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SOLON AND THE EVOLUTION OF THE ATHENIAN AGRARIAN ECONOMY

Over the last century, much of the scholarship on Solon has centered on three specific issues: 1) chronology, specifically the dating of his archonship and the years in which he enacted his legislation; 2) whether coinage existed in the time of Solon, and thus, whether he could have enacted coinage legislation, as reported by the primary sources; 3) understanding the agrarian problems which preceded Solon's archonship and defining its specific features (e.g., who the *hectemors* were, what was the significance of the *horoi*).¹ This paper, while necessarily touching upon each of these topics, will treat the broader issue of Solon's intentions. Specifically, it will attempt to show that through his legislation, Solon deliberately sought to evolve the Athenian economy away from a strict reliance upon agriculture, to one which was more diversified, by incorporating elements of money and state-sponsored trade, both of which had already come into existence throughout other parts of the Greek world, and by attempting to create new sources of livelihood for the less wealthy and self-reliant Athenian classes.

Our main sources for Solonic legislation are Aristotle's *Athenaion Politeia* and Plutarch's *Life of Solon*.² Although providing little evidence regarding specific features of his legislation, Solon's poetry is also useful from the standpoint of understanding contemporary reaction toward his measures. Generally speaking, the *Athenaion Politeia* and Plutarch's *Life of Solon* are consistent with one another; often, they complement each other in giving us insight into one or more of Solon's reforms.³ The sources give a uniform picture of the state of Athenian affairs before Solon was appointed

¹ In my Bibliography alone, the following authors have treated each of these topics 1) Cadoux, Case, Hammond (1940), Hignett, Markianos, McDonnell, Miller (1969), Plommer, Sumner; 2) Chambers, Kagan, Kraay (all), Kroll & Waggoner, Miller (1971), Robinson (all), Wallace, 3) Fine (1951), French (1956), Hammond (1961), Lewis, Woodhouse. The *Cambridge Ancient History* and *Oxford Classical Dictionary* also devote considerable attention to these topics.

² Other sources, such as Herodotus and Aristotle's *Politics* make mention of some of Solon's laws casually, but the *Athenaion Politeia* and Plutarch's *Life of Solon* represent the most comprehensive treatment of Solon's entire legislative program in antiquity. Although there is debate about the authorship of the *Athen. Pol.*, for convenience's sake, I will refer to Aristotle as the author of this work throughout this paper.

³ The consistency between the two sources stems, in part, from a common source (Androtion). See N.G.L. Hammond, "The *Seisachtheia* and the *Nomothesia* of Solon," *JHS* 60 (1940), p. 76 (citing F.E. Adcock, *Klio* 12 (1912), p. 1f.) Hammond states that the main difference between Aristotle's and Plutarch's account is that Plutarch preserved the chronology of Androtion's *Atthis* much more faithfully, while Aristotle arranged his material more topically, focusing primarily on Solon's constitutional measures. See also Day and Chambers, pp. 70-1, 74-5, who claim that Aristotle was attempting to illustrate his theory of four forms of degenerative democracy, espoused in *Politics*, in the *AP*, reinforcing Hammond's point that Aristotle was interested primarily in constitutional measures.

archon.⁴ There was a state of strife between what Aristotle calls the “notables” (οἱ γνωρίζοντες) and “the masses” (τὸ πλῆθος). Plutarch implies that this strife had existed for some time, and states that the city had now reached the “brink of revolution.”⁵ The source of the strife was “inequalities between rich and poor.”⁶ Aristotle states that “all the land” had fallen into the hands of “a few.”⁷ Plutarch does not repeat this claim explicitly, but the extent to which the many had been eclipsed by (and fallen subject to) a small group is made clear when he states that “*all the common people* were weighed down with the debts they owed to *a few rich men*” [my italics]⁸. Thus, although Aristotle’s use of the terms “notables” and “masses” to refer to the two groups may be interpreted as describing a political split (i.e., between democrats and oligarchs), Plutarch shows that the rift was one based primarily on economic considerations.⁹ Indeed, Aristotle describes the specific state of obligation to the few in economic terms: the “poor” (οἱ πενήτες) were called alternatively πελάται (clients) or εκτημοροί (sixth-parters), the latter referring to the fact that they worked the lands of the “rich” for a “rent” of a sixth part of their produce. If the poor failed to pay their rents, they and their families were liable to seizure (αγῶγιοι ἐγιγνοντο). This seizure, as both authors make clear, amounted to a form of slavery.¹⁰ Aristotle goes so far as to say that “all” loans at that time were made on the security of the person.¹¹ Solon’s poetry adds one other detail regarding the crisis itself. He states that as one of his remedies, he lifted the boundary-stones (οροί) that had “enslaved” the earth. The meaning of these οροί is a source of considerable debate among scholars.¹² For purposes of this paper (and as will be

⁴ The following summary (except where noted) is drawn from Chapter 2 of the *Athenaion Politeia* and Chapter 13 of Plutarch. Throughout this summary and the rest of this paper, I will use the English translations of P.J. Rhodes and Ian Scott-Kilvert of the *Athen. Pol.* and *Life of Solon*, respectively. See Bibliography.

⁵ “τοτε δε της των πενητων προς τους πλουσιους ανωμαλιας ωσπερ ακμην λαβουσης πανταπασιν επισφαλως η πολις διεκειτο” (13.2). Aristotle, in Chapter 5.2, also characterizes the strife as lengthy, saying that “they held out against one another for a long time.”

⁶ “της των πενητων προς τους πλουσιους ανωμαλιας,” Plutarch 13.2.

⁷ 2.2

⁸ 13.2

⁹ In 2.2, after calling the strife one between “notables” and “the masses” (2.1), Aristotle states that the constitution was “oligarchic in all other respects,” suggesting that he did view the strife as having a political dimension. But immediately thereafter, he states that the “poor were enslaved to the rich” and goes on to outline the economic factors which contributed to the strife.

¹⁰ Plutarch states that upon being seized, some of the debtors were “enslaved” in Athens while others were sold abroad, and that many parents were forced to “sell” their children. Fragment 4 of Solon’s poetry also describes how “many of the poor folk” had found themselves in foreign lands, “sold into slavery and bound in shameful bonds.” The fact that one of Solon’s first measures was to liberate the debt-slaves (AP 6.1) and that he claimed to recover those debt-slaves who had been sold abroad (Solon, F36) suggests that the enslavement of a large group of poor families in 7th century Athens was indeed a reality. Aristotle’s characterization of the situation between notables and masses as “the poor” being “enslaved to the rich” (2.2, 2.3) thus appears to be more than a symbolic one. (NOTE: Throughout this paper, I will use the English translation of M.L. West for Solon’s poetry. See Bibliography.)

