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Solon's Web.
Constitutional bargains

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Chapter 4 of *The Greeks and the Rational* (provisional title)
Draft of 2019.10.09 Word count: 18,000

ABSTRACT. The citizen-centered legislative programs attributed in the Greek tradition to Solon of Athens and Lycurgus of Sparta (here exemplified by Plutarch's *Lives,* the Aristotelian *Politeia of the Athenians*, and Xenophon's *Politeia of the Spartans*) offer contrasting bargaining solutions to the problem of order in early Greek states polarized by inequality and threatened by strife. Solon sought an outcome that both rich and poor Athenians would accept because each side was better off with the bargain in place and neither had any better move in the game. Solon's bargaining solution accounted for the (no-bargain) backstop positions of each party, their relative bargaining strength, and the full value of the social surplus that could be realized through agreement. By negotiating privileges and immunities among unequal Athenian citizens, Solon aimed at avoiding internal violence. The Lycurgan bargain among Spartans required rich and poor citizens to be effective and equal providers of violence and allowed them to share in rents. The bargain was predicated on a principle of proportionality: Rents from violence-backed domination must go to each according to his violence potential. Lycurgus' self-enforcing order equalized the value of rents among rich and poor Spartans through mandatory austerity. Solon's bargain failed to prevent tyranny, but it was the basis for long term growth. The stable Lycurgan bargain avoided tyranny, but it was path-dependent, institutionalizing a destructive logic: rational, law-abiding individual choices on punishment systematically degraded the common pool resource of rents gained through a security regime.

In the previous chapter we looked at how Herodotus and Polybius addressed kingship as a distinctive form of political order. Greek writers typically supposed that monarchy was the earliest manifestation of formal public authority, and they believed that it remained the typical regime among non-Greeks – notably for the Lydians, Medes, and Persians. Greek thinkers recognized that a king might rule as an absolute monarch, essentially free from formal constitutional constraints. The model is Deioces, King of the Medes. But the Greek tradition also recognized that a constitutional form of monarchy could be established such that the king was in some ways constrained by an agreement with certain of his aristocratic peers, as well as by background cultural norms. Here the model is the Persian kingship established by agreement among the seven nobles who overthrew the Magus.

In either case, establishing an individual as supreme ruler solved the problem of the rationality of the state by fiat: The preferences of the King, revealed through his legislative orders, constitute the goals of the state. The state was rational, in terms of means-ends reasoning, insofar as the king himself was rational and so long as his agents faithfully carried out his commands. The orders of the king were rules for the state's subjects. Those rules, whether bluntly coercive or internalized as legitimate, constituted an important subset of the constraints that limited the outcomes available to subjects. Although Herodotus suggested that royal authority in both Media and Persia was originally established as the result of a formal agreement, the Greeks tended to conceive of royal orders as exemplifying the domination of a master, rather than as the results of a contract agreed upon by them. Because social order, once established, was sustained by a "third party" ruler rather than by a self-enforcing equilibrium among citizens, the Greek political tradition depicted the subjects of monarchs as slaves.

The Greeks regarded the lives of their own slaves as unhappy, and so they typically ranked the outcome "living as a slave" at near the bottom of their preference order – it was ranked just above being dead, according to the ghost of Achilles in the *Odyssey* (11.486-492). Insofar as monarchy was equated with tyrannical rule and rule over slaves, it was likewise low-ranked among the regime preferences of Greeks who had other options (including democracy and oligarchy) potentially available to them. The constitutional alternative to monarchy was some sort of collective self-rule, in a bounded territory, by citizens. Since the Greeks never imagined that everyone within the relevant territory would be a citizen, this also meant rule by citizens, individually (within households) and as a collective, over residents who were not enfranchised participatory citizens.[1]

Among the primary political questions facing the Greeks were these: Who among the residents of a given territory was a citizen? How can the citizens, collectively, rule both themselves and the non-citizen others who lived with them in a self-enforcing equilibrium? How can citizens manage social diversity and preference diversity among themselves, such that "we the citizens" can stand in for the individual ruler, enabling the state to choose and act rationally in seeking to secure its ends, whatever those might be? The question of rationality in the face of preference diversity among citizens was, according to the Greek tradition of political thought, further complicated by structural social and economic inequalities. Those inequalities frequently led to conflict over social standing and political power between coalitions of ordinary and elite citizens. Conflict could and quite frequently did result in violent struggle over control of the state. Resolving those conflicts, and thereby attaining and sustaining a high-performing and reasonably stable social order, constituted the fundamental problem of Greek constitutionalism.

4.1. Plato and Aristotle on the polis as state

From the fifth century onwards, the primary object addressed in Greek political texts was the polis – the city-state (Hansen 2006). Historically, the polis had crystallized as

the organizational norm, the standard (although certainly not the unique) form taken by states within a rapidly expanding Greek world. The polis was, physically, a central conurbation and a surrounding territory. Socially, it was of a body of persons with differing and often legally specified rights and privileges: citizen and non-citizen, free and slave, native and non-native, elite and non-elite. Compared to, for example, the Persian Kingdom, even the largest poleis (Athens, Sparta, Syracuse) were minute. Politically, a polis might be organized as a miniature kingdom, but most poleis were ruled quite differently from Deioces' Media or Darius' Persia. Greek thinkers took the similarities and distinctions among the forms of social order observable in Greek poleis, and the historical processes driving the emergence of those diverse forms, as particularly salient objects of theoretical attention. That attention, in turn, made the polis a useful object for philosophical reflection on problems of individual and collective rationality.

In the *Republic*, Plato sets up the thought experiment that will result in Callipolis, an ideal-type polis established through reasoned argument, with an initially startling set of assumptions about the state and the individual as objects of analytic attention.[2] The ostensible aim of the dialogue, as we have seen (chapter 1), is to answer the questions, "what is justice and what is its value?" and ultimately to test the hypothesis that justice is a choice-worthy end in itself and a just person is necessarily happier than an unjust one. After Glaucon's challenge to this hypothesis has been set with the thought experiment that includes the Gyges story (chapters 1 and 2), Socrates suggests that the search for justice will be easier if its object is more readily apparent. He proposes, as an analogy, the relative difficulty of reading very small letters at a distance, compared to reading the same letters if they were to "exist elsewhere larger and on a larger surface" (368d). He then posits that there must be justice somewhere to be found both in an individual and in an entire state.[3] States, being larger than individuals, should have a greater quantity of justice in them. On the assumption that what is large is readily apprehended, he suggests, that if, "through argument we should observe the emergence of a state, we should also see the emergence of justice and injustice in it."[4] Observations of the location and nature of justice in the state could then be imputed to the individual.

In suggesting this approach Socrates establishes two premises. The first premise is that the individual and the state are relevantly similar objects of inquiry.[5] Individual and state are as alike, indeed, as a text written in small letters (say on a wax tablet) is to the very same text written in large letters (say inscribed on the stone wall of a public building): The medium has changed, but the message remains the same. As the dialogue develops, Plato will be able to infer the presence of the specific psychological features of reason, spirit, and desire in the state and impute these features to the individual soul. He concludes that it is the appropriately hierarchical and harmonious relationship among those features that constitutes true rationality and thus justice for both state and individual. Plato's second premise is that the state, along with its component features (including justice and injustice), is more easily observed, and by extension, more readily analyzed than is the

individual soul: We can observe the common features characteristic of the state and the individual more easily in the state than in a single person. We can see how the relevant state-level features relate to one another, and thereby gain a better sense of what constitutes their proper organization and harmonious interaction. Each of these premises does a lot of work in the *Republic*; together they point to the avenues of investigation that had opened, by the early fourth century BCE, to Greek thinkers concerned with rationality and the constitution of the state.[6]

The first "identity" premise implies that a state, like an individual, has among its constitutive features, not only justice and the other virtues, but the psychological features, basic to instrumental rationality, of desires and reason. Plato's developed account of rationality includes the "folk theory" elements of preferences arising from desires and beliefs about the state of the world. But, as the Callipolis thought experiment advances, Plato's reader learns that rationality, properly so understood, extends the scope of reason to correct judgments about ends. Rather than exogenously given by "primitive" desires for wealth, sex, and power, (per Plato's Glaucon: chapter 1) or by emergent social norms (per Polybius on early kinship: chapter 3), preferences are to be formed on the basis of true beliefs. True beliefs, necessary both for forming the right preferences and for moving from right preferences to right actions leading to good outcomes, are equated with knowledge. Knowledge is sharply distinguished from ordinary opinion-based beliefs about the state of the world and from expectation based on likelihoods. Unlike Gyges with the ring, whose goals were given by his primitive desires, Plato's fully just state and individual will be rational in regard to both the identification of the correct (genuinely best) outcome that is sought and the appropriate means to be employed in the pursuit of that goal. Rationality – as the masterful exercise of the faculty of reason in respect to subordinate desires and emotions – will be the guiding principle of the state. Rationality so understood will enable the attainment of justice and other rightly valued ends through efficacious means.

The principle of rationality will be embodied in the rulers: specially educated Philosopher Kings. But the state will also include, among its ineradicable components, many persons whose preferences arise from their lower-order desires. Those quotidian desires are different from the desires of the philosopher-rulers, in that they are not rationally chosen. The inhabitants of the state are necessarily diverse in their occupations (that necessity is discussed in Chapter 7). Given the essential diversity of economic function, certain of their preferences will be not only (non-rational) desire-driven but also heterogeneous. The correct and stable ordering among preferences present in the state – and the specification of the bounded domains in which diverse preferences could be appropriately expressed (prominently including the domain of ruling), is therefore a primary concern of the dialogue. For our present purposes, the key points are that the state, like the individual, is assumed to be a potential locus of (at least) instrumental rationality and that, even at the level of ideal theory, a stable social order must be predicated on the political management of heterogeneous preferences arising from desires.

The second "visibility" premise, that features common to individuals and states are more readily observed in the state, is striking in that it is quite possible to imagine the situation as being otherwise. Psychological features of desire and reason might, on the face of it, seem to be more readily apparent by observation of individuals. The desires and reasoning processes of a state might seem to be a "black box": largely invisible and unobservable. Indeed, a ruler might take pains to make these things as cryptic as possible. Take, for example, the Median state, as organized by Deioces after he was elevated to the kingship (chapter 3). Deioces centralized the operations of the state in his person as king, but deliberately hid the person and decision processes of the king from the sight of his subjects. The king's will was made manifest by the announcement of his commands and judgments. But he himself was invisible behind the walls of his purpose-built palace city and many of his agents were, if visible, unobservable, insofar as they were spies. By contrast, Plato implies that the (presumptively Greek) state is transparent: the operations of reason and desire, manifest in choices made by the state's rulers, are readily observed. Further back, the procedures by which rulers are chosen, and the processes by which those procedures were chosen are also visible, at least to the participants in the dialogue and to Plato's readers. Ultimately, per discussion in chapter 2, the processes of social cooperation that are the preconditions for the emergence of the state as a social form were regarded as at least theoretically observable, through the activity of the political imagination.[7]

While Plato's use of the visibility premise is highly distinctive within the Greek tradition of political thought, the premise itself is not. For Greek theorists, the state was at once complex (composed of multiple persons, psychological features, social processes) and observable. Indeed, it seems plausible to postulate that the state – in the distinctive form of the citizen-centered polis – was the most complex readily observable phenomenal object available for analysis by Greek thinkers of the classical era.[8] The state was observable because its operations were not mystified or hidden à la Deioces. Politics, as activity in and of the state, was carried out in public, "in the center" (*es meson*) of social existence.[9] The state was recognized as complex, inter alia, because it was at once, (1) an association of diverse persons living together and sharing some things in common (*koinônia*), (2) a purposeful organization capable of pursuing important public ends (*sustêma*: per chapter 2), and, per the discussion of Herodotus on the Persian Constitutional Debate (chapter 3) a constitutional regime of public authority (*politeia*).

