
THE ANCIENT ECONOMY

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Landlords and Peasants

IN THE close link between status and the possession of land, the law played its part. It was the Greeks who most fully preserved for citizens a monopoly of the right to own land, and who in the more oligarchic communities restricted full political rights to the landowners among their members, most completely in Sparta. But the law, as I have said before, was often less important than custom, tradition, social and political pressures. Roman expansion in Italy, for example, entailed a more open citizenship policy, so that Latins obtained the privilege of owning Roman land from an early date, all free Italians by the early first century B.C. *De facto* there was a fundamental change in the land-citizenship link (unknown to the Greek city-states) which is concealed by a narrowly juristic account.

In a city-state, furthermore, the land was in principle free from regular taxation. A tithe or other form of direct tax on the land, said the Greeks, was the mark of a tyranny, and so firmly rooted was this view that they never allowed an emergency war tax, such as the Athenian *eisophora*, to drift into permanence (nor did the Romans of the Republic), unlike the pattern with which other societies have been very familiar. Empires, on the other hand, drew their main revenues from the land, in rents and taxes,

though the Greek cities managed to wring from their Hellenistic rulers some freedom for the land attached to a city, and Italy retained its traditional exemption until the beginning of the fourth century A.D. (Land owned by Roman citizens in the provinces, in contrast, was subject to taxation at least by Cicero's day.) I stress the point, paradoxically, not because of its implication for the upper classes but for what it meant to the peasantry, to the free, citizen-peasant. Wealthy Greeks bore the substantial share of the costs of the state despite the tax exemption on their estates; if wealthy Republican Romans did not, at least not after the third century B.C., that was only because Roman imperial expansion enabled them to shift the burden onto their subject peoples, the provincials. The situation was then reversed under the empires: the tax on the land was passed in large part to the poor, and in time also to the middle classes, while the upper stratum carried less and less of the public financial burden.¹

This is a correlate of the distinction commonly formulated in political terms, between the liberty of the classical citizen in the city-state and the lack of freedom, relative or total, under the empires (and under the earlier, archaic regimes). I suggest that tax exemption was an important underpinning for that novel and rarely repeated phenomenon of classical antiquity, the incorporation of the peasant as a full member of the political community.² Ideologically this was expressed in the celebration of agriculture, of which the best known and most artistic expression is surely Virgil's *Georgics*. All strata of the citizen-body shared the ideology in general. Then they diverged in the particular. As Heitland wrote, "The glorification of unyielding toil as the true secret of success was (and is) a congenial topic to preachers of the gospel of 'back to the land'." But "the ever-repeated praises of country life are unreal. Even when sincere, they are the voice of town-bred men, weary of the fuss and follies of urban life, to which nevertheless they would presently come back refreshed but bored with their rural holiday."³ For them, I have already remarked, land ownership signified the absence of an occupation; for the others, it meant unyielding toil. All shared a hunger for land, expressed at one

level in the piling of one estate onto another as the opportunity arose, at the other level in a dogged willingness to try again after failure and dispossession.

None of this can be translated into quantitative terms. There were always substantial areas in which the proportion of the citizen body who were landowners or tenant farmers approached one hundred per cent (quite apart from the unique case of Sparta), even when they had urban centres and are called "towns" or "cities".⁴ And there were a few swollen cities, notably in the early Roman Empire, such as Rome itself, Alexandria, Carthage, Antioch, with a population running well into six figures, many of whom had no connection with land or agriculture. But what of the vast areas between the extremes, spread over fifteen hundred years of history? We are told that a proposal was made in Athens in 403 B.C. to limit the political rights of any citizen who did not own some land, and that, had the measure been enacted, which it was not, 5000 citizens would have been the victims. That is something, if the report is accurate (there are those who doubt it). But how much? We do not know the total number of citizens in 403; "some land" could well mean no more than an urban garden plot on which a stonemason grew beans and perhaps some grapes.⁵ Or we are told (Josephus, *Jewish War* 2.385), probably on the basis of a census, that the population of Egypt in the first century of our era was 7,500,000 apart from Alexandria. That is more helpful in one respect because outside the city of Alexandria, where the population could not have been greater than half a million, if that, almost everyone was totally involved with agriculture, including the soldiers and the innumerable petty officials. On the other hand, Egypt was the densest and most poverty-stricken province in the empire, so that no generalization follows.

We must therefore rest content with the vague but sure proposition that most people in the ancient world lived off the land, in one fashion or another, and that they themselves recognized the land to be the fountainhead of all good, material and moral. When we then turn to the question of the scale of holdings, we find ourselves little better off. To begin with, the total number of

individual figures in our possession over the whole time period and the whole region is ludicrously small: at a guess, since no one has assembled them all, I should doubt if they run to two thousand.⁶ Second, the available figures are not readily commensurable: there is a tendency among ancient writers to report either a monetary value, normally self-assessed and dubious for more than one reason, or a single year's gross income, rather than acreage; and to report on a particular estate rather than on a man's total holding. There have been attempts by modern historians to translate one type of figure into another for purposes of computation, on the basis of a 6% or 8% "normal return on investment in land". I then find myself in the embarrassing position, given my insistence on the search for quantifiable regularities and patterns, of having to demur. A small number of texts do in fact produce such a rate in specific circumstances, but some turn out to be worthless,⁷ there are too few figures altogether, and there are too many variables of soil and crop and land regime. Nor do we find the practice, familiar in England ever since the late Middle Ages, of expressing land values as so many years' purchase. Third, ancient writers frequently give a figure or describe a farm only because it is unusual or extreme, such as Varro's list of examples (*De re rustica* 3.2) of the high profitability derived from bees, flowers, hens, doves and peacocks on villas near the city of Rome. What little we have is therefore not a random sample.

Nevertheless, I believe we can discover something meaningful about the range of landholdings and the trends. Let us begin with the extreme and untypical case of Egypt, untypical because its irrigation farming produced relatively stable, high yields (perhaps tenfold for grain), because there was little waste land (as little as five per cent in the Fayum), because the native peasantry was never a free population like the classical Graeco-Roman. In a typical Fayum village of the Ptolemaic period, such as Kerkeosiris with a population of perhaps 1500 farming some 3000 acres, many peasants lived at a bare subsistence minimum with holdings as small as one or two acres, some on one-year leases and all subject to dues and taxes.⁸ At the upper limit, two incomplete figures will

suffice to suggest both scale and trend. The first is the estate in the Fayum of one Apollonius, for a time the highest official in the country early in the third century B.C., which ran to some 6500 acres.⁹ (Apollonius had at least one other large estate, at Memphis, and everything reverted to the crown when he fell out of favour.) The second figure relates to the Apion family, natives of Egypt who in the sixth century A.D. twice achieved the top post in the Byzantine Empire, that of praetorian prefect. This family was one of a number of extraordinarily wealthy landowners in Egypt. How wealthy is not known, but it has been calculated that one of their estates alone amounted to some 75,000 acres, from which they contributed possibly 7,500,000 litres to the annual grain levy for Constantinople.¹⁰

So extreme a range was uncommon in the ancient world, but the gap between smallest and largest landowner was generally wide enough, and, I believe, steadily widening. We have already seen that Roman citizens were being settled in colonies in Italy in the second century B.C., on holdings as low as three acres, with six acres more or less the norm for men with larger families in Caesar's day. When a small Greek community was founded in the Adriatic island of Curzola in the third or second century B.C., the first settlers were each allotted an unspecified amount of arable and about three quarters of an acre of vineyard.¹¹ That peasant holdings on this small scale were common cannot be doubted, though the documentation is inadequate. At least they were tax-free holdings in the classical world, unlike Egypt, and to that extent more viable. They were also unlikely to show any significant changes over the centuries, until the general debasement of the free peasantry set in under the Roman emperors.

For movement, one must look to the upper classes. Already in fifth- and fourth-century Athens there were landowners possessing from three to six estates in different parts of Attica. The most valuable known to us were two farms, one in Eleusis, the other in Thria, included among the property of the family line founded by a certain Buselos, which can be traced through the fifth and fourth centuries B.C. and included a considerable number of men of

some prominence in the military and political affairs of Athens. The Eleusinian farm was said to be worth 12,000 drachmas, the other 15,000. These are likely to be undervaluations, but even so, 12,000 drachmas was forty times the maximum possession allowed a man who sought public assistance, six times the minimum property requirement for the full franchise in the oligarchic constitution imposed on Athens in 322 B.C.¹²

The Buselos family were among the more wealthy in fourth-century B.C. Athens, but their fortune would have ranked as very modest in the Athens of the Roman Empire. The case I want to present is admittedly an extreme one, but extremes are what mark out the range. Athenian life in the second century A.D. was dominated by one man, Herodes Atticus, patron of the arts and letters (and himself a writer and scholar of importance), public benefactor on an imperial scale, not only in Athens but elsewhere in Greece and Asia Minor, holder of many important posts, friend and kinsman of emperors.¹³ His family, originally from Marathon, was among the city's elite at least as far back as the late second century B.C., and continued to rise in status and power, being granted Roman citizenship under Nero. Then, probably in A.D. 92 or 93, Hipparchus, the grandfather of Herodes, got into trouble and his estates were confiscated by Domitian, who sold them off, we are told, for 100 million sesterces (2,500,000 drachmas), one hundred times the minimum property qualification for a senator, some fifty times the annual income of his contemporary, the by no means poverty-stricken Pliny the Younger. But Hipparchus had prudently hidden away a very large sum in cash, so that a few years later, his son, the father of Herodes Atticus, was able to recoup the family fortune in the more liberal reign of Nerva; on his death, he left a trust providing an annual income of 100 drachmas for every Athenian citizen, which implies a total fortune very much in excess of 100 million sesterces.

The Athenians never received the money, but that is another story. What matters to us is that this was basically landed wealth (the only other source of family income attested is moneylending on a great scale¹⁴) and that Herodes Atticus owned villas at

Cephisia near the city of Athens and at Marathon, house property in the city, landed estates in both districts, in northern Attica, on the island of Euboea, at Corinth and elsewhere in the Peloponnese, in Egypt, and from the dowry of his very aristocratic Roman wife, property on the Appian Way and in Apulia in Italy.¹⁵ In and around Marathon, furthermore, the holding appears to have been one great consolidated tract.¹⁶

The wealth of this family was remarkable even by Roman standards: that emerges from the tone in which Suetonius (*Vespasian* 13) reports the hundred-million profit accruing to Domitian from the confiscated estates of Herodes' grandfather. Normally, the scale of things in Roman society reduced the Greek to paltriness. Some idea of the upward curve of accumulation among the Roman élite can already be gained from the Gracchan reform. In 133 B.C. Tiberius Gracchus forced through a law restricting individual holdings of *ager publicus*, that is, of land in Italy confiscated by the Roman state in the course of its conquering wars and then leased, usually for nominal rents. The limit set was 500 *jugera*, and an additional 250 for each of two sons, a maximum of about 625 acres per family. (Holdings of "private land" were left untouched.) That many senators and others had succeeded in acquiring substantially more *ager publicus* than 625 acres is demonstrated both by the violence of their reaction to the law, and by the jump in the census figures for the ensuing decade in consequence of the Gracchan confiscation and redistribution of holdings above the limit.¹⁷ A century later, the wealth arrayed against Julius Caesar enabled Pompey to enrol 800 of his personal slaves and herdsmen in his armies, and Ahenobarbus to promise each of his men twenty-five acres from his estates in Etruria (and larger grants to officers and veterans).¹⁸ Ahenobarbus' offer was extended to either 4000 or 15,000 soldiers, depending on differing interpretations of the phrase, "his men", and of course the test of his sincerity and of his ability to find so much land never came. Nevertheless, even as propaganda it is a pointer.

