

IMPACT OF EMPIRE (ROMAN EMPIRE)

2

In memory of Thomas Wiedemann
(May 14, 1950 – June 28, 2001)

THE TRANSFORMATION OF
ECONOMIC LIFE
UNDER THE ROMAN EMPIRE

PROCEEDINGS OF THE SECOND WORKSHOP
OF THE INTERNATIONAL NETWORK
IMPACT OF EMPIRE
(ROMAN EMPIRE, c. 200 B.C. - A.D. 476)
NOTTINGHAM, JULY 4 - 7, 2001

EDITED BY
LUKAS DE BLOIS & JOHN RICH

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PREFACE
BY
LUKAS DE BLOIS AND JOHN RICH

This volume presents the proceedings of the second workshop of the international thematic network 'Impact of Empire', which concentrates on the history of the Roman Empire, c. 200 B.C. - A.D. 476, and, under the chairmanship of Lukas de Blois (University of Nijmegen), brings together ancient historians, archaeologists, classicists and specialists on Roman law from some 26 European and North American universities. The proceedings of the first workshop, held at Leiden, June 28-July 1, 2000, have been published in this series as *Administration, Prosopography and Appointment Policies in the Roman Empire* (Gieben, Amsterdam 2001). The third workshop, on the representation and perception of Roman imperial power, was held at the Netherlands Institute in Rome on March 20-23, 2002, and the proceedings are currently being prepared for publication. A series of further annual workshops has been planned:

- Leiden, Faculty of Arts, June 25-28, 2003: The local level. The impact of the presence and actions of the Roman Empire on the social relations, daily life, and moral attitudes of groups, organisational units and individuals within the local societies that constituted the Empire.

- Münster, Seminar für Alte Geschichte, beginning of July 2004: The impact of imperial Rome on religions and religious life in the Empire.

- Naples, Faculty of Arts, 2005: The impact of the presence and actions of Roman armies on different regions of the Empire.

- Nijmegen, Faculty of Arts, Department of History, end of June/beginning of July 2006, on crises in the Roman Empire (a comparative study: from the crises in the Roman republic to the confrontation of clergy, bureaucrats and military men at the end of Antiquity).

- Heidelberg, Seminar für Alte Geschichte, 2007, on the impact of the Roman Empire on the dynamics of ritual.

The second workshop of the network was held in the University of Nottingham, UK, at Lenton and Wortley Hall, on July 4-7, 2001, and took as its theme the transformation of economic life in the Mediterranean region and its European hinterland resulting from the Roman presence and Roman imperial rule. All but two of the speakers at the workshop has contributed to the present volume, which also includes papers by two contributors (Polichetti and van der Vin) who were unable to be present at the workshop.

We are grateful to the British Academy, the Society for the Promotion of Roman Studies, the University of Nottingham and the Netherlands Research School of Classics Oikos for assistance with the costs of the workshop. John Rich (University of Nottingham) acted as local organiser for the workshop and wishes to thank John Drinkwater, Pasi Loman and Benet Salway for their assistance and also Ann Mills and her staff at Lenton and Wortley Hall.

The workshop was overshadowed by the death on 28 June 2001, from cancer, of Thomas Wiedemann, Professor of Latin at the University of Nottingham, and the proceedings were suspended on 6 July to enable delegates to attend the funeral. Wiedemann was not only a distinguished student of the Roman Empire and of Roman society but also a man of cosmopolitan interests and wide friendships who attached the highest importance to European collaboration. He played a leading part in the inception of the 'Impact of Empire' network, and it was through him that its first UK meeting came to be held at Nottingham. We dedicate this volume to his memory.

INTRODUCTION
BY
LUKAS DE BLOIS, HARRY W. PLEKET AND JOHN RICH

Did a Roman imperial economy exist under the Late Republic, the Roman Principate and the Later Roman Empire? And if so, what type of economy was it? Another equally important question is: did the Roman Empire, by specific actions, the creation of infrastructures, or its very existence, trigger a transformation of economic life in the regions which it dominated? Or was the Empire a marginal affair in the regions that belonged to it, and did economic developments take their own course, independently of the Empire? Questions like these, which are of great consequence to any student of Roman history, archaeology, and Roman law, were at the centre of interest during the second workshop of the network Impact of Empire¹.