¹¹ 2.2

¹² See Fine (1983), p. 193 for a summary of the arguments regarding οροί. The arguments generally fall within two camps, revolving around the issue of the alienability of land.

argued further below), these *οροι* will be regarding as having marked lands previously owned by debt-slaves which had fallen into disuse upon their enslavement.¹³

Clearly, Solon faced a considerable economic crisis when he was appointed archon and mediator in 594.¹⁴ As he was given almost absolute power in rectifying the state,¹⁵ he easily could have taken the path of tyranny and personal gain, as he himself states.¹⁶ Instead, Solon chose to deal with the economic problems that were plaguing Athens directly. The crisis would seem to have required revolutionary new solutions, as evidenced by the fact that it had brewed for some time, with no remedy, and had reached such a pitch as to bring the two opposed parties together for a common purpose.¹⁷ The remainder of this paper will deal with the solutions that Solon implemented and which were not only revolutionary in their own right, but which started Athens on a road toward greater economic diversity and self-sufficiency.

Both sources are uniform in stating the Solon's first measures upon entering office were to: 1) cancel debts (both public and private¹⁸); 2) ban loans involving personal security. We may also infer that Solon 3) freed all debt-slaves: Aristotle says that Solon "liberated the people, both immediately and for the future."¹⁹ The latter may refer to his prohibition of (future) loans on a person's security. The former, therefore, must allude to the emancipation of those who had already fallen into debt-slavery. This receives confirmation from Solon's poetry, where he states directly that he freed debt-

¹³ This argument presumes that land was inalienable (thus, debt-slaves borrowed on the security of their persons, not on property) and that it could not pass along to creditors in the form of security upon loan default. [See *CAH*, p. 377, which seems to take a neutral view in stating that the *οροι* of Solon's time marked an unspecified "encumbrance" on land.]

¹⁴ Both Aristotle and Plutarch say that he was chosen "αρχων" and "διαλλακτης."

¹⁵ Aristotle (5.2) states that the rich and poor "entrusted" (επετρεψαν) the state to him. In 16, Plutarch states that "no limit was set to his powers and every function of the state was committed to his charge." Although he is discussing Solon's powers in reforming the constitution (vs. his earlier economic reforms), given the passage in 14, where members of both parties are described as attempting to convince Solon of assuming a tyranny, this description of unlimited powers appears to apply to his first appointment, as economic reformer (see ns. 36 and 83 below) as well.

¹⁶ See Fragments 32, 33, 34, in which he addresses those who fault him for not taking the "dictator's force" and for not seizing the "fortune" which God has offered him. Plutarch 14 also describes the degree to which tyranny was openly offered to him by both parties. As *CAH*, p. 382, states, one way in which Solon could have profited was to take advantage of the enslaved condition of the many by confiscating yet more property for himself and for the few, as the Bacchiads had recently in Corinth.

¹⁷ See n. 5 above. It has been asked why the rich, who had so much power, would agree to arbitration. I believe that they were overwhelmed in numbers and feared a large-scale revolution on the part of the *demos*. Another theory is that the productivity of the land had become so limited that they realized something must be done before the crisis affected them as well.

¹⁸ Aristotle appears to be specifying which kinds of debts were canceled, although it is clear that both authors are talking about "all" debts. In a period when the *polis* could not have had significant revenue or real assets to be involved in extensive financial transactions (with individuals or otherwise), it is difficult to imagine what these "public" debts might have been. Rhodes (comment.), p. 126, suggests obligations to temples or local religious organizations, but cautions that "here all must be speculative." In the end, given no confirmation by Plutarch, it may be best to regard this as an interpolation on the part of Aristotle. More research can be done on this topic.

¹⁹ 6.1

slaves both at home and abroad.²⁰ Although Plutarch does not state explicitly that Solon freed prior debt-slaves, he does quote Solon's poetry in reporting that Solon, at least, claimed it.

What were Solon's intentions with this first set of reforms? The last two measures (ban on personal security and emancipation of debt-slaves) were surely motivated by humanitarian considerations. As the following fragments illustrate, Solon considered the enslavement of any Attic person amoral and a blight on the Athenian state:

*For if men injure their own people, they soon find
their lovely city scarred and faction-torn.
Among the populace these evils roam at large,
and many of the poor folk find themselves
in foreign lands, sold into slavery and bound
in shameful bonds . . .
And so the public ill comes home to every man . . .²¹

I mark -- and sorrow fills my heart upon the sight --
the eldest country of Ionia listing²²*

In other fragments, Solon calls the plight of the debt-slaves "ugly"²³ and expresses a sympathy for them in stating that they have fallen subject to the rich "in innocence."²⁴ The other measure (cancellation of debts) merits deeper analysis. Surely, Solon knew that this measure was bound to upset creditors. He must have believed, therefore, that this measure would bring a benefit, economic or otherwise, that would override its unpopularity among an important segment of the population. We must conjecture what the immediate effects of this cancellation, in combination with the other two measures, were in order to determine what this benefit was. Returning to the descriptions of the agrarian problems which preceded Solon's appointment, Aristotle states that the poor people (οι πενήτες) were called πελαται (clients) and εκτημοροι. As the *Cambridge Ancient History* argues, Aristotle used these labels not to refer to two separate groups, but to one. Their obligation was a rent (μισθωσις) to the owners of the fields which they had a privilege to work. This group was distinct from the "borrowers," who did not owe a rent, but who owed instead the principle and interest of the loans they had taken out. The distinction between πελαται/εκτημοροι and borrowers is confirmed by Plutarch who, in 13.2, makes an explicit distinction between the *hectemors*, who owed a sixth-part of their produce to the rich, and the debtors, who borrowed on the security of their persons.²⁵ This argument is useful from the standpoint of envisioning the πελαται and εκτημοροι as a single group; indeed, as P.J. Rhodes instructs, the term πελαται was used to describe "one who is dependent on or works for another." It was equivalent in meaning to the later word θης, which described a free man who labored for another, usually for a fixed wage. The word εκτημορος was a

