CHAPTER 14

CLASSICAL GREECE: CONSUMPTION

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1 INTRODUCTION

This chapter describes patterns of consumption as affected by regional productive capacities, inter-regional distribution, a range of social and geographical biases, as well as ideology and taste. Consumption is a highly symbolic activity at all social levels and due respect will be paid to interrelations between the economics and culture of consumption.[1] I shall try, as far as it is possible, to give some quantitative assessment of standards of living in comparison to earlier and later periods. Finally, since markets and exchange supplied only a certain amount of domestic consumption, I shall ask under what conditions consumption turned into demand that affected the economy more generally.

Every analysis of consumption must face the conflict between the profligacy of social or political elites and the struggle of the poor to meet basic needs. As was argued in the previous chapters, monetization, increasing contact with the non-hellenic world, changing politics in Greek cities, and the Athenian empire had strong impacts on production and exchange after the Persian Wars. Under these circumstances, both aristocratic and peasant ways of life changed and became subject to public debates about how to live the life of a good citizen.[2] How did these changes affect patterns of consumption both among the elite and the peasantry, and how did changes in civic ideology change the relationship between elite and peasant consumption in the fifth and fourth centuries?

Elite and peasant consumption are normally studied as two different subjects in classical scholarship. Whereas the former has attracted much research on the culture of the symposium and its consumption

[1] Consumption has received extensive theoretical attention from cultural historians and anthropologists; see especially Douglas and Isherwood 1980; Leopold and Fine 1993, Bocock 1993; and Foxhall 1998.

[2] Evidence is overwhelmingly Athenian, but Athenian political, cultural, and economic influence affected other *poleis*. This can be seen in both the spread of their coinage (Wartenberg 1995; Figueira 1998), and in cultural emulation or resistance (see most recently Morris 2005). I focus here mostly on the *polis*, leaving aside other political structures (*ethne*).

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rituals, analyses of the latter tend to concentrate on human nutritional requirements and strategies of satisfying them under normal or exceptional conditions.[3] While historians of the symposium exploit above all literary and visual material, emphasizing cultural approaches to meaning, studies of the ancient peasantry are dominated by ethnoarchaeological and anthropological approaches emphasizing cross-cultural comparisons.[4] But it is misleading to assume that peasant consumption of necessities lacks symbolic significance, or that there are no economics to conspicuous consumption by a political elite.[5] The divergence of scholarship can partly be explained by the nature of the evidence and the almost complete absence of direct information about consumption outside urban contexts and the literate elite. Literary sources describe the habits and tastes of peers, physical remains such as houses and graves are biased towards the conspicuous and lasting, and even the remains of human bones tell us more about the relatively well off than about those who died unnoticed or were buried adjacent to a small farm.[6] Yet as well as being aware of biases in the evidence, we have to integrate what is absent into a general model of consumption. Because of a particular relationship between city and countryside and a civic ideology that emphasized equality, there was a particularly close relationship between forms of consumption among different social groups.[7]

The relationship between private and public consumption is another peculiarity of the classical period. One of the most striking characteristics of the classical city is an ideologically forced concern with the adornment of public buildings and temples, rather than with private houses or palaces.[8] The economy of the classical *polis* was very different from its Hellenistic and Roman counterparts in that the display of private wealth was considered inappropriate and a potential threat to the collective. Civic ideology set limits to private consumption, at least in the fifth century, while earlier and later, it is precisely the consumption of luxury goods and exotic materials that is thought to have stimulated production and inter-regional exchange.[9]

Alongside private households and the state, temples represented a third sector of consumption. Temples belonged to the gods, but their priests

[3] Elite consumption: Murray 1990; Wilkins et al. 1995; Dalby 1996; Davidson 1997. Peasant consumption: Garnsey 1988; 1998; Halstead and O'Shea 1989; Gallant 1991; Sallares 1991. Garnsey 1999 attempts a more integrated approach.

[4] Morris 1994b; Cartledge 1998. [5] For the latter see above all Horden and Purcell 2000: 209–20.

[6] De Angelis 2000 for Sicily; Osborne 1987: 115 for Athens; for the distribution of Geometric to archaic burial sites in Attica see Morris 1987: 229f.

[7] Ober 1989, and Foxhall 2001 for the discrepancy between egalitarian ideology and economic reality.

[8] Osborne 1987: 81–92; Cartledge 1998; Morris 1998a.

[9] See Rostovtzeff 1953 on how Hellenistic courts and Greek immigrants in the Hellenistic empires stimulated trade; Hopkins 1995/6 on how the city of Rome contributed to stimulating trade in the Roman empire.

were recruited from local families who sometimes had hereditary rights to the administration of a particular cult. The relationship between *polis*, citizens, and temples formed three poles of a complex system of interdependence and competition. Temples were financed by yields from sacred property, voluntary or compulsory dedications by worshipers, and above all by public reserves.[10] Income was applied to cult, salaries, and buildings. Consumption was controlled by piety and the publication of expenditures, which were regularly audited. Treasurers struggled to strike the right balance between managing the gods' property according to norms of self-restraint and making visible the piety of the citizens by demonstrative expenditure. The temples' economic role as units of consumption must be sought in the fluctuating political and economic ability of the collective citizen body and wealthy individuals to express their piety and power in financial munificence.

Athens is the best-documented example of how a certain institutional framework influenced forms and levels of consumption. First, the relationship between the urban center and its hinterland, combined with pressures for all citizens to participate in politics and ritual, and on the wealthy elite to make financial contributions to the community, reduced cultural and economic divisions between city and country.[11] Second, public wages and monetary liturgies stimulated monetization, which in turn stimulated exchange rather than consumption of home-produced goods. A new focus on the *agora* as a space for both political and economic exchange underpinned these developments ideologically.[12] Third, the *polis* as a collective was a consumer itself. Since classical *poleis* increasingly taxed in money not in kind, and did not maintain state industries, public herds, or directly cultivated public land, they generally bought what they needed.[13] This fueled commodity production and the distribution of goods through exchange. Finally, democracy created an egalitarian ideology that homogenized public displays and opened a formerly exclusive culture to a wider social range of people. Athens was exceptional in financial resources, degree of democracy, and power in the fifth century, but the effects these factors seem to have had on private and public consumption can be noticed in other *poleis* as well.[14]

[10] Linders 1987; Osborne 1987.

[11] Osborne 1985a; and Osborne 1991a; Osborne's model of the interdependence of rural and urban financial and commercial interests has qualified Finley's influential description of ancient urban centers as consumer cities in the sense of Max Weber (Finley 1981: 13–19; 1985: 123–49; see also the collection of articles in *Ktema* 28 [1998]).

[12] See above, Chapter 13, and von Reden 1995a.

[13] Mines, though state owned were not state industries, since they were not worked directly, but leased out to private entrepreneurs; Conophagos 1980; Osborne 1985a. Public and sacred land was normally leased for a cash income, not cultivated directly.

[14] Morris 1998a.