Recent discussion of the Roman imperial economy has been dominated by the controversy between modernists like Michael Rostovtzeff, primitivists like Moses Finley and scholars who take an intermediate position, like Keith Hopkins, with his well-known argument that Roman taxation stimulated trade empire-wide². In reaction to Rostovtzeff's modernistic interpretations

¹ We owe thanks to Luuk de Ligt for his advice. This introduction draws heavily on articles by H.W. Pleket. See his contribution to F. Vittinghoff, ed., *Handbuch der europäischen Wirtschafts- und Sozialgeschichte I: Europäische Wirtschafts- und Sozialgeschichte in der römischen Kaiserzeit* (Stuttgart 1990), 25-160; H.W. Pleket, 'Rome: A Pre-industrial Megalopolis', in T. Barker & A. Sutcliffe, eds., *Megalopolis. The Giant City in History* (London 1993), 14-35 (= Pleket 1993A); Idem, 'Agriculture in the Roman Empire in Comparative Perspective', in H. Sancisi-Weerdenburg, et al., eds., *De agricultura* (Amsterdam 1993), 317-342 (= Pleket 1993B); Idem, 'Het Romeinse Rijk: politieke integratie en economische desintegratie', in J.C. Dagevos, P.G. van Druenen, P.Th. van der Laar, and P.R.A. Oeij, eds., *Historie en Integratie. Drijvende krachten achter processen van integratie en desintegratie* (Kampen 1994), 12-25 and 154-156; Idem, 'Tussen Rostovtzeff en Finley. De economie van het Romeinse Keizerrijk in vergelijkend perspectief', *Lammas* 31, 4 (1998), 276-289. Cf. Idem, 'The Roman State and the Economy: The Case of Ephesus', in *Entretiens d' archéologie et d' histoire. Economie antique: Les échanges dans l' antiquité. Le rôle de l' état* (Saint Bertrand de Comminges 1994), 115-126. In this introduction the concept of 'connectivity' has been borrowed from P. Horden & N. Purcell, *The Corrupting Sea: A Study of Mediterranean History* (Oxford 2000).

² See M.I. Rostovtzeff, *Social and Economic History of the Roman Empire* (Oxford 1926; 1957, 2nd ed.); M.I. Finley, *The Roman Economy* (London 1973; 1985, 2nd ed.); K. Hopkins, 'Taxes and Trade', *Journal of Roman Studies* 70 (1980), 101-125; Idem, 'Rome, Taxes, Rents, and Trade', *Kodai, Journal of Ancient History* 6-7 (1995-1996), 41-75; Idem, 'Rents, Taxes, Trade and the City of Rome', in E. Lo Cascio, *Mercati permanenti e mercati periodici nel mondo Romano. Atti degli incontri di storia dell' economia antica, Capri 13-15 Ottobre 1997* (Bari 2000), 253-267. On earlier "primitivist" views and early impulses towards primitivist theories see C. Nicolet, *Rendre à César. Économie et société dans la Rome antique* (Paris 1988), 13-40.

