CHAPTER 10

ARCHAIC GREECE

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I INTRODUCTION

The Greek world of the seventh and sixth centuries differed markedly from the Greek world of the ninth and eighth centuries. Scholars have talked of a structural revolution in the eighth century.[1] For the economic historian the dramatic changes come later and concern both structure and performance.

Some of the changes were slow, important for their cumulative impact rather than making a marked difference in the short term. Population is one case in point. Except for slaves, where there may have been a sharp increase in numbers in some cities in the sixth century, population grew at a rate of perhaps 0.5 percent a year.[2] Such a growth rate would have more than doubled the population during the period in question, but given a high degree of population mobility, few at the time would have perceived clear change. Population growth itself entails and stimulates growth in consumption and production. Distribution of fine pottery and of quality housing suggests per capita as well as aggregate increase in consumption. And although the conditions of agricultural production did not alter significantly, with climate likely to have been more or less constant and no signs of significant advances in agrarian technology, the spread of Greeks to environments more favorable for agriculture than the Greek mainland and Aegean is likely to have increased per capita agricultural production also. Outside agriculture, too, much technological change seems to have been more a matter of degree than of kind: iron had already established itself as the dominant "working metal" by 700, ship-construction methods do not seem to have altered,[3] technical developments in pottery are primarily linked to decoration, not to productivity. But other technological changes were dramatic: the invention of the Greek alphabet made possible communication at a distance, and if early writing suggests predominantly leisured

[1] Snodgrass 1980 talks of "Structural revolution" in his chapter titles.

[2] Scheidel 2003b. See also above, Chapter 3.

[3] On the ships used to transport goods in the archaic period see Snodgrass 1983: 16–17; note also Dietler's discussion of the western Mediterranean (Chapter 9), where ship remains have been best preserved.

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use, by 500 there is a significant corpus of surviving inscribed material which indicates that written communication had become an important part of relations between individuals and communities engaged in exchange with one another.[4] And, once more, the changed scale of the Greek world means that even unchanging technologies might service economic growth as e.g., iron and ships became more readily available for use. In a similar way, the building of roads is unlikely to have been technologically different in 500 from 700, but what was potentially the case in 700 was realized on a significantly wider scale subsequently and with dramatic effects on possibilities of land transport.

Other changes were dramatic even at the time. Take the expansion of the Greek world. From the second half of the eighth century onwards Greeks established settlements in Italy and Sicily, in southern France, north-west Spain and north Africa, in the northern Aegean, Hellespont area, and Black Sea. A recent listing of (only) cities whose founding is attested in literary sources counts some thirty cities plausibly established in the fifty years from the 730s to the 680s.[5] Not only did these communities extend the Greek world, they also almost certainly urbanized it. Several mainland Greek communities seem in the eighth century to have primarily lived in clusters of villages; these new communities all had single centers. If the reasons for that were in part defensive, its effects were also economic. Or take the invention of coinage. The earliest coinage comes from late seventh-century Lydia; in the first half of the sixth century electrum coinage seems to have been slowly adopted by a relatively small number of Greek cities in Asia Minor, but after the first silver coinage was minted around 550 a very large number of Greek cities took to minting. A recent count produces over forty cities minting by 500, and those spread from Cyprus through Libya to Sicily and South Italy.[6] Coinage was one mark of another dramatic change: Greek cities acquired formal institutions. Magistracies, laws, treaties with other cities not only about peace and war but about how to treat individual disputes arising between their citizens, all of these gave a framework for economic activity practically absent in 700. And all these individual dramatic changes also served to highlight a further characteristic of this world – its diversity. The cultural diversity apparent in the regional styles of late Geometric pottery increases during the seventh century, with numerous local styles of fine pottery production, local alphabets, and localized practices in cult and burial. Although in some respects the material culture of sixth-century Greece becomes more uniform, the array of weight standards, as well as types, of newly adopted coinage reveal ongoing diversity.

[4] On the early use of writing for leisure see Powell 1991.
[5] Osborne 1996a: 121–2. [6] Osborne 1996a: 253–5.

This initial survey will have made it clear that under all the major indicators of economic change – population, growth, urbanization, production and exchange, institutions, and stock of knowledge – there are reasons to believe that the period between 700 and 500 BC in Greece saw significant developments. This chapter seeks both to analyze those developments in more detail by comparing and contrasting the archaeological evidence relating to c. 700 BC and c. 500 BC and to explore how the picture that we can create on the basis of archaeological evidence relates to the picture of the economy offered by one further resource making its dramatic appearance in this period – literary texts.

II MATERIAL EVIDENCE FOR THE ARCHAIC GREEK ECONOMY

(a) *The Greek World c. 700 BC*

Material evidence for the economy of c. 700 BC comes in the form of moveable goods, whether made in Greek cities or imported to them, and in the structures of the cities and settlements themselves.[7]

We know far less about the settlement of the Greek mainland and islands in the eighth century than we would like to. Few settlements have been extensively excavated, and those that have tend to be sites with unusual settlement histories. We know most about a number of sites in the Cyclades which were abandoned around the end of the eighth century or shortly thereafter. Some of these settlements, notably those at Zagora on Andros and Koukounaries on Paros, have been extensively excavated. Zagora, although a small settlement with a population of no more than a few hundred, shows a particularly dense area of settlement with adjoining houses whose regularity indicates that there was a master plan for the settlement.[8] Such clustering could, indeed, represent an economic choice, maximizing possibilities for specialization and economic collaboration, but Zagora occupied a site whose location seems heavily determined by defensive considerations and whose material assemblage reveals a relatively low degree of contact with the wider world, and it would be rash to posit primarily economic motivation, or economic consequences, for its precocious "town-planning." It is Corinth, apparently settled in a cluster of villages, which seems much more closely in touch with a wider world in the late eighth century.[9]

The sites with continued later occupation that have attracted most attention to their Geometric and early archaic levels are the sites settled by Greeks outside the Greek mainland, the so-called Greek "colonies."[10]

[7] The best general introduction to the archaeology of Greece is provided by Whitley 2001.
[8] Cambitoglou et al. 1971; 1988; Morris 2000. [9] Roebuck 1972.
[10] On the use of that term see Osborne 1998; on the phenomenon Osborne 1996a: 114–29; Boardman 1999.

‘The map which appears here in the printed edition has been removed for ease of use and now appears as an additional resource on the chapter overview page’.