I cannot resist two more examples. When Melania the Younger decided to abandon her worldly life in the year 404, the estates she

and her husband possessed in various parts of Italy, Sicily, Spain, North Africa and Britain were bringing in an annual income of 1150 pounds of gold (1600 Roman pounds). One domain near Rome included 62 hamlets, each said to have 400 slaves engaged in agriculture, a total of 24,000.¹⁹ I would not want to insist on the details: hagiographies are not noted for being moderate or scrupulous. But I would insist on the verisimilitude (except for the size of the slave force), since there is too much contemporary evidence along the same lines, both documentary and archaeological, to be dismissed.²⁰ The data about the Apion family in Egypt are firm. More modestly, a legal document dated 445 or 446, the accuracy of which also cannot be disputed, reveals that a former Grand Chamberlain of the emperor Honorius, whose origin, far from being noble like Melania's, was among the slave boys who were castrated and employed in the imperial household, was receiving some thirty pounds of gold a year from six properties in Sicily alone.²¹ And of course not even Melania could stand comparison with the emperors themselves, whose accumulation of land through confiscation, gift, bequest and reclamation added up to a total which, did we know it, would strain the imagination. From the fourth century on, the church began to rival them, in the holdings of popes, bishoprics and monasteries.²²

Now, despite my own strictures about the argument by example, I think one may conclude, from the accumulation of individual instances, that the trend in antiquity was for a steady increase in the size of landholdings; not a simple straight line upward, as much an accumulation of scattered, sometimes very widely scattered, estates as a process of consolidation; but a continuing trend nevertheless. This generalization applies to the class of wealthy landowners, not to any given individual or family. One can find failures enough, because of war or political disaster. But it is a reinforcing fact that out of each such crisis there emerged men who were richer, whose landed possessions were greater, than those before. The Hannibalic War devastated much of southern Italy, but it also gave a great boost to the occupation of more and more of the *ager publicus* by a small ruling élite in Rome. The

half-century of equally devastating civil war, from Sulla to Augustus, had comparable results (quite apart from the vast profits made abroad). There is a nice example at the very beginning: an expensive villa on the Bay of Naples belonging to Marius was bought by a lady named Cornelia, presumably Sulla's daughter, for 300,000 sesterces and resold by her to Lucullus for ten million.²³ This may be a moral fable, but like all good fables, it illustrates a fundamental truth.²⁴

We may also conclude that large estates produced large incomes, that the familiar recurrence of what historians call "agrarian crisis" in antiquity was a crisis among the peasantry or in military recruiting or in something else, not a drastic fall in the profits of *latifundia*. We cannot produce a balance-sheet, but we can point to the life-style of the rich, to the large outlays they made, whether for personal, conspicuous consumption or for public support in elections or for any other reason. These never ceased, and they rarely ceased to become larger and larger.²⁵ Clearly the exploitation of agricultural labour was intense, of tied peasants and dependent labour in the eastern and some other conquered territories, primarily of slaves and of the marginal free men who took small tenancies in the classical heartland. Then came the double blow to the peasantry, the steady reduction in the meaning of citizenship for the lower classes and the burden of taxation and other dues on the land. In time they were forced into the ranks of fully exploitable subjects, as we saw in the context of the decline of ancient slavery. That brought about a change in the social structure of the agricultural labour force and in the tenorial system, while preserving the intensity of exploitation and the profitability.*

It is perhaps futile to seek a realistic idea of the middle range of landed properties, though, to my knowledge, no one has even tried. One firm testimony of extensive middle-range holdings in Italy under the early Empire is worth noticing as an indicator. The evidence is in a bronze tablet from Velleia, near Piacenza,

* Nothing is more revealing about our source material than the fact that we know virtually nothing about the marketing procedures employed by land-owners.

spanning the period between 98 and 113 and linked to Trajan's *alimenta* programme, which, in effect, siphoned imperial funds to local children through larger properties that guaranteed the solvency of the scheme.²⁶ In this group, there were forty-six properties in the main scheme, four of them evaluated at over one million sesterces each, the average approximating 300,000. At the arbitrary, but surely modest, figure of six per cent per annum, the average income would be about 18,000 sesterces in value, or fifteen times the gross pay of a legionary (from which his food and other expenses were deducted), the difference, say, between \$45,000 and \$3,000 a year. And it was probably the case that some of the Velleian proprietors had other holdings, in the same district or elsewhere. Nearly half of them appear to have been absentee owners, which is surely suggestive.

I make no claim, naturally, that this single text proves anything of itself. Nor, by itself, would the figure given by Ausonius, professor of rhetoric and eventually consul, for the estate he inherited near Bordeaux in the mid-fourth century, some 125 acres of arable, half as much in vineyards, meadowland and over 400 acres of woodland.²⁷ However, estates of just that order appear to be common in the archaeology of Gaul, and when this evidence is taken in conjunction with what I showed in the previous chapter about the Pompeian vineyards and the sons of freedmen who attained municipal aristocratic status, or with the landed base of this (curial) class in the cities throughout the Empire, the hypothesis seems reasonable that in the early Empire, and still in many areas in the later Empire, there was a considerable spectrum of landholdings from the peasant to the highest stratum, and particularly that comfortable possessions were numerous in the hands of families who left little mark on the historical record.²⁸ I am willing to hazard the proposition that this was also the case in most parts of the ancient world at most times, allowing for divergent standards of comfort.

It is even more difficult to obtain a picture of the range among peasants, but a comparison with other societies suggests the existence of a peasant spectrum, too. There is a strange reluctance

among historians, and even among sociologists, to define the term "peasant", and a tendency in the English-speaking world to dismiss the peasant as an inferior type to be found in other countries only. I say "strange" because, on a historical view, the peasant is the most common and most widely distributed social type of all, the man "whose ultimate security and subsistence lie in his having certain rights in land and in the labour of family members on the land, but who is involved, through rights and obligations, in a wider economic system which includes the participation of non-peasants".²⁹ All the elements are essential, in order to distinguish the peasant on the one hand from the primitive agriculturalist or pastoralist, who is not involved in a "wider economic system"; on the other hand from the modern family farm, in which the family is an "entrepreneurial unit" rather than a productive unit.³⁰ And that definition encompasses the vast majority of the population of the ancient world, both the free small landowners and the tied tenants, the *coloni*. Strictly speaking, it does not fit the free tenants, who had no rights in land beyond the term of their normally short contracts, but, as we shall see, there was a relevance in practice, limiting the choice of the large landowners whose tenants they were.

The optimum size of a peasant farm is an obviously meaningless notion: there are too many variables. But let us take as a basis of discussion the Caesarian settlement, ten *jugera* (six-plus acres) for a veteran with three children. The Roman unit, the *jugum*, was the area of land one man could (hypothetically) plough in a day. Ten *jugera* of good arable would produce enough food to sustain a small family (but not an ox in addition) even with the alternate fallow system, especially when free from rents and taxes.* The size of the family itself then became a major crux, first because there were few crops to spare; second, because ten *jugera* cannot keep a family employed full time; third, because, under the Greek and

* I assume the optimum, that veterans' allotments consisted entirely of good arable, which was not necessarily always the case in practice. Furthermore, I know of only two texts which explicitly refer to a yoke of oxen and an amount of seed accompanying the allotment, and these are both from the fourth century A.D.³¹

Roman rules of inheritance, an estate was in principle divided equally among legitimate sons (and sometimes daughters), with no trace of primogeniture; fourth, because a peasant cannot dismiss his excess labour. What Hesiod said, in his characteristic fashion, in the seventh century B.C. remained valid for the whole of ancient history: "There should be an only son to feed his father's house, for so wealth will increase in the home; but if you leave a second son you should die old" (*Work and Days* 376-8). High rates of infant mortality helped; when nature failed, one turned to infanticide and infant exposure (often merely a device to get round the law prohibiting the sale of free children into slavery³²), a reflection of which survives in the frequency of foundlings in myths and legends and in comedy, both Greek and Roman.

It is difficult to overestimate the implications of five- and six-acre holdings. In Germany in the 1950s, by comparison, farms under twenty-five acres were to be found almost exclusively in the possession of the elderly, of war widows or of worker-peasants.³³ The small ancient peasant holdings meant chronic underemployment of labour in terms of production, though not underemployment of energy, which is not the same thing. Modern studies show that the smaller the holding, the greater the number of man-hours expended per acre. What else can a peasant householder do? Since he cannot fire members of his family, if he cannot send them away to take tenancies on larger estates he must keep them busy at home somehow; in jargon, his aim is to "maximize the input of labour rather than maximize profit or some other indication of efficiency".³⁴

This built-in inefficiency also meant inaccessibility to technological or other improvement, and stress on the requirements of subsistence, at the cost of other possible approaches to the utilization of resources. We may well wonder with the elder Pliny (*Natural History* 18.187), for example, how far a ten-*jugerum* holder could resist breaching the traditional alternating fallow system, regardless of the deleterious consequences to the fertility of his land. And we may be certain of a diversification of crops at the

expense of specialization and its benefits. Subsistence farming is by definition not market farming, not the production of cash crops. The typical "peasant market" was a place where peasants (and no doubt village craftsmen) met from a radius of five or six miles in order to fill gaps in necessities by exchange with each other; there were only a few things a peasant could not produce himself—a metal ploughshare, for example—when everything went well. The paucity of coin finds in genuinely rural areas is no accident.³⁵

There were circumstances which may have encouraged peasants, especially those nearer the upper limit of family holdings, to turn to cash crops. I am thinking of the presence nearby (ten to twelve miles, no more) of larger towns, of international shrines attracting visitors who needed catering (such as Olympia or Delphi), or of more or less permanent army camps. I suspect, however, that good land so located would have attracted the wealthier landlords, like the villa owners mentioned by Varro (*De re rustica* 1.16.3), with their speciality products, and that it was in those strata, rather than among the peasants, that the suppliers of city-army-shrine needs were normally to be found.³⁶ In the opening soliloquy of Aristophanes' *Acharnians*, the protagonist bewails the city life to which he has temporarily been driven by a marauding Spartan army in the early years of the Peloponnesian War. From his seat in the Assembly high on the Pnyx, he looks out on his farm at Acharnae and yearns for his village where "no one cries, 'Buy charcoal, vinegar, oil', where the word 'buy' is unknown". A poet's hyperbole, no doubt, but not, I think, a comic playwright's joke.

Not surprisingly, the ancient peasant was always at the margin of safety. Cato gave his chained slaves more bread than the average peasant in Graeco-Roman Egypt could count on as a regular staple.³⁷ The one normal source of subsidiary income for peasants was seasonal labour on larger neighbouring estates, especially during the harvest: the Roman agricultural writers assume, and indeed, require, the presence of such a reserve labour force in all their calculations. Beyond that, in a pre-industrial society, the opportunities for part-time employment were few and unreliable.

The Athenian navy in the fifth and fourth centuries B.C. was the great exception, and the key to Athenian freedom from agrarian troubles during the whole of that period. The Roman armies in that period before they became involved in long service outside Italy were perhaps another exception, but a less significant one.

There is a deep paradox here. The freer the ancient peasant, in the political sense, the more precarious his position. The client of the archaic period or the *colonus* of the later Empire may have been variously oppressed, but he was also protected by his patron from dispossession, from the harsh laws of debt, and on the whole from military service (which so often led to unavoidable neglect of the farm and ultimate dispossession³⁸). The genuinely free peasant had no protection against a run of bad harvests, against compulsory army service, against the endless depredations in civil and foreign wars. Hence the variegated history of peasant responses, from the demands for land that lay behind the great Greek expansion beginning as early as the eighth century B.C., to "squatting" on vacant or derelict public or temple property,³⁹ flight from the land into the cities or the bush, open revolt; in the end, to an acceptance of the dependent status that became the rule in the course of the Roman Empire—a history that is, alas, yet to be written.