²⁰ Fragment 36

²¹ Fragment 4

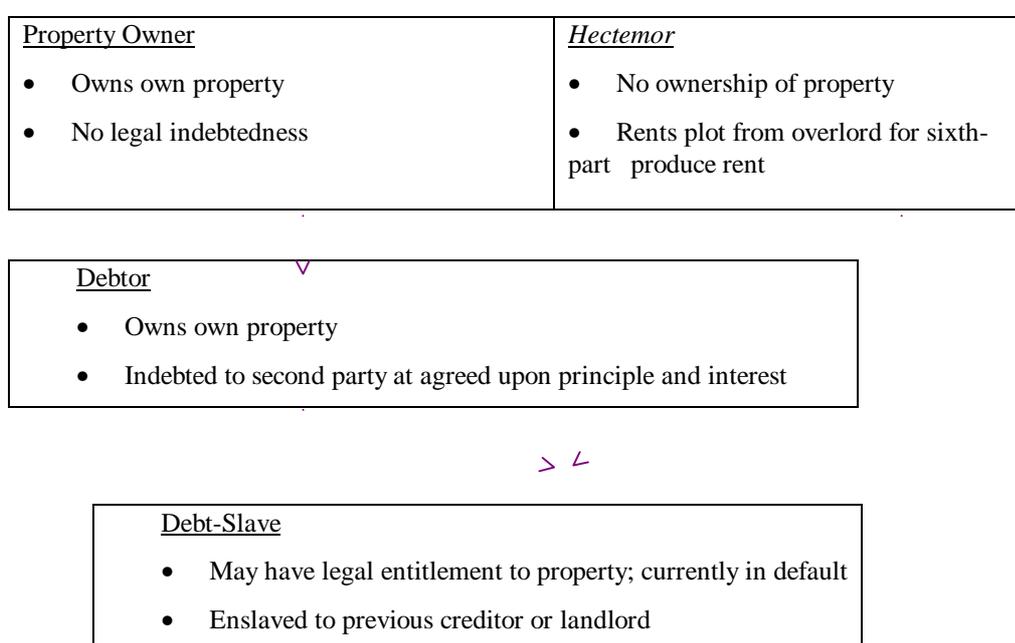
²² Fragment 4a

²³ Fragment 36

²⁴ Fragment 9

²⁵ The whole argument, as stated, is from *CAH*, p. 378.

more specific use of the word *πελαται* in Attica.²⁶ It is clear that the *πελαται/εκτημοροι* were not land-owners and that they derived their sustenance from five-sixths of the produce of the fields they worked for their patrons. The same should not be assumed for the borrowers. As we have seen, the borrowers were distinct from the *εκτημοροι*, but unlike for the latter, nowhere is it stated that borrowers did not or could not own property. Nonetheless, the *Cambridge Ancient History* has made too much of the distinction between the *εκτημοροι* and the borrowers. Certainly Plutarch drew a distinction, but he also finds a commonality between them in stating that they were all indebted to the rich,²⁷ the *εκτημοροι* in the form of a 17% obligation on their produce, the borrowers in the form of *χρεα* (any kind of debt). In addition, Aristotle states that the *hectemors* were also liable to seizure, if they did not pay their rents.²⁸ Clearly, the line between *hectemor* and propertied debtor was a blurred one and movement from the upper to lower categories is easily conceivable. The following chart depicts my conception of the different statuses of *δημος*:²⁹



²⁶ Stemming from their obligation of a sixth-part of their produce. Rhodes (comment.), pp. 90-1.

²⁷ 13.2: “απας μεν γαρ ο δημος ην υποχρεως των πλουσιων”.

²⁸ 2.2: “ει μη τας μισθωσεις αποδιδειεν αγωγιμοι ... εγιγοντο.”

²⁹ This scheme differs from that proposed by Woodhouse’s and accepted by others (e.g., Fine (1951), French (1956)) which treats the debtors and *hectemors* as one group (at different stages of obligation to overlords). I reject Woodhouse’s view because it is based on an attempt to explain how land had passed into the hands of a few (see Lewis, p. 144). More recently, however, the *Cambridge Ancient History* (p. 380) has argued that this apportionment of land was derived from the settlement of Attica during the ninth and eighth centuries, when the “aristocracy” may have assumed control of large tracts of land and assigned lots to less “enterprising” families on a share-cropping basis. (More research is needed on this issue; does this fit the pattern of settlement in other parts of Greece?) Additionally, it may ignore the evidence of Plutarch, who treats the debtors and *hectemors* as two distinct groups (see above and n. 27). On the whole, Woodhouse bases his theory on too many unattested assumptions, and as Lewis (p. 147) points out, his reasoning is, at points, “superfine, and even self-contradictory.”

Solon's cancellation of debts, therefore, would have had a different impact on each of three groups: 1) debt-slaves who were once full landholders; 2) debt-slaves who were once *hectemors*; 3) debtors who were still land-holders.³⁰ The effect of the cancellation of debts on groups 1) and 3) (previous landholders) is easy enough to envision: they perhaps benefited the most as they could return to their farms without further obligations, in-kind, on their persons, or otherwise. Group 2) (previous *hectemors*) is more difficult to reconcile. As all the sources indicate, Solon did not enact a re-distribution of land.³¹ Since the *hectemors* previously had not owed land, there were three choices open to them: 1) return to their previous plots; 2) find alternative livelihood in Attica; 3) seek their fortunes elsewhere. The last of these options does not seem likely; *hectemors* coming out of slavery would not have had the means to migrate elsewhere; additionally, Solon had just made a pledge to bring back Attic kin who had been enslaved abroad; combined with the fact that the reconciliation was brought about, in part, by the will of the less privileged classes, it would have appeared that Attica was about to experience a population boom, and that conditions, particularly for more marginalized groups, were about to improve. The second option also appears unlikely, at least at this beginning stage of Solon's reforms. The *hectemors* clearly relied on their own agricultural skills for subsistence,³² and if they could have supported themselves via other means, they might have done so earlier or might have used these skills to generate additional income to meet rent payments. More important, Attica appears to have lacked a diversified economy which would support many kinds of livelihood beyond agriculture and the more rudimentary forms of trade and manufacture.³³ This leaves the first option as the most likely. As I have stated above (n. 30), it is unlikely that Solon included the one-sixth obligation of the *hectemors* in his cancellation of debt. Thus, upon returning to their plots, the *hectemors* would once again face the task of having to meeting rent payments. We must assume that these payments were in some manner fixed (a one-sixth obligation on a tenant's total produce would not have led to a condition of default; as long as a tenant produced any quantity of produce, he could meet a rent of one-sixth this amount). However, as evidenced by the fact that they could not generate this fixed amount to begin with (the reason for their servitude), it is unlikely that, without a large-scale program to improve the condition of the Attic soil or methods of cultivation, the *hectemors* would be able to produce this amount once again.³⁴ Although they were not subject to seizure if they could not meet their rent payments again, the situation for the *hectemors* could not have been sanguine upon returning to their former plots. They faced subsistent living conditions, land that had proven infertile, and few prospects for migrating or alternative forms of income. Solon, closer to the situation