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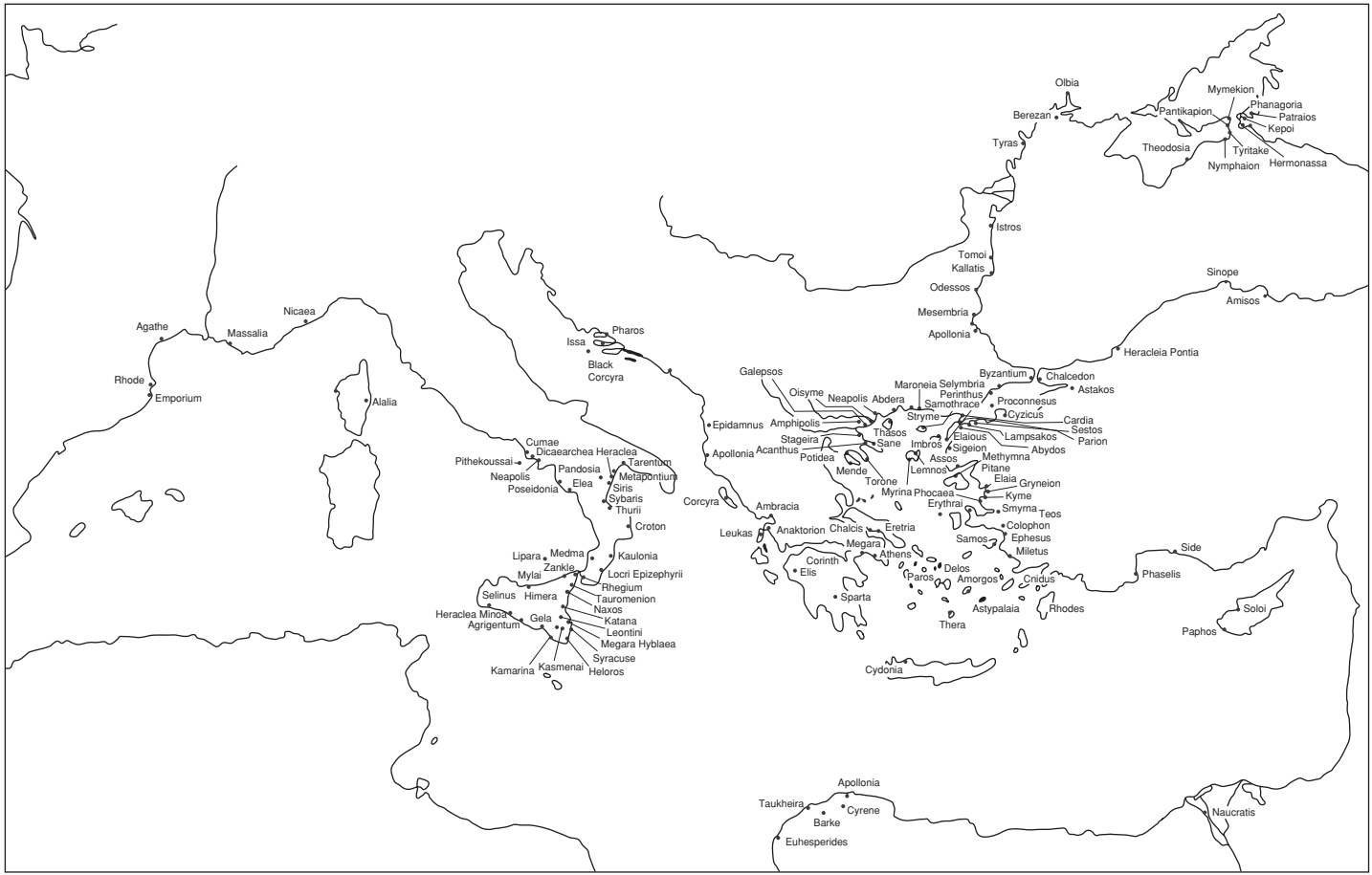

Map 10.2 Greek settlements abroad
Source: adapted from Osborne 1996: Fig. 32

Scholars dispute the extent to which these settlements were official foundations organized by the mainland Greek cities that they came to claim as their mother-cities, but even if these were opportunist settlements with populations generally drawn from a number of different Greek cities, the question of economic motives for and consequences of foundation still arise. There can be no doubt that the establishment of Greek communities abroad expanded knowledge of the central Mediterranean and its peoples and allowed further exploration of resources and markets in much increased security. Most areas settled by Greeks enjoyed on average something like a fifth more rainfall than did the south-eastern part of the Greek peninsula, and in the case of Libya the establishment of a Greek settlement inland at Cyrene is directly linked to its peculiarly high levels of rainfall.[11] It is arguable that from the very beginning some, at least, of these settlements exploited their fertile territories in order to produce surplus agricultural produce for export; this seems to be the case at Megara Hyblaea where there is early construction of large grain silos.[12] But did the foundation of those settlements abroad also have an economic motivation? Their existence is simply unthinkable without widespread Greek awareness of the wider world and its resources, and without would-be settlers having confidence that the density of ship movements in the area were sufficient to ensure that regular links to mainland Greek communities could and would be maintained. That the earliest of these settlements, that on Pithekoussai, which had a territory with limited agricultural potential, attained a size comparable with the very largest of mainland communities (see Morris, Chapter 8 above) is itself good evidence for the connectedness of the new settlements.[13]

Evidence from the eighth-century countryside is very much more sparse than evidence from towns. The numerous intensive archaeological surveys conducted on the Greek mainland and in the islands since the 1970s have in general yielded only very small numbers of eighth-century (Geometric), or indeed seventh-century (early archaic) sites, with distinct expansion in the late archaic and classical periods. But this general picture conceals quite a lot of variation from area to area, and in some areas the promise has been held out of even more early evidence than was noted by survey.[14] The possibility of different patterns of nucleated or dispersed residence corresponding to different economic strategies with regard to subsistence and exchange certainly exists, but the dramatically late (sixth century) appearance of rural settlement in Laconia seems more likely to be a product of political and

[11] Osborne 1996a: 54–5, 58–60; Hdt. 4.158.

[12] De Angelis 2002; see also De Angelis 2000. [13] Osborne 1996b: 40–1.

[14] Catling 1984 for the promise of more. The figures in the table are derived from Bintliff and Snodgrass 1985; Cavanagh et al. 2003; Cherry et al. 1991; Jameson et al. 1994; Mee and Forbes 1997; Renfrew and Wagstaff 1982.