and anachronistic terminology Finley analysed the economy of the Roman Empire as a conglomerate of rather primitive, small-scale rural economies, centred around small settlements dominated by landed proprietors, who lived in the built-up centres of their communities, to which they transferred a good part of the products of their estates. In doing so they brought into being a small-scale local exchange economy, in which the urban artisans essentially provided for the needs of the urban inhabitants. On a strict interpretation Finley's model postulates a dichotomy of landed proprietors living from the rents (whether in money or in kind) of their tenants. The otherwise very probable presence of a group of small independent farmers can easily be accommodated in the Finleyan model of basically local urban exchange-circuits in which substantial import- and export-flows were absent. The middle-group of independent farmers bought the artisanal products they needed and sold their small surpluses in the nearby urban market. The concept 'model' should be emphasized here. A certain amount of 'connectivity' (to use one of the keywords in Purcell-Horden's recent *The Corrupting Sea*) between such market-centres and nearby villages or regions is not to be denied, but such 'connectivity' does not concern the dominant features of such local economies, at least not in the interior. Those small urban *nuclei*, a large majority of which counted far below 10.000 inhabitants, were not production centres in a Weberian sense, which produced for far-off markets and planned future profits, but small consumer settlements that lived off the surrounding countryside. In this primitivist view farmers, landed proprietors, and craftsmen did not aim at the maximizing of profits and at regular, profitable, previously calculated sales in inter-regional markets, but at self-sufficiency and at meeting the demands of a narrowly local circle of customers. On such views long-distance transport and trade were invariably interpreted in terms of politically engineered flows of goods, resulting from government actions like taxation in cash or kind, ad hoc requisitions by armed forces, and the regular provisioning of the city of Rome and standing armies and fleets. Free inter-regional trade was of marginal significance, port towns were quantitatively negligible anomalies, and merchants, with the exception of a few bankers and *publicani*, were small fry. A large majority of them enjoyed a humble status in their communities. There were practically no technological innovations, which could have fostered progressive developments in craftsmanship and agrarian skills. On such primitivist views the Roman Empire was a military and administrative structure, which successfully sapped food, goods, money and services from an endless

number of primitive, small-scale, self-sufficient communities, which were hardly integrated in a supra-local imperial economy, and from a tiny number of exceptional trading communities that had more inhabitants. What seemed to be inter-regional long-distance trade was a consequence of the Roman imperial administration, which concentrated food, goods and means of transport in military zones and at the political centre, the city of Rome. Transport of tax goods, to Rome and the armies at the frontier, was far more important than inter-regional trade in market-goods³. Implicit in this view is the teleological approach that the Roman Empire was simply more primitive than later medieval Europe and even more so than the pre-industrial western societies that existed from about 1500 to 1800 and underwent important changes, which ultimately led to revolutions and take-offs in industry, husbandry, trade and transport. And it is in the Middle Ages and during the *Ancien Régime* that the so-called birth of capitalism is to be located and the teleology begins to work. Antiquity was different. Finley was very good in saying what it was not. Richard Saller recently suggested that for Finley the economies of both Antiquity and later pre-industrial Europe up to A.D. 1800 were different from the industrial economy of the 19th and 20th centuries. Finley may well have agreed with this proposition on the condition that it does not imply that the difference between Antiquity and pre-industrial Europe was insignificant. Both periods were different from industrial Europe in all meaningful aspects (technology, agricultural production and productivity, urbanization, growth-rates, both aggregate and per capita), but Antiquity was more different than later pre-industrial Europe⁴.

³ As to the provision of Rome and the armies with wine and oil see now L. Wierschowski, 'Die römische Heeresversorgung im frühen Prinzipal', *Münstersche Beiträge zur antiken Handelsgeschichte* 20, 2 (2001), 37-61, who argues that these commodities were essentially market-goods; contra J. Remesal Rodriguez, 'Heeresversorgung im frühen Prinzipal. Eine Art, die antike Wirtschaft zu verstehen', *Münstersche Beiträge zur antiken Handelsgeschichte* 21, 1 (2002), 69-84, who has an open eye for the vast movements of bulk goods toward Rome and the legions, believes in an "Austausch von Produkten über (große) Entfernungen", but still holds that taxes and rents in kind provided the bulk of those products. The "Austausch" turns out to be largely transport of such goods. This is not what commonly the term 'exchange' covers.