II NUTRITION

(a) *Nutritional standards*

Basic information about ancient nutrition can be gained from the remains of human bones. Although studies of skeletal remains from classical antiquity are still few, and we need a broader range of samples to draw a general picture of dietary conditions, the extant material offers some noteworthy insights.[15] Diet affects health and stature especially during childhood and youth. Bones contain information about major components of the diet, levels of nutrition, and incidence of chronic or infectious diseases, while teeth can help to determine whether there were periods of nutritional stress during childhood.

An individual's growth potential is genetically fixed, but environmental factors and dietary habits influence actual height. Table 14.1 summarizes average height for classical Greek skeletons, together with some comparative material.

Table 14.1 *Average height of male and female skeletons in cm**

	Men	Women
BRONZE AGE		
Mycenae (n=22)	171.5	159.1
Lerna (Argolid)	166.3	154.2
EARLY IRON AGE		
Pydna (mountain village) (n=15)	168.8	152.8
CLASSICAL		
Greece	169.8	156.3
Athens (Late classical)	171.3	159.2
Acanthos	169.2	157.1
Metapontum	166.6	157.5
HELLENISTIC		
Greece	171.8	156.6
Athens	171.1	155.5
MODERN		
Crete (1960s)	164.0	156.3
Cyprus (1949)	165.1	N/A
Greece (1963)	170.5	N/A
UK (1993)	176.0	164.0

* Data from Tzedakis and Martlew 1999; Angel 1971; 1972; Morris (above, Chapter 8); Henneberg and Henneberg 1998; Bisel 1990; Jones et al. 1993; see also Gallant 1991: 69. Skeleton size not age corrected; sample size is given in cases in which n < 50.

[15] For discussions of the historical interpretation of skeletal remains, see Morris 1992: 70–102; Gallant 1991: 68–75; Garnsey 1999: 43–61; and Garnsey 1989a.

The data show some consistency in their development from the Bronze Age to the Hellenistic period, but their evaluation is controversial. Average height changed little from the Bronze Age to the classical period, and possibly increased slightly for men thereafter. The discrepancy between Mycenae and Lerna may indicate a class difference, with the ruling families at Mycenae consuming a diet richer in protein than that of the rural population of Lerna.[16] Yet we should also note that average heights were similar to those in 1960s Greece. Compared to growth-charts for modern Britain, the height of classical Greeks was between the ninth and twenty-fifth percentiles, within the range regarded as normal.[17] But Henneberg and Henneberg argue that living conditions in late archaic to late classical Metapontum must have been seriously unsatisfactory to have produced such short adults, and Morris (above, Chapter 8) suggests that in male populations averaging under 168 cm. some will have been so poorly nourished that they were unable to work.

Chemical analysis of trace elements in the bones also offers insights into the composition of diets. Strontium is deposited in bones through consumption of plants and zinc via animal foods (meat, eggs, and dairy products). Seafood also increases the strontium levels, while cereal products with a high fiber content further decrease zinc levels.[18] Unsurprisingly, the amount of strontium in classical Greek bones is high, even by comparison with Bronze Age samples. The fact that plant and fish food rather than animal products dominated the classical diet is uncontroversial, but given that it is above all the consumption of iron-rich red meat and other high-protein foods which makes people reach their growth potential, the high strontium level can also explain why the classical Greeks were relatively short without necessarily being under-nourished. Low zinc values in bones from late classical Athens have been taken as signs of regular consumption of high-quality refined wheat flour.[19] At face value the bones suggests that nutrition was on the whole not bad, though not conducive to high stature.

Teeth, however, qualify this picture, as do the pathologies of bones, and some general considerations. Stress lines on teeth, so-called enamel hypoplasia, indicate hardship during childhood, leading to temporary growth arrest. In Angel and Bisel's analysis of 890 skeletons, 37 percent of teeth were affected by hypoplasia in the sample from the Bronze Age to classical times. Problems apparently declined in Hellenistic times, when only 18 percent of the sample shows the abnormality.[20] At Metapontum 78 percent of teeth are hypoplastic, though this may be due to the high fluoride content of

[16] Angel 1971: 85; Bisel and Angel 1985; Tzedakis and Martlew 1999: 223ff.

[17] According to the US National Center for Health Statistics [1977], average height below 167 cm. lies below the norm; Henneberg and Henneberg 1998: 520.

[18] Garnsey 1989b; Morris 1992. [19] Bisel 1990. [20] Bisel and Angel 1985; Morris 1992.

local water, not poor living conditions.[21] Metapontum apart, the relative frequency of hypoplastic rings suggests uneven nutritional conditions during individual lifetimes. Moreover traces of, or genetic reactions against, disease in the bone material draw attention to the high incidence of serious infections which drained the body of essential minerals, especially iron.[22] A diet that may have been quite adequate for normal conditions was insufficient in periods of recovery from illness. Children are among those most vulnerable to infectious disease and at the same time require more essential nutrients, as do pregnant and lactating women. Soldiers and manual workers were often particularly well fed to keep them fit, but those whose dietary requirements were less well recognized – children, childbearing women, and convalescents – were most likely to have suffered from malnutrition.[23]

(b) *The Mediterranean triad*

Literary and comparative material can help to understand how nutritional standards were achieved and maintained. Between 60 and 75 percent of the caloric intake of a typical Greek free person probably came from cereals, principally barley, but preferably wheat.[24] This would have put cereal consumption above that of many Third World countries, which rely on rice, maize, yams, or sweet potatoes. Wheat and barley are good sources of carbohydrates and, for plant foods, have relatively high protein contents. Cereals contain a range of essential nutrients and can be adequate sources for calcium and iron. If consumed in quantity, and in the right form, they can provide most of what people need (see Table 14.2).[25]

Yet not everyone had access to high quality wheat. Bread that is full of bran or unleavened may cause iron deficiency, anaemia, rickets, or growth abnormalities. Athenaeus, a major source on foods and recipes in the classical world, lists seventy-two types of bread made of different kinds of and differently processed flour, many being local varieties (Athen. 3. 108–15).[26] Ancient doctors, moreover, knew some effects of bread on digestion and health (Hipp. *Acut.* 40–5; 82), but wealth, regional preferences, and taste, rather than nutritional recommendation, guided choices. Aristophanes linked dishes prepared from un-milled, high-bran barley (so-called *chidra*) with country life and an undesirable degree of boorishness (*Pax* 1ff.; *Nub*. 1358; *Vesp*. 1304). Barley bread was given to slaves only (Athen. 7.34). Local cultural and social factors made the high-cereal diet a very variable nutritional source.

[21] Henneberg and Henneberg 1998.
[22] Scrimshaw 1975; Henneberg and Henneberg 1998; Angel 1971; Garnsey 1999; Morris 1992.
[23] Garnsey 1989a; 1999; against Corvisier 1985.
[24] Foxhall and Forbes 1982; Sallares 1991; Garnsey 1999: 19; Gallant 1991: 68.
[25] Again, Garnsey 1999. [26] Amouretti 1986.