Moreover, the observable state was highly salient: It was, absent any commonly accepted supernatural, prepolitical moral order, the ultimate source of behavioral rules. Through rules and persons empowered to interpret and (potentially) to enforce them, the state was the ultimate arbitrator of disputes among the state's residents. The great salience of control of the power to make and enforce rules and to arbitrate disputes made the state a potential site of conflict. In the world of the Greek poleis, answers to the vital questions of "Who rules? And in whose interests?" were not always settled in a definitive way. The state itself became a highly valued prize that might be won by the victors of political conflicts.[10]

Those who ruled the state were in a position to entrench their own preferences over outcomes by formalizing rules. They might further or hinder the provision of public goods. They were in a position to seek rents as private goods. They could choose which associations would be permitted to seek access to club goods.[11]

Aristotle's *Politics* is widely and, I suppose, rightly regarded as the culmination of classical Greek analytical attention to the state. Aristotle was paradigmatically concerned with the complex problem of viewing the state as, at once a *koinônia* (community), a *sustêma* (organization), and a *politeia* (constitution). While Aristotle rejected Plato's direct individual/state analogy (as well as much else in Plato's political philosophy), he was deeply concerned with the rationality of the state, both as an end (*telos*) in itself, and as a framework for the development and exercise of individual rationality. It is a central tenet of his political thought that individuals cannot achieve their highest ends except in the context of a properly ordered state. Aristotle's work on ethics (*Nicomachean* and *Eudemian Ethics*) and politics (*Politics* and *Art of Rhetoric*) are, consequently, tightly conjoined parts of the same overall project.[12]

Like Plato, Aristotle's ultimate concern, at the levels of the individual and the state, is with rational judgments concerning the relative value of possible outcomes. But, again like Plato, his concern for the rationality of ends required answering hard problems about instrumental rationality. Aristotle recognized that rationally choosing the means to desired ends was a prerequisite for the achievement of the ultimate end of achieving the human good: *eudaimonia*. In *Politics* book 7, for example, Aristotle lays out the necessary material and institutional, as well as moral, preconditions for the best practically achievable state: the "polis of our prayers." Those essential preconditions could only be secured by the right kind of means-ends reasoning.

Instrumental rationality was recognized by Aristotle as a deep problem for the state, given the inevitability of pluralistic preferences across a socially diverse population. The problem was compounded by the possibility of strategic behavior in choice contexts. Humans are, for Aristotle, "political animals" and therefore, like ants or bees, we have a natural disposition towards sociability and the production of valuable public goods. Because nature does nothing in vain, and because humans are public-goods-producing social animals whose proper end is to live (avoid extinction) and to live well (in a condition of *eudaimonia*), the state, as the necessary condition for both living and living well, exists by nature and is an end: It is a necessary condition for human flourishing. [13]

Yet humans are not cooperative all the way down, as are the bees of a given hive or the ants of a given nest. And so, the Aristotelian state must have a means of establishing and enforcing formal rules as laws, as well as educating citizens in appropriate behavioral norms and the habit of conforming to them. This necessity arises because, unlike social insects, we humans are capable of recognizing ourselves as individuals with diverse preferences. In order to satisfy our preferences we can and will seek out those with shared preferences. We tend to form sub-associations within the master *koinônia* that is the state.

Individual and sub-associational "parts" are prone to identify their partial interests as other than those of the common good of the state as a natural whole. Because humans are instrumentally rational, the parts will tend to act strategically, potentially struggling with other parts over control of the state. Sub-associations may even set themselves up in competition with the state.[14]

To achieve the ultimate, eudaimonic, ends of its residents, the state, as a *koinônia*, must be properly organized. It must be a *sustêma* capable of identifying and pursuing near-term and more distant goals through incentives and constraints on expected advantage maximizing behavior of many self-interested persons, acting individually and as members of associations. In order to function effectively as an organization the state required a political order consisting of rules and norms: a *politeia*.[15] The *politeia* may be either just or unjust, insofar as its rulers – one, few, or many (per Herodotus' Persian Debate) – abide by the established laws and seek, through their public actions, the common good. In Aristotle's political taxonomy, the just regimes, in which rulers were both law-abiding and common-good seeking, were monarchy, aristocracy, and polity. Unjust regimes – democracy, oligarchy, and tyranny – were those in which the rulers did not regard themselves as bound by laws and tended to seek their own partial advantage.

So, there were many kinds of *politeia*. Each was more or less capable of securing the necessities of "mere life." Some were more conducive to the ultimate end of living well. Aristotle's political theory is both naturalistic and teleological. But in no case did the *politeia* come into being entirely through a natural teleological process: If that had been the case, every polis would have ended with up the same *politieia*, which, once realized, would be fixed for all time. That set of conditions was self-evidently *not* the case in the real world known to Aristotle and his contemporaries. Aristotle's detailed empirical study of the constitutional orders of Greek (and a few non-Greek) city-states confirmed the diversity of *politeiai* and the tendency of a given state's *politeia* to be changed in favor of another.[16]

For Aristotle on the Greek polis, as for Herodotus on Asian empires, the establishment and maintenance of a *politeia* was the product of willed human choices. Those choices prominently included the activity of lawgivers. A polis constitution came about, not just by natural processes, but also through the choices involved in rule-making. Aristotle states that, while there is a natural impulse (*hormê*) towards *koiniônia* in all humans, nonetheless "he who brings a community together is the proximate cause of the greatest human goods.**"**[17] This is because, while humans have the potential to be the best of animals, in the absence of law and justice they are the worst, by dint of turning their capacities for reasoning to the attainment of the primitive ends of sex and greedy consumption (*Politics* 1253a32-38). Here we have an echo, albeit muted by natural sociability, of Plato's unconstrained Gyges and the problem of bootstrapping social order in a population of presumptively self-interested rational agents (chapters 1 and 2).

The key role played by the lawgiver, in enabling the state to persist over time in the face of primitive desires and heterogeneous preferences, to act like a rational quasi-

individual in pursuing its goals (just or otherwise), is a leitmotif of Aristotle's political philosophy, as it had been for Plato. In the Greek historical tradition, Lycurgus of Sparta and Solon of Athens are prominent exemplars of lawgivers who set a stamp on the *politeia* of their respective poleis. The historical and quasi-historical ancient traditions concerning Solon and Lycurgus emphasize the virtues of the lawgivers: their courage, moderation, justice, and especially their wisdom. But in each case the tradition points to a rational bargain as the basis of their legislative achievements. The wisdom of the lawgiver, in the Greek context, involves close attention to the desires, beliefs, and expectations of value-maximizing individuals and collective agents.

4.2. The Solon tradition

The "constitution of Solon," the set of new laws established during Solon's term as archon of Athens in 594 BCE, has been held up as a political ideal by democratic elitists since the fourth century BCE. In his *Areopagiticus* of ca. 357 BCE, for example, the political orator Isocrates describes the Solonian constitution as an ideal form of democracy in which a benevolent elite ruled with the grateful concurrence of deferential masses.[18] Isocrates' idealizing account suggests that Solon's constitution was handed down as a *fait accompli* by a wise and just lawgiver to a welcoming community. But the ancient tradition preserved in the Aristotelian *Athênaiôn Politeia* (hereafter *Ath. Pol.*) and Plutarch's *Life of Solon* presents a more interesting picture: An essential component of Solon's wisdom proves to be his skill in finding a bargaining solution that allowed the Athenian state to move past a major, potentially catastrophic, social crisis.

The surviving Greek tradition concerning Solon is long and complex, ranging from lyric poetry by (or at least attributed to) Solon himself, to Herodotus' *Histories*, to speeches by Athenian orators, to the philosophical projects of Aristotle and his school, to Plutarch's moralizing biography, and beyond. For our purposes the Solon tradition represented by the Aristotelian *Ath. Pol.* and Plutarch's *Life* may be treated as unitary: We are concerned here neither with debates among historians about what Solon actually did nor with the history of Greek historiography. The important thing for our purposes is that the tradition understood Solon as having served not only as a lawgiver (*nomothetês*) but also as an arbitrator (*diallaktês*) at a moment of crisis for the early Athenian state.[19] The crisis was precipitated by conflict between opposing Athenian factions: the wealthy and individually powerful few on the one hand, and the impoverished, individually weak many on the other. The tradition details the sources of the conflict, Solon's bargaining solution to it, and his subsequent lawmaking. It also includes Solon's own and other writers' reflections concerning what he sought to accomplish and how successful he actually was.[20]

In briefest outline, the Solon tradition followed by Plutarch and Ps-Aristotle is as follows: The crisis was precipitated by a conflict between two sociologically defined factions, call them Mass and Elite. The background to the conflict was increased indebtedness on the part of poor Athenians. Debts were secured by the persons of the

debtors. When some formerly free Athenians failed to repay their loans, they were enslaved by their Athenian creditors. The impoverished Mass sought relief from their debts, freedom from slavery and the threat of enslavement, and the redistribution of landed property. The Elite sought to regain secure control of the sources of wealth they had held at the outset of the crisis and their monopoly on political authority. As archon and arbitrator with special authority to create new laws, Solon mandated a one-time cancellation of debts, abolished the practice of enslavement of Athenians by Athenians, freed Athenians who had been enslaved, and repatriated Athenians who had been sold abroad. He did not institute a general redistribution of land. He restructured the constitutional offices such that access to office-holding was directly linked to income. He revised judicial procedure, so that any citizen might bring charges on behalf of a victim of a crime, and he gave the citizen assembly jurisdiction over legal cases concerning official malfeasance. He made other laws regulating various aspects of social behavior and economic activity. His laws were written and publicly displayed. The Athenians swore an oath to maintain those laws for a period of time. Following his term as archon, Solon left Athens. Some years later, there was renewed conflict, centered on control of offices; that conflict ultimately resulted in the establishment of a tyranny. The tyranny was in turn replaced by a democracy. Despite these regime changes, the Athenians retained Solon's laws as a constitutional foundation throughout the late archaic and classical periods.

The tradition clearly sees the crisis that led to Solon's appointment as a protracted, at least potentially violent conflict (*stasis*) between two parties (wealthy Elite and impoverished Mass) in which each side sought to maximize its share of valued resources: land, debt, labor (bodies of persons), and government (offices, rule-making authority, legal judgment). Each party had clear and opposed preference orderings over these contested resources. The ordinal preference rankings are listed, schematically, in Table 4.1.[21] Among the core questions that the Solon tradition poses to a political theorist concerned with instrumental rationality are these: Why did the opposing parties agree to ask Solon to arbitrate their dispute? How did Solon decide on the division of the resources under dispute? By what criteria might his arbitration be judged as successful or a failure?

[Table 4.1 about here]

4.3. A bargaining solution to an Athenian social crisis

I suggest that the result of Solon's arbitration should be understood as a bargaining solution of the kind that John Nash developed in one of the major breakthroughs of modern game theory. This does not, of course, imply that the Solon tradition anticipated the mathematics or the formal conditions that were the basis of Nash's (1950) celebrated solution to the bargaining problem.[22] It means only that the intuitions that enabled Solon to arrive at an acceptable answer to a seemingly intractable conflict track certain of the intuitions common to solving bargaining games. In a two-party bargaining game, one side

may gain more than the other, depending on the outcome, but the game is not a zero-sum competition, because both sides expect to come out of the bargain in a position that is better than the one that they currently occupy. It is the expectation that sharing in the "surplus" (the value of making the bargain) will make each party better off that brings them to the bargaining table in the first place. In the case of the crisis confronted by Solon, the surplus was the difference between the low-payoff situation of social crisis at which the Athenians were currently stuck, and a readily imagined higher payoff situation that would result from improved social cooperation.[23] In the Athenian case, the higher payoff sought by the Mass was a dramatic improvement of dire social conditions. For the Elite the higher payoff entailed alleviating the unrest pertaining during the crisis, ideally returning to the "status quo ante": the social conditions that pertained before the crisis.