Table 10.1 *Rural sites in ancient Greece*

Boeotia	No. of sites	S. Argolid		Laconia		Methana		Melos		Keos	
		MG	3							PG	1
G	5	LG	16	G	0	G	8			G	1
A	22	A	27	EA	1	A	10	G & A	40	A	10
C	26	C	43	LA/EC	87	C	48	C	28	C	15

A: Archaic, C: Classical, E: Early, G: Geometric, L: Late, M: Middle, P: Proto-

social than of primarily economic factors. Although the changing patterns of rural settlement are unthinkable without some population growth, translating survey data into population figures is fraught with difficulty.[15]

More direct evidence of the degree to which mainland Greece and the surrounding islands were connected to the wider Mediterranean world by c. 700 is provided by moveable goods. Goods manufactured elsewhere in or outside the Greek world are found in large quantities in at least some Greek sanctuaries at the end of the eighth century and in the early part of the seventh century. While at the Thessalian sanctuary of Pherai the vast majority (98 percent) of the 3,739 objects dedicated during this period come from Thessaly itself, the major sanctuary at Olympia or the sanctuary of Hera on the island of Samos yield very different patterns.[16] At Olympia very large numbers of dedications come from parts of Greece significantly distant from the western Peloponnese – in particular 397 out of 793 non-local dedications come from the Argolid and Attica, and a significant proportion (24 percent) come from outside Greece altogether, both from the west (Italy, 8.9 percent) and from the east (especially north Syria, 5 percent). At Samos non-Greek imports (85 percent) greatly outnumber imports from the Greek world (15 percent), and what is most notable is the variety of origins that are attested: Rhodes, the Cyclades, Corinth, the Peloponnese, Macedonia, on the one hand; Cyprus, West Persia, the Caucasus, Assyria, North Syria, Phoenicia, Phrygia, Egypt, and the Balkans on the other. Sanctuaries, and sanctuaries of some deities in particular, attracted exotic goods, and the impressive array of imported goods demonstrates the liveliness of the demand for, and supply of, relatively low bulk and high value, non-utilitarian goods in the eastern and central Mediterranean at this date. This lively demand may have caused some eastern craftsmen to establish themselves in Greek cities: scholars have deduced the presence of eastern craftsmen from material remains at Knossos and elsewhere.[17]

Another side to this picture comes from the distribution of Greek pottery. Some Greek pottery (Athenian, but above all Euboean) had been reaching

[15] Osborne 2004a. [16] Kilian-Dirlmeier 1985. [17] Hoffman 1997.

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both the near East and Italy from the late ninth or early eighth century. Most Greek pottery in the eighth century was distributed only locally: of the ten regional styles of Geometric fineware analyzed by Coldstream, only Corinthian and to a very small extent Laconian pottery was being exported at the end of the eighth century.[18] Whereas earlier styles of Geometric pottery made at Corinth are found only locally, Corinthian pottery begins to be found in the area of the Corinthian gulf and the Ionian islands in the first half of the eighth century, and by the late eighth century Corinthian was to be found on most sites known to have been settled by Greeks in Italy and Sicily.[19] Not the least interesting feature of this pottery is that different sites appear to have exercised distinctly different tastes for decorative patterns etc. This emerges in particular from the recent analyses by Michael Shanks: the proportions of Corinthian pots of the various different patterns of decoration found at the sanctuary of Perachora in Corinthian territory are actually very much more similar to the proportions found at Syracuse than to the proportions found at Corinth itself, and the distributions at Syracuse are distinct from those at Pithekoussai or at Aetos on Ithaca.[20] While some of these differences may be accounted for by the greater dominance of cemetery or of sanctuary finds at different sites, there seem to be some implications for the way in which Corinthian pots were marketed.

Fine pottery is unlikely to have formed of itself a complete cargo in any vessel, as even those will admit who in the debate about its value have championed a relatively high value for it.[21] The significance of the increasingly wide and specialized distribution of fine pottery during the last quarter of the eighth century depends upon how it relates to other goods, and in particular to the movement of agricultural produce and raw materials, particularly metals. The closest that we come to seeing directly the traces of the movement of agricultural produce comes in the distribution of so-called SOS amphoras, vessels probably mostly made in Attica and marked with neck decoration whose squiggles and rings sometimes look like the letters SOS, and seem likely to have been applied to enable rapid "brand recognition." Such vessels were made for a period of some 200 years, but already by the end of the eighth century they had reached sites in Crete, the Ionian sea, southern Italy, Etruria and Sicily, and also to Cyprus and Al Mina in the eastern Mediterranean and even to Spain in the west.[22] Many of these are not sites which receive Athenian fine pottery in either the later eighth or the seventh century, suggesting that, at the very least, demand for prestigious olive oil, which is what these amphoras most probably carried,

[18] Coldstream 1968.
[19] Payne 1931; Amyx 1988; Benson 1989; Neeft 1991. [20] Shanks 1999: 181–9.
[21] The case against pottery having high value is made by Gill 1991 and Vickers and Gill (1994). The opposition has been led by Boardman 1988a; 1988b.
[22] Johnston and Jones 1978.

was not sufficient to create a market for fine pottery from the same origin. Fine pottery may not have been a specialist trade item by 700 BC, but it is at least highly plausible that those engaged in exchange between Greece and Italy chose where they picked up their fine pottery with the same care that they exercised in selecting whose oil they carried.

Imported goods at Greek sites and Greek goods outside Greece thus show a broadly similar pattern of distribution by the end of the eighth century. That is, quite a range of imported goods from the Near East was available to Greeks, but different eastern items were in demand in different places and for different purposes. The range of Greek items from different Greek cities which found their way to sites in Sicily and Italy and to some Near Eastern sites was perhaps less extensive, but there seems to be a similar pattern of different items being in demand in different places. Two different sorts of explanation might be held to account for these patterns. On the one hand, the patterns might be the result of somewhat sporadic contact, as in a pattern of exchange where occasional subsistence crises determined the exploration and exploitation of particular markets. On the other hand, the patterns might be the result of a relatively high level of knowledge and a relatively high frequency of contact, leading to discriminating demand and indeed to discriminating supply. That the second model may be the correct one is suggested by the way in which the patterns of contact revealed by imported goods are not random: certain Greek sites seem consistently strongly connected with particular Near Eastern sites over relatively extended periods of time (as Samos with Egypt); equally, different sites, and even different sites of the same type, often show very different patterns of contact (a notable case involves the very different assemblages of the two major Corinthian sanctuaries, of Poseidon at Isthmia and of Hera at Perachora).[23]

(b) *The Greek World c. 500 BC*

Some aspects of the material evidence from c. 500 BC is directly comparable with the evidence from c. 700 BC. As the table of results of archaeological surveys from the Greek mainland and Aegean above shows, the archaeological record from the countryside is richer in c. 500 BC than it was c. 700 BC. Areas with some Geometric rural occupation have greater archaic occupation, and areas with little or no Geometric occupation begin to show signs of small rural establishments, although the residential status of these is not always clear. In most areas that have been surveyed there seems to have been a modest increase in evidence for human presence in the countryside, but in one or two cases the change seems to have been dramatic, so dramatic

[23] See, briefly, Osborne 1996a: 95–8.

that their explanation demands something more than gradual population growth or changes in residential fashion.