Table 14.2 *Protein content of some staple foods**

Cereal or root crop	Protein (gr. of protein/100 gr.)
durum wheat	13.8
barley	11.0
bread wheat	10.5
millet	10.3
maize	9.5
rice	7.5
yams	3.5
potato	1.7

* After Garnsey 1989a; cf. 1999: 20.

Olive oil and wine are also major components of the Mediterranean diet.[27] They are somewhat comparable in their economic and cultural significance. On the one hand their cultivation is more labor intensive and risk-laden than cereals, but on the other, they were marketed and consumed in extraordinary quantity throughout antiquity without any obvious environmental reasons. Olives and vines can be successfully cultivated in regions where they have not dominated the diet. Their preeminence in the Greek symbolic system and their emergence as important Greek commodities thus needs some explanation.[28] Three factors have been emphasized: the cultural importance of wine-drinking brought about by the tradition of the aristocratic symposium; the general availability of excess labor that reduced the high costs of vine and olive cultivation; and the profits from trading in them, combined with monetary demands on the elite (see esp. Arist. *Pol.* 1.1259a).[29] In other words, wine and olive oil were consumed in prodigious quantities not so much because they were widely available, but because they were made widely available.

Olive cultivation varied widely in Greece. According to the First Fruit inscription (*IG* II² 1672), olive production on Lemnos was almost negligible, despite the fact that the cultivated area was larger than that of Attica, allowing in principle more scope for a high-risk crop.[30] Olive cultivation needs a dry season in which the fruit develops its oil content, and a cool but not frosty winter to rest. Olive trees are not found in substantial areas of Greece, and do not grow well above 800 m. Thus local conditions could strongly affect availability of olives and olive oil, which had to be imported

[27] For other plant products supplementing the cereal diet see Chapter 12 above; for the extraordinary role of figs see Horden and Purcell 2000: 209ff.; for emergency foods, Gallant 1991: 115–19 with Clark 1976.

[28] Horden and Purcell 2000: 209ff.

[29] Ibid.; Osborne 1991a for the economic pressures of rich Athenian citizens in terms of public funding.

[30] Sallares 1991: 478; Kayser and Thompson 1964: 319–20.

in many places (see above, Chapter 13).[31] Further, the olive tree's biological rhythm only produces a good crop every second year. Regular oil consumption requires storage and/or provision through exchange. Combining oleoculture and cereal agriculture, moreover, requires planning and the balancing of comparative advantage. While olive trees can grow on soils too dry for cereals, good olive yields require good soil. Theophrastus tells us that in the plains best suited for olives, figs, and vines, these crops competed with cereals (*Hist. pl.* 2.5.7). His recommendation – to use the best soil for cereal cultivation and the second best for olives (*Caus. pl.* 1.18.1–2) – was guided by his opinions about the relatively safety of cereal cultivation and the greater profits but higher risks and labor requirements of olives. Market-oriented farms might use some of the best soil for olives. Newly reclaimed land, moreover, was normally devoted to olives.[32]

Olive cultivation yields higher caloric returns per hectare and unit of labor input than any cereal.[33] Rising per capita consumption of oil can therefore indicate higher standards of living, because a larger amount of a calorific food is consumed at home rather than sold. In Greece, however, the dynamics were different. According to the literary tradition, in the sixth century Solon and Pisistratus barred all agricultural exports from Attica except olive oil (Plut. *Sol.* 23–4; Dio Chrys. 25.3). This happened when population was growing in Attica, and may have been a response to food shortages and the somewhat insulated character of the Greek economy (see further, below). Solon apparently tried to keep cereals and wine within Attica, while allowing export of the most nutritious and profitable produce. State intervention in production and trade of export goods is known from other Greek cities.[34] Solon probably wanted above all to maintain Athens' status as an exporter of olive oil, but he also met the commercial interests of surplus producers.

Increased attention to the olive industry is again noticeable in the fourth century, another period of population growth (see above, Chapter 3). In the small deme of Atene the cultivated area was extended by 40 percent by terracing marginal land for olive cultivation.[35] Again, increased production did not just benefit home consumers, although some of Atene's production was clearly designed for local consumption. Yet the marketability of olive oil

[31] Garnsey 1999: 14ff.; Sallares 1991: 304–90; Amouretti 1986; Kayser and Thompson 1964.

[32] Lohmann 1995. For the balancing of risk and profitability on Athenian large estates, again Osborne 1991a.

[33] Gallant 1991: 72–84, especially 79.

[34] A series of inscriptions from Thasos, an exporter of quality wine, show intense intervention in the wine trade and the quality of wine to benefit both consumers and exporters; Salviat 1986; Osborne 1987: 105–6; Davidson 1997: 43.

[35] Lohmann 1993; 1995. The case of the deme Atene may not be applicable to Attica as a whole. The deme was settled very late, probably mostly for agricultural purposes, and its proximity to Laurion made cash-cropping here more prominent than elsewhere.

around the northern Aegean and Black Seas also made it an ideal cash crop traded in return for wheat. Though in principle increased oil consumption could have substituted for deficient cereal resources in a local subsistence economy, the commercial interests of the elite were stronger than the ideology of self-sufficiency.[36] Oil production generated wheat for the local market. The power relationships within the classical *polis*, combined with a particular interest of ancient states to identify themselves with export goods, are likely to have reinforced high levels of cereal consumption rather than reducing its dominance in ancient diets.

The economic roles of oil and wine overlap, but wine's link with symposium culture makes it a special case. The consumption of wine (in opposition to beer) was a marker of Hellenism, although over-consumption of wine was not only socially castigated but could also be seen as a chance for foreign merchants to exploit their commercial partners, and was thus part of a wider discourse about freedom and subordination.[37]

Despite restrictions put on individuals, per capita consumption of wine was probably significantly higher than, for example, in mediaeval times.[38] To judge from the numbers of drinking cups and transport amphoras found in excavations, the consumption and trade of wine reached an unprecedented scale in the late archaic and early classical period.[39] Most wine was marketed and consumed locally, but for connoisseurs it was shipped over long distances (see above, Chapter 13).[40] Two explanations have been proposed for the increase in consumption. The first is that increasing democratization changed the symposium from an exclusive aristocratic gathering to a form of hospitality practiced by a wider group of citizens. Painted pottery replaced silver and gold containers, and its mass production in Athens in the late sixth and fifth centuries reflected the opening of the symposium and gymnasium to poorer people who emulated the former elite's symbolic behavior.[41] The second is that the symposium remained largely aristocratic, while ordinary people frequented public taverns (*kapeleia*) that seem to have

[36] As Osborne 1991a argues, members of the liturgical class were forced into production for the market not least in order to meet the financial obligations forced upon them by the *polis*. Up to a point the contributions of the rich paid the citizenry, who could then purchase imported grain. One may wonder, however, whether the alleged Solonian policy was more effective in increasing the nutritional standard of living of the citizenry as a whole.