[Figure 4.1 about here]

The solution to a bargaining game depends on three factors, each of which can be visually illustrated by a simple XY chart. In Figure 4.1, the horizontal x-axis represents the Mass's potential share of the resources in dispute; the vertical y-axis is the Elite's share. The first of the three factors involved in the solution is the "backstop" payoff to each side. The backstop is each party's "best alternative to a negotiated agreement" (BATNA) – that is, the position it currently holds and expects to retain should negotiations fail. Since each party expects to retain its BATNA if the bargain fails, neither party will accept a payoff lower than its backstop position. In the Athenian case, the backstops are the shares of the aggregate of Land, Debt, Labor, and Offices that Mass and Elite held at the point that their struggle reached the deadlock that led them to seek arbitration. In our illustration, the Mass's backstop is at point "m" and the Elite's is point "e." "P" is the (x,y) point at which the dashed vertical line drawn from m to m' meets the horizontal dashed line from e to e'. P is the starting position that the bargain must improve. In Figure 4.1, m, e, and P may be thought of at first as simply illustrative – they have not (yet) been shown to represent an approximation of the actual backstop positions of the crisis-era Mass and Elite of Athens.

The second factor involved in the solution is the full potential value of the bargain – that is, all the improvement that could be realized by each party if all goes as well as possible. This can be represented by a convex curve, "v," drawn between a point on the x axis located east of m and a point on the y axis that is north of e. Any point on this curve will capture the full value (Pareto optimal outcome) of the bargain. Once again, for the time being we may take the curve v in Figure 1 as merely illustrative of the bargaining situation, rather than measuring the actual full value of the Mass Elite bargain. Although any point on the graph that is located northeast of P will represent an improvement in the starting position of both Mass and Elite, any point located southwest of curve v is "inefficient" in that it fails to capture the full potential value of the bargain. Since no player will accept a

bargain with a payoff beneath his BATNA, any acceptable bargain will be north-east of P and a full-value negotiated bargain will fall somewhere on curve v between m' and e'.

The third factor is the relative bargaining strength of the two parties. If either party comes to the table with a superior bargaining position (more willing to settle for its backstop and thus walk away from the table, less risk averse, more patient), it will end up with relatively more of the surplus. The bargaining strength of Elite and Mass can be represented by a proportion (StrengthMass:StrengthElite). That proportion, when it is quantified, yields a specific slope-intercept (a line at a given angle). So long as we assume certain plausible background conditions, an optimal (full value) and stable (acceptable to both parties) rational bargaining solution is represented by the point "Q" at which a "proportional bargaining strength line," passing through P, intersects curve v.[24]

In Figure 4.1, the hypothetical Elite party is assumed to have both a superior backstop position (e>m) and has greater bargaining strength (the slope of the line passing between P and Q is less than a 45 degrees). We may regard Solon's solution to the Athenian social crisis as a (intuitive and non-mathematical) bargaining solution if the key factors in his decision included the backstop positions of Mass and Elite, their relative bargaining strengths, and a calculation of the expected total value of social cooperation that could be divided among them if a bargain were reached. As we will see, according the tradition, Solon appears to have considered things that are at least roughly analogous to these three factors. If that is indeed the case, Figure 4.1 may be seen as a tolerably good, if highly schematic, illustration of Solon's actual solution.

In the tradition, the bargain between the Athenian Mass and Elite was struck through the intermediation of Solon, acting as an arbitrator agreeable to both sides. Drawing on a discussion of fair bargaining in John Rawls' *Theory of Justice* (1971: 68ff.), Brian Barry (1989: 24-30) points out that rationally self-interested parties to a dispute will agree to turn the matter over to arbitration (rather than bargaining directly with one another) only under certain conditions: First: Neither side has reason to believe it can gain everything it hopes for (complete preference satisfaction) by fighting or by direct bargaining, that is, by prolonging the conflict through a series of offers and counter-offers, involving threats and bluffs. Next: Each side believes it will do at least as well from arbitration as it would from direct bargaining. Third: Each believes that the arbitrator is impartial, in the thin sense of not favoring either side, rather than in the thick, moral, sense of being committed to some external decision criterion (e.g. distributive justice, however defined). That is, the impartial arbitrator *does* attend to the backstops and relative bargaining strength of the parties to the dispute, but he *does not* personally favor either side. Fourth: Each side has reason to fear the results of a failure to come to any sort of agreement. Finally, we may add, given the high-stakes situation of classical Greek constitutionalism, Fifth: Neither has reason to believe that the arbitrator will use his position to establish himself as a tyrant, à la Deioces.[25]

4.11

In the case of the crisis that Solon sought to resolve, each side in the dispute did have much to gain, but also had a lot to lose in the case of a failure to reach an accommodation – that is, neither had a BATNA that was close to its expected position resulting from a full value bargain.[26] The BATNA for each side was low because each had a credible and not yet fully realized violence threat; for the rich, this was based on their superior wealth-power; for the poor, their superior numbers.[27] Resort to unrestrained violence could end in the collapse of social order. Meanwhile, in the background, there was an external threat: Athens was involved in a long-term conflict with neighboring Megara over control of the island of Salamis.[28] If Athens were sufficiently weakened by internal conflict, Megara could be expected to exploit the situation. Finally, there was an internal threat: the possibility of the emergence of a tyrant, who might rule in such a way as to expropriate property and labor.[29] Each of these conditions weighed especially heavily on the Elite and so tended to reduce what might otherwise have seemed to be the overwhelming Elite advantage in terms of bargaining strength.

According to the tradition as reported by Plutarch's life and the *Ath. Pol.*, Solon was credible as an arbitrator in part because he had an established record of probity and concern for the community as a whole. At least as important, he was regarded as a "man of the middle" who lacked a clear affiliation with either party in the dispute.[30] He was (based on his public statements, reputation, and observable behavior) firmly committed to rejecting the option of seeking absolute power for himself.[31] The decision by both sides to accept arbitration thus fulfills Barry's conditions under which two parties will rationally choose arbitration over continued direct bargaining.

4.4. Solon's arbitration as a full-value solution

The tradition regards Solon as supremely virtuous: wise (included in canonical lists of the "Seven Sages"), moderate (neither despising wealth and honors nor seeking them in excess), and courageous (willing and able to fight, but not rash). He was certainly concerned with achieving some form of justice.[32] But his bargaining solution to the dispute was in no sense ideal in respect to any external standard of justice. In terms of understanding an arbitrator's decision as embodying a bargain that reflects the relative strength of each side (as measured by a willingness to return to their backstop, patience, and knowledge of conditions), as opposed to instantiating an ideal principle of justice (e.g. distributive fairness), it is imperative that the outcome aims at an equilibrium. In the absence of any third-party enforcer (i.e. the arbitrator lacks coercive authority: has no way to impose the solution on a party willing to return to direct bargaining, via threats or fighting), that equilibrium must be self-enforcing.[33] And this means that, *ex post*, neither party can be left with a better move in the bargaining game. Two key passages from Plutarch's *Life of Solon* are especially illuminating in terms of understanding Solon's arbitration and lawmaking as a successful bargaining solution, rather than an instantiation of ideal justice.

In the first passage Plutarch reports that, "when [Solon] was afterwards asked if he had enacted the best laws for the Athenians, he replied, 'The best they would receive.'"[34] This is a succinct statement of the outcome of the arbitration/lawgiving process as a bargaining solution: There were, by implication, "better" laws, based on some external standard of justice. But the unwillingness of the Athenians of either party to "receive" less than they believed they could gain by direct, hard bargaining imposed a strict constraint on Solon's range of options regarding the distribution of resources.

The second key passage is a story that Plutarch tells about Solon's interchange with his fellow "Sage," the Scythian Anacharsis. It is especially telling, and so, deserves to be cited in full.

> "When [Solon] was already engaged in public affairs and compiling his laws, Anacharsis, accordingly, on learning what Solon was about, laughed at him for thinking that he could check the injustice and rapacity (*pleonexia*) of the citizens by written laws, which were just like spiders' webs; they would hold the weak and vulnerable who might be caught in their meshes, but would be torn to pieces by the rich and powerful. To this Solon is said to have answered that men keep their agreements (*sunthêkai*) with each other when for neither party is there profit (*lusitelês*) in breaking them, and he was adapting his laws to the citizens in such a manner as to make it clear to all that the practice of justice was preferable (*beltion*) to the transgression of the laws."
> (Plutarch *Solon* 5.2-3).[35]

This passage recapitulates some of the key conceptual terminology of "Glaucon's challenge" (*pleonexia, sunthêkai, lusitelês*) and seems a clear a statement of the core feature of a bargaining solution: In response to Anacharsis' challenge, Solon asserts, in the language of game theory, that neither player in the game has anything further to gain by an "off path" move – each player has improved his position (advanced beyond his BATNA) as far as possible and got all he can reasonably hope for, in light of the moves (abandon the bargain, retreat to BATNA) available to the other. The bargaining solution has been "adapted to" the expectations of the players and therefore staying on path is more advantageous to each player than is breaking the agreement.

In light of these two passages, along with other comments attributed to him and the content of his laws, it seems plausible to visualize the tradition's imagination of Solon's arbitration as a bargaining game with a solution per Figure 4.1. He was quite clearly concerned with what each party would accept (given their option of returning to threats or fighting), with the relative strength of each party's position, and with the full value of social cooperation that was being foregone by the conflict. The assumption of the game is that Solon will choose a position somewhere on curve v. The curve represents the "Pareto frontier" – that is to say, any point that lies inside the line offers at least one of the parties a

move (north or east) that will improve its own position without materially worsening the position of the other party. Solon would not choose any point inside the line because he sought a stable outcome (neither side having a reason to think it could do better than the solution he offers) and because he wants a maximally productive outcome (the Pareto optimum). He wants that because he wishes for the best for the society as a whole: the tradition is clear in portraying Solon as a far-sighted patriot who wanted Athens to be strong against its rivals and to flourish economically.

The question, then, is where, on the "full value" curve v, Solon's solution (point Q in Figure 4.1) will lie. If counterfactually, per Figure 4.2, he had believed that the two parties were equal in their backstop position (P) and equal in their bargaining power, he would choose A (the midpoint on the curve). If counterfactually he believed the Mass (the many poor citizens) had a better backstop and greater bargaining strength, he would choose some point nearer B. If he regarded the Elite (the few rich) as advantaged in backstop and bargaining strength, he would choose some point nearer C.[36] Of course, each side will seek to convince Solon that their backstop is high and their bargaining position is strong. The wisdom of the arbitrator is seeing through these ploys and finding the point Q that represents each party's true position in each case. He must, ideally, identify a solution that captures the full value of the bargain (the Pareto optimum) and that is in equilibrium: the one that both sides will accept because it is the best they can expect in light of their assessments of the backstop and bargaining strength of both parties.