³⁰ The sources do not treat the debt of the *hectemors* differently from other kinds of debt, and do not say that their debt was excluded from the general cancellation of debt. Theoretically, this would leave us with a fourth group that was affected, current *hectemors*. However, the cancellation of debt for existing *hectemors* does not make logical sense. If Solon canceled their debts permanently, were they expected to have free use of the lands they were currently plotting? This would have upset landholders too much (in combination with the cancellation of other forms of debt) and so is not probable. If Solon made a one-time cancellation, since the cancellation was not permanent, their one-sixth obligations would have resumed immediately, which also makes little sense.

³¹ *AP* 11.2, *Plut.* 16, *Solon Fragments* 5 and 34

³² They did not own land, yet ploughed the fields of the rich. The rich would not have parceled out land in small chunks, so the *hectemors*' plots must have absorbed all their time.

³³ I will discuss this topic at length further below.

³⁴ Most scholars agree that the agrarian crisis was precipitated by the decreasing fertility of the Attic soil. See particularly French (1956) and Woodhouse.

than we are and one of the wisest men of his day, probably realized this and must have planned solutions for the still unsettled crisis.³⁵ These solutions are found in the rest of his legislative program.

In Chapter 10.1 of the *Athenaion Politeia*, Aristotle states that after his cancellation of debts, Solon made an increase in the system of measures and weights and in the currency. N.G.L. Hammond has argued convincingly that these reforms occurred in the latter half of the year of Solon's archonship (594/3), after his cancellation of debts. (His later reforms, primarily constitutional, but with some economic measures included, were enacted at a later date under another office. See n. 83.)³⁶ Taken together, the reforms of 594/3 have been interpreted as a package of measures designed to bring immediate relief to Athens' most severe economic woes.³⁷ As far back as antiquity, Androtion argued that Solon's increase in the value of measures, weights and coinage was designed to alleviate the interests payments of debtors, and that there was no cancellation of debts to begin with.³⁸ Analysis of the latter measures reveals that these were enacted with a broader purpose in mind, and that together with later legislation, represented a conscious effort³⁹ by Solon to introduce new elements into the Athenian economy in order to move it away from a strict reliance upon agriculture.

In recent years, Solon's legislation on coinage has received an extraordinary amount of attention as numismatists have made further advances in understanding the origins of coinages and identifying the years in which it made its first appearances in different parts of the Greek world. Both Aristotle and Plutarch assumed that coinage existed in and before the time of Solon.⁴⁰ Until the middle of this decade, most scholars agreed that coinage made its first appearance in the first half of the seventh century B.C. in Lydia, that from there it passed to the Greek cities of Asia Minor and thence to mainland Greece, where it made its first appearances in Aegina approximately 665 B.C., Corinth between 650 B.C. to 625 B.C. and Athens around 615 B.C., approximately twenty years before Solon's archonship.⁴¹ In 1951, articles by Paul Jacobsthal and E.S.G. Robinson challenged this dating system, arguing that the earliest Lydian coins should be dated approximately 630 B.C. and that mainland Greek coinage could not, therefore, be dated earlier than 625 B.C.; the date for the appearance of Athenian coinage was brought down "below the nineties of the sixth century," after Solon's archonship.⁴² Since that time, the date for the introduction of Athenian coinage has been even brought further down, to about 575 B.C.⁴³ Although there are still proponents of a dating system that

³⁵ He probably recognized that a mere cancellation of debts was not a permanent solution to a crisis which had deep agrarian origins. Much of his poetry articulates his affection for "the long view": that "Time" is the ultimate judge of man's success or moral virtue, and that remedies take time to bear fruit. See, e.g., Fragments 4, 9, 13, 34 and 36.

³⁶ See article cited *passim*, but particularly p. 82 for both points.

³⁷ *Ibidem*.

³⁸ Plutarch 15.

³⁹ I hesitate to use the term "comprehensive program" because, as we shall see, the later legislation may have occurred as much as 25 years after his archonship and so could not have represented a "program" *per se*. Nevertheless, different elements of his legislation do seem to work synergistically and from that standpoint may be considered a "program."

⁴⁰ This is obvious from the fact that they report the change in the value of coinage. Plutarch also mentions other laws which, in specifying the fines for breaking them, presumes the existence of coins: 21.1 (=Σωλονος Νομοι, F 32a), 23.1 (=ΣΝ, F 26, F30a).

⁴¹ This summary is derived mainly from Kagan, pp. 343-4, but I have had to supplement it with information from Seltman, *Greek Coins*, pp. 15-43.

⁴² Kagan, pp. 344-5 supplemented by Robinson (1951), pp. 165-6.

⁴³ Kagan, p. 345.

would accept the tradition that Solon minted coins,⁴⁴ it appears that the latter system has been more broadly accepted; the most recent edition of *the Oxford Classical Dictionary* (1996) reflects this consensus in reporting an introductory date of ca. 600 B.C. for Lydian coins and stating that “even the earliest [Athenian] coins are almost certainly later than the time of Solon.”⁴⁵ It is beyond the scope of this paper to examine in detail the evidence regarding Solonic coinage. Therefore, I will treat both possibilities, the “high” and “low” chronology, in analyzing the Solon’s alleged reform of coinage.