[37] For this discourse and the place of drinking in it, see above all Davidson 1997; Murray 1990. For the status of wine in Sparta, Fisher 1989.

[38] Vandermersch 1994; Davidson 1997: 40ff.; Horden and Purcell 2000: 214ff.; see also Unwin 1991 for the larger historical perspective.

[39] Most explicitly argued by Vandermersch 1994: 123ff. for Magna Graecia; the argument is more implicit in arguments of the social widening of the drinking culture in the course of democratization.

[40] Information about quality wines comes from a combination of literary, epigraphic, and archaeological testimonies. For the literary tradition see Davidson 1997, especially 321; Salviat 1986; Meijer and van Nijf 1992: 110–13; Vandermersch 1994.

[41] Vickers 1984; 1985; cf. Bazant 1985. The argument is not generally accepted; see for example Boardman 1988a; 1991.

been abundant in cities and villages.[42] Whatever theory is more valid, by the fifth century there was an extensive drinking culture supplied by shops, local markets, and foreign trade. It is worth noting that ordinary wine was called after the measure in which it was sold, so it was largely regarded as a commodity rather than a subsistence food.[43]

The exceptionally high consumption of wine can be explained by the demand of the sympotic culture and its derivatives that directly or indirectly affected all social classes in the classical period. But the opposite case has also been made, that the amount of excess labor that was available through population growth as well as slavery fostered labor-intensive vine cultivation and thereby increased and maintained wine consumption, especially the part that was supplied via local and external markets.[44]

(c) *Meat consumption and the fishy extras*

Greeks regarded themselves as farmers who worked their land, harvested crops, and ate grain. Other people, barbarians and especially nomads, were marked by a lack of productive labor and consumption of wild animals eaten raw. Herodotus describes the tribes of the North African coast as "pastoralists whose drink is milk and whose food is flesh of wild animals" (Hdt. 4.186). Aristotle designed an entire evolutionary order starting with the pastoral nomad and culminating in sedentary farming (Arist. *Pol.* 1.1256a29–30). In both Herodotus' and Aristotle's schemes, modes of consumption are linked to forms of labor and settlement, providing an index of human civilization.[45]

Despite their categorization of flesh-eaters and milk-drinkers, most Greeks consumed animal products.[46] Yet Greek meat dishes, apart from some game, came from domesticated rather than wild animals, were cooked rather than raw, and were not part of daily sustenance. Milk and cheese, like wool, hair, and leather, were regular by-products of the animal husbandry that was practiced in most rural households.[47] But it was unprofitable to keep animals for slaughter. Meat came to private households almost exclusively via sacrifices. Sheep and goats were the commonest victims, but cattle were burned at grander sacrifices, especially of states.[48] Some cults required

[42] For this model see above all Murray 1990 and Davidson 1997; taverns, of course, were not just frequented by those who did not participate in the sympotic culture; a high-class tavern, to judge from the pottery remains, was excavated in the Athenian *agora* (Shear 1975: 357–8); and the reproach of squandering one's patrimony in taverns is a *topos* of intra-elite diatribe; e.g., Isoc. *Areop.* 49; *Antid.* 286.

[43] Davidson 1997: 41 with Hesych. s.v. *trikotylos*; above, Chapter 13.

[44] Horden and Purcell 2000: 213–20.

[45] Shaw 1982/3.

[46] For ideologically motivated vegetarianism see C. Osborne 1995.

[47] Hodkinson 1988; Horden and Purcell 2000: 197–204.

[48] Analysis of sacrificial bones of the sanctuary of Artemis at Ephesus revealed that alongside the typical animals, dogs, horses, donkeys, deer, gazelle, hare, and even lion and red fox had been sacrificed. At the internal altar of a Protogeometric to Hellenistic temple at Kommos on Crete, large amounts of

special animals. Pigs were common victims for Demeter, and goats for Artemis.[49] Sacrifices were held at all levels, from households through cult associations and demes to states. States and temples did not have public herds but supplied their needs through purchase.[50]

In the early Iron Age cattle were the most common animals for sacrifice. Yet cattle competed with agriculture for good land, and their husbandry diminished as population grew (see above, Chapter 8). The proportion of cattle to other animals in Dark Age settlements is likely to have been higher than in the more populous periods that followed. It has been estimated that at Dark Age Nichoria cattle constituted 63 percent by weight of protein in the diet, compared to 40 percent average for all other periods. The mean age at slaughter dropped from 10 to 5.5 years, which indicates greater demand for meat production rather than milk.[51] Cattle sacrifice remained an important symbolic statement, especially in state and larger inter-regional sacrifices, but their number dropped as the human population and the use of cattle for work in the field and for haulage increased.

In classical Greece the word *hieron*, "sacrificial victim," when used without further specification referred to sheep. The ratio of cattle to sheep and goats varied from region to region, depending on local availability and the use of local stocks for more distant demands. According to Xenophon, the fourth-century Thessalian leader Jason of Pherae made a levy for a festival of Apollo of 1,000 oxen and over 10,000 sheep, goats, and pigs (Xen. *Hell.* 6.4.29). In lists of sales of confiscated property at the end of the fifth century one farm had two work oxen, six further cattle, followed by 84 sheep and 117 goats, not counting their young.[52] Private and local consumption of cattle must have been limited, while cattle for state sacrifices and inter-regional games probably came from herds specially reared for that market.

How much did sacrifice contribute to the diet of individuals? It has been calculated that the meat produced by the official sacrificial calendar of Erchia, a moderately sized deme of Attica (c. 700–800 adult citizens), amounted to 796 kg. per year.[53] There will have been other local festivals, sacrifices for cult associations, and private individuals, but these at most tripled that figure. The sacrifice of cattle at state festivals, especially in imperial Athens, provided further occasions to eat meat. If 2,000 head at 100 kg. each are taken as a minimum number for consumption at a large state cult, this would have made 200,000 kg. of beef available for distribution.[54] Though massive in aggregate terms, this would have provided just 1 kg. per adult per year, if we assume an adult population of 120,000–250,000

fish and birds were also found. See Hägg 1998 for the most recent osteological analyses of sacrificial remains on sites in Greece and Asia Minor.

[49] At the Demeter sanctuary at Knossos pig bones become predominant in the classical and Hellenistic period only (Hägg 1998); according to Hägg specialization of rituals was a post-archaic development.

[50] Jameson 1988. [51] Sloan and Duncan 1978. [52] Pritchett 1953: 272 (VI. 68–73); 1956: 255–60.

[53] Jameson 1988: 105; population size is based on the bouleutic quota of Erchia. [54] Ibid. 105f.

