in labor productivity.

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.\footnote{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). 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. 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. At great cost, Sparta crushed the revolt and imposed a system of repressive rule over the Messenians, who became known as helots.

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

13Semple (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.

14See, 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).

15Scholars 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).

16Forrest (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).
a large captive labor force, the Second Messenian War made clear that keeping the territory and people under Spartan control would require devoting substantial resources to military activities.\(^\text{17}\) Xenophon (\textit{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.\(^\text{18}\) The threat of a successful helot revolt was no idle one: Although the helots lacked weapons, they outnumbered the Spartans by ten to one.\(^\text{19}\) 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.\(^\text{20}\)

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 \textit{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

\(^\text{17}\)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.”

\(^\text{18}\)For example, the helots revolted when Sparta suffered a major earthquake in 465 B.C. (Freeman 1999, 198).

\(^\text{19}\)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).

\(^\text{20}\)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).
work inside the house” (Fisher 1998, 193). 21 However, Spartan women and Spartan men were equally well suited to agricultural production. The primary agricultural task for Spartan citizens was not plowing, planting, and harvesting (as it was for the citizens of other Greek city-states), but rather the supervision and 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

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21 On the modern division of agricultural labor between men and women, see, e.g., Boserup (1990).
rise of women’s rights, or the more general changes in Sparta’s formal institutions. The new Spartan institutions were rather 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.

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 seventh 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 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.

The process of developing Spartan warriors began at birth, when male infants were examined by a

22Note that if transaction costs are zero, market forces will automatically allocate resources to the their highest value uses. But when transaction costs are positive, institutions play a critical role in aligning incentives.

23In 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.”
public commission to determine whether they should be allowed to live.\textsuperscript{24} At the age of 7, each Spartan boy was taken from his family and enrolled in the \textit{agoge}, a system of public education, where he would live, eat, and sleep with other boys until he reached the age of 20.\textsuperscript{25} From age 20 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 \textit{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.\textsuperscript{26}

\textsuperscript{24}Plutarch (\textit{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.”

\textsuperscript{25}The \textit{agoge} (meaning “upbringing”) separated those aged 7 to 17 (the \textit{paides}, or “boys”) from those aged 18 to 20 (the \textit{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 assigned to a group known as the \textit{Kryptoi}, and, armed only with knives, sent to Messenia and required to survive on their own (primarily by robbing and killing helots).

\textsuperscript{26}Cartledge (2001, 89) sums it up as follows:

\textit{It 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 (\textit{Pol}. 1269a37-9), necessitated as well as enabled the Spartans military mode of life, and their unique transformation of a \textit{polis} [city-state] into a military-police state.}
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. This made monitoring difficult, and our contention is that the difficulty in monitoring was at the heart of the unique set of rights possessed by Spartan women. A standard way of providing proper incentives with respect to a costly to monitor activity is to assign residual claims to the person undertaking the activity.

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, 19th century legal scholar Joel P. Bishop wrote that “the common law of married women, [which] 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?” More recently, development economists have expressed similar concerns (especially with regard to women in sub-Saharan Africa) – the International Food Policy 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.” We propose that such incentive problems lay at the base of the unique Spartan laws regarding women.

Most Greek city-states did not allow women to achieve legal maturity; rather, females

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remained throughout their lives under the guardianship of a male.\footnote{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).} Thus, most Greek women could not own land, could not inherit property, and could not pass property on to their heirs.\footnote{This created certain complications, which elaborate transfer rules were designed to resolve. For example, in Athens (and, presumably, in most city-states), a father who died leaving only a daughter was not allowed to pass the estate directly to her. Instead, transfer rules ensured that although the daughter would serve as a conduit, the control of the estate would pass from man to man within the family.} 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.\footnote{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).} 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.\footnote{For an economic analysis of dowries, see Botticini and Siow (2003).}

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 of the land than would a son).\footnote{Blundell (1995, 155-6) writes, "Although the rules of inheritance are far from clear, it seems likely that a Spartan woman was capable, even if she had brothers, of inheriting a share of the family estate-perhaps half the portion that was due to a son. . . . If she had no natural or adopted brother, then she probably inherited the whole estate."} Inheritance rules were critical, because elsewhere in Greece (where women could not inherit land), the estate would pass to someone unrelated to a
woman (a brother of her husband, for example) if her husband died and she had no sons.\textsuperscript{33} This possibility would certainly have reduced her incentive to devote effort to managing the Spartan estates.\textsuperscript{34} As a result of 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).\textsuperscript{35} 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.