[Figure 4.2 about here]

It is important to keep in mind that the dispute between the Athenian parties concerned several resources (per Table 1), schematically: land, debt, labor and offices. The Elite prefer the *status quo ante* – their share before the outbreak of the conflict. If they do not believe that the conflict is likely to result in social collapse or tyranny, they have a superior backstop position: They controlled most of the agricultural land and were unwilling to give up ownership of real estate. As creditors, they were collectively owed a great deal by impoverished debtors. Debtors unable to pay back their loans were enslaved, so they had lost the option of selling their labor to the highest bidder. The Elite had so far maintained control of the system at a political level through their monopoly on the public offices, and through the immunity of office-holders to legal prosecution. The Mass, on the other hand, although having a weaker position in terms of both backstop and bargaining strength, were clearly willing to fight, perhaps even at the risk of social collapse, and might support a tyrant if the alternative was the *status quo ante*. They wanted agricultural land to be redistributed on a basis of equitability among Athenians. They wanted existing debts to be cancelled and those Athenians who had been enslaved for debt to be freed. They wanted a greater share in public offices and more control over those who held those offices.

If he were to provide a stable solution to the conflict, Solon had to figure out the true backstop position of each party on each of the several issues; our imagined point P is an aggregate of those several points. The presence of multiple issues might seem to have made the situation not only more complicated but also less tractable. But in fact, according to bargaining theory, the opposite is the case. As Dixit and Skeath (1999: 544-55) point out, "Often the enlargement of the … set of issues actually makes it easier to arrive at a mutually satisfactory agreement." This is because, "When two or more issues are on the bargaining table at the same time, and the two parties are willing to trade more of one against less of the other at different rates, then a mutually beneficial deal exists." In Table 4.1, the underlined items and the non-underlined – the things that we assume each party will and will not fight to attain – signal the possibility of tradeoffs.

Solon's solution certainly appears to have traded off the various issues at variable rates. He divided the land resource mostly in favor of the rich, in that he refused to overthrow existing claims to private property by redistributing agricultural land in elite ownership. Yet he did do something significant in regard to access to some land – he "disestablished the boundary markers (*horoi*)" – which may refer to rights of movement across the Athenian landscape or to returning publicly owned land to public (or common) uses.[37] Next, he distributed debt and labor mostly in favor of the poor many: He mandated a one-time cancellation of debts and liberated Athenians who had been sold into slavery, apparently without reimbursement to former creditors and former owners. On the other hand, we hear nothing of reparations to Athenians who had lost their land and years of their lives under the old regime.

Finally, Solon reorganized the public offices and access to legal redress. Here it is not clear that either side had a clear idea of its own backstop position (Plutarch, *Solon* 18.1). Nor even that "constitutional rule" – i.e. the restructuring of the major offices according to income (with the highest offices reserved for the wealthiest), and formalizing the right of the many poor to attend the assembly and the power of the assembly to try cases of public malfeasance by office-holders – was within the *ex ante* preference set of either of the parties to the dispute. But the "moderate" result of the Offices category seems to point to Solon's goal of achieving an outcome that could be defended as equitable overall. Although the Solonian solution appears to have been somewhere between A and C on Figure 4.2 – and thus somewhere around Q in Figure 4.1 – he clearly advertised it as a reasonably fair bargain, one that could be described as just, and it was, in the end, accepted by both parties.

As Barry (1989: 68-76) points out, if he is to achieve a sustainable solution to the dispute, an arbitrator lacking access to coercive power to enforce the bargain must distribute the surplus arising from the bargain (locate the Q point on the full-value curve) according to the baseline conditions defining the disagreement (which we have been calling backstop positions or BATNA) and the relative bargaining strength of each side. The baseline conditions included whatever agreement there was about the legitimacy of existing claims to property (or property rights).[38] Bargaining power includes the

willingness of each side to follow through on a threat to walk away from the bargaining table: to accept that the negotiation has failed and return to its backstop. But, as we have seen, in Solon's Athens, both sides had strong reasons (including fear of social collapse, Megarian exploitation, and tyranny) to avoid a failed negotiation.

Moreover, unlike the Deioces situation described by Herodotus (Chapter 3), the bargaining issue was enjoined between two factions of citizens, rather than between a (potential) ruler and his (potential) subjects.[39] What this meant in practice was that the primary issue remained one of distributing the expected value of social cooperation among two parties rather than one of executive moral hazard (the risk that the ruler will violate the agreement *ex post*). Barry (1989: 107-108) notes that a bargaining solution to a distribution problem may be thought of as a prescription for the arbitrator who, for whatever reason (here: desire for success conjoined with lack of enforcement authority), must produce an adjudication that will simulate the outcome of rational bargaining. Barry notes further that, having reckoned as well as possible the strength of each party's preferences over outcomes, effective arbitrators will not simply announce the award *as* a bargaining solution. Rather "they come up with some formula for relating the award to some principle, some comparison, or some precedent" (Barry 1989: 108).

In Solon's case, the "formula" was equitability and the "principle" was justice: In his *post eventum* poems in which he alludes to his legislation, Solon repeatedly states that he distributed the relevant goods to each party according to its desert (Solon F 5, 34, 36, 37; *Ath. Pol.* 12.1, 12.3-4; Plutarch, *Solon* 18.4). He represents each side as seeking to maximize its own advantage and as careless of the justice of the other side's claims (Solon F 6, 34; *Ath. Pol.* 12.2-3). And thus, initially, each side, hoping to gain more at the expense of the other side, expressed dissatisfaction at the outcome of the arbitration (*Ath. Pol.* 6.3, 11.2; Plutarch, *Solon* 16.1-2; 24.5). In his elegies, Solon analogizes his own position to that of a wolf beset by dogs on all sides (Solon F 36) and elsewhere to a boundary marker (*horos*), set between two hostile armies (Solon F 37). In brief, he advertised himself as having served as an impartial judge, beset by those who urged him to be partial to their side, and his solution as, overall, just because it was as fair as possible to both sides.

In the short run, at least, the solution was successful. Both the elites and the masses ultimately accepted the payoff that it was offered in the arbitration over land, debt, and labor as the best they could get in light of moves in the game available to the other side. Both sides allowed Solon to continue with his political reforms of rules governing access to offices and legal redress (Plutarch, *Solon* 16.3). As noted above, Solon's solution would only work if it were self-enforcing. Plutarch's Solon acknowledges this. When, asked what polis was best, he replied, "That polis in which those who are not wronged, no less than those who are wronged, exert themselves to punish the wrongdoers."[40] Here we have a reference to the necessity of cooperation in punishment – the key to the emergence and persistence of social order in Protagoras' "great speech" (chapter 2). The Aristotelian *Ath. Pol.* implies something similar, in reference to Solon's decision to leave Athens after his laws had been

established on the grounds that, "he did not think it fair for him to stay and explain his laws, but for everybody to carry out their provisions for himself."[41]

It is in connection with the necessity that the equilibrium be self-enforcing that we should understand the tradition that one of Solon's laws mandated that any citizen who held aloof when there was a violent civil conflict (*stasis*), joining neither side, was to be disenfranchised.[42] Solon here appears to be driving up the cost of civil conflict in an attempt to prevent its outbreak. Rather than allowing a matter to be violently contested only among polarized parties with very strong preferences over outcomes, and thus with much to gain or to lose, Solon pushed citizens with weaker preferences into the fray. This might incentivize those "in the middle" to intervene before the conflict was joined, especially if they were a large majority. Likewise, if a large number of those in the middle were to join one side, the other side risked catastrophic defeat. In either case the outcome might mean the destruction (death, exile) of the members of one faction or another. The result, then, was to force those with strong preferences, who were prone to fight to satisfy them, to ask themselves how certain they were of victory if the fight were generalized, and whether they were actually willing to bear the costs of a post-*stasis* reckoning in case they were to lose. If the cost was estimated to be high and the risk of loss was also high, the expected value of fighting would fall below the value of the status quo and *stasis* would be avoided. On the other hand, if the expected costs of fighting were low enough, one side might be willing to take its chances. If each side assessed the situation similarly, and one side was very likely to be the winner once the fight was fully engaged, the weaker side had reason to acquiesce to a revised bargain (i.e. a change in the rules governing payoffs).[43]

As we have seen, the *stasis* that led to Solon's appointment as arbitrator, and that his arbitration brought to an end, was joined between two parties, understood in the tradition as elites and masses. The bargain struck by Solon's legislative acts allowed ordinary and elite citizens to go on together within a single polity, to pursue some basic goals (security against external rivals, economic improvement) that both sides held in common. But it did not end tensions between a few who were relatively wealthy, well connected, and individually powerful and the many who were not. Nor did it end the potential of Athenian society to bifurcate into competing mass and elite factions.

As I have argued in detail elsewhere (Ober 1989), the dynamic tension between mass and elite continued to animate Athenian politics through (at least) the classical period. The initial Solonian bargain struck between mass and elite eventually enabled Athens to become a remarkably high-performing polis (Ober 2008). But for some ten generations after Solon the terms of the bargain were debated in public and private speech and periodically renegotiated through a series of major and minor institutional innovations (see chapter 5). The trend, over the late sixth through the mid-fourth century BCE, was for the masses of ordinary citizens to gain a greater share of disputed goods. But the growth of the Athenian economy meant that there was an increasing social surplus of goods to be shared. Both masses and elites benefited from that growth (Ober 2015, 2017). The ongoing

process of debate and renegotiation informed some of the most important works in the Greek political canon (Ober 1998). It also provided material for thoughtful explorations of instrumental rationality.

The accounts of the Aristotelian *Ath. Pol.* and Plutarch concerning Solon's arbitration and its outcome confirm, and help to elaborate, the role of deliberative reason-giving in the Greek tradition concerning constitutionalism. In Herodotus' stories about the origins of kingship in Media and the refoundation of kingship in Persia (Chapter 3: *Histories* 1.95-101, 3.71-83), the relevant deliberations follow the norms of classical-era Athenian democratic practice: they were *ex ante* and in *foro externo*: That is to say, deliberations over questions of rulership took the form of oral arguments for courses of action and in favor of outcomes that preceded the establishment (by vote) of the new political order. The arguments were made, and attended to, by those who were direct parties to the decisions: decision-makers who would subsequently be bound by the decisions made. In the Solon tradition, however, deliberations were *foro interno,* in Solon's mind, and revealed *ex post* in his lyric poetry.

Both *Ath. Pol.* and Plutarch make a point of quoting lines from Solon's lyric poems. A number of those poems take the form of *post eventum* justification: Solon is presented as offering the Athenians reasons for his legislative choices – including, as we have seen, reasons for why the constitutional order did not fully please either side in the dispute, and for why it was rightly regarded as equitable, even while it fell short of ideal standards of justice. Herodotus' Median/Persian constitutional narratives and the Solon tradition underline a general point with some significance for contemporary political theory in light of debates between deliberative and agonistic democrats: Deliberation is not slighted in the Greek political tradition in favor of an intense focus on bargaining strength and threats. Nor is deliberation elevated to a normative ideal that could take the place of power, threats, and strategic behavior. The Greek tradition recognized the essential role of both normative argument and strategic bargaining in the creation and persistence of a viable non-tyrannical political order.[44]

Ancient Greek writing on politics, exemplified here by the Solon tradition, offers a third way between two contemporary literatures: positive political theory, centered on rational choice and strategic behavior, and normative political theory, centered on justice and reason-giving. The positive literature tends to characterize the practice of offering reasons for actions as little more than "cheap talk." The normative literature, notably including work by Habermas (1996) and Rawls (1996), seeks to eliminate the role of unequal social power in processes of lawmaking and adjudication. Normative theories tend to regard agreements as ideally achieved through deliberation, understood as the sincere giving and taking of reasons, or the "unforced force of the better argument." Attending to the ancient Greek tradition of political writing suggests that conjoining normative and positive approaches to political theory could lead to a better understanding of the relationship between political behavior, institutions, and values.[45]

Before taking leave of Solon, it is worth comparing him, briefly, with Deioces who, in Herodotus' story (chapter 3), was also an arbitrator of disputes, both before and after he became king. Among the key differences is that Deioces achieved his reputation by arbitrating private disputes, whereas Solon was chosen as an arbitrator by warring factions. Yet both cases invoke the language of freedom (*eleutheria*) and law (*nomos*) and raise the question of how they may be related. Herodotus' Medes, as we have seen, gave up their freedom, understood in the "positive liberty" sense of a share of rule, in order to pursue their private affairs, secure in the lawfulness that Deioces was imagined as uniquely able to provide. In Solon's case, the *Ath. Pol.* (6.1) claims that "Solon, having become master (*kurios*) of affairs, made the *dêmos* free, both at the time and for the future, by prohibiting loans secured on the person, and he laid down laws and enacted cancellations of debts both private and public."[46]

In the passage quoted above, "*dêmos*" should probably be translated "the mass of poor Athenians" rather than "the body of all citizens." But the effect of Solon's legislation was both to free poor individual Athenians from actual slavery, and to establish some of the preconditions that would eventually enable the *dêmos*, as the body of all citizens, to rule the state – i.e. democracy. The author of the Aristotelian *Ath. Pol.* (9.1) makes this explicit when he later writes that the three "most democratic" (*dêmotikôtata*) of Solon's reforms were the prohibition of loans secured upon the person, the rule allowing any Athenian who so wished to prosecute on the behalf of another, and, most especially, the right of appeal to a jury-court: "For the *dêmos*, having control of the vote (*psêphos*), gains control of the *politeia*."[47] The question of whether the relationship between lawfulness and freedom was a zero-sum game, such that more freedom meant less lawfulness, or whether a constitutional bargain could create a surplus, such that freedom and lawfulness were simultaneously enhanced, was a major issue for the Greek tradition of political thought.