The fact that large landowners were essentially immune from crisis conditions was the consequence of the size of their holdings and their reserves, and, in some periods though not all, of the inflow of wealth from their political prerogatives, rather than of a qualitatively different approach to the problems and possibilities of farming. The family and universal succession played the same part in their lives. They had a "peasant-like" passion for self-sufficiency on their estates, however extravagant they may have been in their urban outlays. They were equally bound by a limited and fairly static technology, with the two-year fallow cycle as its base, and by the high costs of land transport. These points need to be made explicitly because they are repeatedly challenged by modern scholars, not so much on the evidence as on psychological grounds, on a disbelief that Greeks and Romans should have been

so incapable of “simple” improvements. There were improvements of one kind or another in the course of antiquity, especially in the Roman classical period, in drainage and irrigation, in tools and mill-stones, in seed selection, but they were marginal, for, as our leading contemporary authority on Roman farming summed up the story, “the patterns of land use and the methods of tillage remained unchanged. As in ancient industry, new requirements were met by the transfer of old techniques.”⁴⁰ But there is nothing mysterious about this “stagnation”, no serious reason for disbelief: large incomes, absenteeism and its accompanying psychology of the life of leisure, of land ownership as a non-occupation, and, when it was practised, letting or sub-letting in fragmented tenancies all combined to block any search for radical improvements.⁴¹

As for the objective of self-sufficiency, that was neither an “archaizing” value judgment (of a Plato, for example) nor just a joke of Trimalchio’s. At this level, we are of course considering estates that were farmed for their cash incomes, not for subsistence. Hence the stress on taking steps to avoid cash outlays for the purchase of vine-props, animal fodder, wine or anything else required for cultivation of the soil and maintenance of the labour force has to be explained within a framework of profit-making. There was nothing archaic or profligate about men who stock-piled in anticipation, or hope, of higher prices; who took the trouble to recommend sale of worn-out cattle and slaves, old wagons, discarded tools, blemished sheep and diseased slaves. Cato closed his exhortation with a maxim (*De agricultura* 2.7), “A *paterfamilias* should be a seller, not a buyer.” That was less a moral judgment than an economic one (in our language), though I doubt if Cato would have drawn the distinction very finely. A long passage in a nineteenth-century Russian novel is not evidence, in a strict sense, for ancient thinking, but I wonder if the psychology was sufficiently different in this respect not to permit me to quote a portion:

“Oblomov’s parents were extremely sparing with any article which was not produced at home but had to be bought. They gladly killed an excellent turkey or a dozen chickens to entertain

a guest, but they never put an extra raisin in a dish, and turned pale when their guest ventured to pour himself out another glass of wine. Such depravity, however, was a rare occurrence at Oblomovka. . . . Generally speaking, they did not like spending money at Oblomovka, and however necessary a purchase might be, money for it was issued with the greatest regret and that, too, only if the sum was insignificant. . . . To pay 200, 300, or 500 roubles all at once for something, however necessary it might be, seemed almost suicidal to them. Hearing that a young local landowner had been to Moscow and bought a dozen shirts for 300 roubles, a pair of boots for twenty-five roubles, and a waistcoat for his wedding for forty roubles, Oblomov's father crossed himself and said, with a look of horror on his face, that 'such a scamp must be locked up'.⁴²

The moral tone is evident, and full allowance must be made for the difference between a leading Roman senator, residing and politically active in the capital city, and petty Russian nobility burrowed in their estates. What interests me, however, is another aspect, brought out by the novelist, writing at a moment of transition between two ways of life in Russia, when he concluded this passage as follows: "They were, generally speaking, impervious to economic truths about the desirability of a quick turnover of capital, increased production, and exchange of goods." Cato was not impervious to such "economic truths"; he never heard of them. There was no one in his world to suggest them or argue for them. Lacking the techniques by which to calculate, and then to choose among, the various options, for example the relative economic merits of growing or buying the barley for slaves and the stakes for vines; lacking the techniques by which to calculate the relative profitability, under given conditions, of one crop and another, or of agriculture and pasturage;⁴³ relishing independence from the market as buyers, from reliance on others for their own necessities, the landowners of antiquity operated by tradition, habit and rule-of-thumb, and one such rule was that "a *paterfamilias* should be a seller, not a buyer".⁴⁴

There is a famous example of the approach in Cato's manual

(1.7) when he enumerates, in descending order of importance, the products of an ideal 100-jugerum farm: wine, garden fruit and vegetables, willows, olives, pasture, grain, forest foliage for fodder, and acorns. The passage is famous for the wrong reason: it is regularly cited as a general statement of the realities of Italian agriculture in the second century B.C., whereas it ought to be quoted as proof of the absurdity of what passes for economic analysis in the ancient sources. I need hardly enumerate the weaknesses: no consideration of the location of the farm with respect to available markets or to export possibilities; nothing about the nature of the soil beyond the single phrase, "if the wine is good and the yield is great"; no cost accounting of even a rudimentary nature.*

Not everyone was a Cato. There were other notions of the optimum employment of the land and its products, but these were socially and politically oriented, not economically. There was Pericles' method of disposing the whole of the produce in bulk in order to unburden himself for full-time political activity. There was Pericles' early political rival, Cimon, who, we are told by Aristotle (*Constitution of Athens* 27.3-4), "supported many of his fellow-demesmen, every one of whom was free to come daily and receive from him enough for his sustenance. Besides, none of his estates was enclosed, so that anyone who wished could take from its fruits." This was a rudimentary predecessor of the highly developed client system of the last centuries of the Roman Republic, when men like Pompey and Ahenobarbus appreciated the advantages of supporting large reserves of manpower for their votes and, ultimately, for their fighting abilities.

I have so far avoided speaking of economies of scale not because there were none, but because, in my view, they were slight, though I must concede that the foundation for any conclusion is a shaky one. Under ancient conditions, consolidation of holdings into large continuous tracts did not automatically imply economies of scale,

* I am not suggesting that Cato was wholly witless. In 1.3 he does say that a good water-supply and access to the sea, a river or a road are factors to consider in buying a farm. The fact remains, however, that his crop ranking ignores everything of the kind, not to mention soil variations from district to district.

particularly not where slaves were the main labour force. There is reason to believe, from hints in the writings of the agronomists and land-surveyors, that they believed 200 *jugera* to be the optimum holding a single bailiff could manage. Yet far larger holdings were to be found in the empire. In North Africa, according to the sober Frontinus writing at the end of the first century A.D., there were private domains larger than the territories of cities, with a work force large enough to inhabit hamlets (*vici*) ringing the villa like ramparts (*in modum munitioinum*).⁴⁵ And the newly developed territories in the west were clearly open to Roman occupation in extensive tracts. For example, the recently excavated estate at Montmaurin, not far from Toulouse, had possibly 2500 acres of farmed land, run from a single building-complex, itself covering 45 acres, in which the *vilicus* and his labour force were housed, apparently the owner, too, and in which the animals were kept, the equipment and the produce were stored and all the ancillary activities were carried on. Built in the middle of the first century A.D., this "villa" prospered until the end of the second century, when it was devastated by a flood and never reconstituted as a single operating unit.⁴⁶

In the long civilized portions of the empire, in contrast, the trend towards accumulation of land seems not to have been accompanied by a matching effort to consolidate into larger units of exploitation. Although some notable instances of consolidated estates are known, such as the *massa Calvisiana* in southern Sicily, an early third-century establishment that extended for some ten miles on the eastern side of the Gela River, there was apparently no reluctance to divide *massae* and *fundi* when the occasion arose.⁴⁷ That suggests little attention to economies of scale, and I believe that the dispersed holdings of Herodes Atticus represented the more common pattern. Earlier, two wealthy clients of the young Cicero owned numerous farms each treated as a separate unit of exploitation: Aulus Caecina's holding even included two adjacent but separate farms, and at least one let out to a tenant; Sextus Roscius of Ameria, in the extreme south of Umbria, owned thirteen units all in the Tiber Valley.⁴⁸

Nor may we ignore the failure of writers of the period to refer to economies of scale. Trimalchio's frivolous reason for wishing to "add Sicily to my little bits of land" may not bear much weight, but one of Pliny's letters (3.19) is less easily dismissed. An estate adjoining one of his in Umbria was up for sale at a bargain price, thanks to mismanagement by the owner and his tenants. Pliny was thinking of buying it. The primary advantage, he writes, would be one of amenity (*pulchritudo*). There are also practical advantages: the two properties could be visited in one journey, both could be put under a single procurator (agent) and perhaps even under one *actor* (bailiff), only one country-house would have to be kept up to the standard appropriate for an occasional sojourn by a senator. On the debit side, he adds, are the risks in putting two holdings under the same "hazards of fortune" (*incerta fortunae*), the weather for example.

What is your advice? was the question Pliny put to his correspondent, even though he gave none of the information one might expect, neither the dimensions of the property nor the current rental nor the details about the produce. The anticipated advantages were largely psychological; apart from the bailiffs, there is not a whisper of possible economies of scale that could or would follow the consolidation of two adjoining estates, let alone any consideration of reorganizing the production, for example towards either greater diversity or greater specialization, or of a more efficient use of the labour force.

Direction and control of labour was a recurrent theme in all ancient writing concerned with estate management (even under a tenancy regime), obviously so in view of the fact that the typical large landowner was an absentee owner. However, the concern was for the honesty of the force, honesty in the full employment of labour-time and in the handling of money and goods, rather than for qualitative improvement in the efficiency of the force by better methods of tillage or by the introduction of labour-saving devices. It represents the viewpoint of the policeman, not of the entrepreneur. Modern study reveals that "absentee landlordism is a guarantee that customary methods of farming are strictly observed

though they may be antiquated".⁴⁹ Customary methods allowed for technical *refinements*⁵⁰—this must be said repeatedly—but normally stopped there. Hence economies of scale were not a realistic possibility for the very men whose holdings were hypothetically large enough and growing larger.

Tenancy, the much discussed alternative to the slave *latifundia*,⁵¹ was in this respect worse, because of the limiting effects of short terms and family life cycles. Who were tenants, after all? Single tenancies of large units are known, with exceptions, only on public land, in particular on the African domains of the Roman emperors, which were subdivided into small plots, so that the tenants-in-chief were imperial agents and administrators in fact, if not in strict law, rather than large-scale farmers. To generalize from the North African domains, as has become standard practice, is thus to falsify the situation in Italy and Sicily, in Greece and the Hellenistic east, perhaps in Spain and Gaul, too (as it is false, at the other end of the scale, to generalize from the Egyptian fellahin, Ptolemaic or Roman). The adjoining estate that Pliny was thinking of buying had been worked (badly) by tenants, in the plural, and this was surely the classical norm on private land. This was largely a matter of availability: one could not journey to Rome or any other larger city and simply pick up men able, financially and professionally, to take on large tenancies. The normal tenant was a man with few resources and without his own land, a failed peasant, a "superfluous" peasant's son, or a dispossessed peasant like Horace's Ofellus (*Satires* 2.2)—and he, of necessity, thought in peasant terms of a family-sized holding, hence Horace's word *patres* (*Epistles* 1.14.3) for his own tenants.⁵²

On larger tenancies, the short-term lease remained a brake on improvements or economies of scale. A particularly dramatic example is provided by the twenty farms on Delos and two nearby islands owned by the temple of Apollo. These were relatively large units, let to richer members of Delian society and worked by slaves; the best of them earned the high rental of 1650 drachmas a year in the best period. But the term was ten years, and, though the lease was renewable by the tenant, the detailed evidence, stretch-

ing over a long period, between 313 and 170 B.C., shows that the tenants did only what was required of them, that is, they returned the property with the identical number of olive-trees, fig-trees and livestock that they received, no more and no less.⁵³ Ten-year leases are a disincentive to improvements, even with farms of this scale and surely with smaller, more typical family-size holdings. Land reclamation projects normally resolved one difficulty by resorting to leases in perpetuity, notably on the imperial estates, but the addiction to small family parcels soon put a brake on them too.