If Solon did alter the coinage system, this may very well reflect a desire to alleviate interest payments by debtors as Androtion reports.⁴⁶ However, we would also have to assume that debts were not canceled (there would be no interest payments to alleviate). This seems extreme, given that two sources report that a cancellation did happen.⁴⁷ The clue to the intent of Solon’s alleged coinage reform may lie in the other two reforms, those of weights and measures. The *AP* reports that “measures were made larger than those of Pheidon.”⁴⁸ Pheidonian measures were measures of *capacity* which appear to have been in use in Athens and throughout the Peloponnese before the time of Solon.⁴⁹ According to Mortimer Chambers, these measures were significantly smaller than those commonly used in the fourth century and were later considered “miserly.”⁵⁰ A “complementary” increase in the system of weights was also enacted, with the weight-mina “filled up” from 70 weight-drachmae to 100.⁵¹ Scholars, observing that the ratio of Aeginetan to Attic (coin-)drachmae in the classical period was 70 to 100, have concluded that Solon’s change in weights represented a shift from the “Aeginetan” to the “Euboeic” (or “Attic”) standard.⁵² As the Aeginetan weight standard, much like the Pheidonian standard for measures, had been used widely throughout the Peloponnese, the reform also represented a shift from the system which seems to have been used by most Greek mainlanders.

Why did Solon deliberately seek to move Athens from systems which were popular among most mainlanders? The Euboeic standard, which the Athenians now adopted, was the one used by Euboea,

⁴⁴ Most notably Kagan, although he cites L. Weidauer as also supporting the older system.

⁴⁵ See the entries “coinage, Greek” and “Solon.”

⁴⁶ Plutarch 13. See above.

⁴⁷ In this case, Plutarch (explicitly) and Aristotle reject Androtion (a common source, see n. 3) and so may be regarded as independent. Of course, they may have also derived their information on the debt-cancellation from *another* common source. Importantly, there is no mention of debt cancellation in the existing fragments of Solon’s poetry (see Rhodes (comment.), p. 128).

⁴⁸ 10.2

⁴⁹ Kraay (1956), p. 66. Kraay reports that the Pheidonian standard was used in Athens before Solon’s time, but it is unclear whether he is merely interpolating from what Aristotle says. Chambers (1974), p. 3, says that Aristotle himself may have been interpolating back from his own day. But he cites a passage from Herodotus (6.127.3) indicating that the Pheidonian standard had been in use throughout the Peloponnese.

⁵⁰ p. 4, citing a Delphic inscription equating 3,000 Pheidonian measures of grain to 1875 Delphic measures in 363 B.C., and a passage from Theophrastus in which a miserly man distributes food to his servants in Pheidonian measures.

⁵¹ *AP* 10.2 Kraay (*ibidem*) uses the term “complementary.” For an explanation of the apparent discrepancy between Plutarch and Aristotle (the former says the weight-mina were brought up from 73 weight-drachmae), see Kraay, *op.cit.*, n. 1 on p. 66. The last sentence in *AP* 10.2 describing a change in the value of the talent refers to the weight of silver included in each drachma-coin struck, and so refers to the increase in the value of coinage. See Chambers, particularly pp. 7-8, and Rhodes (comment.), p. 167.

⁵² See for example Kraay, *op.cit.*, p. 66, Rhodes, *op.cit.*, p. 166. The Euboeic standard continued in use into the Classical period.

Corinth, Cyrene and several Greek colonies in southern Italy at this time.⁵³ A common characteristic of these places seems to be their involvement in overseas trade. Corinth, for instance, had evolved into a leading mercantile center during the seventh century, developing a new style of pottery called “Black Figure” and producing what was considered the best pottery in Greece.⁵⁴ The manufacture itself of black-figure was performed on an individual basis, but the fact that they were used for overseas transportation of goods is attested by the discovery of large “transport amphorae” in places such as Sicily.⁵⁵ Corinth also developed a new kind of ship, the *strongyle*, built expressly for trade, and constructed the *diolkos* across their isthmus, presumably to facilitate trade.⁵⁶ Although Cyrene (638 B.C.)⁵⁷ and the cities of southern Italy (mid-eighth century onward)⁵⁸ most likely started as agrarian colonies,⁵⁹ it is reasonable to assume that, given their large resources of grain and relatively small native populations to feed, they quickly found profit in overseas trade.⁶⁰ Euboea was known for its wheat supply⁶¹ in antiquity and their involvement in the overseas trade is attested by the presence of Euboean pottery fragments in Syria (Al Mina) in the late ninth century and a possible metal trade with the Etrurians of Italy a little later.⁶² At this point in its history, Athens does not appear to have been significantly involved in trade; fragments of Attic black-figure ware do not appear in significant quantities outside of mainland Greece until the beginning of the sixth century,⁶³ it had not involved itself in the movement to establish agrarian colonies in the eighth and seventh centuries, let alone *emporias*,⁶⁴ and the agrarian crisis which preceded Solon suggests that it did not have a surplus of grain with which to establish a permanent export trade.⁶⁵ It seems obvious that Solon wanted to change to standards that would make it easier for Athens to participate in overseas trade. Given Athens’ current, and perhaps traditional⁶⁶, food shortage, Solon’s specific and immediate goal may have been the importation of grain.⁶⁷ Indeed, the sudden increase in the distribution of Attic black-figure pottery in the Black Sea area and southern Italy in the years following Solon’s archonship strongly indicates that

⁵³ Fine (1983), p. 200; Fritz and Kapp, p. 156; Austin and Vidal-Naquet, p. 214.

⁵⁴ Biers, pp. 138-9. See also B.L. Bailey for information on Corinth’s importation of Attic ware, “monopoly of the carrying trade,” and general involvement in mercantile activity in the seventh century.

⁵⁵ Corinth is said to have produced the first transport amphorae in Greece. See Biers, pp. 120 and 143.

⁵⁶ Hahn, p. 32.

⁵⁷ Austin and Vidal-Naquet, p. 219.

⁵⁸ *Ibidem*, p. 61

⁵⁹ See *ibidem*, pp. 61-8 for the distinction between *apoikia* (primarily independent agrarian colonies) and *emporias* (trading centers).

⁶⁰ The Cyreneans were said to be wealthy based on their sale of the crop siphion, which had medicinal and agricultural applications. *Ibidem*, p. 230.

⁶¹ See Garnsey, p. 112.

⁶² Austin and Vidal-Naquet, p. 66.

⁶³ Bailey, particularly pp. 60-64. Hahn does mention Athens in his review of the growth of foreign trade among Archaic Greek cities (pp. 31-2) cities and expresses surprise that it was not involved (p. 36).