4.5. The Sparta enigma

Solon's bargaining solution, and the *politeia* that was established through it, ended a *stasis*. It avoided the risk of Athens' social order devolving into a protracted fight between elites and masses, and it left both sides better off than they would have been without the bargain. It failed to prevent tyranny, but Solon's laws survived the tyrannical interval and the eventual (classical era) outcome was high-performing state based on a *koinônia* that included elite and non-elite native residents, based on self-enforcing rules and a premise of fairness (if not of full justice). Athens' *sustêma* aimed at providing security against threats, both internal (to persons and property) and external (rival states), and it proved capable of producing a substantial economic surplus. It was open to innovation; indeed, innovation would soon come to be regarded as a hallmark of Athenian political culture (see, further, chapter 5).

The *politeia* of Sparta, the other great city-state of classical-era mainland Greece, was also predicated on a kind of bargaining solution in which two parties, wealthy and

poorer free natives of the home territory of Laconia, each improved on their "best alternative to a negotiated agreement." But the resulting Spartan constitutional order also institutionalized internal war in which an extensive and (in principle and in law) socially homogeneous native elite (Spartiates = Spartan citizens) dominated and systematically exploited a mass of native and colonized subjects (collectively enslaved helots of Laconia and Messenia, respectively). The homogeneous elite maintained its control through organized violence. The Spartan *koinônia* was centered on a body of (initially) ca. 9000 Spartiate families. The much more numerous helots existed outside the realm of consent-based rules and fairness. That exclusion was formalized annually by a declaration of war by Spartiates against the helots. Between the Spartiate elite and enslaved helots in the status hierarchy was a motley assortment of free-but-subordinate groups. The Spartan *sustêma* was aimed at security for the Spartiates (against helot insurrection and foreign rivals) and at producing a limited economic surplus, consumed by the Spartiates, as rents. It was resistant to innovation.[48]

As with Solon at Athens, the Greek tradition attributed the origins of the Spartan *politeia* to a wise lawgiver, Lycurgus, who intervened at a moment of civil strife to put his community on a new footing. And as in the case of Solon, a rich literary tradition grew up around Lycurgus. As with Solon, the tradition of Lycurgus and the constitutional order attributed to him prominently includes a notable example of fourth-century BCE *politeia* literature, in this case by Xenophon, an Athenian who lived for part of his adult life in Spartan-controlled territory, and a much later *Life* by Plutarch. It also includes discussions of Spartan society and politics by Herodotus, Thucydides, and Aristotle, among others.[49]

The Greek tradition concerning the social and constitutional order credited to Lycurgus seems in some ways schizophrenic. On the one hand, there is "Sparta the epitome of civic virtue and lawfulness" – an inspiration for the social and political theorizing of Jean-Jacques Rousseau and his modern followers. Xenophon, in his *Politeia of the Lakedaimonians* and Plutarch in his *Life of Lycurgus*, wrote highly idealized accounts of Lycurgus and his constitutional reforms. But there are sharply dissonant notes even in these idealizing portraits. Xenophon concludes his *Politeia of the Lakedaimonians* (14) with the statement that the Spartans of his own day were unworthy of their noble traditions. Plutarch (*Life of Lycurgus* 28, 30) notes the post-Lycurgan rise of luxuriousness and has a hard time fitting the brutal regime of helotage into his portrait of the virtuous Lycurgan regime. In the historical narratives of Herodotus and Thucydides, individual Spartans, and the Spartans as a civic community, are portrayed as highly self-interested, often myopically so. In the *Politics* Aristotle offers an in-depth analysis of the failure of the Sparta of his day, a state characterized by a radically shrunken population of elite Spartiates, beset by extreme wealth inequality, a shrunken territory, and a weakened military.[50]

Modern scholarship on Spartan constitutional development seeks to make sense of the conflicting literary sources. Lycurgus was, for the Greek tradition, and remains for us, a murkier figure than Solon; there is no way to pin him to a particular moment in history, nor

any certainty that he ever actually existed. But, however mythologized by idealizing writers and obscured by Sparta's famous secretiveness, there was a historical classical-era Spartan *politeia* and its main outlines have been tolerably well delineated in recent historical scholarship.[51] My concern here is specifying the role of instrumental rationality in the process by which the *politeia* described in the ancient tradition on Sparta came about, through a bargain struck between rich and poor Spartiates, and how it was stabilized as a self-enforcing equilibrium. The hope is that by clarifying the role of strategic rationality, in the "folk theory" sense developed in the previous chapters, we will be better able to make sense of a constitutional regime that has been immensely influential in the history of western political thought.

In the Solon sections of this chapter, as in the earlier chapters of this book, I analyzed the arguments and intuitions about instrumental rationality employed by ancient Greek historians and philosophers, with the goal of elucidating a tradition of thought that I dubbed the Greek folk theory of practical reasoning. I sought to demonstrate that the folk theory bears a family resemblance to contemporary theories of rational choice, and that the resemblance is substantive, rather than merely superficial. The approach in this section and the next, on Sparta, is somewhat different. Here I employ some conceptual tools drawn from choice theory – based on the assumption that the Greek folk theory both informed the Sparta tradition and adequately tracks the core intuitions that underpin contemporary methods for solving strategic games – in order to make better sense of the historical development of an ancient state. A similar approach is adopted in the next chapter, on the rationality of the classical Athenian state.

The conditions against which the Lycurgan constitutional reforms were enacted remain murky, but early Sparta was understood in the tradition and by modern historians to be a kind of oligarchic aristocracy, in which a relatively few high-born families controlled much of the wealth, conjoined with a dual kingship, whereby two of the leading families monopolized military and political leadership. The Spartan kings were initially constrained by one another, and by the influence of their fellow wealthy aristocrats. Aristocratic wealth was derived from rents gained from control of agricultural land and labor in the core Spartan territory of Laconia. The land was owned by the aristocrats and farmed by subject helots. Helots were Laconian natives who had been enslaved at some point in the past, through a process lost to history. Free Spartan non-aristocrats presumably owned small farms and, like non-elite Greeks elsewhere, employed themselves and their families as a primary source of labor. A central question for Spartan constitutionalism is how an extensive self-enforcing citizen body – the Spartiate "Similars" of the Lycurgan regime – emerged from this early, more narrowly aristocratic social order.

In the next two sections, I draw on the more detailed analysis of Spartan social order in Ober and Weingast 2018. Our central claim in that paper was that a game theoretic approach can help to make sense of the literary tradition and some widely accepted (by historians of ancient Greece) facts about Spartan constitutional development and social

history. A simple game played between an elite and an ordinary Spartan citizen (section 4.7, below) reveals why behavior defined in the Greek tradition as virtuous and seemingly other-regarding – devoting individual time and effort to military training, education of the youth, enforcing social rules, and living "below one's means" according to strict norms of austerity – constituted elements of a dominant strategy for elite and non-elite Spartans alike. It also shows how that strategy and consistently "on path" behavior led inexorably to the growth of wealth inequality and to the debilitating demographic decline described by Aristotle.

4.6 Rational Spartans and commons tragedy

The Greek tradition holds that the Spartan constitutional order, with its intertwined social, economic, and political elements, was inaugurated through the moral authority of the eminently wise lawmaker. Lycurgus was a member of one of the royal families, but not in the direct line for kingship. Plutarch (*Lycurgus* 5.54-5) claimed that Lycurgus initially came to his position as lawmaker through a coup: He gathered a coalition of 30 prominent (*aristoi*) Spartans, who appeared in arms at daybreak in the Spartan agora, thus striking terror into the opposing party. Plutarch does not at first say who the opponents were. Their goals are not specified, other than that they resisted his proposed reforms. Having gained control of the government, Lycurgus set about establishing the reforms that are sketched below. But there was, according to Plutarch, push-back, and it was on the part of certain wealthy (*plousioi*) Spartans (9.1). They violently attacked Lycurgus in the agora, putting out one of his eyes and forcing him to seek sanctuary before order was restored.

For our purposes, the important point is that Plutarch imagines early Spartan society in terms of conflict and social hierarchy among free Spartans. The Lycurgus tradition holds that Lycurgus made all Spartan citizens into "Similars" (*homoioi*) – who lived under conditions of economic and social equality. But contemporary historical scholarship has demonstrated that in the archaic and classical eras alike, the community of the Spartiates remained deeply stratified by wealth and prestige.[52] The game developed in the next section seeks to show how a conflicted and economically stratified society was transformed into a society of putative equals, why the new order took the form of a self-enforcing equilibrium, and with what effects.

The Lycurgan reforms and the conflicts attending them are placed by historians in the context of Sparta's attempt to gain control of the neighboring territory of Messenia, in a protracted series of colonial wars. By sometime in the 7th c. BCE it appeared that Sparta's aristocratic rulers had over-reached. The war was going badly and the ruling Spartan elite was in trouble. For Sparta to gain and keep control of the large and fertile territory of Messenia required a substantially larger, better-trained army. At the center of the Lycurgan reforms is an extension of active citizenship: Facing the bad outcome of a failed colonial enterprise, a narrow, wealthy, ruling elite in effect offered a substantial body of relatively poor, free natives of Laconia the chance to improve their situation if they would join in the

effort to control Messenia, becoming participatory citizens on equal terms with the rich. The offer included shares of land in Messenia, once pacified, and shared control over the labor of the Messenians, once enslaved. As in Solon's bargaining solution, the Lycurgan bargain promised to make both sides better off than they would otherwise be.

The bargain having been struck, the Spartan army, and Spartan citizen society as a whole, was put on a new footing, emphasizing military training and discipline. This eventually enabled the Spartans to control Messenia and to extract high rents from the Messenians, now reduced to helotage. Those rents meant that all Spartan citizens were freed from the need to engage in productive labor. They were thus able to devote their lives to military service and to related civic purposes. The Lycurgan laws made that service mandatory. The citizens of Sparta were organized into military regiments that trained and ate together. Each member of a regiment was responsible, first, for contributing equally, as a heavy-armed infantryman, to the policing of internal enemies – the helots of Laconia and Messenia – and to offensive and defensive warfare against external rivals. Each was, next, responsible for contributing to the military training of young Spartans – the subject of much of the tradition about Lycurgus' laws. Third, each was responsible for contributing to the enforcement of the laws, through shaming and punishment of deviants. And fourth and finally, each was responsible for contributing, on an equal basis, food for his regiment. The food each Spartan contributed to his regiment, on a regular rotation, was provided by his share of the land and helot-labor gained and held by the force of Spartan arms.