We are thus brought back to the fundamental question of choice that has been raised repeatedly in this discussion. I do not doubt that Columella, for example, despite his limitations, could have performed the simple arithmetical computation required to reveal the economies possible from an enlarged scale of exploitation. The question, in other words, was not an intellectual one. In modern jargon, the "threshold point in the spectrum of farm acreage" is determined by a combination of social and economic factors, in the absence of which the arithmetic becomes meaningless.⁵⁴ The powerful pull of the peasant-household, the attitudes to labour and management, the weak urban market, the satisfactory profits of the existing land regime, perhaps the difficulties inherent in organizing and managing a very large slave force—a subject which it is even more impossible to examine concretely, from the ancient evidence, than the profitability of slave labour—all served as disincentives to change. For all Pliny's complaining about troubles with tenants, whose difficulties are understandable enough, *he* "is never short of cash in these years".⁵⁵ Nor his kinsmen: he ends his letter about the Umbrian estate in this way: "You will ask whether I can easily raise the three million sesterces. Most of what I have is in land, but I have money out on loan and it will not be difficult to borrow. Besides, I can always have money from my mother-in-law, whose money-chest I can use as freely as my own."

Once again we turn to Trimalchio for the bald truth. The great banquet is suddenly interrupted by the arrival of a secretary, who reads off the journal for July 26th: on the Cumae estate, seventy

slave children were born, 500 oxen were broken in, a slave was crucified for blasphemy, "ten million sesterces were placed in the money-box because they could not be invested" (*Satyricon* 53.3). For the men whose status Trimalchio identified himself with, there were three places for wealth, in land, out on short-term interest-bearing loans, or in a strong-box. We must of course allow for exaggeration: there was also wealth in ships, warehouses, slave-craftsmen and raw materials, but that represented a small fraction of the wealth of the élite and induced no significant difference in the "economic" thinking.

We then speak of their "investment of capital" and of land as the "preferred investment".⁵⁶ That phrasing contains some truth, but it is neither the whole truth nor nothing but the truth, because it fails to convey to a modern reader the very large non-economic element in the preference. To begin with, there is the complete absence of the concept of amortization.⁵⁷ When the fourth-century B.C. Athenian orator Demosthenes attained his majority, he brought suit against his guardians for the recovery of his inheritance. He itemized to the jury the estate recorded in his father's will, under two headings: (1) the active (*energa*), which included 32 or 33 slave swordmakers, bringing in 3000 drachmas a year; another 20 slaves engaged in the manufacture of furniture, 1200 drachmas annually; and 6000 drachmas on loan at 12%; (2) the inactive: raw materials on hand at his father's death nine years before, worth 15,000 drachmas, the house worth 3000, the furniture and his mother's jewelry, 8000 in cash in a strong-box at home, a maritime loan of 7000 drachmas, and 4600 on deposit in two banks and with a relation. This represents a remarkable conception of "capital", and it becomes all the more remarkable when one pursues in detail the actual claim on the guardians, which ignores amortization and depreciation, and assumes unchanging figures for annual production, rate of profit and income.⁵⁸ Yet this was a normal ancient presentation, including the amalgamation of personal, family-household possessions (his mother's jewels) and business property (the raw materials). Demosthenes won his suit.

I deliberately chose as my first test-case an urban business, where one might have expected more sophisticated accounting. If we now look at the text that is regularly cited by modern historians as the most reliable ancient analysis of Italian farm income, the model *7-iugerum* ($4\frac{1}{2}$ -acre) vineyard described by Pliny's near contemporary, Columella (3.3.8-10), we discover that though he allows for the purchase price of the land, of the slave vine-dresser, the vines and props, as well as for the loss of two years' income while the new vines are maturing, he forgets the farm buildings, equipment, ancillary land (for cereal grains, for example), the maintenance costs of his slaves, depreciation and amortization.⁵⁹ His implied 34% annual return is nonsense, even after allowing for his polemical intention in this section, and we must conclude that this was a merely perfunctory desk exercise, that the large land-owners worked from crude empirical knowledge alone, heavily backed by the social-psychological pressures of land ownership in itself. Pliny neither calculated nor claimed that the second Umbrian estate would produce a higher return than the loans he would have to call in to meet the purchase price. He spoke only of the gain in amenity.

Investment in land, in short, was never in antiquity a matter of systematic, calculated policy, of what Weber called economic rationality.⁶⁰ There was no clear conception of the distinction between capital costs and labour costs, no planned ploughing back of profits, no long-term loans for productive purposes. The import in this context of the short-term loan (like the short-term tenancy) cannot be exaggerated. From one end of antiquity to another, one can easily count the known examples of borrowing on property for purposes of purchase or improvement. The mortgage was a disaster ("mortgaging the old homestead"), a short-term personal loan designed to "cover deficiencies in the supply of necessities occasioned generally by some emergency which has made unexpected demands upon the resources of the borrower",⁶¹ not a deliberate device for raising money at a low rate in order to invest at a higher rate, the main function of the modern business mortgage. Among the men of property, these demands were either

familial (a dowry for a daughter) or sumptuary or political, singly or in combination. Sometimes such expenditures brought large returns, as we have seen, but they were in no sense returns on an investment in property.

It is thus not surprising that there was neither a recognizable real-property market nor a profession of estate agent or realtor. The Greek language, like modern German, lends itself to the creation of compound nouns, and a collection has been made of more than one hundred known combinations incorporating the word "seller": "corn-seller", "perfume-seller", comic inventions like Aristophanes' "decree-seller", but not one attestation of "land-seller", "house-seller", "property-seller".⁶² Nor was there a word for "broker".⁶³ And the same holds true for Latin.

When Pliny was sent to Bithynia in Asia Minor by the emperor Trajan, probably in A.D. 109 or 110, in order to sort out the financial disarray and extravagance of the affluent cities of that province, he reported (*Epistles* 10.54) that, having succeeded in collecting substantial sums owing to one city, probably Prusa, "I fear the money may lie idle, for the opportunity of buying property is non-existent, or nearly so, and people cannot be found who will borrow from the municipality, especially at the 9% which is the rate for private loans." He proposed that the city councillors be compelled to borrow at some lower rate. Trajan promptly rejected the idea as "unjust". Three things are to be noted. The first is the familiar trinity, cash on hand, land, money on loan. The second is that neither the city nor the emperor saw anything improper in allowing the money to lie idle. The third is the unavailability of land for purchase.

It is not altogether clear how Pliny discovered that there was no land to be had. I suggest the answer is that he learned from the small-town gossip of any Mediterranean society, more particularly from the gossip among the very municipal aristocracy on whom he was prepared to impose loans. The Roman equestrian, Gaius Canius, who wished to buy a vacation spot in Syracuse, "let it be known" (*dictabat*), says Cicero (*De officiis* 3.58), that he was in the market. The gossip reached a local banker who proceeded fraudu-

lently to sell Canius his own *hortulus* on the waterfront at an exorbitant price. The normal purchase of land in antiquity, I further suggest, was windfall purchase (which is not to say that windfalls were rare). Pliny himself was not actively seeking another estate when he became interested in the one in Umbria, and he was certainly not overburdened by idle cash, since he would have to dip into his mother-in-law's money-box to make the purchase. Derelict land, going at a bargain because of neglect, war devastation or someone's bad luck, was one such windfall. A more significant one was confiscated land, such as the Roman *ager publicus*, whether confiscated from individuals by court action or imperial fiat or taken from whole groups and communities in either civil war or conquest. And we must also include, whenever circumstances were propitious, land extorted from peasants through usurious loans, illegal seizure or "patronage".⁶⁴

Political crisis or political pressures could, of course, have the reverse effect of rapidly driving up the price of land. One such instance, the consequence of Caesar's march on Rome in 49 B.C., is discussed briefly in chapter 5. Another occurred at the beginning of the second century A.D., described by Pliny in one of his letters (6.19):

"Have you heard that the price of land has gone up, particularly in the neighbourhood of Rome? The reason for the sudden increase in price has given rise to a good deal of discussion. At the last election, the Senate expressed the very proper opinion that 'Candidates should be prohibited from providing entertainments, distributing presents, and depositing money with agents'. The first two practices were employed without restraint or concealment, and the third was done secretly but was well known to all." The emperor, Trajan, was asked to remedy the evil. "This he has done, by applying the law against bribery to force candidates to limit their scandalously gross expenditure; and he has also compelled them to concentrate a third of their patrimony in realty, thinking it unseemly (as indeed it was) that candidates for office should treat Rome and Italy not as their native country, but as a mere inn or lodging-house for them on their visits. Consequently candidates

are rushing about, struggling to buy up anything they hear is for sale, and thus increasing the amount available for sale."⁶⁵

This is a neat instance of a sellers' windfall, as temporary and adventitious as a buyers' windfall. The absence of a real-property market is underscored, not only by the way Pliny describes the scurrying about of the candidates whose political careers depended on a quick purchase, but also by the effect on prices of the requirements of a mere handful of men. The moralizing about the effects of excessive conspicuous (political) expenditure is also notable (and to be taken literally). So is the emperor's aim, not "to interest more persons in promoting Italian agriculture"⁶⁶ but to compel the increasingly provincialized Senate to become proper Romans and Italians, befitting their status as the élite of the Empire.

Windfall land is visibly cheap or dear, as the case may be; no more sophisticated investigation is required than what I have already called crude empirical knowledge. Under ancient dry-farming conditions, furthermore, lacking large water installations or expensive machinery, derelict and devastated land recovered very rapidly. Olives, vines and flocks required a few years for replacement, but that merely demanded patience on the part of the landowning upper classes with whom we are now concerned, more than capital, the scale of which is regularly exaggerated in modern accounts.

The purchase of windfall property is a form of investment, to be sure, but only in the restricted sense I have been defining. And it was almost exclusively a private activity. During his great veteran settlement programmes in 30 and 14 B.C., Augustus found his own surplus holdings and his considerable confiscations insufficient for the purpose, and he purchased tracts from cities in Italy and the provinces, at a total cost of about 860 million sesterces on his own reckoning (*Res gestae* 16.1). That was an important, indeed prodigious, accomplishment. His further claim, "Of all those who founded military colonies in Italy or the provinces I was the first and only one to have done this in the recollection of my contemporaries," means that "he was the first to pay it from resources which he could regard as private".⁶⁷ He does not go on to specify

how he made the purchases, and we may legitimately doubt the free willingness of many sellers.

Be that as it may, it is a fact that, though ancient states all owned land, from which they derived income normally by letting it, in the case of the Roman emperors also by direct exploitation through agents, they almost never bought land. Neither did temples or cult centres, many of which accumulated and hoarded substantial treasures through gifts and dedications. Nor did the innumerable semi-private cult-groups and societies that proliferated in the Graeco-Roman world. They, too, obtained land by gift, sometimes in the form of trusts backed by property (like Trajan's *alimenta* scheme), and their cash was fructified through interest-bearing loans, not through investment in land. Only guardians appear to have constituted an exception, in Rome at least, where the law required them to place a ward's cash either in land or in interest-bearing loans.⁶⁸ And even that provision is a far cry from the modern tradition, still by no means dead, which impels charitable and other public trusts to place their funds in the safety of the land.