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in the fourth century. This is marginal compared to the calories provided by cereals, or compared to modern meat consumption. Meat was for most people an irregular, seasonal extra consumed in rituals and not part of the regular diet. Whether children and adolescents were given any meat at all is a further question.[55]

Public sacrificial banquets offered a wider group of citizens participation in a culture of consumption otherwise reserved for an exclusive elite. For the duration of the festival, banquets broke down boundaries between different cultures of consumption defined by differential wealth and differential access to commodities distributed via the market. For the elite, in turn, meat was excluded from competitive consumption. They turned to fresh fish, game, and other relishes to demonstrate their distinction with food.[56] Fish did not fill this role everywhere, and not in all respects. Salted or preserved fish, imported in quantities from Byzantium and the Attic coasts, was quite a cheap supplement to the poor man's diet.[57] Around the coasts, in Megara, and the Aegean islands, most notably at Rhodes and Karystos, fresh fish played an important role, although it is unlikely that fish was more important than cereals as a staple anywhere.[58] In the city of Athens, fresh fish (particularly delicate species) were prestigious supplements for those who could afford them. Again, there were restrictions on luxury consumption. Those who mistook the *opson* (supplement) for a staple, in other words those who were seen wasting their money on expensive food, could be blamed for *opsophagia* (gourmandise). *Opsophagia* was the dietary part of a profligate life, which by peers was associated with lack of self-control and by the public with the subversion of equality and peace.[59] Although the Athenian empire created ample opportunity for supplying delicacies from all over the world (Thuc. 2.38.2; Xen. [*Ath.Pol.*] 2.4, 7–8), their consumption in large quantities was unacceptable. Their different attitudes toward luxury (*truphe*) mark an important difference between the classical and Hellenistic Greeks.

III STANDARDS OF LIVING

Clothing, housing, and heating take up a much smaller proportion of the living costs of a pre-industrial household than nutrition, but given that they

[55] Most meat was eaten within the sanctuary during the festival at which males, female adults or both were admitted. Some meat, however, was taken home (Hägg 1998), or perhaps sold in the market (Jameson 1988). Citizen youths did not participate in cult before initiation, which happened variably either at puberty or entry into adulthood at the age of eighteen.

[56] Davidson 1997: 15–16; cf. Davidson 1993; 1995.

[57] Davidson 1997; Garnsey 1989b; cf. 1999: 7 with Ar. *Wasps* 491; fish from Byzantium: Braund 1995.

[58] Gehrke 1986: 136–50 for the importance of fishing in Megara, Rhodes, and Karystos; Gallant 1985 for their insufficiency as a staple, since the ratio of labor input : caloric output is much lower than in cereal production.

[59] Davidson 1993; 1995; 1997: 20–5, with Xen. *Mem.* 3.14.

are more income elastic, they are a particularly good guide to standards of living.[60] Burial is a further occasion for consumption and, to an extent, comparable to housing. Both can reveal change over relatively short periods of time.[61]

(a) *Textiles*

Temple inventories list a bewildering variety of dresses and textiles.[62] They not only give us the names, functions, and forms of textiles, but also remind us of the extraordinary symbolic significance attached to clothing. Through the dedication of textiles, status, age, and gender were symbolically controlled and affirmed. As offerings from and by women, they had similar status as armor, shields, and weapons for men.[63]

Material for clothing can be divided into two categories, animal fibers (wool, silk, and hair) and those with a plant origin (flax, cotton, *byssos*, hemp, and mallow).[64] Of these, wool (*erion*) was the most popular, produced and processed at home as part of the mixed farming/animal husbandry system characteristic of the Greek economy.[65] As with barley meal, woolen clothes came to be the quintessential attribute of the moderate, rural citizen in Athens (Ar. *Vesp*. 1132ff). Wool was distinguished according to fineness, color, strength, and length, and sheep producing fine wool (*eria malaka*), white wool (*eria lampra*), or coarser varieties (*eria sklera*) were distinguished accordingly. Athens, Megara, and Miletus were regarded as producers of high-quality wool, which was imported by those who could afford it (Athen. 12.57d; Diog. Laert. 6.41).

Silk, by contrast, was not produced in Greece. It came to the Greeks as plunder or via trade routes from China, either as cloth or ready made. Aristotle mentions a variety of wild silk produced on Cos (Arist. *Hist. An*. 5.551b), but silk remained an imported luxury. At the other end of the

[60] Scholars of pre-industrial Europe have discussed intensely how best to measure standards of living. Diet, mortality rates, patterns of health and sickness, age-specific height, and the amount people spent working have all been considered (Morris 2004; 2005). All these factors imply their own problems as measures of standards of living, while combining them might lead to double-counting (Floud et al. 1990). For the income elasticity of housing, clothing, and heating costs, which are therefore good measures of short-term changes, see Fine and Leopold 1993: 49. For their proportion in an eighteenth-century working-class household, see Braudel 1979 (27.5 percent of the total budget); in the countryside, the proportion of food in the total (non-monetary) budget was even higher (ibid). Hopkins 1995/6 takes the proportion of clothing, heat, and housing in the Roman empire as on average very small (less than 20 percent).

[61] Morris 1998a; 2005. It should be noted that burial is differently charged than the living space. Changes may occur here as a result of changing attitudes to death and the after-life, which may occur independently from changes in standards of living.

[62] Dedication of clothing was connected in particular with cults of Artemis, cf. at Thebes (*IG* VII 2421), Tanagra (*REG* 12/1899: 74ff.); Delos (*ID* 1440A); for inventories from Sparta (Artemis Orthia) and Athens (Brauron and Acropolis) see Linders 1972.

[63] Foxhall and Stears 2000: 3.

[64] Pekridou-Gorecki 1989: 13ff.

[65] Osborne 1987; Hodkinson 1988; Horden and Purcell 2000.

scale, textiles could be produced from goat hair woven into a coarse fabric (*sakkos*), while goatskins (*diphthera*) provided tunics for slaves (*IG* II² 1672, 104 (329/8 BC); Ar. *Nub.* 72), and were regarded as unfit for civilized people (Thgn. 53–60).[66]

Of the fibers of non-animal origin, flax, from which linen is made, was the most important. But in the classical period it was used in significant quantities in shipbuilding, not the household. Flax was cultivated in northern Europe and the Near East, but its most important country of origin was Egypt, whence it was imported to Greece. Some flax also seems to have been cultivated in the Peloponnese. In Homer, men and women commonly wore a linen garment (*pharhos*) over their woolen *chlainos* or *peplos*,[67] and words for flax and its processing into linen are known in Linear B.[68] But for Herodotus, linen clothes were exotic things worn by the Egyptian priests (Hdt. 2.37; 3.47). In Hellenistic times *byssos*, the finest and most expensive linen, was still made and used in Egyptian temples to clothe statues and as mummy wrappings for sacred animals and the very rich.[69] Hemp was used above all for ropes and nets, while Herodotus notes that Thracian women made clothes from it (4.74). Pausanias says that in Greece it was cultivated only in Elis (together with flax and cotton) and that in his own time the women of Patrai earned a living by making kerchiefs and dresses from Elean textiles (5.5.2; 6.26.6; 7.21.14).