Lycurgan institutions of government, within the community of the Spartan citizens, were predicated on the monopolization of agenda control and legislative initiative by a small elite. An assembly of all citizens voted on measures proposed to them by elite leaders. The agenda was set and policy measures were deliberated in a council of 28 elders plus the two kings. Councilors were chosen by a vote of all Spartans, but they were invariably "distinguished" men – in practice this meant that they were drawn from the ranks of the wealth elite. Polling of the assembly, after speeches by members of the elite, ordinarily took the form of a voice vote: The loudest "shout" decided the matter.[53] The basic procedural setup of elite proposal and mass approval was formalized in the "Great Rhetra" – a constitutional rule cited by Plutarch and supposedly passed down through oral tradition – Spartan laws were not written.[54]

The outcome that the Lycurgan reforms aimed at and achieved was the provision of rents to all Spartiates, guaranteed by the equal and efficient provision by Sparitates of organized violence against external and internal enemies. Rents were extracted from the subject helot-farmers. External violence was provided by the training and arming of all Spartans as hoplite warriors. Internal violence was provided, inter alia, by "The Hidden" – a state-sponsored organization that sent young Spartan warriors into helot territory to conduct terror operations against those helots who stood out in any way. In each case, the necessary violence was provided by the members of the extensive citizen body of "Similars" – men who had received a standard, rigorous, military training from boyhood.

As Aristotle emphasized in the *Politics* (2.1269a29-1270a40, 5.6.1307a34-37) the Spartan citizen body was highly stratified by wealth. Because Spartans were not in fact equally wealthy, the system's emphasis on equal capacity and responsibility for violence provision introduced a contradiction into the system. Wealth inequality was structural: Although elite Spartans had evidently agreed to an equal division of the land and labor of Messenia, they did not relinquish their ancestral property rights by sharing the land and helots of Laconia. That original unequal endowment was made more unequal over time by Spartan rules governing marriage and inheritance. Those rules enabled families that began with superior wealth to concentrate an increasingly large share of the total wealth of Spartan society in their own hands. As we will see, the situation was exacerbated by the incentive, shared by all Spartans, to expel the weakest and poorest of their members from the citizen group, and a corresponding disincentive to enfranchise new members.[55]

The contradiction between unequal wealth and equal violence provision was potentially dangerous to the stability of Spartan social order because of what Cox, North, and Weingast (2012) call "the proportionality principle." Proportionality holds that rents must be shared among the members of a ruling group according to each member's capacity to violently disrupt the system and (as in the Spartan case) each member's provision of system-sustaining violence. When proportionality is not respected, when rent-share does not track violence potential, a rational "player" whose violence potential exceeds his rent share has a better move in the game: abandoning cooperation in favor of fighting in the expectation that fighting (or threatening to fight) will gain him a bigger share. The social equilibrium is thereby put at risk.

As equals in violence potential and provision, the poorer Spartans ought, according to the principle of proportionality, to have had an equal share of the rents their violence secured: Laconian rents as well as Messenian rents. But they did not. In light of proportionality, this raises the question of how, given that the Spartans were at once equals in violence and unequals in rent-derived wealth, the system could be in equilibrium. The Lycurgan bargaining solution addressed the issue of proportionality, while allowing the rich to keep and indeed to improve their situation by retaining their Laconian property. Indeed, as Aristotle emphasized, the rich were able to increase their share of total Spartan wealth over time. The key to the solution was austerity: although wealth would remain unequal, consumption (the visible enjoyment of wealth) would be, at least in principle, equal. The members of the extended civic body were required, by Spartan laws attributed to Lycurgus, to live at the same austere level: They would eat the same simple food provided by the members of their regiments. They would live in similar houses and dress alike. No Spartan would publicly consume more than another.[56]

Per the considerations raised by Plato's Protagoras (chapter 2), mutual monitoring and participation of punishment of defectors who break the rules were essential to sustaining a self-enforcing social order. In Sparta, to violate the norm of austerity by over-consumption on the one hand, or to fall short in violence provision (through cowardice on

the battlefield), or to fail to provide one's share of food for the regiment from the rents extracted from helots under one's control, on the other, was to break the law. The Spartans were famously law-abiding, and famously concerned with mutual monitoring: A key part of a Spartan's civic responsibility was keeping a sharp eye on the behavior all other Spartans. Being caught breaking the law meant shaming and punishment. Serious infractions, involving failure of military or food provision duties, entailed expulsion from the ranks of the Spartiates.[57]

Under the austerity regime, Spartans lived in similar houses, dressed in similar clothing, and consumed (at least when dining with their regimental eating clubs, as they were mandated to do) the same food. By leveling the public consumption of the richest Spartans down to that affordable to the poorest, and empowering each to monitor the behavior of all, the regime of austerity squared the circle of proportionality and wealth inequality. But it also led to perverse incentives with serious demographic repercussions.

Even in the face of austerity, Spartan families sought to increase their private wealth, which could legitimately be displayed (and thus used for increasing family prestige) in certain ways, for example chariot races.[58] But Spartans were forbidden to engage in any form of potentially lucrative economic activity. For their part, the farmer-helots had no incentive to increase productivity. Indeed, state terrorism, which took aim at any helot who stood out in any way, discouraged productivity and innovation. Following a catastrophic attempt to expand the helot regime into the territory of Arcadian Tegea, north of Laconia, there was no territorial expansion of the helotage regime. The size of the "pie" of rents from Laconia and Messenia was, therefore, fixed. So, the only way that a Spartan could become wealthier was to gain a larger share of the fixed rent pie. The only ways to do that, within the framework of the *politeia*, were by inheritance (combining estates) or by expelling citizens from the ranks of those who shared in the pie, and then redistributing their shares. Likewise, Spartiates had a strong disincentive to enfranchise new citizens. Every new citizen must, as an equal in violence provision, must be granted a proportionate share of the limited stock of rents. Those rents would not, therefore, be available to the incumbents.

The Spartan law of property, which allowed women to inherit, made possible the concentration of wealth through marriage alliances among the rich. Aristotle emphasizes that the control of property by women drove the rise in inequality.[59] Meanwhile, strict enforcement of the rules resulted in expulsions from the citizen ranks of those who failed in violence provision (were cowards in battle) or in rent-extraction (could not provide their share to the regimental dining club). Laws of property and expulsion for dereliction of duty were related: Because rich married rich, there was little redistribution by inheritance to the relatively poor. The poor were more exposed to the various contingencies that could result in an inability to provide their food share to their regiments, resulting in expulsion.

Expelling those who failed in their duties from the ranks of the Spartiates (and not enfranchising others in their place) had the (individually) desirable short-term effect for

the remaining Spartans of freeing up rent-shares for redistribution. But, because every expulsion meant that there was one fewer highly-trained infantryman to march in the citizen-phalanx against external enemies and one fewer to terrorize the helots, expulsions had the undesirable long-term, cumulative effect of weakening Sparta's aggregate capacity for effective violence. This is in some ways a standard case of the degradation of a common-pool resource – a "commons tragedy."[60] But in this case, rather than a matter of rationally self-interested *individual* rule-*breaking* choices degrading the commons (as with the hypothetical shepherds of Hardin 1968), it was a matter of rational rule-*enforcing* choices by a *collective*. Those collective choices conduced to individual self-interest (private wealth) but were in conflict with a shared interest in the provision of an essential common pool resource (helot rents gained through the security regime). The problem was structural in that the common-pool-damaging self-interested choice was not only compatible with individual preferences, but also required by the rules that mandated punishment by expulsion for those who fell short of a demanding social standard.

In the event, short-term individual interests, in regard to marriage alliances among the rich and expulsion of the poorest and weakest, trumped the long-term common good of the citizenry as a body: Aristotle details the severe decline in the number of citizens, to a total of about 1000 by the later fourth century BCE. As a result of its demographic decline, Sparta was finally defeated, decisively, by its external rivals in 371 BCE. Sparta fell from the ranks of leading Greek states when the victors freed the Messenian helots and established Messenia as an independent polis, hostile to Sparta.[61] Sparta's decline can, in sum, be attributed to the rational choices of individual Spartans, under the established constraints of the constitutional regime: the laws of inheritance in conjunction with the laws mandating the expulsion of citizens for dereliction of civic duty.

4.7. Sparta bargaining game

The narrative of the emergence and operational characteristics of Sparta's *politeia*, sketched above, is readily modeled as a game in extensive form, played between a relatively rich Spartan with the power of proposal (R) and a relatively poor Spartan (P) with power of approval. The game is illustrated in Figure 4.3 and is largely self-explanatory. Payoffs are listed in the order R,P, and are ordinal rankings only.

[Figure 4.3 about here]

At the root of the game R (the rich Spartan with power of proposal) must choose whether to propose a measure to his fellow rich Spartans to invade Messenia or not; if R chooses "not invade," Sparta remains a small, aristocratic-oligarchic state, and the game ends. If R chooses to invade (to keep the game simple, we assume that his fellow rich Spartans agree with R's proposal), Nature decides by a lottery whether the invasion

succeeds in establishing Spartan control of Messenia or whether, after the invasion, the occupation runs into trouble and is on the road to failure. If Messenia is securely held, R gains a share in the rents of Messenia, and Sparta becomes a large state, ruled by very wealthy aristocrats. If the occupation runs into trouble and is about to fail (per what we can say about actual Spartan history), R decides whether to propose expanding the franchise to poor Spartans, offering them a fair share of the rent-pool of an eventually pacified Messenia, on the condition that they train and mobilize, or to keep the franchise small and not to share rents. In the latter case, Sparta's occupation of Messenia fails. Sparta loses Messenia and returns to being a small, aristocratic-oligarchic state. If R offers, P either accepts or rejects the offer. If P rejects the offer of enfranchisement, training, and a rent-share, Sparta loses Messenia. In the aftermath of the loss, there is severe civil conflict between R and P, leading to suffering on both sides. We assume, for simplicity's sake, that if P accepts, Messenia is successfully occupied.

If P accepts the offer, then R and P together (to keep the game simple, as a collective decision-maker, but R continues to have agenda control) choose whether to establish an austerity regime or not.[62] If they do not, proportionality is violated and debilitating civil conflict ensues. If R proposes austerity and R and P together establish the relevant laws, R and P then together choose to obey or disobey the laws. If they disobey, the established social order collapses with dire consequences for both sides. If R and P are obedient, P chooses whether to accept the status quo (with its attendant structured inequality) or to demand that R put on the agenda for the assembly the option of redistribution of lands, via constitutional reform. The reform would also change the laws on inheritance and expulsion in the favor of the poor Spartiates. If P acquiesces to the status quo, the result is no change to the laws. If P demands redistribution, R either accepts constitutional reform and property redistribution, giving up much of its wealth, or rejects the demand. If R rejects the demand, the result is low-level strife between R and P. Strife results in greater cost to P than R due to damaged patronage relationships.[63]

Backward induction, based on the listed payoffs to R and P, gives us the solution to the game along the straight heavy diagonal line: Beginning at the upper right: because R will prefer the risks of civil strife to the costs of redistribution, R will reject P's demand for redistribution and constitutional reform. P acquiesces to the status quo because the cost to P of civil strife is greater than the expected status quo. R and P obey the laws because the cost of social collapse is unacceptably heavy. The expected status quo being preferable to civil conflict, R and P will establish austerity. P accepts the offer of R to share the rich rents of Messenia, and R will make the offer to share in light of the superior value of the expected status quo when the Nature lottery (by stipulation) brings about the imminent failure of the initial Spartan occupation of Messenia. At the root, R chooses the expected status quo, in which R concentrates wealth and is protected from constitutional change, to remaining a small and perhaps fragile oligarchic state.