Most notable of all is the case of the territory of Metapontum, where there is clear evidence for the division of a very large area of countryside (almost 20,000 ha.) into a regular grid plan in the second half of the sixth century. This land division is accompanied by an explosion of rural settlement: in a survey area of 31.5 km^2, the number of sites identified as farms rose from five in the first half of the sixth century BC to sixty-six in the second half (and then further to 116 in the first half of the fifth century). Palaeobotanical evidence shows a marked increase in olive pollen in the late sixth century. There is much that is not yet understood about this territory, but the dramatic evidence strongly suggests that land ownership and distribution were politically important, and that the produce of the land was, and was expected to continue to be, foundational in the city's economy, something further supported by the ear of grain that became Metapontum's coin type when she began to mint silver in just this period. Scholars have wanted to link Metapontum's land division to a political revolution in which tyranny was overthrown, but whatever the political circumstances, the implications for the Metapontine economy cannot have been trivial.[24]

We know of some later Greek settlements abroad which attempted to divide land equally from the beginning.[25] Archaeology has been unable to produce evidence for regular land division or for inalienability of land from the earliest years of Greek settlements abroad; regular division, of both rural and indeed urban territory, appears as a secondary phenomenon, marking a moment of conscious (political) reform, and dates no earlier than the end of the seventh century.[26] Regular land division on this massive scale implies strong state institutions and a conception of inhabitants as having equal stakes, presumably by virtue of some notion of citizenship. This land division also presupposes a measure of prosperity and economic confidence. Such prosperity is even more evident in urban land division, which demands the laying out of streets and construction of new buildings. At Selinus in the early sixth century, half a century after the city's foundation, the settlement was completely replanned, with spacious blocks laid out and quickly built upon.[27] Here, however, the grand scale of domestic structures is dwarfed by a massive program of temple building which sees nine temples, several of them extremely large (temple GT of c. 520 measured 50 × 110 m.) and

[24] Carter 1990a; 1990b.

[25] So, most clearly, the third-century settlement at Black Corcyra (*SIG*^{3} 141). See more generally Burford 1993 for the most important evidence.

[26] Di Vita 1990; Métraux 1972; I harbor considerable scepticism about the ingenious work of Tréziny 1999. For the Greek mainland see Boyd and Jameson 1981.

[27] Di Vita 1990: 354.

some with elaborate sculptural decoration, constructed in the eighty years from c. 560 to c. 480 BC.

The earliest Greek temples were constructed in the eighth century.[28] Although some eighth-century temples were very large (one hundred feet in length), in terms of construction they merely magnified the domestic. The stone temples in the Doric and Ionic orders, with tiled roofs and, in some cases, sculpted stone reliefs, that have become the hallmark of Greek architecture were an invention of the late seventh and early sixth centuries. By the end of the sixth century every self-respecting community had built a stone temple for itself, often on a massive scale.[29] Such temples were probably the largest investment made by most archaic cities, and were enormously demanding both in manpower resources and in technical expertise. The latter is indicated by the fact that treatises by architects about their work seem to have been some of the earliest works of Greek prose. At Metapontum monumental stone temples were built both in the town (one with sculpture) and in the countryside, where the temple at Tavole Palatine was built in the second half of the sixth century, more or less at the same time as the rural land redivision.

If stone temples marked sanctuaries as places of communal investment, individuals had also disposed of significant amounts of wealth by dedicating it in sanctuaries already in the eighth century, but the sixth century saw the development on the Greek mainland and in the Aegean of dedicating large stone statues. Snodgrass has suggested that it would be reasonable to calculate that on average some 270 tons of stone for sculptural monuments was being transported by sea each year from the middle of the seventh century onwards.[30] Building stone was not always brought so far, but the size of individual blocks (up to 73 tons), not only reveals the labor demands of these building programs but is itself proof that it was manpower unaided by technical devices such as the block and tackle which was responsible for moving them.[31] When we add to these religious demands that it was also during this period that the earliest stone-built city walls were constructed, the scale of public demand for labor becomes even more significant. More significant indeed than in the classical period, when block-size for buildings falls as technical devices materially assist human effort in these enterprises, and when bronze takes over as the normal material for free-standing statuary.

Building programs in the classical period can be shown to have exploited the agricultural year, concentrating in months when labor was not in such high demand in the fields, but the economic significance of these projects

[28] Mazarakis-Ainian 1997; Osborne 1996a: 89–90; Morris 2000: 273–6.

[29] Osborne 1996a: 263–4 gives a list of some fifty seventh- and sixth-century temples whose stylobates measure more than 10 m. in width.

[30] Snodgrass 1983. [31] Coulton 1974.

is only minimally affected by such considerations. The economy of the eighth-century city seems to have supported relatively few who were not full-time producers of food. Sixth-century cities seem to have been on average distinctly larger communities, but their economies had to support not just larger absolute numbers who were at best part-time food-producers but a larger proportion. Although few cities built continuously, and few sustained a steady demand even for stone sculpture, the distribution of sanctuaries with substantial stone temples, significant accumulations of free-standing stone sculpture, or extensive city walls, encompasses small cities not known to have had special resources as well as large and well-resourced cities. Whether cities resorted to corvée labor, whether they raised money by taxing all or some of their residents (literary sources refer to archaic taxes on produce), or by obliging a few rich members to fund large projects (as in the "liturgy" system well known in classical Athens), it remains the case that the economy of Greek cities in general could in the sixth century reckon to support a sizeable workforce to devote to non-productive activities.

How was this possible? If we pick up the story of the distribution of Greek pottery from where we left it in c. 700 BC, the seventh century yields a pattern in which Corinthian pottery comes to be found all over the Greek world, but where different sites attract different assemblages of Corinthian pottery.[32] Fine pottery from quite a wide range of other Greek cities comes to have at least a limited circulation outside the city itself. Some of the best studies of distribution are those of Laconian (Spartan) pottery. With this pottery the strongly contrasting preferences of different sites and areas are particularly clear.[33] But Laconian pottery also shows another pattern: it reaches a wide range of sites in the later seventh century, and a much narrower range of sites a century later. This is not least a reflection of the increasing prominence of Athenian pottery. Mid seventh-century Athenian pottery is hardly found outside Attica and Aegina. Sixth-century Athenian pottery replaces Corinthian pottery as the standard fineware pottery. Exactly why this change occurred is not clear: scholars talk of a decline in the quality of Corinthian pottery, but the Athenian pots which take over the market are generally different in shape and not direct competitors. It looks as if the demand for pottery changed, with perfume jars and jugs going out and cups and amphoras coming in (Ionian cups dispute the market with Attic in the west as well as in the Black Sea). But if demand changed with regard to shape and use, the nature of the market remained constant: with Athenian sixth-century pottery, as with Corinthian pottery earlier,

[32] On Proto-Corinthian see Shanks 1999. No full discussion of the distribution of Corinthian pottery exists, but hints can be gleaned from Neeft 1987.