⁶⁴ See n. 59 above. Austin and Vidal-Naquet do not mention Athenian involvement in their survey of the colonization movement in pp. 61-68.

⁶⁵ See Garnsey, pp. 110-13 for Attica’s grain shortage in the Archaic period, pp. 107-10 review the scholarship on Athenian trade in the Archaic period. Almost all scholars agree that it was non-existent before the time of Solon.

⁶⁶ See Garnsey pp. 111-12.

⁶⁷ This seems to be the “majority” view regarding when Athens began to import grain: Garnsey, pp. 107-10.

Athens almost immediately began to import grain upon Solon's reforms.⁶⁸ Returning to the issue of Solon's alleged coinage reform, given that the reforms of the other two standards were designed to improve Athens' ability to trade overseas, in the absence of other evidence, it seems plausible that the change in coinage also represented a shift to a more convenient standard. The fact that the same terms and ratios were applied to weights and coins, that the changes in weights and coins occurred (presumably) concurrently, and that Aristotle (10.2) states that coins were struck on a weight-standard, all strongly suggest that the weight and coinage system was inter-related, not just in Attica, but elsewhere in Greece.⁶⁹ In this sense, Solon's coinage reform, if it did happen, also would have had as its goal the facilitation of trade with neighbors and overseas.⁷⁰

If we assume a low chronology for the development of coinage, we must obviously drop the assumption that Solon reformed coinage. The low chronology, however, does not necessarily preclude that Solon promoted the use of *money* in Athens. As Plutarch reports in his early chapters, Solon was well-traveled in the early (as well as later) part of his life and may have ventured into commerce.⁷¹ If the visit to Croesus, reported by Herodotus in I.30, represents a tradition that Solon once visited Lydia or Asia Minor,⁷² it is quite conceivable that Solon came into contact with coins before his legislation.⁷³ He may have seen its utility in making large-scale payments;⁷⁴ if at this stage Solon was already pondering his economic legislation,⁷⁵ he may have considered coinage a convenient method

⁶⁸ The "boom" in the appearance of Attic black-figure ware is dated between 600-580 B.C. Some of these items, therefore, may have appeared in the six years before Solon's archonship, but they are statistically more likely to have appeared there in the fourteen years after it. See Bailey, 62-65. Also Garnsey, pp. 107-13 for other suggestions that large-scale grain importation began around the time of Solon.

⁶⁹ "Rhodes (comment.) p. 166 reports that "although it is not reflected in the coinage, there was at least one increase in Athens' weight standards, applying to all units in the system, between the time of Solon and the time of AP," implying that the weight and coinage systems were interrelated. Also scholars deduced a change from the Aeginetan *weight* standard based on an observation regarding the ratio of Attic-to-Aeginetan *coin*-drachmae in the classical period. Chambers, p. 16, conjectures that the Athenians may have been using "some form of coinage, a non-Attic one," suggesting that they may have changed to a system that was more useful or widespread.

⁷⁰ Taking the three reforms together, Kraay (1956), p. 66, states that they were designed to free Athens from dependence on the Peloponnesian economic system.

⁷¹ Ch. 2 The descriptions of his meetings with famous foreigners may also reflect that Solon was extensively-traveled, enough to know so many men. Some fragments of Solon's poetry seem to allude to travel and trade (e.g. 12, 13).

⁷² Fine (1983), p. 198, states that although tradition assigns most of his travels to the period after his legislation, "it is probable that his early commercial activities took him at least to the Ionian coast." Most scholars reject that the meeting with Croesus took place; Croesus' reign did not begin before 561 B.C.; since Solon is presumed to have died in 560/59, and as Croesus is represented in Herodotus as being well established in power, the meeting is unlikely. See Wallace, p. 88. Nonetheless, this does not mean that Solon did not visit Lydia or Asia Minor.

⁷³ The low chronology, placing the introduction of coins no later than ca. 600 B.C., would have given Solon at least six years of travel before his archonship to be exposed to coins. If a higher chronology is assumed, e.g., 630 B.C. for the introduction of coinage as Jacobsthal and Robinson originally postulated, it is possible that coinage had spread to other parts of Asia Minor so that even if Solon did not visit Lydia specifically, he could have been exposed to coinage in his mercantile activities elsewhere.

⁷⁴ *OCD*, pp. 356-7, reports that coinage was initially designed to "make a large number of uniform and high-value payments in an easily portable and durable form;" as the earliest denominations still represented large sums, it is unlikely that coinage was used for small transactions.

⁷⁵ See Hammond (1940), p. 82.

by which to pay for large-scale grain imports and would have been inspired to introduce coinage, or some other form of standardized money, in Athens. If these hypotheses are correct, the report in Aristotle that Solon reformed coinage may reflect a true tradition that he *introduced* coinage or another form of money in Athens. It has been suggested that before the existence of coinage, precious metals, especially in the form of bullion, were used in large-scale transactions, and that their use had become widespread as a medium of exchange.⁷⁶ Very recently, P.J. Rhodes has proposed that the explanation for the Solonic coinage reforms be found in the use of “uncoined silver”:

By the time of Solon a rich man would have silver and gold among his possessions (Solon, fr. 24. 1-3 West, where this is the first form of wealth to be mentioned), and *it is credible that the use of coins, standard pieces of silver of guaranteed weight and purity, was adopted as an improvement on an earlier system which reckoned in standard weights of silver but had no standard* and officially recognized pieces corresponding to those weights. [My italics.]⁷⁷

As numismatists have made clear, it is unlikely that Solon could have reformed or introduced coinage, *as we know it*. However, is it possible that Solon introduced a form of money, coined or otherwise, of which we know little about? In chapter 8.3 of the *Athen. Pol.* Aristotle mentions a group of officials (*naucrari*) who in Solon’s time had the power to “exact and disburse from the *naucratic* silver.” The identification of these *naucrari* and of the ναυκραρικὸν ἀργύριον is something of a mystery;⁷⁸ however, P.J. Rhodes has postulated that Solon’s coinage law was a re-expression of the value of *naucratic* silver in weight-drachmae,⁷⁹ or in other words, that Solon standardized an existent but unstandardized form of money. What form these weight-drachmae took is unknown, but they would have not been “coins” as we know them⁸⁰. At this point the issues become largely semantical, but this discussion has shown that Solon may well have introduced the first form of standardized money in Athens. Whatever form this money took, it could have the same applications as coins in Asia Minor. Within the context of his economic policy, Solon may have intended his new money to be used in exchange for large quantities of grain. More research needs to be done on the use and standardization of non-coined forms of money in the Archaic period before we can arrive at definitive conclusions. However, I believe that P.J. Rhodes has made an important new contribution to the understanding of Solon’s alleged coinage reform.