⁴ R.P. Saller, 'Framing the Debate over Growth in the Ancient Economy', in W. Scheidel & S. von Reden, eds., *The Ancient Economy* (Edinburgh 2002), 251-269; see also his remarks in *Journal of Roman Archaeology* 14 (2000), 580-584. As to Saller's own views, he admits that during the first two or three centuries of the Empire there may well have been some economic growth, both in aggregate production and per capita, i.e., in productivity, but he calls this growth modest and limited; it was even very modest compared to that of the early modern states of pre-industrial Europe. In fact it may have been very modest compared to the growth-rate of the Netherlands between 1500 and 1700, but I am not at all sure that the

Doubts arose. Scholars like Hopkins, Nicolet and Duncan-Jones adopted intermediate positions between modernism and primitivism. In spite of their occasionally less primitivist vocabulary, however, they apparently accept the thesis that the economy of the Roman Empire was significantly more simple and primitive than that of later pre-industrial western societies. According to Keith Hopkins⁵, Roman taxation stimulated surplus production and supra-local export trade, both of which were needed to raise the money and products with which taxes could be paid. In this way Hopkins assumes the existence of an empire-wide impact of Roman administration and taxation, but he simultaneously takes it for granted that this surplus production and long-distance trade constituted a thin veneer of modernity on top of an omnipresent primitive subsistence economy, which did not foster any really Weberian production centres.

Another scholar who assumes the existence of an empire-wide impact of the Roman imperial administration is Claude Nicolet. He speaks of an "économie d'empire" and adduces evidence about trade between the Empire and the oriental world to argue that the "économie d'empire" was transformed into an "économie-monde", thereby borrowing terms from I. Wallerstein who suggested that the incipient trade between European national states and the non-European world contributed to the rise of a 'world economy'. Nicolet simultaneously takes it for granted, however, that the Roman economy was predominantly agrarian, in a rather primitive sense, and that towns were centres of administration, public culture and religion⁶.

According to Duncan-Jones the Principate was a period of increasing inter-regional trade. He argues on the one hand that the existence of big cities, like Rome, Alexandria, Ephesus and Carthage, caused long-distance trade in food, luxury goods and building materials, but on the other hand he holds that empire-wide taxation hampered and limited free market-oriented trade, and forestalled a rise in status of rich long-distance traders⁷. He contrasts the mentality of Roman senators towards trade and manufacture with that of the elite of medieval Florence, thereby implying that the senatorial mentality can be taken as representative of the mentality of elites

Roman growth was all that more modest compared to that of less 'progressive' pre-industrial European countries.

⁵ See Hopkins' articles mentioned in note 2; for some criticism see H.W. Pleket, 'Models and Inscriptions: Export of Textiles in the Roman Empire', *Epigraphica Anatolica* 30 (1998), 117-128.

⁶ See Nicolet 1988, op. cit. (n. 2), 205-211 and 153 f.

⁷ See R.P. Duncan-Jones, *Structure and Scale in the Roman Economy* (Cambridge 1990), 30-47.

in the larger cities of the Empire. The real problem, however, is not whether Rome, the atypical metropolis of an empire, resembled Florence (which it evidently did not), but rather whether there were cities like Florence in the Roman world.

Thus scholars like Hopkins, Nicolet and Duncan-Jones, who take an intermediate stand in the debate, still appear to accept that the bulk of the Roman imperial economy was rather primitive and fragmented, and that the economy of the Roman Empire was more primitive than that of later medieval and pre-industrial Europe.

One generally accepted primitive aspect of the Roman imperial economy was its fragmentation into regional and even local circuits. Did something like a 'Roman imperial economy' exist? Archaeological research demonstrates how strongly regions of the Empire differed. Syria and the Rhineland admittedly shared Roman imperial culture. They both had Roman public buildings, fortifications, army camps, altars of the imperial cult, and paved roads, but in many respects those provinces were different worlds. The Roman Empire may have been nothing else than a conglomerate of different cultural and economic entities, which were kept together by the Roman imperial administration, the armed forces, and - to a lesser extent - Graeco-Roman elite culture, but certainly not by economic integration. The Roman Empire did not have a fully integrated economy, in the Finleyan sense of a system of interdependent markets, with interlocking behaviour and responses over wide areas. Connections between distant areas or regular exchanges of goods between such areas are not to be interpreted as evidence for an integrated imperial economy. For such an economy to come into existence one needs more than a more or less regular trade in some bulk goods (oil, wine) and luxuries (textile). Such trade did not "link the whole of the economy to any single process of price-formation in the world-market And price-formation is, of course, the only yardstick available to the economist for measuring the extent and the working of any market, the world-economy's market included"⁸. The absence of such a system of price-formation appears from what we read in *Digesta* 13.4.3 about prices for wine, olive-oil and grain differing from city to city and from region to region; the same truth, though clad in different words, is on record in Cicero,