[33] Nafissi 1989.

different sites acquired different selections, and those selections do not even show particularly strong regional patterns. If differential distribution suggests that pots are being moved by those regularly enough involved in exchange of goods to know the particular local preferences of those living at particular sites, then the evidence is that Athenian pottery was being moved by men who knew local preferences very clearly and precisely.[34] By the end of the sixth century we have one very marked example of this: an Athenian vase-painting workshop associated with pots signed by one Nikosthenes took to imitating the distinctive shapes of Etruscan *bucchero* pottery and exporting pots of particular shapes to particular Etruscan cities.[35]

Further evidence that the same Greek ships plied to and fro more or less regularly, with cargoes not restricted to luxury goods, comes from Egypt. Egypt was unusual, in that, at the insistence of the Egyptian authorities, Greek contact was funneled through one particular site, Naucratis.[36] But this insistence that exchange be concentrated at that one site has the advantage of increasing our confidence that what is revealed by the excavation of Naukratis applies to contact between Egypt and the Greeks more generally. One feature of the archaeological record at Naukratis points particularly strongly to repeated visits by the same Greek ships. This is the presence at Naucratis of Chian "chalices" which have painted upon them, before firing, dedications to particular deities from particular donors.[37] Although scholars have speculated about the possibility of local imitation vessels or the transport of Chian clay to Naucratis, the most plausible explanation is that these pots were ordered from Chios, with specific instructions as to what should be written upon them. That this is not an isolated phenomenon, but involves quite numerous sherds, strengthens the case for regular plying of the sea routes to Naukratis.

Evidence for what was being moved back and forth between Greek cities and Egypt is sparse, and the content of archaic trade at Naucratis cannot be definitively determined.[38] Because of the regularity of the Nile floods, Egypt could supply cereals more reliably than any other part of the Mediterranean, and it was also a source of linen and papyrus; on the other hand it needed wine and oil, and also silver. Egyptian hoards have provided some of our best evidence for the chronology of archaic Greek coinage, but those hoards make it clear that it was as silver, not as coins, that the Egyptians were keen on Greek coins (the coins are often damaged and are clearly treated as bullion). But although silver coins were clearly prestige items, not even they can be regarded as the equivalent of the exotic manufactured goods prominent in eighth-century exchange. Naucratis enjoyed what is very likely to have been a unique status among Greek settlements, a classic "port

[34] Osborne 1996b. [35] Tosto 1999. [36] On Naukratis see Möller 2000.
[37] Möller 2000: 136–40 and 167–8 for the evidence. [38] Möller 2000: 209–14.

of trade" at the junction of two quite different economic systems,[39] but the exchange of goods which sustained and justified it was not the exchange of luxury potential gifts but of more or less basic commodities.

The economic significance of the pattern of marketing pottery lies in the degree of knowledge of supply and demand that it suggests. The better potential consumers know what they can get where, the more likely they are to acquire what they want. This applies not simply to manufactured goods, like pots, but also agricultural products and particularly to those which are processed. One aspect of this relates to the uncertainties of the Mediterranean climate: interannual variability leads not infrequently to years of shortage or of glut. Horden and Purcell have stressed the role of wine and olive oil in turning temporary labor surplus into storage and redistribution credit. Improved knowledge of supply and demand both enables short-term shortage to be met from short-term glut, and enables longer term strategies of agricultural labor investment. But improved distribution of knowledge also enables specialization, not simply in a particular crop, but even within that crop in exactly what one makes from it. Foxhall has pointed to the importance of what she terms "semi-luxuries" – particular sorts of wine or oil or honey, instances of goods that may be widely produced but where local production values may lead to one particular form of the product having a certain cachet.[40] Together these features point to the ways in which increased knowledge of the market enables marked increases in agricultural efficiency by matching supply to demand. Marketing a distinctive product in a distinctive container may be what was already happening with the olive oil carried in SOS amphoras; by the sixth century a whole array of distinctive amphora types had been developed, although amphora shape was not of itself sufficient to indicate the particular origin or nature of the goods inside.[41]

The greater knowledge upon which improved communications depended may in part have been enabled by writing. Before 700 BC most extensive inscribed texts are metrical, and there is little sign of use of writing for necessary communications between people.[42] The earliest formal texts of city decisions date from the end of the seventh century and take the form of inscriptions outlining civic procedures. It is not until the fifth century that the inscribed text of an official agreement between states about settlement of disputes arising between their citizens survives, but it is highly probable that such agreements began in the sixth century.[43] What we do have from the sixth century is a number of personal communications relating to trading activity. In the most famous of these, a lead letter found at

[39] This is the core argument of Möller 2000. [40] Horden and Purcell 2000: 216; Foxhall 1998.
[41] Johnston and Jones 1978; Dupont 1998; Dupont 2000. [42] Powell 1991.
[43] For the earliest surviving agreement see Meiggs and Lewis 1969: no. 31. On these agreements more generally see Gauthier 1972.

Berezan,[44] one Achillodoros writes to his son that a certain Matasys has deprived him of his cargo and is reducing him to slavery on the grounds that he, Achillodoros, is in fact a slave of one Anaxagores who himself has laid claim to Matasys' property. What is significant here is that the various parties involved know each other: no explanation is needed to the son as to the identity of Matasys, and it appears that Matasys himself has been moving back and forth between cities. In other words, here we have a network of regular exchange relations, where the actors travel back and forth frequently enough to form involved relationships with one another, and we have no reason to think that the surviving lead letter was not part of a much more extensive written correspondence.

If writing had some economic consequences, the archaic "invention" with the most far-reaching economic implications was coinage. Not that coinage necessarily had immediate economic consequences: bullion would have fulfilled the role that Greek silver coinage fulfilled in Egypt equally well. But how far was that true within the Greek world proper?

The earliest coins are made of electrum, an alloy of gold and silver, sometimes referred to as "white gold," which occurs naturally in Lydia. The coins were found in a deposit at the temple of Artemis at Ephesus. Herodotus says that the first people to strike coins were the Lydians themselves, adding that they were also the first retail traders (*kapeloi*) (1.94.1). Although persistent attempts have been made to date the origins of coinage back to c. 700 BC, a date at the very end of the seventh century is more likely. That the earliest coins were indeed Lydian seems very probable, but it was within the Greek world that the idea caught on, first among the cities of Ionia, which also began to mint electrum, and then in the rest of the Greek world, where from c. 550 BC onward silver coinages were minted. If the first coins were Lydian then it is not appropriate to try to explain their appearance in terms of the Greek economy; but the question of whether the rapid spread of coinage in the Greek world had either economic reasons or economic effects is an important one.[45]

The utility of coinage rests in the way in which it can serve a number of functions which previously had not been served by a single medium. That is, coins measure value, store wealth, and can constitute a medium of exchange. The assessment of value does not depend upon measuring it against a single common measure: we meet a number of measures of value in earlier Greek literature (cattle appear as a measure of value in some circumstances in the Homeric poems). Payments can be stipulated in terms of particular objects as well as in terms of an abstract value, and some

[44] Bravo 1974; Dubois 1996: no. 23.