After his initial “emergency” reforms in 594/3,⁸¹ Solon was asked to “reform the constitution and draw up a code of laws,”⁸² probably about two years later.⁸³ Aristotle is interested primarily in the constitutional measures, so our source for the other measures is Plutarch. One of the laws which has

⁷⁶ Fine (1983), p. 191.

⁷⁷ Rhodes (comment.), pp. 152-3. See also p. 168.

⁷⁸ See *ibidem*, pp. 151-3.

⁷⁹ *Ibidem*, p. 153.

⁸⁰ Otherwise numismatists would have recognized them as such.

⁸¹ See above and n. 37.

⁸² Plutarch, *Sol.* 16. *AP* 7.1, 10.1.

⁸³ Hammond (1940), *passim*. It is now widely accepted that Solon held two offices, the archonship in 594/3, and another office, the title of which we don’t know, under which he reformed the constitution and set other laws (c.f., Draco who also drew up a code of laws without holding the archonship). There is debate about *when* this second office was held. Hignett (pp. 316-21) suggested a date as late as the 570’s and others have followed him. However, I find Hammond’s argument for a two year gap more convincing. A close reading of both Plutarch and Aristotle shows clearly that they understood an interval between the reforms of Solon’s archonship and his νομοθεσία/constitutional reform; but the interval does not appear to be very large.

been much discussed is his prohibition of export of any product from Attica except olive.⁸⁴ While most have taken this law to mean that Solon promoted olive export, others take the “half empty” view in stating that the law was primarily a prohibition against grain export.⁸⁵ Certainly Solon did not want grain to leave Attica, but this does not mean that he did not seek to trade other resources (or use money) in exchange for it.⁸⁶ Aside from livestock, Attica’s main agricultural products seem to have been barley, olives, wheat, dairy and grapes.⁸⁷ Barley was needed to feed livestock and so although Attica was rich in it,⁸⁸ we can understand a need for forbidding its export. Dairy (e.g., milk) and even wine from grapes may be considered “subsistence products” in ancient Greece and so here too Solon’s prohibition is understandable. Olives or their products did not serve as immediate a need and so represented Athens’ best example of a surplus product and opportunity for trade. The evidence from archaeology, and particularly from his other legislation seems to confirm the opinion that Solon actively promoted the olive trade. Further along in Chapter 24, Plutarch tells us that Solon granted citizenship to any foreigner who came to Athens to practice a trade.⁸⁹ Earlier he states that he encouraged the “arts of manufacture” by making a law that disobliged a son from supporting his father if he was not taught a trade.⁹⁰ Plutarch does not specify which trades were particularly encouraged, but the fact that at this period Athens began to develop a strong expertise in black-figure ware⁹¹ strongly suggests that pottery manufacture was one. Coupled with the sudden increase in black-figure findings in the Black Sea area and southern Italy in the decade following Solon’s reforms,⁹² it is apparent that an oil-for-grain trade was indeed encouraged.

The promotion of trades in Athens has another significance beyond confirming that oil was traded for grain. I mentioned earlier that the *hectemors* who had been freed from slavery and were returning to their previous plots faced dim prospects for future subsistence and that Solon must have had other plans for them. I believe that his laws promoting trade, particularly the one applying to current residents, represent Solon’s attempt to create new opportunities for livelihood for the

⁸⁴ Plut., *Sol.* 24.1 (=SN, F65).

⁸⁵ Garnsey, pp. 111 and 74-5. See pp. 107-10 for a review of positions in favor of olive export. Garnsey’s argument that Solon enacted his law as an emergency measure during a food crisis does not hold up against the assumption that Solon passed this law at least two years after his archonship (i.e., after the agrarian crisis had been addressed by some initial reforms). Garnsey’s view may also be influenced by his thesis of frequent food crises throughout antiquity.

⁸⁶ Garnsey’s main arguments seem to be that exchange of fine pottery (referring to Attic pottery finds in various areas) for grain is implausible, that oleoculture was already well-developed so Solon’s “expansion” of it is “conjectural” and that Athenian coinage in Egypt proves Egypt’s need for silver more than Athens’ need for grain. These points, particularly the first two, are rather weak. The first assumes that pottery itself was traded for grain; but the sherds may merely represent the *vessels* in which the olives (or olive oil) were conveyed rather than the traded item itself. The second does not necessarily mean that Solon would not actively *promote* this condition. The third is more plausible, but addresses trade arrangements only with one other state.

⁸⁷ See French (1956), pp. 11-17; Garnsey, pp. 89-106.

⁸⁸ See the statistics on barley-to-wheat production in Attica in Garnsey, pp. 95-105.

⁸⁹ Citizenship was granted also to those who had been permanently exiled from their countries. Plutarch assures us that the law was intended not to discourage certain types of immigrants, but to *encourage* certain categories. If only he had enlightened us as much on the olive export law!

⁹⁰ Chapter 22.

⁹¹ Biers, pp. 175-9. It is also in this period that Athenian pottery began to eclipse Corinthian in quality and demand. See *ibidem*, p. 140 and Bailey, pp. 65-6

⁹² Assuming his last reforms occurred in 592/1. See n. 68 above.

hectemors.⁹³ We have seen that Solon most likely was pursuing an oil-for-grain export policy. There would therefore be a ready market for manufacturers of pottery, particularly of amphorae. Solon's vision for oil export and a support industry of pottery manufacturers evidently was not small-scale. He offered citizenship to foreign craftsmen, suggesting that he did not expect to draw enough from the *hectemor* class,⁹⁴ and he must have expected yet more from the other classes as implied by his law regarding the teaching of a trade and his efforts to divest the crafts of their previous stigmas.⁹⁵ He also passed laws regulating the planting of olive (and fig) trees that would optimize their growth.⁹⁶ The degree to which he expected this policy of trade promotion to succeed is attested by his establishment of a class of full, but property-less, class called the *Thetes*.⁹⁷ Plutarch may well have been talking about Solon's vision for (or actual aftermath of) his reforms when he states that "Solon observed that the city was filling up,"⁹⁸ and his expectation of a large influx of people may have led him not only to establish the *Thete*-class, but to pass a law against idleness.⁹⁹ Thus, by integrating his policy of olive export with the promotion of trade, Solon found a solution for the problem of the *hectemors*, by opening up new avenues of opportunity for them in the form of manufacture and by weaning them from lands which were no longer fertile. At the same time, by removing the burden on the land, and simultaneously providing for an additional source of grain (and perhaps wealth) these policies started Athens on a road toward a more diversified existence and greater economic stability.