Why did Sparta resort to constitutional rules to provide women with these 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 have been neither enforceable nor incentive compatible. Quite obviously, if the husband legally owns everything in the household, he

\textsuperscript{33}When couples aged, estates were bequeathed, not sold; indeed, there was no market for land in ancient Sparta. 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 \textit{patrouchoi}, which literally means ‘holders of the patrimony,’ whereas in Athens they were called \textit{epikleroi}, which means ‘on (i.e., going with) the kleros’ (allotment, lot, or portion). Athenian \textit{epikleroi}, that is, served merely as a vehicle for transmitting the paternal inheritance to the next male heir and owner, whereas Spartan \textit{patrouchoi} inherited in their own right.” Furthermore, a Spartan woman's dowry was usually land – also unique in Greece – and remained entirely in her own possession throughout marriage (Pomeroy 2002). Cartledge (2001, 120) refers to Spartan dowries as “a form of anticipatory inheritance.”

\textsuperscript{34}Suffragists in the early 20\textsuperscript{th} century were also very concerned with women’s inheritance rights (e.g., Pankhurst 1908).

\textsuperscript{35}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).
can use household wealth as he desires, and renege on promises to his wife as he wishes. In most of Greece, this would have been of little concern to men: Any loss from an inability to commit would have been small, because women’s activities in the typical Greek household were easily monitored. 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.

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. 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. Presumably, this helped men commit collectively to defense;

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36Hoplite 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). Xenophon says of the crowded and chaotic hoplite clashes, “There is little chance of missing a blow” (Cyr. 2.1.16-18). As Xenophon noted elsewhere, battle strategy “consists primarily of the correct way to march out in formation, the proper manner of posting sentries, and the best approach to crossing a pass” (Oec. 20.6-11). See Hanson (1983) for a detailed description of hoplite warfare.

37The 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, a small band of Spartans and their allies held off a vastly more numerous Persian army for several days, then died en taxei. A
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 appear to have had the right to kill their cowardly sons.\textsuperscript{38} Although the prospect of a mother killing her son is shocking, it clearly strengthened men’s commitment \textit{not} to be cowards. Furthermore, it was evidently incentive compatible, given documented instances of Spartan women actually killing cowardly sons.\textsuperscript{39} The reason women were

monument was erected with the following inscription:

\begin{quote}
Go tell the Spartans, stranger passing by, 
That here, obeying their commands, we lie.
\end{quote}

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

\begin{quote}
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.”
\end{quote}

(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).

\textsuperscript{38}Pomeroy (2002, 59-60) recounts a number of reputed instances of Spartan women killing their cowardly sons, and 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.”

\textsuperscript{39}Pomeroy (2002, 59) lists a number of examples of mothers who were \textit{revered} for killing their sons. In a famous example, Thucydides (\textit{Hist.}\textsuperscript{1.134}) recounts the fate of Pausanias, a Spartan regent who traitorously conspired with the Persians in the mid-5th century B.C.. Anticipating arrest and execution, he hid in a temple dedicated to the goddess Athena, leaving the Spartan officials in a quandary (how to punish someone taking sanctuary in a holy place). His mother arrived on the scene, and rather than pleading for her son’s life, simply placed a brick at the entrance of the temple, and departed. Following her lead, the officials walled up Pausanias alive, so that he starved.
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 idiosyncracy, 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. 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 women received for their efforts in management. Sparta’s unique institutions also decreased the opportunity cost of those efforts. The principal alternative income-generating female 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

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In *Life of Lycurgus*, Plutarch notes that punishment for adultery was unknown in Sparta. Indeed, adultery was sometimes encouraged as a means of begetting children; see the discussions of "wife sharing" in Blundell (1995, 154) and Pomeroy (1975, 37).
were encouraged to weave). However, the Spartan reforms mandated that all weaving in Sparta be done by servants.\textsuperscript{41} This was a rational policy response. Elsewhere in Greece, weaving unambiguously created wealth.\textsuperscript{42} 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”).\textsuperscript{43}

\textbf{Human capital for women}

To manage the helot estates well, women needed the appropriate human capital. The Spartan constitution mandated that all Spartan girls (as well as Spartan boys) be publicly educated.\textsuperscript{44} The rate of literacy among Spartan women was probably equal to, if not higher than, that of Spartan

\textsuperscript{41}Xenophon (\textit{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.