[45] For recent general discussions of the origin of coinage see Howgego 1995: 1–18; Osborne 1996a: 250–9; Kurke 1999: 3–23; Kim 2001; Seaford 2004.

Greek cities went on stipulating fines in terms of metal vessels, etc., even once coinage was available.[46] Wealth can be stored in a variety of forms, with precious metal objects sharing at least some of the useful properties of coinage. But it is perhaps as a medium of exchange that coinage has potentially its greatest transformative effect, and upon the way in which people thought as well as the way in which they acted: Heraclitus talks of the exchange of goods for gold and gold for goods when he wants a familiar image by which to introduce his readers to the idea that all things might come from and return into fire (DK fr. 90).[47]

Various aspects of early coinage cast some doubt, however, on whether coinage did effect any immediate revolution in exchange. The first is the fact that early coinages are of electrum. Electrum is both very valuable and of uncertain metallic content. Although Lydian electrum coins seem to vary less in their proportions of gold to silver than does naturally occurring electrum, nevertheless variation does still occur, and no one who took a coin could be quite sure what they were getting in metal. That there was perhaps an element of "token" to the earliest coins might indeed well explain the point of stamping the standard weights of the metal in the first place: the stamp could act as an indicator of origin and a guarantee that the coin could be exchanged at a standard rate within the area of authority of the stamping body. But if that is true, then the converse is likely also to apply: that there could be no certainty of the coin being accepted as of a standard value outside that area of authority. This is compounded by a second aspect. From the beginning different mints seem to have minted according to locally prevailing weight standards, and in consequence standard coin weights, and with them values, were significantly different from place to place. If coins have an advantage over bullion that they can be counted rather than weighed, this advantage is countered by the use of different standards.

The use of local weight standards links in with another remarkable feature of archaic Greek coinage: that coins are not issued simply by cities with access to a suitable precious metal, but are issued by a very large number of cities. In a very large number of cases the minting body had to import the silver (or electrum) from which to mint its coins. There is unlikely to have been any economic advantage to doing this, rather than simply using another city's coins (as Cretan cities seem to have done). To mint a coinage, and to do so to a weight standard that either did or did not correspond to the standard used by one's neighbors, was clearly a political and not simply an economic matter.

It has sometimes been suggested that the explanation for the spread of coinage should be seen as entirely political. The great thing about coinage was that it gave an easy way of making, and receiving, standardized

[46] Von Reden 1997b. [47] Seaford 2004.

payments, such as cities might need to give to state officials or mercenary soldiers or to receive from residents as taxes. Political developments during the archaic period can be seen to have favored standardized measurement of citizens (see further below), and coinage fits into that picture by turning precious metal, the classic gift, into a commodity.[48] Even if we do put stress on the political, therefore, it is on an aspect of politics with extremely strong implications for how economic transactions and relationships were conceptualized.

The way in which Herodotus (1.94) links the Lydians being the first to mint coins with their being the first retail traders is very suggestive of the implications of coinage as he saw it in the late fifth century. None of the drawbacks to archaic coinage as a means of exchange between different Greek communities, or between Greek communities and the outside world, applied to exchange within the city, and it has become increasingly clear that the picture of ordinary citizens manipulating tiny coins for small everyday market transactions, familiar from Aristophanes, was equally possible in the sixth century, when abundant fractional coinage was already available.[49] This is peculiarly important. Exchange between communities will often necessarily have been between parties unknown to each other or at least parties who were not engaged in everyday social and political exchanges of other kinds. Exchange within the community was not like that: as Hesiod's remarks in *Works and Days* emphasize, economic exchanges between neighbors were necessarily social, and brought definite social obligation, even if the scale of the obligation could never be well defined. The introduction into the sphere of neighborly exchange of a common standard of value and means of payment arguably changed the nature of these transactions: by giving exchange items a value in terms of a commodity which was not affected by season, condition, or supply and demand, the introduction of coinage into transactions within the city made the complete discharge of obligations possible and indeed normal. Parties to an exchange might continue to desire that there should be an uncertain social residue to their exchanges, as mistresses (*hetairai*) might desire to distance themselves from prostitutes (*pornai*), or lovers (*eromenoi*) to keep away the charge of being rent-boys, but coinage offered the possibility of eliminating that residue for the party who so desired.[50]

Issues of the nature of the social relations involved in economic transactions have taken us out of the range of questions which it is easy to answer from the archaeology, and into areas for which literary texts are a necessary guide. In the third part of this chapter, in parallel with this early survey of

[48] Compare von Reden 1995a: 171–94. [49] Kim 2001.

[50] Davidson 1997: part II; von Reden 1995a: pt. III; on *hetairai* and *pornai* see Kurke 1999: ch. 5, although I find much of the detailed reading of texts unpersuasive.

the material evidence, I look at what we can learn from surviving literary representations of economic transactions.

III THE LITERARY REPRESENTATION OF THE ECONOMY

(a) *The economy c. 700: the* Iliad, Odyssey, *and* Works and Days

The *Iliad* and the *Odyssey* lie at the end of long oral traditions which it is reasonable to believe have their roots in the Bronze Age.[51] There has been much scholarly debate both about where the end of the oral tradition lay, with some scholars maintaining that the poems reached the form in which we have them only in the sixth century, and about what, if any, historical reality is being presented in the "realistic" parts of the poems.[52] For current purposes I will presuppose, as I believe to be most plausible, that the poems were circulating in something close to the form in which we have them by shortly after 700 BC, and that the presentation of "daily life" offered in glimpses in the *Iliad* and *Odyssey* reflects at least the image, if not the reality, of life c. 700 BC.[53]

The *Iliad* and the *Odyssey* are imaginative literature, set in a time of heroes whose physical strength is explicitly said far to exceed that of the poet's contemporaries. Much that the heroes do is a projection of fantasies. Heroes regularly feast on meat (e.g., *Il.* 8.545–7, 9.459–74), not bread: this should not be taken as an indication of a pastoral past in which meat was the staple diet, but as the creation of a larger-than-life world by treating the exceptional feasts of contemporary festivals as regular fare.[54] Quantity, quality, and frequency are highly susceptible to being heroized: the world of the past was bigger and better and enjoyed the good things of life more often. But it is important that those who hear or read literature can make sense of it: behind it all there needs to be a structure that is more or less familiar, the reader or listener must be able to imagine what is being described.

Agriculture remains very much in the background in the Homeric poems: in the *Iliad* agricultural tasks emerge in similes (e.g., *Il.* 4.433–5, 5.499–502, 10.183–6) or as part of the background to the remarkable scenes of the city at peace which Hephaestus creates on the shield of Achilles (*Il.* 18.541–9). In the *Odyssey* agriculture is very much the norm against which are contrasted the fantastic places to which Odysseus travels, and the perversions of the Suitors who compete for Penelope's hand while he is away. The

[51] West 1988; Sherratt 1990; but for questioning of this view see Powell 2002.