Although the Sparta game cannot be derived directly from the text of any given Greek writer, it captures the relevant features of Spartan social order – equality, civic virtues, austerity, obedience to the laws. It allows us to trace the logic of the *politeia*, and thus to explain the basis of Sparta's rise to power as well as the surprising (to many in the Greek world) fact of Sparta's decline, via the rational choices of stylized players. It thereby takes Sparta out of the category of bizarre exceptionalism, explicable only by something like "Dorian ethnic character."[64]

The highly simplified representation of Spartan constitutional history in a strategic game is meant to show that the choices of elite and non-elite Spartans were, given their assumed preferences and beliefs, explicable in rational choice terms. It also shows how rational and self-interested choices led to severe consequences for Spartan society, as detailed by Aristotle. The game works equally well whether we think in terms of the behavior of individual rich and poor members of Sparta's citizen body with partially divergent preferences over outcomes, or in terms of the behavior of factions capable of acting as collective rational agents.

4.8 Spartan path dependence in context

Sparta offers us an example of a historical Greek state whose distinctive constitutional order and historical trajectory can be explained, at least in very general, broad-brush terms, by the assumptions of the Greek folk theory of practical reasoning. Sparta need not be regarded either as the exemplary "republic of virtue" (per Rousseau and his followers) whose citizens were, for mysterious reasons, much more civic-minded than ordinary persons. Nor need it be regarded as an example of willful wickedness – as the use of systematic state terrorism to control the colonized and various examples of apparently casual Spartan brutality towards non-Spartans might suggest. Nor need we regard it as a model of a state with an unusually narrow conception of collective self-interest – as we might gather from the "Corinthian assessment" of Athens and Sparta in Thucydides book 1 (Ober 2010, and below, chapter 6). Sparta does, on the other hand, exemplify the need to answer the basic question of how to achieve a level of cooperation adequate to sustain a reasonably prosperous and secure social order (per chapter 2) when the option of monarchy (chapter 3) has been taken off the table by cultural preferences (Ober 2107). And it shows how a rational bargaining solution can embed a tendency to degrade an essential common pool resource.

Although the Spartan *politeia* was in many ways distinctive within the Greek and, more broadly, Mediterranean-Western Asian context, the Spartan *politeia* recalls several features of cases we have already considered. The Spartans' commitment to mutual monitoring and social transparency enabled Sparta to avoid the kinds of opacity and strategic invisibility highlighted by the stories of "Gyges with the ring" and "Deioces becomes a king." The Spartan citizen order thus pushed back against the risks of both

predatory free riding and tyranny.[65] But perhaps most obviously, Sparta offers a classic case of path dependency and "altruistic" punishment.

Sparta was famous for the stability of its Lycurgan constitutional order and for its avoidance of social or political innovation. We can now see more clearly the rational basis for that stability. Once the Spartiates, rich and poor, had made the choices that led to the consolidation of the regime of equality and austerity, there was no easy way off the equilibrium path. The alternative was civil conflict, leading logically to the weakening of the state and the loss of the helot rents that sustained it. Indeed, the possible off-ramps from the equilibrium path became less and less desirable as time went on. As the number of Spartiates shrunk, and as the ranks of those expelled from the Spartiate order grew, there was less and less room for the remaining Spartans to change course in any way that would threaten the intra-Spartiate bargain. Periodic revolts by helots and the discovery of plots by subaltern groups within Spartan territory brought home to the remaining Spartiates the necessity of staying on the path – even though, in retrospect, it is easy to see that the path led over a demographic cliff.[66]

The path-dependent Spartan regime of mutual education and punishment resembles, at least in some ways, the rational regime of social-order-preserving punishment described by Plato's Protagoras (chapter 2). As in Protagoras' model, each Spartan joined actively in the education of his fellow citizens, employing widely-shared base-line intuitions about equity (similarity, austerity) and shame. Plutarch and Xenophon offer several anecdotal examples of the profound Spartan commitment to the use of shaming and dishonor (even short of expulsion) to correct the slightest deviation from norm-abiding behavior.[67] Each Spartan had the right incentives to join in punishment, and consistent punishment prevented the threat of a cascade of defection from the cooperative social order. In the Spartan case, so long as maintaining the law by participating in punishment meant sustaining the social equilibrium, so long as each choice about punishment was both law-abiding and incentive compatible (in that it made the rent share of the expelled available for redistribution), and so long as the social cost of punishment (the degradation of the common pool resource) was marginal (each Spartan expelled meant just one less man to control helots and march against external enemies), there was no reason for any individual Spartan to go off the path. Individual rationality promoted both cooperation and, as we have seen, led, predictably, to catastrophe.

Because it is only a model, the account offered by Plato's Protagoras – of a community capable of high-level cooperation through the employment of practical reasoning in establishing and maintaining socially valuable practices of mutual education and punishment – was not subject to the kind of historical test of resilience that Sparta ultimately failed. But it seems likely that Plato's Protagoras intended his listeners to have in mind the *politeia*, not of Sparta, but rather of classical Athens (Farrar 1988; Segvic 2009). Among the salient differences between the *politeia* of Athens and that of Sparta is that the Athenian constitutional order (Ober 2008), in common with Athenian culture generally

(D'Angour 2011), was open to innovation – indeed, scandalously so according to some ancient (and modern) critical assessments. The tendency of Athens' order to respond quickly and sometimes dramatically to exogenous shock and endogenous developments might give the appearance of a fundamental irrationality at the core. In the next chapter, we turn to the question of whether classical Athens should be understood as, in Oswyn Murray's (1990) terms, a "city of reason" – and whether the trajectory of Athenian constitutional history can be accommodated within a framework of rational choices.

Table 1. Situation in advance of Solon's arbitration

| Resource	Elite preferences (rank order)	Mass preferences (rank order)
Land	Status quo ante Redistribution	Redistribution Status quo ante
Debt	Status quo ante Cancelled	Cancelled Status quo ante
Labor	Status quo ante Non-slavery	Non-slavery Status quo
Offices	Status quo ante Share rule	Share in rule Status quo ante

Notes: Underlined = will use violence to stop this outcome.

Figure 4.1 Solon's arbitration as a Nash bargaining solution
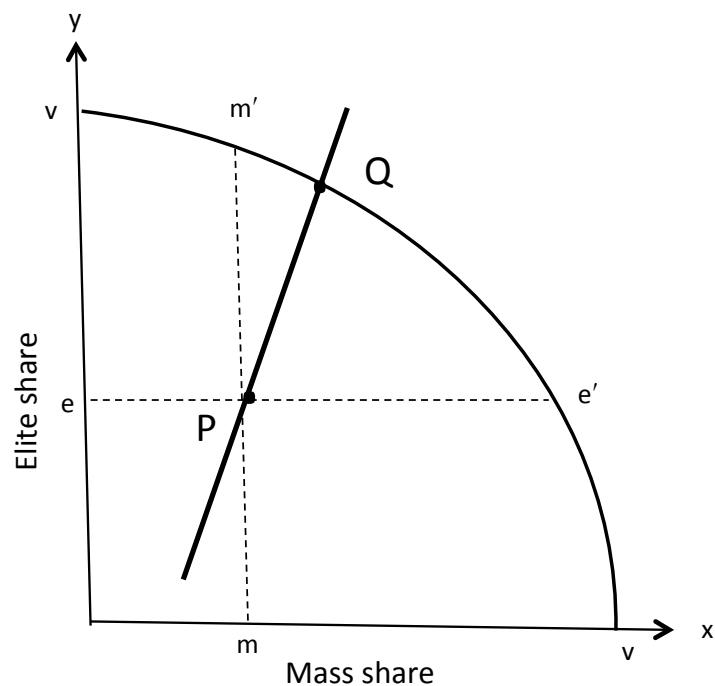
Notes: After Dixit and Skeath 1999: Figure 16.1, p. 525). *y =f(x)*. y-e/ x-m = elite bargaining strength/mass bargaining strength Elite bargaining strength+ mass bargaining strength= 1. v is divided by the proportion elite strength: mass strength.

Figure 4.2 Solon's solution options.
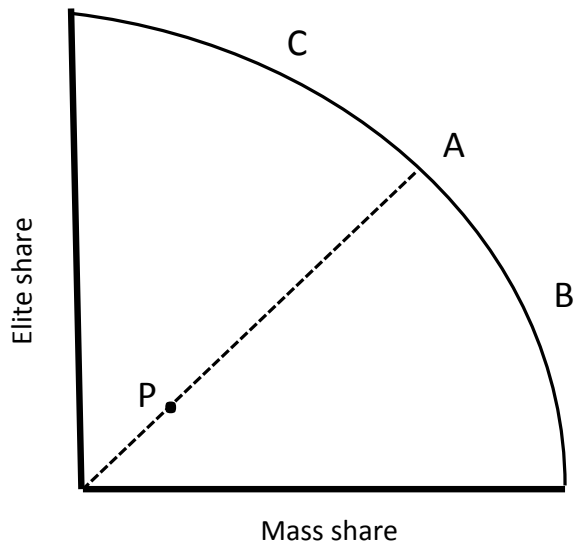
Notes: A: If Solon assumes e=m, and equal bargaining strength of E, M. B: If Solon assumes Elite with superior power C: If Solon assumes Mass with superior power

Figure 4.3 Sparta game.

Status quo:
Demographic decline. 3,2

Acquiesce to status quo

P

Demand redistribution

Accept:
Redistribution. 1,3

R

Reject: Civil strife. 2,1

Obey laws

R&P

Break laws

Social order collapse. 1,1

Austerity

R&P

No austerity

Proportionality violated, civil conflict. 1,1.

Accept offer

P

Reject offer

Lose Messenia, civil conflict. 1,1

Offer to share rents

R

Keep all rents

Lose Messenia. Sparta returns to being a small, oligarchic state. 2,1

Fail

N

Succeed

Gain Messenia. Sparta becomes a large, oligarchic state. 3,1

Invade Messenia

R

Not invade

Sparta remains a small, oligarchic state. 2,1

Notes: R = Rich Spartans P = Poor Spartans N = Nature (Lottery). Payoffs indicate ordinal ranking of preferences: R, P.

4. Solon References

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Notes. Chapter 4 (still only vestigial).

[1] On the parallels between the adult male citizen as ruler in his household, and his role as a constitutive part of the collective ruler, demos, see Campa 2019 and in progress.

[2] NB Plato's foundation story assumes a cooperative regime in place, i.e. that the problem of Ch. 2 has been provisionally solved – but can be improved. It is, as we come to see, a refoundation – a change in the order of an existing politeia, which results in a unitary intelligence, in form of the Philosopher King, directing the polis, both setting its ends and the institutional means to gaining those ends.

[3] δικαιοσύνη, φαμέν, ἔστι μὲν ἀνδρὸς ἑνός, ἔστι δέ που καὶ ὅλης πόλεως: 368e

[4] εἰ γιγνομένην πόλιν θεασαίμεθα λόγῳ, καὶ τὴν δικαιοσύνην αὐτῆς ἴδοιμεν ἂν γιγνομένην καὶ τὴν ἀδικίαν: 369a

[5] The identity premise is repeated in later authors, e.g. Plutarch, *Lycurgus*, 31.

[6] The identity premise is repeated in later authors, e.g. Plutarch, *Lycurgus*, 31.