Of course, windfalls could not have been realized without alertness, a genuine interest in acquisition, and, above all, political influence and status. There were even some men, not many I believe, who actively speculated in derelict property,⁶⁹ chiefly in urban buildings. Crassus is the legendary paradigm (Plutarch, *Crassus* 2.1-6). I have not been trying to argue that there was not, in most periods of antiquity, a constant movement of landed property. Without it there could not have been the trend I stressed earlier towards greater and greater accumulation; there could have been no Trimalchios on the one hand, no men, on the other hand, like the occupiers of *ager publicus* who brought about the deaths of Tiberius and Gaius Gracchus, later like Ahenobarbus or Herodes Atticus. What I have been attempting to do is to pinpoint the ancient "investment" concept, to define its character and its limits in both ideology and practice. Ancient writers—we must never allow ourselves to forget—did not describe land as the best investment in maximization of income language; it was

profitable, to be sure, if held on a large enough scale, but they ranked it first at least as much on grounds of "nature" and morality, and they had not yet learned to draw a simple one-for-one equation between morality and profits. Even today, it should be remembered, there are important social strata who knowingly accept a low rate of return on investment in farming because there are advantages "other than the direct monetary return . . . the feeling of personal security, the sporting rights, the social position, possibly some taxation advantage".⁷⁰

"With respect to property", wrote the author of the first book of the pseudo-Aristotelian *Oikonomikos* (1343a25-b2), "the first care is that it be according to nature. Agriculture ranks first according to nature, second those arts that extract from the ground, such as mining and the like. Agriculture is the best because it is just, for it is not at the expense of others, whether willingly as in trade or wage-earning or unwillingly as in war. It is also one of the activities according to nature in other respects, because by nature all things receive their nourishment from their mother, and so men receive theirs from the earth." There is more to this painfully naive restatement of good Aristotelian doctrine but I need not continue. It is also good Cato, and good Cicero. It is, in short, one of many formulations of the landowning ideology of the ancient upper classes. Aristocracies have been known to cling in their practical behaviour to outworn ideologies and to sink with them. That was not their fate in antiquity. By comparison with Weber's "Protestant ethic", their mentality may have been a non-productive one; it was in no way a non-acquisitive one. They could permit themselves the luxury of a moral choice and still wax richer, not poorer.

V

Town and Country

THE BACKWARDNESS and brutishness of western Europeans outside Italy, explained the Greek geographer Strabo, flow from their hunting, pastoral, raiding way of life. Once they are converted (or compelled) to a peaceful, settled agricultural existence, urbanism will develop, and they will become civilized.¹ Although Strabo was writing at the beginning of our era, he was repeating good old Greek (as well as Roman) doctrine. Greeks and Romans never tired in their praise of the moral excellence of agriculture, and simultaneously in their insistence that civilization required the city. They were not being self-contradictory: Strabo, it will have been noticed, saw agriculture, not trade or manufacture, as the prelude to stability and urbanism. The true city in classical antiquity encompassed both the *chora*, the rural hinterland, and an urban centre, where the best people resided, where the community had its administration and its public cults. The two were conceptually so complementary that even the absolute Hellenistic monarchs acknowledged the "freedom" of the *chora* belonging to the newly created Greek cities of the eastern regions; city-land was exempt from the royal domanial rights over all land in the kingdom.

But what is a city? Modern geographers have been unable to achieve a "standardized definition".² Strabo of course did not bother, not even when he protested (3.4.13) against those writers who mistakenly called the large villages (*komai*) of the Spanish peninsula "cities". His audience required no definition. A still

later Greek writer, Pausanias, sneeringly dismissed the claim of a little town in central Greece to be called a *polis*: "no government buildings, no theatre, no agora, no water conducted to a fountain, and where the people live in hovels like mountain cabins on the edge of a ravine" (10.4.1). His audience would also have understood. The aesthetic-architectural definition was shorthand for a political and social definition: a genuine "city" was a political and cultural centre, now with a highly restricted autonomy to be sure, in contrast with the proud independence of the old Greek *poleis*, but still a place where the well-born and the educated could live a civilized existence, a life of *urbanitas* in Roman parlance, in which they could dominate municipal affairs if no longer the whole gamut of state activity. Mere size was no test: many genuine cities were no bigger than villages in population or area. And the economy did not enter into consideration at all, apart from the requirement that the material goods indispensable for civilized amenities had to be available somehow.³

There were, of course, formal administrative definitions of a *polis* or a *civitas* in antiquity, as there are in all modern countries. Strabo was not concerned with that aspect, nor will the economic historian be. We can readily agree with Strabo that a mere conglomeration of people does not constitute a city. Otherwise Homeric Ithaca, an early medieval cathedral town and, for that matter, a prison or large army base are all cities: there are modern prisons whose inmates outnumber the total population of many Greek "cities". Then we move beyond Strabo (and every other ancient writer) to ask another kind of question altogether. What is the economic relation between town and country? The answer will not be the same for Sparta and for Athens, as in our own day it is not for Rome and Genoa. When Martin Luther thundered in his *Address to the Christian Nobility of the German Nation*, "The Anti-christ must take the treasures of the world, as it is written. . . . If we are right in hanging thieves and beheading robbers, why should we leave the greed of Rome unpunished? Here is the greatest thief and robber that has ever come or is likely to come on earth," he, for his own purposes, made an important historical

observation. From the time Rome became an imperial city until today she has been a parasite-city, living on gifts, rents, taxes, tribute. That does not make Rome any less a city, only a different kind of city from Genoa.

Hypothetically, the economic relationship of a city to its countryside—we must start with a single city in isolation—can range over a whole spectrum, from complete parasitism at one end to full symbiosis at the other. All residents of a city who are not directly engaged in primary production derive their food and raw materials from the producers in the countryside. All cities are in that sense centres of consumption. The question then is whether ancient cities were, as Max Weber thought, primarily centres of consumption.⁴ Stated differently, how did the cities pay for what they drew from the country? The parasitical city paid merely by returning all or part of the rents and taxes it took from the country in the first place; the fully symbiotic relationship would be represented by equal payment in urban production and services. A number of models can be constructed, in which the main variables are the distribution of the population, the quantity of rural production, the quantity of urban production, and the proportion of each transferred to the other. Urban manufactures and services designed solely for urban consumption are excluded: it is economically irrelevant to a tenant-farmer whether his city-dwelling landlord has the wheat he receives in rents converted into bread in his own household or by a baker to whom he pays a fee.

The model must then be complicated because the isolated city-country unit exists only in very primitive societies or in the imagination of Utopian writers. A city may outgrow the food-producing capability of its own hinterland. Anyway, there is scarcely a city which is self-sufficient in timber, metals, salt, spices, not to mention slaves, hides, semi-precious stones and other commodities that have become necessary amenities for civilized society. Even such staunch defenders of the moral advantages of self-sufficiency as Plato and Aristotle conceded that unfortunate fact of life.⁵ Again we ask: How did a city pay? And again the answer is a spectrum of possibilities, from Odysseus' raid on

Ismarus, where, he reported (Homer, *Odyssey* 9.39-42), "I sacked the city and killed the men; taking the women and many goods, we divided them," to a perfect balance of trade. Some think, though I do not, that the world of Odysseus was a Never-Never-Land not to be introduced into a serious historical account. But Caesar in Gaul was real and historical enough, as was the empire which produced sixty per cent of the Athenian public revenue in the fifth century B.C. (Thucydides 2.13.3), or the Sicilian corn tithe from which the inhabitants of the city of Rome for a time made much of their bread. The primitive models suitable for the isolated city must therefore be modified by further variables: rents, taxes and tribute drawn from outside the immediate territory of the city; production, both urban and rural, for export; transport facilities. Nor can politics be ignored, even in a "purely economic" analysis. Successful Roman expansion freed Italian land from taxation, a case of one variable, external tribute, cancelling out another, internal levies on the countryside.

There were also certain constants, the ox to begin with. The ox was the chief traction animal of antiquity, the mule and donkey his near rivals, the horse hardly at all. All three are slow and hungry. The transport figures in Diocletian's edict of maximum prices imply that a 1200-pound wagon-load of wheat would double in price in 300 miles, that a shipment of grain by sea from one end of the Mediterranean to the other would cost less (ignoring the risks) than carting it seventy-five miles.⁶ A state could afford to engage ox-teams for the extraordinary purpose of shifting marble column-drums for temples, employing on an average thirty yoke for each drum,⁷ and it could perform other extraordinary feats, especially if the army required them. But individuals could not move bulky merchandise long distances by land as a normal activity, nor could any but the wealthiest and most powerful communities. Most necessities are bulky—cereals, pottery, metals, timber—and so towns could not safely outgrow the food production of their own immediate hinterlands unless they had direct access to waterways.

Not even the famed Roman roads, built for military and political, not commercial reasons, made any significant difference,

since the means of traction remained the same. It was the many rivers of Gaul, not the roads, that elicited comment from Roman writers and facilitated the growth of inland cities.⁸ And in Asia Minor, Pliny, on his mission for the emperor Trajan early in the second century, wrote from Nicomedia, a harbour-town on the gulf of Izmit at the eastern end of the Sea of Marmara, proposing a complex canal construction linking the nearby Lake Sophon to the east (with a natural outlet northwards to the Black Sea) to the Sea of Marmara. Across the largish lake, Pliny explained (*Epistles* 10.41.2), "marble, produce and building wood are transported cheaply and with little effort to the highway, but then they have to be taken to the sea by cart with much labour and great expense". The highway was nothing less than the main Roman road running eastwards from Nicomedia, eventually to Ankara and beyond; the short stretch from the lake to Nicomedia and the sea was some eighteen kilometers.⁹ That may help to explain how the Antioch famine of 362-3 reached such disastrous proportions when grain was available fifty miles away along another proper Roman road. Hoarding and speculation played their part, no doubt, but the frequent phenomenon of famine amid nearby glut cannot be attributed solely to greed.

It is almost true that, the state apart, the peasantry were, within narrow limits, the chief beneficiaries of the Roman roads. Thus, although the road-building in the Romanized southeast of Britain stimulated the growth of villages, the average distance from the small local market to the edge of its "tributary area" remained at the standard maximum distance to a market preferred wherever means of transport are primitive, namely, four to five miles.¹⁰ Peasants (and not only peasants) are ruled by what economic geographers have called the "law of minimum effort" or the "principle of least effort".¹¹ And peasants, it need hardly be said, could not rescue a great city in time of famine or supply Nicomedia with its timber and marble.

Anyone in antiquity who forgot these elementary facts of life was quickly ruined. Mark Antony forgot, when he allowed his 200,000 men in western Greece to be blockaded by Agrippa in 31 B.C.,

with the inevitable consequence of hunger, disease and desertion despite his efforts to commandeer supplies by every possible device, so that in the battle of Actium he was hopelessly outmanned. Roman emperors never forgot. Roman expansion into western and northwestern Europe took the ancient world away from the Mediterranean and its tributaries for the first time. But there were navigable rivers; the main settlements were located on their banks and they were a major factor in all military logistical calculations, as in the creation of the greatest grain-milling complex of the time in the region of Arles.¹² When it was necessary to station armies far away from the rivers or the sea, the local population was impressed into maintaining them, without any concern for the relation between local agricultural production and army requirements. Roman armies could march long distances along the roads; they could neither be fed nor clothed nor armed from long distances by those routes.

Water transport, in short, and especially sea transport, created radical new possibilities for the ancient town. In the first place, imports of food and other bulk commodities permitted a substantial increase in the size of the population, no longer held down by the limiting factor of local agricultural production, and an improvement in the quality of life, through a greater variety of goods, a greater abundance of slave labour for domestic as well as productive work. Both population and amenities would then be further stimulated by the inevitable attraction of a secondary population, craftsmen, entertainers, artists, teachers and tourists. There might also be a feedback effect on the countryside in that imported necessities allowed more efficient exploitation of larger landholdings (though not of peasant holdings) through specialization, not really possible in more or less isolated, self-sufficient communities. One wonders whether the cultivation of roses, violets and peacocks on villas near the city of Rome (Varro, *De re rustica* 3.2) would have been tolerated had the city's corn supply not been looked after by the provinces. The ancient city was reluctant to leave food supply to chance or the free play of the market, at least so long as the city remained a genuine, autonomous com-

munity. Even classical Athens made it a capital offence to export home-grown corn, despite its control of the Aegean Sea and therefore of the massive wheat imports from southern Russia (and elsewhere).