Value and prices of garments varied. Because of their widespread use as pledges, moreover, there was a flourishing second-hand market. In Greek Egypt a used cloak (*himation*) could be bought for as little as 1½ to 6 drachmas (*P. Cair. Zen.* 59507; *P. Köln* VIII 346).[70] New ones fetched 14, 15, and 25 drachmas, and even more than 100 drachmas (eg. *P. Cair. Zen.* 59477; *P. Cair Zen.* 59319; *P. Köln* VIII 346). The *chiton*, worn under the cloak and normally made of linen or wool, was a little more expensive. The person who spent 25 drachmas on a cloak bought tunics for 40 and 60 drachmas at the same time (*P. Cair. Zen.* 59319). However an embroidered tunic, made of silk, could cost as much as 1,270 drachmas (*P. Lugd. Bat.* XX 62). Since coats were pledged so frequently, it can be assumed that many people owned more than one. On the other hand, to pawn one's (only) coat was an indication of utter destitution. Permanent laborers, moreover, received in Egypt an annual clothing allowance of around 10 drachmas, while employees in leading positions received 30 drachmas per year (*P. Cair. Zen.* 59825). Neither will have sufficed for more than replacing one set every other year, in the latter case at a slightly better quality than in the former. However, within the domestic economy where sheep provided

[66] Bieber 1928. [67] LSJ s.v. [68] Richter 1968: 117. [69] Otto 1905; Thompson 1988: 50.
[70] Absolute prices are not directly applicable to the classical period as both wages and the price of wheat in the Egyptian *chora* were substantially lower than in the cities of the classical period.

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wool and women labor, the constraints of consumption were related less to quantifiable wealth than to the human (female) resources of a household, and to different strategies putting either storage, display, or small-scale exchange into the foreground.[71]

Because of the symbolic significance of clothing and textiles, rituals of consumption emphasized them. Temple inventories record textiles dedicated by wealthy families or foreign potentates, including purple or colorful and ornamental fabrics, with gold and silver threads or gold decoration. But quantity counted as much as quality. Sumptuary laws from Solonian Athens stipulated that no more than three garments could be interred at a funeral.[72] A similar law from Keos says no more than three garments, worth no more than 100 drachmas, should be given to the dead.[73] In Sparta, the *homoioi* (peer citizens) were allowed no more than their warrior's coat in their graves.[74] Another law from Athens restricted the garments in a woman's trousseau (*pherna*) to no more than three. Zaleucus' law code at Locri Epizephyrii and Periander's at Corinth also contained such laws.[75] Legislation of this kind reflects widespread concern to control demonstrative displays and destruction of textiles in rites of passage. The diversity and sophistication of clothes dedicated at temples shows that competitive display of clothing was not confined to the elite but was a way to mark boundaries at all levels of society. It suggests, moreover, that clothes, even in poorer circumstances, were not kept just to keep out the cold but were exchanged and dedicated, creating a wide spectrum of demand supplied by local and long-distance trade as much as by home-production and gifts.

(b) *Housing and burial*

There is some indication that at the beginning of the fifth century standards of living became more egalitarian, and also began to rise on average. Housing and burial, involving materials not normally supplied by domestic production, demonstrate this better than clothing. Although data from the archaic and classical periods are not fully comparable, mean and median house sizes increased markedly between the eighth and the fourth century (Table 14.3). The increase in size, moreover, coincides with the use of more solid building materials, as well as better roofs, drains and hearths.[76]

The single-entrance courtyard house is typical of the mid-fifth through mid-fourth century. It put particular emphasis on control of space,

[71] Horden and Purcell 2000: 352–62 with Schneider 1987.

[72] Plut. *Sol.* 20.5; 21.5; Ruschenbusch 1966; Seaford 1994: 74–106 for the political and ritual significance of this legislation.

[73] Sokolowski 1969: 137–8, 152–3. [74] Hodkinson 2000.

[75] Diod. Sic. 12.21; Müller *FHG* II, 213 (Periander) [Corinth]; Athen. 12.521b; Mühl 1929.

[76] Morris 2005; Lang 1996: 108–17.

Table 14.3 *Mean and median house sizes 800–300 BC in square meters**

Period	Mean	Median
800–700	53	51
c. 700	69	56
700–600	53	45
600–500	92	67
500–400	122	106
400–300	325	240

* Table from Morris 2005 who also discusses the problems of these data. Among the most obvious are the fact that floor plans do not always reflect house sizes since some houses had second floors. In this table it is assumed that 10 percent of the eighth-century houses had second floors, 25 percent of those between the seventh and sixth, and 50 percent in the fifth and fourth.

separating private from public through its fully enclosed open courtyard, and male from female through the organization of individual rooms and floors.[77] Fifth-century single-entrance courtyard houses were relatively uniform in size, clustering tightly around a median of 140–170 square meters.[78] The increased control over space corresponds well with the concerns of fifth-century texts, and helps explain housing as a reflection of civic concerns beyond egalitarianism. Interestingly, such concerns can be observed not just in Athens, where we are best informed about civic ideology, but throughout the Greek world.[79]

The single-entrance courtyard house is distinct from the housing both before 450 and after 350 BC. Late archaic houses were generally smaller and allowed for less separation of tasks, gender, and public and private life. In the second half of the fourth century, on the other hand, exceptionally large and lavishly decorated houses appeared. The median size of fourth-century houses ranges between 210 and 250 square meters, an increase of as much as 50 percent over the fifth century.[80] Moreover, grand fourth-century houses coexisted with more traditional dwellings, suggesting a degree of differentiation not apparent in the previous hundred years. Grander houses are characterized by two courtyards, one apparently for private use, the other for use with guests. In some cases the language of public building was adopted, most obviously in the use of columns in large peristyle courts and sumptuous decoration. The private house of the late fourth century

[77] Nevett 1999: 158ff.; also for the following.
[78] Morris 1998b; 2005. [79] Hoepfner and Schwandner 1994; Morris 1998b.
[80] The data from Olynthos that might be biased by archaeological circumstances (Nevett 1999) are now paralleled by finds from Halieis, Ano Voula, and Stylida; Morris 1998b; 2005.

displayed status in a way that would have been unthinkable in previous centuries.[81] The change reflects ideology as well as economics. While in the archaic period housing was simply smaller and poorer, in the fifth century general standards as well as size increased together with a focus on equality between all citizens. In the fourth century this focus on equality declined, producing some truly sumptuous buildings. The sensitivity of contemporaries to extravagant houses (e.g., Dem. *Olynthiacs* 25–6; *Against Aristocrates* 207–8) suggests, however, that the appearance and costs of houses remained subjects of public debate.