\textsuperscript{42}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.”

\textsuperscript{43}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.”

\textsuperscript{44}In other city-states, boys were sent to private academies, but only if the family so desired.
men. 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.

The Lycurgan reforms established several other practices consistent with a desire to increase the 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. This additional maturity presumably rendered them more capable of managing the property of the household, which they had to do to largely on their own 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 again demonstrates a high degree of concern with (and investment in) women.

Spartan women were also allowed complete freedom of movement, which was unique in

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45 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).

46 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).

47 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 her. See, e.g., Pomeroy (2002, 136) and Blundell (1995, 151).

48 Pomeroy (2002, 133). Further indicating that Spartan women and men had access to the same food, Spartan women drank wine, which was reserved only for men elsewhere in ancient Greece.
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, frequenting only certain public areas, and leaving the house only under well-defined circumstances. 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.

III. Women’s Rights Elsewhere in Greece

How did Sparta compare to the rest of Greece in its treatment of women? So far, we have contrasted Sparta principally with Athens. Athens is considered to have been far closer to the Greek norm – Sparta’s uniqueness is attested to by the fact that other Greeks wrote so much about Spartan women. However, few details exist about the status of women in most of Greece. Indeed, there is only one other Greek city-state 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

49See Pomeroy (1975, chapter V) for a discussion.

50Sparta was not a single village, but rather three villages, located roughly 30 miles from Messenia. Spartans also possessed estates on the nearer Laconian plains (e.g., Hodkinson 2000, 129).

51Cartledge (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’.”
women’s rights in Sparta.\textsuperscript{52}

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. Gortyn was thus more like Sparta than it was like any other of the mainland Greek city states, none of which maintained standing armies. And like Spartan women (and unlike all other women on mainland Greece), the women of Gortyn owned agricultural land.

At the same time, however, Gortyn and Sparta differed in important ways. Most notably, 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 neighboring land, and never sought to rebel as far as is known.\textsuperscript{53} 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.\textsuperscript{54} As a result, although Gortyn women may have been involved in agricultural management to some degree (certainly to a greater extent than most elsewhere in Greece), their duties would not have been nearly as important to the city-state as those engaged in by Spartan women.

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 is what we find. In the first place, the women of Gortyn were educated at home, rather than as part

\textsuperscript{52}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\textsuperscript{th} century B.C. (e.g., Blundell 1995, 75).

\textsuperscript{53}They would have been similar to Sparta’s native-born “Laconian” helots, who mostly remained loyal to the Spartan state throughout its history.

\textsuperscript{54}Messenia’s distance from Sparta (about 30 miles) required men to be away from their families on patrol for extended periods.
of a public system. Second, although the women of Gortyn inherited land, the daughter of a Gortyn citizen who died without sons was required either to marry her father’s nearest relative (paternal uncle or cousin) – the standard 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. In Sparta, by contrast (as discussed earlier), the daughter of a citizen who died without male heirs received the entire family estate. As a result, the women of Gortyn never owned more than a small fraction of Gortyn’s land. Furthermore, in contrast to Sparta, the women of Gortyn were encouraged to weave, were not exempted from traditional household labor, and typically were married 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 far 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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55See 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.
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 changes survive; furthermore, political institutions in all the city-states of ancient Greece were fundamentally and permanently transformed by the Macedonian invasion in the late 4th 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 whose responsibility it was to oversee the public behavior of free-born 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.\textsuperscript{56} 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.\textsuperscript{57} 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 (or in natural disasters), more frequently than did citizens of other city-states (see Cartledge 1987, 167). In the second place, as discussed above, Spartan rules permitted a variety of extra-marital liaisons, as long as the objective was the production of children.