One should not rush matters. The dialectics of the town-country-sea relationship are complex, the tempo of development slow and sometimes abortive. Easy access to the sea or a major river was only a necessary condition for growth, not a sufficient condition. The great Athenian harbour, the Piraeus, was a fifth-century B.C. creation, and the original impetus came from Themistocles' navy-building programme for which the sand-beach of Phalerum was no longer adequate. Brundisium (modern Brindisi) failed to grow into a major centre though it was the best port south of Ancona on the east coast of Italy, the side facing Greece and the east. Still further north, Ravenna, at the mouth of the Po, had a splendid harbour said to provide safe anchorage for 250 ships (Dio Cassius 55.33), but it never became a commercial centre.

The city of Rome offers the most striking testimony. Rome is fifteen or twenty miles up the Tiber from Ostia on the sea. Yet Rome had conquered Italy and defeated Carthage before Ostia began to be developed as its commercial harbour.¹³ Rome's first interest in Ostia, in the fourth century B.C., was military-defensive. Then came the third-century need for a navy in the wars with Carthage. At that critical moment, Rome, in the slightly exaggerated formulation of an ancient authority, had "no warships at all, not so much as a single galley", no knowledge of ships or ship construction, and no citizens with practice in rowing, sailing or marine fighting.¹⁴ That was more than two centuries after the Carthaginian Hanno had sailed down the West African coast at least as far as Sierra Leone.

Victory over Hannibal at the end of the third century B.C. was a watershed not only in the political history of Rome but also in its urban history. The oligarchic ruling circle, the *nobilitas* as it was soon called, acquired extensive tracts of *ager publicus* and needed slave labour; they also acquired expensive tastes and habits, for

political in-fighting and for conspicuous consumption, which leaped in geometric progression. Gladiatorial shows, for example, were originally introduced for funeral games: the first recorded instance, in 264 B.C., involved only three pairs of gladiators, but by 216 we hear of twenty-two pairs, by 174 B.C. of seventy-four pairs in a celebration lasting three days.¹⁵ Meantime, slaves and dispossessed peasants were rapidly pushing up the population of the city, and they had to be fed, clothed and housed (and the free men amused). It was no longer possible to rely, as in centuries past, on the immediate hinterland and on small coasting-vessels coming from the port of Puteoli in the Bay of Naples and then up the Tiber to Rome. So the harbour town of Ostia finally came into being as the only rival to Alexandria and Carthage in scale, to flourish for four centuries before sinking into a malarial marsh.

It is therefore more correct to say that Rome took to the sea because she had become a great city than the other way round. Rome was hardly typical, the complete parasite-city (though she was unique only in scale). No one will pretend that Rome paid in production for even a tiny fraction of her massive imports. But what of the cities which had no provincial booty and tribute with which to balance their accounts? One significant group may be noticed quickly, the cities which by their location were clearing-houses and transfer points, deriving substantial income from tolls, harbour-dues and dock charges, as well as from the services required by transient merchants and ships' crews. Ancient ships usually preferred to take short hops whenever feasible: the peculiar conditions of winds and currents in the Mediterranean, the absence of the compass, the limited ability to tack, shortage of storage space for food and fresh water were contributing factors. Hence the importance of Rhodes, in the Hellenistic period the outstanding example of a port-of-call. When, in the middle of the second century B.C., Rome decided for political reasons to bring Rhodes to heel, she accomplished that by the simple device of declaring the island of Delos a free port and improving the harbour installations there. The Rhodians soon complained that the effect

on their public revenues was a reduction from one million drachmas a year to a mere 150,000.¹⁶ That drastic decline in the volume of traffic, eighty-five per cent, from which Rhodian traders would not have been protected, since ancient states took harbour-fees from citizens and foreigners in equal measure, will have hit all the subsidiary services as well, amounting altogether to a most severe blow on the Rhodian economy, private as well as public.

There were other commercial cities: one thinks of Aegina, of Chios, a clearing-house in the slave trade,¹⁷ or of Marseilles, an entrepôt for products transported to and brought from the barbarians of the interior.¹⁸ But these were special cases. Ancient cities in the great majority counted farmers, whether working or gentleman farmers, men whose economic interest lay chiefly and often exclusively in the land, as the core of their citizenry. Not a few important ones were in a sense entirely agrarian, that is to say, the land was their one source of wealth and they paid for their imported metals, slaves and luxuries with their agricultural surpluses: Thebes, for example, or Akragas (Roman Agrigentum), the second city of ancient Sicily, or Cyrene, at a lower level Pompeii. Little more needs to be said about them in the present context, or of cities servicing a more extensive, but continuous, agricultural area than "their own", in Campania, for example; or of those cities in which a large military and imperial administrative personnel swelled the consuming sector in Hellenistic and Roman times, such as Antioch in Syria or Sirmium (modern Mitrovica) on the Save River, a small colony which had a brief period of sensational growth as one of the imperial capitals in the fourth century.

Finally, we come to the interesting, difficult and perhaps most significant group, the cities with an insufficient agricultural base and a genuinely "mixed" economy, agrarian, manufacturing and commercial together. Athens is the test case, not only because it is the one such city we know almost enough about but also because her economic history raises in the most acute form the question: How did an ancient city pay for its necessities, some produced

internally, the rest obtained abroad? Not parasitical, imperial Athens, with its large tribute, but fourth-century Athens, which could no longer pass on the costs to subject states.*

We cannot draw up a balance-sheet of imports and exports, not even an approximation; we cannot indeed offer quantities at all; we must therefore resort to models and indicators again. In what is still a widely read reply to the Weber-Hasebroek school, Gomme announced that “the Greeks were well aware that imports and exports must in the long run, somehow, balance”.¹⁹ He cited no authority, and the few which are available fall squarely into Schumpeter’s class of “prescientific statements” not made to bear any “superstructure”. Plutarch’s banal observation (*Solon* 22.1) that the Athenian lawgiver encouraged the crafts because he knew that merchants do not like to import into a country—and Athens already required grain imports—from which they cannot take out a return cargo, is immediately followed by a miscellany on Solon’s legislation with respect to women and bastards, the etymology of “sycophant” and “parasite” and much else. The famous passages in the elder Pliny (*Natural History* 6.101; 12.84), giving dubious figures of the drain of Roman gold and silver to India and other eastern countries in payment for luxuries, are moral in their implication. Any doubts on that are quieted by the explicitly anti-sumptuary rhetoric of Dio Chrysostom (79.5–6) on the same topic. No economic analysis or economic programme followed, either in the moralist writings or in practice, private or public.²⁰

Furthermore, Gomme apparently overlooked the fact that even in our complex economy many cities and towns “are supported exclusively by their role as market centres”, as a “cluster of retail and service establishments”.²¹ He insisted that the “balance” would be found by adding up the exports of wine and olive oil, manufactured goods, and silver together with invisible exports (the profits of shipping and tourism). The catalogue is irreproachable,

* In this simpler model, I am deliberately excluding the effect on “balance of payments” of imperial tribute and of armies stationed more or less permanently in outlying parts of an empire.

but unhelpful unless some ratios can be established among the individual items. Remember that we are examining the most populous city of the Graeco-Roman world in its day (for present purposes, non-citizens and slaves have to be counted in as consumers), compelled to import regularly perhaps two thirds of its wheat, all the iron, tin, copper and ship timber it required, all its numerous slaves (other than those bred at home), and all the ivory, semi-precious stones, most of the hides and leather, and a vast miscellany of commodities (including flax for linen and papyrus for writing) essential for a now traditional high standard of civilized living. Athens was self-sufficient only in honey, olive oil, ordinary wine, silver, building stone (including marble), potting clay and fuel; probably in a favourable position, approaching self-sufficiency but no more, in wool, fish and meat. The import bill was clearly an impressive one.

How do we then rank the exports? I cannot, for a start, attach any significance to agricultural products, not even olive oil and wine. Writing about olives in the Greek world generally, one economic historian observed that "in a region in which the production of the commodity was so general, it is natural that we should find only scattered references, and those often dealing with extraordinary circumstances".²² That, however, is no mere literary convention but a consequence of the realities of Greek production and trade. The Athenians exported some olives and olive-oil throughout their history: that is proved by the Hadrianic law of about A.D. 125 reserving one third of the local production for public use, a law which reminds us forcefully that Greek (and Roman) cities were also large *consumers* of olive-oil.²³ Given this latter fact and given the ubiquity of the olive-tree, where were the external markets for the export of this commodity, *from the important urban communities*, on a scale large enough to weigh significantly in the balance of payments? As for wine exports, the same considerations apply with the added qualification in the case of Athens that its wine was poor in quality. The important foreign trade was in famed regional wines; *vin ordinaire* was normally produced at home.²⁴

The situation is very different with two other items in the catalogue. Silver was the most important Athenian resource, exported in substantial quantities; whether in bullion or in silver coin was immaterial. For Xenophon (*Poroi* 3.2), Athens had the great advantage that importers "who did not wish to take out return cargoes" could make a handsome profit simply by taking out silver. Hence he built his programme in the little pamphlet on public revenues on the inexhaustible mines at Laureion and on the presence of numerous metics. The latter created what we call invisible exports, for which Athens had two interlocking advantages. She became, perhaps as early as the tyranny at the end of the sixth century B.C., a commercial centre and clearing-house, and, not much later, a tourist centre. The beginnings are obscure, but the continued growth of the city in both respects is easily followed, as is the way the two interests stimulated each other and the way the empire provided further impetus. We must not be too high-minded and look only at the Greater Dionysia and the Sophists. The Piraeus was an international port, with all that implies, and there were also well paying visitors like the son of the Crimean nobleman, the plaintiff in Isocrates' seventeenth oration, known as the *Trapeziticus*, for whom study (*theoria*) was an elastic concept. The whoremasters of Menander, Plautus and Terence were no comic invention; it is purely contingent that the action of the pseudo-Demosthenic oration against Neaira occurred chiefly in Corinth rather than in Athens. The constant coming and going of tens of thousands of "foreigners", Greeks and others, for whatever purpose, constituted a major, though not measurable, contribution to the Athenian balance of payments.

I have left the export of manufactured goods to the end. That is the capstone of the Gomme model. Perhaps I should say the missing link: evidence for Athenian export of manufactures other than pottery is effectively non-existent, and the Greek taste for fine painted pottery died out rapidly (and mysteriously) in the fourth century B.C., precisely the century we are considering. How much "must there have been" in the way of manufacturing for export, despite its non-recognition in the available sources? On this

question there is clear awareness in ancient writers, and I begin with two key texts, both by Xenophon.

The superiority of the meals served at the Persian court, he explains (*Cyropaedia* 8.2.5), is not surprising, given the size of the kitchen staff. "Just as the various trades are most highly developed in large cities, in the same way the food at the palace is prepared in a far superior manner. In small towns the same man makes couches, doors, ploughs and tables, and often he even builds houses, and still he is thankful if only he can find enough work to support himself. And it is impossible for a man of many trades to do all of them well. In large cities, however, because many make demands on each trade, one alone is enough to support a man, and often less than one: for instance one man makes shoes for men, another for women, there are places even where one man earns a living just by mending shoes, another by cutting them out, another just by sewing the uppers together, while there is another who performs none of these operations but assembles the parts. Of necessity he who pursues a very specialized task will do it best."