[52] For a long fluid tradition see Nagy 1996. For arguments about the necessary contemporaneity of the realistic parts of the poems see Morris 1986a, and compare Griffin 1986.

[53] See further Osborne 1996a: ch. 5, 2004b.

[54] For contrary claims about Dark Age pastoralism see Snodgrass 1980: 35–6.

absence of ploughing and sowing is one thing that marks the Cyclopes out as uncivilized (*Od.* 9.105–15), and Eumaios the swineherd marks out the excesses of the Suitors as much by the agricultural rhythms of his life as by his fidelity to his master.[55] When, in the final book, Odysseus visits his father Laertes on his farm, the careful description returns the reader or listener from the violent slaughter in the palace to a familiar world, much as a man in Homer's own world might return home from the slaughter of the battlefield. Grain is the staple food in this world, and wine the staple drink (*Il.* 5.341–2); pigs are kept for sacrificial feasts and goats for milk and meat; ox-sacrifices form noteworthy occasions (*Od.* 3.5–11). If most labor goes into producing grain, pride and care go into vegetables and fruit (*Od.* 24.244–7, 336–44).

For the Greeks at Troy, all supplies have to come from abroad, but when ships from Lemnos arrive in *Iliad* 7.467–75 they bring wine, bronze, iron, hides, oxen, and slaves. Most of the items on this list would have been necessarily items of exchange for most Greeks. The inclusion of wine on the list fits with the identification of the wine with which Nestor and Circe feast their visitors as "Pramnian" (*Il.* 11.639, *Od.* 10.235), and suggests that wines were differentiated and that people might go to some trouble to acquire particular sorts or origins of wine.

Stories told by various characters in the *Odyssey* feature non-Greeks plying the seas to acquire and dispose of items in exchanges unlikely to encourage further contact. The fullest and most important of these is Eumaios' story in *Odyssey* 15.390–484. He tells of the visit of Phoenicians carrying "ten thousand charming things" to his father's city on the island of "Syria," of how they visited the palace, seeking to sell gold and amber jewelry, made the acquaintance of the young Eumaios' Phoenician nursemaid, herself once kidnapped and enslaved by "Taphian" pirates, and of how, at the end of their year of trading, they took the nursemaid off with them, promising to take her home, and she took Eumaios with her. Here is an image of exchange which is neither based on supplying subsistence needs, nor a matter of disposing of goods quickly so as to move on "down the line." These traders stay to learn about their market, and to become trusted, but they accumulate this knowledge not to deploy future visits more efficiently but to maximize the gain from a single stay. Just as on some previous occasion Taphians had visited and Eumaios' father had taken the one-off opportunity to acquire a skilled and exotic slave, so now the Phoenicians offer a one-off opportunity to acquire exotic goods.

Between them, these two episodes from *Iliad* 7 and *Odyssey* 15 suggest that the audience of the poems was aware of the possibilities both of relatively regular exchange, for items basic to Greek life but themselves irregularly

[55] Vidal-Naquet 1970.

distributed over Greek lands, and of irregular exchange for items of low bulk and high value. Ships are a source both of items crucial to survival as a Greek (cattle for sacrifice, bronze for armor, iron for weapons and agricultural tools [as at *Il.* 23.826–35]), and of items by which individuals within a community set themselves apart. The context in which they use exotic items to set themselves apart is primarily the gift exchange: exotic goods derive ultimately from merchants, but subsequently they circulate as gifts. The silver mixing bowl which Menelaus takes from his store chamber to give to Telemachus at *Odyssey* 4.615–19 is presented as having been a gift to Menelaus from Phaidimos king of Sidon.[56]

Hesiod's *Works and Days*, a piece of "advice literature," has little interest in goods that set individuals apart. He knows that the desire for such items can be manipulated so that gifts turn into bribes (*Op.* 38–9). But his basic concern is with the acquisition of items basic to Greek life. At one point the poet imagines consuming Byblian wine (*Op.* 589), but in general he is concerned with the production of what is needed for subsistence. The poem is framed as advice to his brother Perses that he should secure his livelihood by hard agricultural work, rather than by quarrels and disputes. Hesiod's world is one where justice and hard work guarantee prosperity, where it is particularly important to deal fairly with a neighbor (*Op.* 342–51), and where one borrows at one's peril.

For all that, however, Hesiod is well aware of the profits to be had from selling goods abroad. He presents himself as a hater of the sea, but he recognizes trading as a route out of debt and hunger, representing his own father as one who took to the sea to escape poverty (*Op.* 631–40). The risks of sailing are such that, Hesiod advises, one should not put all one's goods in a single ship, but he nevertheless also advises filling a large rather than a small ship, since the bigger the cargo the bigger the profit (*Op.* 689–91, 643–5). The implications of Hesiod's giving information on the right and wrong season of the year for sailing is that to choose to trade is to choose that as a regular pursuit, not an occasional one. Hesiod's expectation seems to be that markets can always be found for the sorts of goods that inland Boeotia produces, not that one simply takes periodic advantage of good harvests or of poor harvests elsewhere.

Dependent labor of various forms (hired women, bought slaves) appears in *Works and Days*. But Hesiod presents a world of small economic units, as if the audience for the poem would undertake agricultural tasks and sailing the seas personally. This, along with his belief that the supply of good things is limited, has caused his world to be labeled a "peasant" world.[57] But another marked feature of Hesiod's world is the very limited social hierarchy that is visible. Of superiors, only the rulers who settle disputes

[56] See further, and differently, von Reden 1995a: pt. 1. [57] Millett 1984.

are ever visible. Everyone else appears to be like Hesiod himself, except for dependent laborers and the craft specialists, the rival potters mentioned in passing, and the blacksmith whose forge is a tempting place in which to spend time in winter. Just as Hesiod's world is morally over-simplified, so it is socially over-simplified: Hesiod's presentation of the individual as in charge of his own destiny is a convenient fiction, forgetful of relationships of power. The poem is a vehicle for moral teaching, not a descriptive sociology.

(b) *The economy c. 600: Making sense of Solon*

The imagined community of most surviving poetry after Hesiod is, like Hesiod's, the community of the poet into which the reader or listener is invited as if a member. Much archaic lyric and elegiac poetry is indeed about relations within the poet's imagined community, and in particular about political, social, and personal relations. Much of the poetry is about the construction of a personal identity, setting up behavior for emulation or avoidance, challenging or confirming values assumed to have more general currency. Much of the poetry plays with ideals paraded already in the poetry of Homer and Hesiod, where martial and sexual prowess, the ability to speak well, and the ability to do well by one's friends and harm one's enemies, through gift and act, are all in play. Just as the description of the suitors of Penelope in the *Odyssey* shows how the same values set forward as admirable in one context can be redescribed as despicable in another, so archaic poetry plays with the possibility of redescribing behavior in less as well as more flattering terms.