[7] On the political imagination, see Schwartz in progress

[8] Alternative complex objects less readily observable: human body (cf. Hippocratic medicine), the cosmos (cf. Anaxagoras et al. – and later Plato).

[9] Vernant 1982

[10] The openness of the contest for the control (or capture) of the state, is one salient difference between ancient Greek and modern democratic politics. In the latter, struggles over primacy within an established system of government take the place of (or, alternatively, obscure) struggles over the control of the state.

[11] Entrenchment: Moe 2019 on the second face of power.

[12] *NE* book 10

[13] *Politics* book 1.

[14] Problem of strategic rationality in *Politics* book 1. On the problem and persistence of conflict in Aristotle's polis, even in its best practically-achievable form, see Skultety 2019.

[15] Polis as *koinônia* of *politai* in respect to *politeia*: *Politcs* 3.3.1276b1-2 (cf. D. Wiens in progress on ideal theory and how it explains too much – here we see Aristotle's realism)

[16] Murray 1993, with discussion in Ober 2005. The 158 constitutions.

[17] φύσει μὲν οὖν ἡ ὁρμὴ ἐν πᾶσιν ἐπὶ τὴν τοιαύτην κοινωνίαν· ὁ δὲ πρῶτος συστήσας μεγίστων ἀγαθῶν αἴτιος. *Politics* 1253a29-31

[18] Carugati 2019 on the Solon tradition.

[19] *Ath. Pol.* 5.2; Plut. *Solon*: 14.2: ᾑρέθη δὲ ἄρχων μετὰ Φιλόμβροτον ὁμοῦ καὶ διαλλακτὴς καὶ νομοθέτης. LSJ translates *diallaktes* as "mediator"; the root meaning of the verb *diallasso* is "exchange": LSJ *s.v.* II. On the epigraphic evidence for the role of *diallaktai* as

arbitrators/mediators in Hellenistic-era socio-political crises, see Simonton 2019 195-96, with literature cited.

[20] The Solon tradition is discussed in the essays collected in Blok and Lardinois 2006, see especially Noussia 2006 (Solon's rhetoric); Harris 2006 (Solon and law).

[21] Two parties are rich vs poor: *Ath. Pol.* 5.1-2; Plut. *Solon* 13.2, 14.1-.3. The entire *demos* was in debt to the rich: Plut. *Solon* 13.2**:** ἅπας μὲν γὰρ ὁ δῆμος ἦν ὑπόχρεως τῶν πλουσίων. Dispute was protracted and violent: *Ath Pol.* 5.2. Dispute had reached a peak: Plut. *Solon* 13.2: τότε δὲ τῆς τῶν πενήτων πρὸς τοὺς πλουσίας ἀνωμαλίας ὥσπερ ἀκμὴν λαβούσης. Goals of the poor party: Plut. *Solon* 13.3: τὴν γῆν ἀναδάσασθαι καὶ ὅλως μεταστῆσαι τὴν πολιτείαν, 14.1, 16.1. Goals of the rich party: Plut. *Solon* 14.1, 16.1. Plutarch's mention of three contending parties (*Solon* 13.1) – extreme democrats, extreme oligarchs, and those preferring a moderate and mixed government – is an outlier in the tradition and seems to play no role in his narrative of the origins of the crisis or Solon's subsequent reforms. It is unclear who Plutarch imagines who the "many citizens, too, who belonged to neither party" (Plut. *Solon* 14.3) might have been.

[22] Nash bargaining solution, and 4 conditions: Dixit and Skeath 1999: xx. .

[23] For overviews of bargaining in game theory, see Dixit and Skeath 1999: ch. 16; Serrano 2008.

[24] Background conditions: the outcome is invariant so long as the scale in which the payoffs are measured changes linearly; the outcome is efficient (no available gain should go unexploited); and the outcome is not affected by irrelevant alternatives: Dixit and Skeath 526-528.

[25] Barry 1989: 50, "arbitration can most straightforwardly be seen as (to adapt Clausewitz) a continuation of bargaining by other means. The object of the arbitrator is to resolve a conflict on terms acceptable to both parties, when the parties consult their own interests in determining what is acceptable. This entails that the arbitrator should seek to arrive at an adjudication that will as far as possible mimic the outcome of rational bargaining."

[26] *Ath. Pol.* 9.2: "the people had thought that he would institute universal communism of property, whereas the notables had thought that he would either restore the system in the same form as it was before or with slight alteration." Plut. *Solon* 14.2: "both parties were in high hopes."

[27] Rich are powerful: Plut. *Solon* 5.2: τῶν δυνατῶν καὶ πλουσίων. Organization of the many poor under emergent leadership: 13.3: οἱ δὲ πλεῖστοι καὶ ῥωμαλεώτατοι συνίσταντο.

[28] Conflict with Megara: Plut. *Solon* 8-10.

[29] Tyranny threat: Plut. *Solon* 13.2, 14.3-4.

[30] *Ath Pol*: 5.3: ἦν δ᾽ ὁ Σόλων τῇ μὲν φύσει καὶ τῇ δόξῃ τῶν πρώτων, τῇ δ᾽ οὐσίᾳ καὶ τοῖς πράγμασι τῶν μέσων. Plut. *Solon* 14.1-2: the rich accepting him readily because he was well-to-do, and the poor because he was honest. 16.2: he was δημοτικὸς ὢν καὶ μέσος. Barry 1989: 76-77 cites Harsayani's super-thin "veil" – decision maker (arbitrator), who knows all about the differences between the two parties, but has an equal chance of being in either party.

[31] Solon rejects tyranny: Solon F 33, 34; Plut. *Solon* 14.5.

[32] Solon's virtues: *Ath. Pol* .7.3; Plut. *Solon* 2.3, 3.2, 30.3,

[33] Solon's lack of coercive authority: Plut. *Solon* 16.2. "relying as he did only on the wishes of the citizens and their confidence in him": ὀρμώμενος ἐκ μόνου τοῦ βούλεσθαι καὶ πιστεύειν αὐτῷ τοὺς πολίτας.

[34] Plut. *Solon* 15.2: ὅθεν ὕστερον ἐρωτηθεὶς εἰ τοὺς ἀρίστους Ἀθηναίοις νόμους ἔγραψεν, 'ὧν ἄν,' ἔφη, 'προσεδέξαντο τοὺς ἀρίστους.'.

[35] ἤδη τὰ δημόσια πράττοντα καὶ συνταττόμενον τοὺς νόμους. τὸν οὖν Ἀνάχαρσιν πυθόμενον καταγελᾶν τῆς πραγματείας τοῦ Σόλωνος, οἰομένου γράμμασιν ἐφέξειν τὰς ἀδικίας καὶ πλεονεξίας τῶν πολιτῶν, ἃ μηδὲν τῶν ἀραχνίων διαφέρειν, ἀλλ᾽ ὡς ἐκεῖνα τοὺς μὲν ἀσθενεῖς καὶ λεπτοὺς τῶν ἁλισκομένων καθέξειν, ὑπὸ δὲ τῶν δυνατῶν καὶ πλουσίων διαρραγήσεσθαι. τὸν δὲ Σόλωνα πρὸς ταῦτά φασιν εἰπεῖν ὅτι καὶ συνθήκας ἄνθρωποι φυλάττουσιν, ἃς οὐδετέρῳ λυσιτελές ἐστι παραβαίνειν τῶν θεμένων: καὶ τοὺς νόμους αὐτὸς οὕτως ἁρμόζεται τοῖς πολίταις ὥστε πᾶσι τοῦ παρανομεῖν βέλτιον ἐπιδεῖξαι τὸ δικαιοπραγεῖν. Cf. Plut. *Solon* 22.3: "adapting his laws to the situation, rather than the situation to his laws" (Σόλων δὲ τοῖς πράγμασι τοὺς νόμους μᾶλλον ἢ τὰ πράγματα τοῖς νόμοις προσαρμόζων)

[36] Things get more complicated, of course, if one side has a better backstop position and the other a stronger bargaining position.

[37] *Horoi* and public lands: Ober 2006 with literature cited.

[38] On property rights in Greek thought and practice, see Mackil 2018.

[39] On the difference: Fearon 2011. Although note that Fearon is focused on the question of bright lines that signal a violation requiring rebellion. Fearon's point is that in a working democracy, the failure to hold an election is such a bright line.

[40] Plutarch, *Solon* 18.5: ἐρωτηθεὶς γάρ, ὡς ἔοικεν, ἥτις οἰκεῖται κάλλιστα τῶν πόλεων, 'ἐκείνη,' εἶπεν, 'ἐν ᾗ τῶν ἀδικουμένων οὐχ ἧττον οἱ μὴ ἀδικούμενοι προβάλλονται καὶ κολάζουσι τοὺς ἀδικοῦντας.'

[41] *Ath. Pol.* 11.1: εἰπὼν ὡς οὐχ ἥξει δέκα ἐτῶν. οὐ γὰρ οἴεσθαι δίκαιον εἶναι τοὺς νόμους ἐξηγεῖσθαι παρών, ἀλλ᾽ ἕκαστον τὰ γεγραμμένα ποιεῖν.

[42] Solon's *stasis* law: *Ath. Pol.* 8.5: ὃς ἂν στασιαζούσης τῆς πόλεως μὴ θῆται τὰ ὅπλα μηδὲ μεθ᾽ ἑτέρων, ἄτιμον εἶναι καὶ τῆς πόλεως μὴ μετέχειν; Plutarch, *Solon* 20.1

[43] For discussion of the dubious historicity of Solon's law on stasis, see Teegarden 2014.

[44] Deliberative v agonistic democracy debate: xx.

[45] See, for example, Carugati, Ober, and Weingast 2016.

[46] κύριος δὲ γενόμενος τῶν πραγμάτων Σόλων τόν τε δῆμον ἠλευθέρωσε καὶ ἐν τῷ παρόντι καὶ εἰς τὸ μέλλον, κωλύσας δανείζειν ἐπὶ τοῖς σώμασιν, καὶ νόμους ἔθηκε καὶ χρεῶν ἀποκοπὰς ἐποίησε, καὶ τῶν ἰδίων καὶ τῶν δημοσίων.

[47] κύριος γὰρ ὢν ὁ δῆμος τῆς ψήφου, κύριος γίγνεται τῆς πολιτείας

[48] Spartan society: background. Cartledge 1987, 2001; Hodkinson and Powell 1999.

[49] Sources for Sparta: Kennell 1995.

[50] Herodotus, Thucydides, Aristotle on Spartan selfishness and decline.

[51] See especially works by Cartledge and Hodkinson, cited above; Ducat 1990, 2006.

[52] Hodkinson 2000.

[53] Schwartzberg 2010, on the Spartan shout.

[54] Rhetra and the rider, which I do not discuss here.

[55] Spartan wealth inequality: Hodkinson 1983, 2000, 2008.

[56] Spartan austerity: Holladay 1977

[57] Mutual monitoring and mandatory expulsions: xx

[58] Chariot racing: Holladay 1977: 117-119.

[59] Spartan inheritance laws: Fleck and Hanssen 2009.

[60] Common pool resource issues: Ostrom 1990.

[61] Theban defeat of Sparta at Leuctra and its consequences: Buckler 1980; Cartledge 1987.

[62] Note that this and the next move, by R and P together, are simply short-hand for a more complex set of moves in which R proposes, P chooses to accept or not.

[63] On Spartan patronage, see Maehle 2018.

[64] Problematic history of "Dorianism": xx.

[65] Story of Pausanias when not under observation: both deviation and tyranny: Thucydides xx.

[66] Helot revolts and subaltern plots: Cartledge 2001

[67] Spartan use of shaming: xx.