This is the most important ancient text on division of labour,²⁵ but my present interest is in something else, in the stress on the low level and inelasticity of demand, on the threat of over-production. Demand stands in a simple arithmetical ratio to numbers: the larger the city, the greater the demand. And even in big cities, Xenophon tells us elsewhere, demand will not stand up to pressure. In defending his proposals in the *Poroi*, which envisaged so large an increase in silver mining that every citizen would eventually draw full maintenance from the state, he argues as follows (4.4-6): "Of all the activities I know, silver mining is the only one in which expansion arouses no envy. . . . If there are more coppersmiths, for example, copperwork becomes cheap and the coppersmiths retire. The same is true in the iron trade. . . . But an increase in the amount of the silver ore . . . brings more people into this industry."

In both passages Xenophon thinks of manufacture only for the local market; otherwise his remarks make no sense.²⁶ Similarly,

when Aristotle in the *Politics* (1291b22–25) gives examples of cities in which the *demos* has unusual opportunity for non-agricultural employment, he specifies fishing (Byzantium and Tarentum), trade (Aegina and Chios), ferrying (Tenedos) and the navy (Athens), but no manufacturing speciality. Strabo explains at length (8.6.20–23) the basis for the great wealth of Corinth, plundered by the Romans in 146 B.C.; he is unaware of any manufacture for export. Among the endlessly varied symbols on Greek coins, favourite agricultural products are not uncommon, manufactured products unknown. When Greek and Roman moralists allow, no matter how grudgingly, that foreign traders have some virtue, unlike local petty shopkeepers, they invariably credit them with public service as importers, not as exporters: I need not repeat the relevant quotations from Aristotle and Cicero. There were exceptional protective measures for domestic agriculture, such as a law of the northern Aegean island of Thasos in the late fifth century B.C., prohibiting the importation of foreign wines into the coastal areas on the Thracian mainland which Thasos controlled.²⁷ I know of no comparable law protecting a manufacture.

I will not extend the catalogue. These are all arguments from silence, it will be objected, to which I reply that, given the nature of the sources, the issue comes down to how we interpret the silence. Is it, with Gomme, a mere accident of the survival of evidence, literary and archaeological, or a matter of ancient literary taste? Or is it, as I believe, a silence that is explained in the simplest possible way, because there was effectively nothing to speak about? Clearly, there were some manufactures deliberately designed for export, such as the shoes and summer mantles, made we do not know where, which an Athenian brought to Cyrene once a year in such small supply that Bishop Synesius was impatient lest he miss the opportunity to buy. There were the high-grade linen garments from St. Paul's city of Tarsus, famed throughout the Roman empire, which brought the weavers of that city an apparently steady livelihood, but on so low a level that few could afford the 500-drachma fee required for the acquisition of local citizenship (Dio

Chrysostom 34.21–23). There was Patavium (Padua), located in a famous sheep-raising district, with access to the sea by river, which for a time in the early Empire exported woollens to Rome on a considerable scale, especially fine carpets and cloaks (Strabo 5.1.7, 12).²⁸ There was Arretium (Arezzo), which for a fleeting moment saw substantial fortunes made from a monopoly in the newly fashionable *terra sigillata*, a monopoly that did not last two generations. Its most important successors, Lezoux and La Graufesenque in Gaul, did, it is true, export their ware for a long period throughout the western empire, but the potters were themselves modest men, not even little Wedgwoods.

David Hume was not seriously mistaken when he could “not remember a passage in any ancient author where the growth of a city is ascribed to the establishment of a manufacture”.²⁹ Linen-weaving did not lay the foundation for Tarsus, nor the production of shoes and summer mantles for Athens; as for Lezoux and La Graufesenque, they flourish only in archaeological manuals, while Patavium was a centre of wool manufacture in (and for) the North Italian sheep-raising area long before the omnivorous city of Rome became one of its markets.³⁰

In its relatively brief flourishing period, there were potteries in Arezzo employing as many as fifty-plus slaves. Cephalus’s shield factory in fifth-century Athens had more than one hundred. Gomme was right to stress that workshops of such magnitude could not be, and were not, exceeded until the industrial revolution shifted the balance of an entrepreneur’s input from labour to equipment, to capital goods. It has been claimed, rather exuberantly, that such excavated districts as the potters’ quarter of Corinth evoke, in their physical appearance, “the artisan quarters of medieval cities”.³¹ But it seems commonly to be overlooked that the excavators of Tarsus have found no Cloth Hall, that all ancient cities lacked the Guildhalls and Bourses which, next to the cathedrals, are to this day the architectural glories of the great medieval cities of Italy, France, Flanders, the Hansa towns, or England. Contrast the Athenian Agora with the Grande Place in Brussels. It was no oversight on the part of Pausanias when he

omitted that class of buildings from his sneer about the little town in Phocis.

The clothmakers of Flanders had no difficulty in meeting the financial charges of citizenship; on the contrary, they were an integral section of the ruling oligarchies. The political role of the guilds set the medieval city apart from the ancient, as the political role of the peasantry set the ancient city apart from the medieval.³² Not only were there no Guildhalls in antiquity, there were no guilds, no matter how often the Roman *collegia* and their differently named Greek and Hellenistic counterparts are thus mistranslated. The *collegia* played an important part in the social and religious life of the lower classes, both free and slave; they sometimes performed benevolent functions, as in financing burials; they never became regulatory or protective agencies in their respective trades,* and that, of course, was the *raison d'être* of the genuine guilds, medieval and modern.³³

The ancient-medieval contrast is closely linked with the difference in the quantity and significance of production for export in the two worlds. The local peasantry remained a constant: men with the small holdings we have examined, even free citizen-peasants, represent the lowest and most inelastic possible market for urban production. That is why "in most peasant societies, markets are periodic rather than permanent and continuous . . . the per capita demand for goods sold in the market is small, the market area is limited by primitive transport technology, and the aggregate demand is therefore insufficient to support permanent shops."³⁴ What is true of peasants with respect to level of demand (though not periodicity) is no less true of the urban plebs. Production can therefore leap upward to the extent, and only to the extent, that there are export markets, in antiquity markets accessible to water-borne traffic. The widespread prevalence of household self-sufficiency in necessities was enough to put a brake on extensive production for export.

That is what Max Weber meant when he labelled the ancient

* In the late Roman Empire some became compulsory agencies of the state, but that is a quite different function.

city a centre of consumption, not of production. He was not ignorant of the hundreds of craftsmen, making an infinite variety of things, equally varied in quality. But he located them correctly within the structure of the city. The level of consumption increased in the course of ancient history, at times to fabulous proportions. The evidence is too well known to require repetition. From time to time the authorities tried to curb excesses: sumptuary laws are associated with the names of such widely different figures as Solon, Demetrius of Phalerum, Sulla, Julius Caesar and Augustus. The younger Pliny was despatched to Bithynia by Trajan early in the second century in order to check extravagance and waste in the deployment of municipal funds. Always the goal was the same, prevention of the self-destruction of the social élite, caught up in the powerful pressures created by status requirements, an objective wholly unrelated to that of Colbert, for example, when he reduced the number of holy days in order to increase the productivity of French workers and peasants.

To sum up: essentially the ability of ancient cities to pay for their food, metals, slaves and other necessities rested on four variables: the amount of local agricultural production, that is, of the produce of the city's own rural area; the presence or absence of special resources, silver, above all, but also other metals or particularly desirable wines or oil-bearing plants; the invisible exports of trade and tourism; and fourth, the income from land ownership and empire, rents, taxes, tribute, gifts from clients and subjects. The contribution of manufactures was negligible; it is only a false model that drives historians in search of them where they are unattested, and did not exist.

It will have been noticed that I also failed to include the size of the city as a significant variable. In this respect, too, the ancient trend was very much upward, culminating in the first two centuries of the Roman Empire which saw not only the few great metropolises, led by Rome itself, but also a series of cities, especially in the eastern half, in the 100,000 class. The new dimension was visible all along the line: even a minor town like Pompeii had, at the time of its destruction in A.D. 79, some 20,000 inhabitants, a

total exceeded by no more than a dozen Greek cities of the classical period. Partly, this urban growth was the consequence of a general population increase; partly, it reflected the increased volume of trade and increased wealth in the hands of the upper classes. But mainly it was a response to the new political pattern, the replacement of the city-state by a great bureaucratic empire. Larger cities (or army centres) then meant increased demand for urban trades for internal services, and, in some cases, notably Rome, there was also an impact at considerable distances in the countryside beyond the immediate hinterland, for example, to provide the wine and pork for Roman consumers. What is not to be perceived, however, is any notable effect on urban production for export.

It is not very relevant that the cities had largely lost the taxes and tribute which had contributed so much to the earlier city-states. Although technically that income now went to the imperial treasury instead, a major share found its way into many cities other than Rome, through the wages, perquisites and largesses paid out to a growing number of imperial officials and their staffs, and through the armies. For the rest, larger urban incomes, especially in that sector of the population who were the large consumers, were derived from the same sources as before, from the land, from government service, and from invisible exports. They were ample incomes, for reasons previously indicated: it is perhaps not coincidental that this period of growing urbanism, of an absolute and relative increase in the numbers of the economically parasitical classes, of sumptuary life-styles, was also the period during which the distinction came into full force between *honestiores* and *humiliores*, a symptom of depression in status of the free poor, craftsmen as well as peasants. Any notion of seeking to increase urban revenues through manufacture was not on the agenda: there were neither financial incentives nor market opportunities for those who possessed the potential capital, and there were the powerful social-psychological pressures against it. By contrast, the agrarian European feudal world provided the medieval cities with the external markets the ancient cities lacked.

The kings, lords and church dignitaries, living on their manors or in small agglomerations, created a fundamentally different town-country relationship from that of their highly urbanized land-owning predecessors.³⁵

The same pattern of disincentive underlies another feature of the ancient economy that I have noticed several times, the condition of what may loosely be termed their business practices. This was a world which never created fiduciary money in any form, or negotiable instruments. Money was hard coin, mostly silver, and a fair amount of that was hoarded, in strong-boxes, in the ground, often in banks as non-interest-bearing deposits.³⁶ Payments were in coin, only under special conditions by a transfer within a particular bank or within the coffers of a Roman tax-farming corporation. In Greek law sales were not legal and binding until the sale price had been paid in full; credit sales took the form of fictitious loans (and are therefore normally impossible to detect in the sources). There was endless moneylending among both Greeks and Romans, as we have seen, but all lenders were rigidly bound by the actual amount of cash on hand; there was not, in other words, any machinery for the *creation of credit* through negotiable instruments.³⁷ The complete absence of a public debt is in this context a meaningful indicator. No Greek or Roman could have comprehended a modern definition of the money supply as "the total of bank liabilities plus currency held by the nonbank public".³⁸

A recent, thorough study of Greek banking and moneylending has failed to turn up more than two actually attested instances (one a dubious one) of moneylending for business purposes, whether for agriculture, for trade, or for manufacture, in the sources from any period, apart from maritime (or bottomry) loans, an exception to be explained by the function of that type of loan as an insurance policy rather than as a form of credit.³⁹ (What we choose to call "banks" in antiquity are not even visible in the bottomry business.⁴⁰) Certainly there were transactions which have failed to creep into our sources, but the pattern of Greek moneylending for non-productive purposes is indubitable.

The Roman citizenship structure did not create the legal wall characteristic of the Greek city-state between land and credit that I examined earlier. Cicero turned to *faeneratores* for the money with which to purchase an urban villa (*Letters to his Friends* 5.6.2). But when Pliny contemplated the purchase of a large estate in Umbria (*Epistles* 3.19), far from intending to apply to a professional money-lender for a mortgage, he planned the opposite, to call in his own interest-bearing loans and then, if necessary, to make up any deficit by dipping into his mother-in-law's cash-box. Whose behaviour was the more typical, Cicero's or Pliny's? Until a study is made of Roman moneylending comparable to the work on Greek banking I have just mentioned, we are restricted to hypotheses. Mine is that among the Romans, too, large-scale borrowing, borrowing among the men of means, was for non-productive, consumers' purposes, under which heading I of course include loans for political ends.⁴¹ Short-term loans, rudimentary bookkeeping (including the common practice of not issuing receipts for private payments), the absence of a concept of amortization—I need not repeat what I have already said on these topics—were all by-products of this fundamental phenomenon. So, for that matter, was the pawnbroking and petty usurious moneylending that flourished at the expense of the poor.