The relationship between the projection of a poetic persona and the conduct of social relations more generally is not an easy one to deduce: continuing to play an anachronistic game can be ironically knowing or aggressively reactionary. Distinguishing between the two demands making assumptions about context, but we rarely have the evidence on which to base such assumptions. We come closest to being able to control the context where the poetry can be most closely linked to a particular political situation, and for archaic poetry this means with the poetry of the Athenian Solon. Because Solon came to be regarded in the classical period as the man to whom Athens owed its classical lawcode, much ancient scholarly effort was made to excavate Solon's politics from his poetry. The poetry indeed invites this, as Solon uses the poetic medium to defend his political actions.

Some lines ascribed by some ancient writers to Solon appear also in manuscripts of Theognis (e.g., fr. 15 = Thgn. 315–18, fr. 24 = Thgn. 719–28), but Solon distinguishes himself from Theognis and other archaic poets by his interest in the people. Declaring that he gave them as much honor as was sufficient for them (fr. 5), he expresses concern about how they fare under a sole ruler (fr. 9) and about the effect of "great men" on the community as

a whole. Most importantly, in terms of the representation of the economy, he claims to "have brought the people back together again" (fr. 36.1–2), that the "black earth" is a witness to this, to which he gave back freedom by tearing up boundary markers (fr. 36.5–7), that he restored to Athens many who had been sold abroad, fleeing debt, and freed others who had been enslaved at home (fr. 36.8–15). What exactly these poetic claims refer to, and how Solon achieved what he boasts of has been debated ever since the fourth century BC. Ancient authors already took sides on whether or not Solon enacted later revolutionaries' calls for land redistribution and the cancellation of debt. In terms of the representation of the archaic economy, what is important is that the economic relationship between the elite and the rest of the community has become a political issue, and that that issue turns on personal labor and on access to land.

Poets would go on for many years after Solon imagining the world of the gift. Much of the poetry of Pindar and of Simonides in the late sixth and early fifth century continues to explore the power of the gift in social relations.[58] But Solon reveals the possibility of imagining a world where the gift has lost central place even in political relations. That such a world was indeed the world of sixth-century Athens is suggested by Solon's own reputed division of the Athenian people into census classes according to wealth, and the use of those census classes to determine access to political office. Hesiod's was a world in which land, and farming it productively, was essential to personal independence; Solon's is a world in which land, and farming it productively, was essential to political status. Personal prowess continued to translate into *kudos* and could give standing within a community, but it could no longer guarantee political status.[59]

What brought about this politicization of the Athenian economy? Crises of over-population or soil exhaustion, though often suggested, are implausible: the archaeological evidence for rural exploitation of Attica suggests that it had reached nothing like its classical intensity during the archaic period. That the growth of the archaic economy brought relatively sudden wealth to some, is not implausible, but interannual variability had always brought sudden enrichment and sudden impoverishment, and the evidently increased political competition should be related to the absolute size and increasing need for self-regulation in communities, and not primarily to economic change. The Solonian crisis was a crisis in social relations and the distribution of political power. Increased political competition is seen in the attempted coup of Cylon in the late seventh century, in the attempt by Damasias, shortly after Solon's reforms, to retain political power after the end of his archonship, and in the eventual tyranny of Peisistratus. Increased social tension may be behind the lawmaking activity of Dracon,

[58] Kurke 1991; Carson 1999. [59] On athletics and *kudos* see Kurke 1993.

a quarter of a century before Solon. Solon ruled out the enslavement of fellow Athenians for debt, and seems to have put an end to the underclass of sharecropping *hektemoroi* ("sixth-parters"). Whether such actions are more plausibly presented as Solon preventing social relations being turned into economic relations, or preventing economic changes leading to pressure on established social and political relations is not easy to decide. That there was an economic and social demand for dependent labor emerges from the expansion of chattel slavery at Athens, which appears to be a feature of the sixth century.

The area in which gift exchange continued to dominate politics was in inter-state relations. Throughout the stories which Herodotus tells of the archaic Greek past, gifts are rife.[60] Only when one state was subordinated to another in a tribute-paying arrangement, as in the Persian or Athenian empires, was the relationship between communities commodified in the way that relations within a state such as Athens had become officially commodified. The continued role of the gift in diplomatic relationships between cities opened up the possibility of debating when a gift was a bribe in inter-state relations; within the city there was reduced room for doubt.[61]

IV CONCLUSION

The material evidence from archaic Greece leaves us in little doubt that between c. 700 BC and c. 500 BC the economy was transformed. In both aggregate and per capita terms, consumption and production had increased. Settlements had become larger and more distinctly urban, displaying communal facilities of various sorts, most impressively temples and fortifications. Self-sufficiency can never have been easy to achieve in a world where the climatic variation from year to year was marked, but by 500 BC knowledge of what could be acquired from where had become highly sophisticated, and the network of shipping, and indeed roads, such as to deliver what was desired. Greeks could still imagine a world where there were people who did not know the value of the goods they exchanged, but it is notable that the story in Herodotus which turns on this is set outside the straits of Gibraltar, at Tartessos near Cadiz (Hdt. 4.152). Within the Mediterranean markets could be expected to be broadly inter-dependent.

The literary evidence from archaic Greece supports the idea of an economic transformation. Hesiod and the Homeric poems know of routine exchange relations of a commercial sort, but they know too of outlandish figures who offer outlandish goods and who disappear without trace. In

[60] Gould 1991.

[61] On international relations as personal relations see Herman 1987; Mitchell 1997. On bribery at Athens see Harvey 1985.

their world knowledge of what can be acquired where is imperfect. Such ignorance contributes to the value of the objects within gift exchange. Objects have a value that is unrelated to their price in the market, because there is no market for goods whose value derives in part from their individual history of gift-exchange. By contrast, Solon puts a value even upon the individual citizen, whose political capacity is now determined by his wealth. That there was, broadly speaking, a transition from gift to commodity during the period from the eighth to the sixth century has often been suggested.[62] What I have tried to do here is to trace both the economic background to that change and its political origins.

By 500 BC Greek communities were willing to undertake vast community projects involving huge quantities of labor, serious financial commitments to suppliers of stone from elsewhere, and a timetable that might extend not just to years but to decades. Most harbors saw relatively regular visits from generally well-known ships carrying staples, semi-luxuries, and the sorts of Athenian pottery the community had a reputation for liking. All of this was paid for by coinage which not only enabled direct comparisons and assessment of value for money, but which was the stuff in which, ultimately, the political standing and privileges of the paying citizen were measured. Coinage followed, rather than caused, the commoditization of the world of the Greek city, but it is not inappropriate that it should come to serve as its symbol.

[62] Morris 1986b.