Correspondingly, farms in the Athenian countryside, as much as in the hinterland of the Greek colonies in Sicily, varied considerably in size and elaboration, reflecting in the fourth century not only economic differences but also deliberate displays of wealth.[82] Arguably, however, the average size of an Attic farm sufficed for a relatively prosperous life.[83] It has been calculated that a family farm with a cultivable area of about six hectares afforded, even under a system of bare fallow, subsistence for a family of five.[84] In Lohmann's survey of Atene, farms of this size are among the smallest. Here most farms had significantly more than six hectares of land, and there is no evidence of farms operating below subsistence level.[85] In the second half of the fourth century there seems to have been a noticeable increase in elaborate farms, possibly reflecting concentration of land in the hands of fewer, richer citizens.[86]

Burial, finally, confirms the picture of greater economic homogeneity in the fifth century and increased differentiation during the fourth. By 500 BC burials were noticeably poorer and more homogenous than in the late archaic period.[87] There was a limited range of grave types, and their contents rarely comprised metal or decorated pots. After 425 BC grave types become more varied again, and by the fourth century about 20 percent of known graves from the Kerameikos in Athens contained some metal objects. All over Attica large *peribolos* tombs with sculpted monuments reappear in the late fifth century, forming about 10 percent of known fourth-century burials. According to Lysias (32.21), a certain Diogeiton had to spend 5,000 drachmas on the tomb of his brother in 409 BC. By 349 BC one Athenian was

[81] Nevett 1999: 162.

[82] Thus Lohmann 1995; for Sicily, see Nevett 1999: 151–2. For fourth-century housing, see also Walter-Karydi 1994; 1996; Lang 1996; and Mussche 1974.

[83] This is controversial. While Lohmann 1995 suggests a relatively optimistic picture of prosperity in Athens, Osborne 1992, and Foxhall 1992; 2001 are more skeptical.

[84] Gallant 1991: 86.

[85] Lohmann 1993; see, however, Osborne 1997 for some comments on the exceptional character of that deme. It was founded after Cleisthenes, and offered because of its proximity to the Laurion district exceptionally good commercial opportunities.

[86] de Ste Croix 1981: 294ff.; see also Mussche 1974 for a changing housing pattern in Thorikos; against the argument of increased economic inequality in the fourth century, see Davies 1981: 36–7.

[87] For this and the following Morris 1998a.

claimed to have spent more than two talents on the tomb of his mistress. Although both figures may be somewhat inflated, they must have been in the range of the believable. By the fourth century, Athenians spent a lot on burial, and from the second half of the century onwards some displayed their wealth in quite extravagant graves. Again, the turn towards greater homogeneity of burial in the fifth century and its corrosion in the fourth was not confined to Athens.[88]

The relative prosperity of rural and urban households represented by the archaeological record of the classical period may, of course, be misleading. As with skeletal remains, there are biases in our housing samples. We know little, for example, of mountain regions above 400 meters or the borders of *poleis*. Temporary huts and poorer farmyards may be underrepresented. Some cities had irregular areas with smaller houses outside the main street plan. Some rooms may have been separated by hangings, while front doors, incidentally a distinctive feature in the houses of the rich, were replaced by simple curtains.[89] The number of such dwellings relative to prosperous houses is difficult to determine. It may be that the homes of craftsmen and shopkeepers, living above their workshops and stores, were poor.[90]

IV FROM CONSUMPTION TO DEMAND

Davies (above, Chapter 12) points out the very uneven nature of our knowledge of economic development in classical Greece, and his final sketch of the development of production applies to consumption too. Aggregate consumption certainly increased after the sixth century, as population increased and standards of living rose.[91] Foreign imports also increased, especially from Egypt, the Black Sea, and Etruria. An increase in the labor supply meant that more labor-intensive goods could be produced and consumed, and the supply of coinage – which only reached significant levels after 480 BC[92] – facilitated payment for public labor and civic or military service, in turn providing individuals with a means of exchange for purchasing commodities.

A certain, albeit slow, increase in consumption in the classical period must be uncontroversial.[93] Arguably the most important question is how

[88] Morris 1998a provides examples from Argos and Macedonia.

[89] Nevett 1999: 157; Meiggs 1982: 204, 208–9.

[90] Nevett 1999 commenting on the notes of the excavations on the South Hill of Olynthus; cf. Robinson 1946.

[91] Malthusian theory assumes a decline in standards of living when population increases because of declining marginal returns to labor. However, the supply of goods, especially food, may also improve with population increase, as economies of scale reduce production and transportation costs, and investments in innovation increase (Simon 1985).

[92] Rutter 1980.

[93] See for the pace of economic development in comparison to some states in the early modern period Saller 2002: 257–8; Morris 2005; and below, Chapter 22.

increased aggregate desire was translated into effective demand.[94] In Athens, the growing need for grain was met by regular imports from the fifth century onward. Moreover, a wider range of people participated in the consumption habits through which the elite had formerly distinguished itself. And finally, states needed increasing amounts of building materials and supplies for public ritual. However, the effect of this expansion of needs on the operation of interdependent market exchange was limited. In no case can it be shown that it was regular, widespread, or sustained enough to be supplied effectively by the market without state interference.

(a) *Cereals again*

The importance of local and long-distance trade for meeting the demand for oil, wine, and luxury textiles, as well as the private and public interests in keeping up their trade, has been pointed out above. For cereals the evidence is less clear. It is generally agreed that the degree of urbanization and division of labor that was achieved in the classical period was possible only on the basis of regular markets for flour and bread in the cities. Furthermore, many states were self-sufficient in grain. Others, above all some Greek cities in Sicily, were exporters of grain, while Athens in particular became more or less dependent on foreign imports by the fifth century (see above, Chapter 13).[95]

Several ancient sources suggest that one *choinix* of wheat per day was a typical daily food ration for an adult male soldier. Depending on the weight/volume conversion that is adopted for the ancient *choinix* of wheat, this represents c. 630 grams of wheat per day, or 230 kilograms per year.[96] Translated into calories, this means about 2,100 calories of wheat per day, close to the daily consumption rate of modern Greek peasants, if the grain rations represented about 75 percent of soldiers' diets.[97] Soldiers presumably ate better than the average man at home, and a larger proportion of their diet may have consisted of cereals; and women and children, constituting three quarters of the population, needed less than an adult male in peacetime. An average annual per capita consumption between 150 and 230 kilograms across social, age, and gender groups seems a reasonable assumption.[98]

[94] Simon 1985; Fine and Leopold 1993; Bocock 1993; Foxhall 1998.

[95] For a general perspective see Gehrke 1986. For large-scale grain exports in Sicily from the archaic period onwards, de Angelis 2000; for Athens Garnsey 1988; Sallares 1991; Rosivach 2000; and below.

[96] Foxhall and Forbes (1982) calculate the *choinix* of wheat at 772 grams per liter, and 1 *choinix* (= 1.08 liters) at 839 grams. According to a more recent inscription (Agora inv. I 7557; Rhodes and Osborne 2003: no. 26), there were 5/6th *medimnoi* of wheat to the *talent* (= 25.86 kilograms), meaning that 1 *choinix* (1/48th of a *medimnos*) equaled 628 grams. See Rosivach 2000.

[97] Gallant 1991.

[98] Garnsey 1988: 102, takes 175 kilograms per year as a likely average of consumption across age and gender; Sallares 1991 assumes c. 200 kilograms of wheat and 166 kilograms of barley as the annual needs of an adult male; Rosivach's 2000 assessment of 240 kilograms/year on average is likely to be too generous.