In consequence, not only were the ups and downs in production always attributable to natural catastrophe or political troubles, not to cyclical crises, but so-called "credit crises" turn out to have had the same roots, not in supply-and-demand operations in a normal "money market". Attributable and attributed: Cicero was painfully aware of the effects of a sudden shortage of coin on interest rates and land prices, and nearly three centuries later the historian Dio Cassius revealed similar awareness of the reverse, when Augustus brought the captured Egyptian treasure to Rome.⁴² However, it has been observed that not one ancient commentator, no matter how "attentive to the particular circumstances in which he found himself from day to day, or which he described as an historian, offers any reflections on what we call long-term movements, on the secular movement of prices".⁴³

One rudimentary, but exemplary, instance of a credit crisis growing out of military catastrophe is known from the chance preservation of a long, complicated decree of the city of Ephesus at the beginning of the third century B.C., laying down temporary palliative measures respecting payments on mortgage-loans on farmland, dowries and other types of obligation.⁴⁴ Behind that emergency legislation lay years of continual warfare among the successors of Alexander the Great. Ephesus was within one of the main arenas of fighting and was devastated. Hence there was a crisis.

Or, the civil war that brought Julius Caesar to power instilled a fear in Roman moneyed circles of a "demagogic" measure to cancel debts. Interest rates were lowered by the tribunes; creditors called in their loans; debtors were unable to pay; their land was seized and became a glut on the market, with coin literally running out. Caesar's efforts to deal with the situation included a futile attack on the shortage of coin, a chronic problem, certain revisions in property assessment procedures and perhaps in the law on property transfers.⁴⁵ Another, rather mysterious outbreak occurred in the city of Rome in A.D. 33, under Tiberius. This crisis, according to a very brief but not very lucid account of Tacitus (*Annals* 6.16-17), began with a popular outcry against widespread irregularities by the moneylenders, to which they again responded by calling in their loans, again threatening the landed holdings of many respectable men. The emperor intervened with an interest-free loan-fund of one hundred million sesterces for worthy debtors and the excitement soon died down.⁴⁶ Tiberius' concern was for "those whose *dignitas* and *fama* were threatened";⁴⁷ so was Cicero's in his ferocious denunciation (*De officiis* 2.78-84) of debt-relief measures, in general and in particular. They are an attack on property and the propertied classes, he says in no uncertain terms, but he knows nothing about a threat to economic growth or to the economy, except for the rudimentary "prescientific" observation (Schumpeter's phrase again) that more money is loaned in periods in which the collection of debts is not threatened by demagogic interference.

One more negative has to be introduced into this long tale of the qualitative stability, the “fixity”, of business practices after the end of the fourth century B.C.⁴⁸ I refer to the absence not only of the corporation but even of the long-term partnership. Under the Roman Empire, there were merchants who had their permanent representatives or agents in certain large ports, as there were representatives of such informal “collectivities” as the ship-owners (*navicularii*) of Arles, with their agent in Beirut.⁴⁹ However, that relatively simple and restricted operation did not lead, in private business affairs, to long-term partnerships, let alone to the extensive, powerful and durable organizations created earlier, under the Republic, by the tax-farming corporations, except perhaps among the merchants and shippers responsible for the imperial corn supply.⁵⁰ Here we have proof—I use the word deliberately—that we are not faced with an intellectual failing. Since the idea of a corporation was a familiar one, its non-extension to other spheres of activity reflects the absence of a need, specifically of the need to pool capital resources, to transcend the financial capacity of any individual to produce marketable commodities, to carry on commerce, to lend money.

In short, the strong drive to acquire wealth was not translated into a drive to create capital; stated differently, the prevailing mentality was acquisitive but not productive.* That brings me back, at the risk of being repetitive, to the role of metics, freedmen and slaves in the business life of the ancient world. It is irrelevant to insist that metics were as Greek as the Greek landowners who demeaned trade. No one is claiming the existence of racial attitudes. What is being claimed is the existence of powerful social and political attitudes, and of important economic consequences. Much of the daily buying and selling of processed foods and other raw materials and of manufactured goods in all the cities of antiquity—I should even guess the largest quantity—was carried on without middlemen, through direct sale by individual craftsmen to individual consumers. In the Greek world, paradoxically,

* Similarly, ancient Utopian schemes concentrated on consumption, not production, as in the “communism” satirized in Aristophanes’ *Ecclesiazusae*.

these craftsmen-sellers were for the most part citizens of their respective communities, and even in much of the Roman Empire, too, except where the Roman freedman system prevailed—mostly poor citizens at that, politically impotent except in such untypical communities as classical, democratic Athens, socially inferior, but citizens nonetheless, not metics, not outsiders. The entrepreneurs, the men who managed the large-scale maritime trade or who were the moneylenders to the wealthy, Rostovtzeff's *bourgeoisie*, were mostly free from the obligations and distractions of municipal or imperial administration; they were the men who might have been expected to develop and create new techniques of capital formation—and they did not do so. Actually, these were not the men with the greatest accumulation, with the greatest potential. For that we look to the landholding élites, and their disincentive was decisive.

Nothing I have been saying should be taken to deny the absence of experts and expertise in all the fields that contributed to manufacture, engineering, food processing and navigation. There was extensive writing on these subjects in antiquity, nearly all of it now lost, with one outstanding exception, the *De architectura* of Vitruvius, written probably in the reign of Augustus, the standard work on the subject for the next 1500 years or so.⁵¹ When Vitruvius decided to write a complete text-book, he came with impeccable credentials; his literary and scientific education was considerable, he had himself practised both as engineer and as architect and he was immersed in the far from negligible Hellenistic literature. His book is therefore the highest example available from antiquity of the knowledge and thinking of a man who was a do-er, not just a know-er, and who combined the best practice of both Greeks and Romans.

In sequence, the *De architectura* deals with the following topics: architecture in general and the qualifications of the architect, town-planning, building materials, temples, other civic buildings, domestic buildings, pavements and decorative plaster-work, water supply, geometry, mensuration, astronomy and astrology, and, finally, "machines" and siege devices. Vitruvius is a discursive

writer. He has a great deal to say, for example, about the ethics of his profession. In the preface to the tenth book there is the suggestion that the carelessness of architects could easily be remedied by universal adoption of a law of Ephesus holding the architect personally responsible for all costs exceeding twenty-five per cent above his original estimate. Scattered through the prefaces are stories drawn from the history of inventions: invariably the circumstances, and therefore the explanation, are either accidental (as in the discovery of the marble quarries at Ephesus when two fighting rams chipped a bit of the hillside) or frivolous (as in Archimedes' discovery of the principle of specific gravity in response to a royal request for a way to unmask a dishonest silversmith).

Like, say, Aristotle in the fourth century B.C., Vitruvius saw neither a virtue nor a possibility in the continued progress of technology through sustained, systematic inquiry. Now that the essential "machines"—the ladder, pulley, windlass, wagon, bellows and catapult—were known, Vitruvius, like Xenophon, stressed the qualitative benefits of expertise and technique, not their quantitative, productive possibilities, though he was an engineer and builder, whereas Xenophon was merely explaining the excellence of the food at the Persian court. It is therefore consistent that one brief, quiet paragraph (10.5.2) is sufficient for the important recent invention of the water-mill, and that in the whole of the *De architectura* there is just one passage which considers the achievement of greater economy of effort or greater productivity. Vitruvius recommends (5.10.1) that in public baths the hot-water room for men be placed next to the one for women, so that they can be fed from a single heat source. It will be conceded that this is not a very impressive instance.

The Greeks and Romans inherited a considerable body of techniques and empirical knowledge, which they exploited well insofar as it suited their particular values, and to which they added the gear and the screw, the rotary mill and the water-mill, glass-blowing, concrete, hollow bronze-casting, the lateen sail, and a few more. There were refinements and improvements in many

spheres. But there were not many genuine innovations after the fourth or third century B.C., and there were effective blocks. These latter are for some strange reason argued away by many historians, but there are two which resist absolutely, and they both affected essential and profitable activities. The first was in mining, especially in the western and northern provinces where the ground-water line often created great difficulties; no one found a way to improve on hand bailing, the water-wheel operated by a foot treadle and perhaps the Archimedian screw for drainage devices: so technically simple a device as the chain-pump with animal power is unattested.⁶² The second instance is a more generalized one. Power in antiquity was muscle power, human and animal; the ancients sailed with the wind and made complicated weather-vanes, but never a windmill.

There is a story, repeated by a number of Roman writers, that a man—characteristically unnamed—invented unbreakable glass and demonstrated it to Tiberius in anticipation of a great reward. The emperor asked the inventor whether anyone shared his secret and was assured that there was no one else; whereupon his head was promptly removed, lest, said Tiberius, gold be reduced to the value of mud. I have no opinion about the truth of this story, and it is only a story. But is it not interesting that neither the elder Pliny nor Petronius nor the historian Dio Cassius was troubled by the point that the inventor turned to the emperor for a reward, instead of turning to an investor for capital with which to put his invention into production?⁶³ My answer to that rhetorical question is more 'No' (it is not very interesting) than 'Yes'. We must remind ourselves time and again that the European experience since the late Middle Ages in technology, in the economy, and in the value systems that accompanied them, was unique in human history until the recent export trend commenced. Technical progress, economic growth, productivity, even efficiency have not been significant goals since the beginning of time. So long as an acceptable life-style could be maintained, however that was defined, other values held the stage.

The behaviour of governments provides the final test. Ancient

states were capable of mobilizing extensive resources for amenities and for military purposes, and the trend was upward in a kind of megalomania, from the Golden House of Nero to Diocletian's nine-acre palace in Dalmatia in the private sphere, or from Augustus' conversion of Rome into a city of marble to Diocletian's thirty acres of public baths in the public sphere. Even quite modest cities could achieve the Pont du Gard, which supplied fresh water to a not very important provincial town in southern Gaul, or the vast amphitheatre of Puteoli. But what did they do otherwise? In the century following Alexander's conquest of Egypt, the Ptolemies thoroughly reconstructed that country. They reclaimed great quantities of land, they improved and extended the irrigation system, they introduced new crops, they moved Egypt belatedly from the bronze age into the iron age, they made administrative and managerial changes—all in the interest of the royal revenue, and all amounting to nothing more than giving Egypt the advantages of already existing Greek technology and Greek processes. Simultaneously, the Ptolemies founded and financed the Museum at Alexandria, for two centuries the main western centre of scientific research and invention. Great things emerged from the Museum, in military technology and in ingenious mechanical toys. But no one, not even the Ptolemies themselves, who would have profited directly and handsomely, thought to turn the energy and inventiveness of a Ctesibius to agricultural or industrial technology. The contrast with the Royal Society in England is inescapable.

So is the contrast between the later Roman emperors and Louis XIV, whose armies within what had been a single Roman province, as Gibbon pointed out, were greater than those any ancient emperor could muster. From the middle of the third century, the numerical inadequacy of the armies who had to resist continuing and growing Germanic and Persian incursions could not long have escaped the notice of those responsible for the empire. Nothing could be done: neither the available manpower nor food production nor transport could bear a burden greater than the one imposed by Diocletian when he doubled the army's

strength, at least on paper. Taxes and compulsory services were increased, the burden falling largely on those least able to bear it. Men and means were shifted to the main danger points, sometimes benefiting frontier provinces at the expense of the others. But nothing could be done to raise the productivity of the empire as a whole or to redistribute the load. For that a complete structural transformation would have been required.