So the question becomes: What in the Spartan system caused Sparta’s population to fall so precipitously? A simple economic explanation presents itself: The Lycurgan reforms raised the opportunity cost to women of having children. The reforms rendered Spartan women wealthier and better educated than women elsewhere in Greece, and allowed them to move about far more freely. As a result, they had better things to do than devote themselves to childbearing. 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. \textit{(Tusc.2.36)}

\textsuperscript{56}Blundell (1995, 155) writes that Aristotle “clearly attributes the political decline which Sparta experienced in his own lifetime to the influence of females \textit{(Politics 1269b-1270a)}.”

\textsuperscript{57}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.
That women’s rights and wealth decreased fertility in Sparta should not surprise modern scholars; in the world today, nations with well-educated, well-paid, well-to-do women generally have low birth rates (e.g., Boserup 1990).\textsuperscript{58} Furthermore, Spartan women enjoyed the freedom of movement, education, and wealth necessary to make the use of contraceptives common.\textsuperscript{59} Finally, 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), as elsewhere in Greece.

Our argument is supported by the fact that Sparta apparently recognized undesirably low birthrates as a consequence of its constitutional reforms, and established a system of incentives designed to increase birthrates. In addition to providing its women with the rights enumerated above, Sparta celebrated motherhood to a degree unique in ancient Greece (elsewhere in Greece, motherhood was simply taken for granted). 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."\textsuperscript{60} Furthermore, Sparta introduced a dispensation about 500 B.C. (150

\textsuperscript{58}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). Also see Braunstein and Folbre (2001), who model the effects of the assignment of property rights within the household on the allocation women’s labor between production and child-rearing.

\textsuperscript{59}Pomeroy (2002, 63-66) discusses the use of contraceptives, writing that “Spartans are the only respectable Greek women we know of who are specifically reported to have exercised control over their fertility.”

\textsuperscript{60}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” (see Pomeroy 2002, 30).
years after the Second Messenian War) that provided special privileges to fathers of three or more sons (Cartledge 1987, 169). Finally, public education reduced the per child costs faced by parents, and thus subsidized having children.

In the end, these incentives were insufficient to stop Sparta’s population decline. Hence, Sparta lost the very land and 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 would not have existed. So Sparta’s declining population was an undesired, albeit unavoidable, consequence of granting women the rights necessary to the establishment and maintenance of Sparta’s military prowess.

V. Conclusion

The experience of the last 100 years may give one the impression that women’s rights are an inevitable result of “progress and enlightenment.” (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.) 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

\[\text{\footnotesize 61} \text{ Another aspect of women’s rights that may have contributed to the decline of Spartan military power was a tendency towards assortative mating (i.e., wealthy with wealthy). Combined with the Spartan requirement of a minimum wealth level for citizenship, assortative mating appears to have led to the demotion of some citizens to a lower, non-citizen rank. See Cartledge (1987, chapter 10).} \]
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 reducing those activities to a management role). It thus became optimal 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. In brief, a shock shifted women’s labor into a task that was difficult for men to monitor, and thereby induced institutional changes that led to women’s rights.

Yet the same rights that strengthened women’s incentives to manage property evidently weakened their incentives to bear children, something the Spartans were unable to reverse despite policies designed to encourage larger families. After several centuries of population decline, Sparta lost control of its captive land and labor, and rights for Spartan women disappeared.

Most societies in the ancient world (and certainly in ancient Greece) granted women as a class few rights. For example, Pomeroy (1975, 150) writes of ancient Rome, “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.” Yet Sparta was a popular tourist destination for the Greek-admiring Romans, and Romans were well aware of the legendary Spartan women. Why then, contrary to widely known evidence from Sparta, did the Romans base their laws on the premise that women were “weak” and “light-minded”?

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62 Some centuries after Sparta lost Messenia, several of its famous institutions (e.g., the agoge) were revived, primarily for the benefit of Roman tourists. See Cartledge (1989, 205-6).
Our analysis suggests a simple reason: Roman men had little to gain from treating women otherwise.

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.
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