Conclusions

When Solon attained the archonship in 594 B.C., Attica was in a severe state of agrarian crisis. Control of the land had somehow fallen into the hands of a few wealthy landowners, and the *demos* had been reduced to a condition of servitude. Additionally, the fertility of the land appeared to be taxed and there were few prospects for obtaining outside grain via trade or purchase. The severity of the crisis is revealed by the fact that the wealthy, who held the greatest power, and had the most to lose, acceded in selecting a man who would cure the *polis* of its woes. Solon appeared to be the right choice, because he was considered wise and had shown leadership and patriotism in previous state matters.¹⁰⁰ It is difficult to assert how far in advance, and how far into the future, Solon planned his

⁹³ Admittedly, there is a gap in my logic here. If Solon had plans for the *hectemors* beyond their emancipation, why didn't he enact legislation to address them during his archonship? Could he have known that he would be appointed $\nu\omicron\mu\omicron\theta\epsilon\tau\eta\varsigma$ in two years? I find it unlikely.

⁹⁴ Alternatively, he did not expect that enough would switch. However, given his promotion of crafts across all classes, and his efforts to invest them with a more dignified image, I do not think this is the case. He would otherwise have been left with no solution for the *hectemors*. That foreigners did come to Athens to practice pottery manufacture (and sculpture) is evident from the profusion of foreign names among Attic painters (and sculptors) in subsequent years. See Biers, p. 177 and n. 13.

⁹⁵ Plut., *Sol.* 22.

⁹⁶ Plut., *Sol.* 23.7 (=ΣN, F60b).

⁹⁷ Plut., *Sol.* 18; *AP* 7.3. This strongly supports the hypothesis that he expected many of the *hectemors* to switch to manufacture.

⁹⁸ Plut., *Sol.* 22.1. Plutarch's next words, "with people who now poured into Attica in a steady stream from every quarter because of the security of conditions there," does not seem to describe conditions in Attica before Solon's reforms and that is why I have ascribed this passage to Solon's vision (or actual result) of his reforms.

⁹⁹ Plut., *Sol.* 22.3 (=SN, F148e). See also Hdt. II.177.

¹⁰⁰ E.g., the war with Megara over the control of Salamis, his mediation between the Alcmaeonids and the descendants of Cylon. See Chapters 8-12 of Plut., *Sol.*

reforms,¹⁰¹ but his economic legislation over the next several years reveals a long vision for the permanent evolution of the Athenian economy. His first measures, primarily humanitarian in measure, nevertheless laid the groundwork for future economic growth. Debt slaves were freed and allowed to return to their plots, and the possibility of future indenture was eliminated by banning loans on personal security. An extraordinary measure, cancellation of all debts, was also passed. On the surface, these measures would appear to have alleviated the condition of the masses, but Athens problems were much more deeply-rooted and would require more complex solutions. The land was as infertile before, and there would be more, not fewer, people to feed with the return of former debt-slaves from abroad. There was no land-redistribution, and so although they were no longer liable to seizure, *hectemors* and former debtors would have to try once again to meet subsistence levels from the same plots which had proven unproductive.¹⁰² These reforms, however, ensured that there would be a sufficient labor-base to perform the work necessitated by later legislation.

In the latter part of his archonship, and sometime later in a position of wider scope, Solon enacted laws that started Athens on course toward greater economic diversity and freedom from a strict reliance on agriculture. Reforms of weights, measures and possibly coinage were designed to steer Attica from standards used primarily by the agrarian communities of the Peloponnese, to those used by cities more active in trade. Solon carefully planned the city's venture into trade by developing an infrastructure that would support the export of olives from Attica and simultaneously alleviate the strain on the land. *Hectemors* and other citizens were encouraged to pursue trades, particularly pottery manufacture, and to leave the farm. As an incentive, the new citizen category of "*thete*" was created, which would apply to those Athenians who did not own land. These would not be enough, however, and so foreign craftsmen were invited to Athens in exchange for citizenship. Other laws, such as those regulating olive tree planting, ensured that the infrastructure was protected, and a new form of money may have even been created to facilitate large transactions with certain nations.

By the time Solon left office, perhaps in 591 B.C., things were still unsettled. The rich clamored for the return of their debt payments, while others were unhappy with the constitutional settlement.¹⁰³ As Solon said "it is hard to please everyone in politics."¹⁰⁴ But he also said that "Time" was the ultimate judge.¹⁰⁵ Solon's reforms were designed for the long haul. The olive tree takes a generation to grow to full maturity,¹⁰⁶ and the attraction of foreign craftsman, procurement of foreign slaves and astigmatization of craftsmanship were not bound to happen overnight. During the subsequent years of *anarchia*, Attica developed an expertise in black-figure pottery. It gradually eclipsed Corinth in the quality and demand of its wares and, as pottery sherds attest, developed a broad, if not steady, grain trade. We no longer hear of "agrarian crises" in the years after Solon (the battles between *demos* and *aristoi* become much more political in principle) and there is little doubt that Athens enjoyed a healthy olive trade in the years during and after Peisistratus. Solon was not around to accept praise or blame (although he would have like to) for these changes in the Attic economy. Surely others contributed to the evolution of trade, oleoculture and Black- (and eventually Red-)Figure manufacture. But they may never have had the opportunity had not Solon laid the groundwork.

¹⁰¹ Plutarch implies that he was planning legislation well before his archonship: Chapters 5 and 12. See also Hammond (1940), *passim*, especially, p. 82.

¹⁰² These realities were perhaps what contributed to the unpopularity of these reforms initially. See Plut., *Sol.* 16 and Hammond (1940) *passim*, especially p. 77.

¹⁰³ See *AP* Chapters 11-13.

¹⁰⁴ Fragment 7.

¹⁰⁵ Fragment 36.

¹⁰⁶ French (1956), p. 16.