Consumption of barley will have been in the same range, given that barley is lighter than wheat by volume, but higher in nutritional value.[99]

Answering the question of how far needs could be met by local resources depends on estimates of population size, carrying capacity of the land, and the proportion of people who lived off agrarian resources elsewhere.[100] For Athens, population estimates vary, while the quantitative impact of cleruchies (agrarian possessions outside Attica) is virtually unknown. If we accept a population estimate toward the higher end of the plausible range, Athens had to import grain most years in the fifth century, and regularly thereafter.[101] If we accept a lower figure, fifth-century Athens needed to import grain in times of emergency only, but with the loss of its empire became dependent on regular imports in the fourth century.[102]

Athenian grain imports, however, did not simply supply crops that could not be grown at home, but allowed Athenians to eat wheat bread instead of barley. Most grain cultivated in Attica was barley, and remained so during the fourth century. Athenians grew wheat in smaller quantities, and in a variety that was not suitable for bread. Durum wheat (*triticum durum*) was eaten mainly in the form of flat unleavened cakes. Soft wheat (*triticum aestivum*), from which bread is made, did not grow well in Greece.[103] It grows better in wetter transitional climates like southern Russia, the northern Balkans, north Italy, Gaul, and Britain. Its yields are more variable than durum wheat's and therefore more risky if arable land is limited.[104] The written and archaeological evidence seems to indicate a lively grain trade between the Black Sea and the Greek mainland from the early classical period onward;[105] this may have been undertaken for the sake of a particular variety of wheat, a semi-luxury consumed by those who participated in the money economy and turned to imports for staples. At first, the rural population had no access to this kind of wheat, but by the late fifth century, with an expanding urban culture, burgeoning civic ideology, the imperial experience of massive food imports, and a general increase of standards of living, attitudes to and practice of cereal consumption probably changed. The large grain imports while the Spartans occupied Attica had shown that Athens could live on imported grain alone. As a wider social range of Athenians had become accustomed to higher-quality bread made from imported grain, they started preferring it to unleavened cakes, made from domestic grains and associated with rural boorishness. Pressure on food resources

[99] Foxhall and Forbes 1982. [100] Sallares 1991 for the most complex calculation of these factors.
[101] Beloch 1886; Gomme 1933 and Hansen 1985 for a population of c. 350,000 residents in Attica and its cleruchies before the Peloponnesian War, and c. 250,000 thereafter.
[102] Garnsey 1985; cf. 1988: 88–91.
[103] Sallares 1991: 313–61; Garnsey 1999; Horden and Purcell 2000.
[104] Garnsey 1999: 120–1; Sallares 1991: 351–2. [105] Noonan 1973.

were severe, but the economic and cultural development of Athens, too, contributed to transforming wheat into a commodity.

(b) *The city as consumer*

The significance of state consumption lies in the strategies adopted for meeting requirements, the degree of monetization it caused, and the symbolic significance its economic behavior had for the citizen body. Public and private consumption, moreover, were interdependent in so far as public pay (salaries for office and military service, public maintenance of orphans, etc.) stimulated commodity consumption to levels that would not have been reached otherwise. Fifth-century Athenian state expenditure was exceptional, but as Athens purchased resources and labor from all over the Mediterranean and paid wages in cash, it stimulated monetization, exchange, and commodity consumption all over Greece.

The most important areas of state consumption were warfare, building (especially of temples), sacrifices, and festivals.[106] Classical Athens was exceptional but probably not unique in making all public payments – wages, reward for political office, ration payments to soldiers, maintenance of cavalry horses – in cash not kind, meaning that recipients had to provide for themselves via the market.[107] Athenian management of food crises was confined to organizing emergency imports and regulating prices, rather than making free grain handouts.[108] The Athenian state's own need for grain was therefore limited to public rituals and the feeding of the personnel in the Prytaneion.[109]

Democratic ideology perhaps also encouraged a turn to the market, the *agora*, for open debate and open exchange. This is nowhere clearer than in the story that Pericles, the icon of democracy, sold all his annual produce and bought his daily needs in the market (Plut. *Per*. 16.3; see also above, Chapter 13). This he did in contrast to Cimon, his rival, who gave gifts to friends, neighbors, and clients from his private property in hope of political support. In many respects the institutional context of democracy improved the conditions for market-oriented commodity consumption. But even in Athens where these conditions were most strongly developed, markets did not work without interference.

The greatest problem was the variations in demand. Periods of extensive state expenditure, occasioned by warfare and building projects, alternated

[106] Andreades 1933; Boersma 1970; Pritchett 1971–90: vol. 1; Cavanaugh 1996; Samons 2000; Salmon 2001; Davies 2001d.

[107] Pritchett 1971–90: vol. 1; Loomis 1998; Davies 1998b; 2001d; Cavanaugh 1996; Burford 1969.

[108] Garnsey 1988.

[109] Boeckh (1842: 246) estimated that the *sitesis eis prytaneion* cost Athens 2–3 talents per year, which would have bought 2,000–3,000 *medimnoi* of wheat (at 6 drachmas per *medimnos*), or fed up to 100 people for one year.

with periods of little need or lack of money for continuing a particular project. Public works and temple building could extend over years, depending mainly on the funds available, but the resources required for a large project outstripped material and labor available under normal conditions. Cults and festivals, moreover, took place at intervals, and not necessarily every year. Similarly, the need for imported grain varied from year to year with periods of extraordinary demand at times of food crisis. The seasonality of demand put high pressure on administration and planning, and could not be satisfied by regular markets. In the case of the four-yearly Panathenaic festival, for example, one of the highest Athenian officials was made responsible for purchasing the oil and cattle required for prizes and sacrifice.[110] At the time of the *Anthesteria*, an annual festival in honor of Dionysus, a special market was organized for the supply of *choes*, special cups for the competition on the ceremony's second day (Skylax *Periplous* 112). Athens appointed official grain commissioners (*sitonai*) by the second half of the fourth century, and other cities by the Hellenistic period, to assess yields and organize imports. The office of grain commissioner was important enough to be either hereditary (as in Sparta) or given to top-rank politicians (such as Demosthenes, who served as *sitones* in 338/7 BC). According to Pseudo-Aristotle ([*Rh.*] 1.4.7, 11), not only *sitonai* but politicians more generally had to develop expert knowledge on food production at home and the possibilities of imports, so as to make "contracts and agreements with those who can furnish them."[111] Despite favorable institutional conditions (elites that set a model for commodity consumption, public payment that stimulated monetization, and strong state insistence on money and market exchange), and despite some products (most notably oil and wine) being marketed effectively so as to increase consumption, even in Athens production and consumption were not articulated enough to be balanced against each other and to be regulated by the price mechanism over any period of time.

[110] 300 cattle could be slaughtered at such an occasion, and the first prize for the chariot race alone was worth 140 amphoras of oil, which is roughly equal to 500 liters; Scheibler 1983: 141–4.

[111] Garnsey 1988: 15–16, 73, 144.