⁸ P.W. Klein, 'The China Seas and the World Economy between the Sixteenth and Nineteenth Centuries: The Changing Structures of Trade', in E.L. Holtfrerich, ed., *Interactions in the World Economy. Perspectives from International Economic History* (New York 1980), 61-89, esp. 66.

Verr. 2.3.192, where the author writes that there was no optimal exchange between surplus-generating areas and areas suffering from shortages. This is not to deny that there was "a market economy in the Roman Empire", to quote the title of a recent article by P. Temin⁹. Temin's evidence, however, largely pertains to local markets, and although Temin in the end is prepared to speak about interdependent markets, at the same time he uses the term "comprehensive Mediterranean market" and admits that parts of the imperial economy were not tied together as tightly as in the modern economy and that markets were "imperfectly coordinated". The threat of a rather non-productive 'battle about words' seems imminent here. A salutary way-out is provided by J. Paterson who recently wrote: "The best model may be that of a network of micro-regional economies [that is – in our view – essentially local economies with an occasional 'shot' of 'connectivity' à la Purcell/Horden] These micro-economies have their own natural rhythms and structures designed essentially to meet *local* [italics are ours] needs But at certain periods some of these economies become more closely linked with the wider world and find a wider market for their goods"¹⁰. To those who prefer to believe that the Roman imperial economy was more fragmented (or less 'comprehensive', for that matter) than and therefore essentially different from the medieval and *Ancien Régime* economies, a salutary antidote may be offered in the form of a quotation from P. O'Brien, one of the leading scholars in the field of comparative and global history: "Throughout the early modern era [let alone, we add, throughout the Middle Ages] connections between economies (even within states) remained weak, tenuous and liable to interruption"¹¹. More or less regular 'links' or 'connections' are acceptable and productive concepts; they are, however, a far cry from an integrated, empire-wide economy.

An appropriate assessment of the quantity, quality, and thus the economic importance of regional and long-distance trade is seriously hampered by a lack of numerical data. In addition, the relation between the 'command-economy' of tax goods and requisitioned commodities, and the 'market-economy' constitutes an almost unsurmountable obstacle for those

⁹ P. Temin, 'A Market Economy in the Roman Empire', *Journal of Roman Studies* 91 (2001), 169-181.

¹⁰ J. Paterson, 'Trade and Traders in the Roman World', in H. Perkins & C. Smith, eds., *Trade, Traders and the Ancient World* (London 1998), 164.

¹¹ P.K. O'Brien, 'European Economic Development: The Contribution of the Periphery', *Economic History Review* (1982), 1-18, esp. 18.

who would like to gauge the role of inter-regional trade and thereby the extent to which 'Smithian' growth took place¹².

In certain areas (e.g. the 'triangle' Baetica-Rome-Gallia) the provisioning of Rome and the standing armed forces brought into being regular long-distance transport structures, on the back of which merchants could transport their goods to distant markets. Incidentally, even if it could be shown that the status of *negotiatores* is not that of urban *bourgeois* and therefore hardly comparable with later pre-industrial European mercantile *bourgeoisies*, this does not necessarily imply that the volume of trade and its wealth-generating potential were equally incomparable. Here the phenomenon of (in)dependent freedmen comes to the fore; elsewhere we launched the term '*pseudo-bourgeoisie*' for those people. The recent study by John D'Arms of the *collegium* of *Augustales* in Misenum – with 100 members about the size of the *curia* of the city – shows how numerous and wealthy such freedmen could be in a harbour city¹³. Many of them will have accumulated their wealth in trade and/or manufacture, though wealthy *agrarian* freedmen are not to be excluded completely.

In the above-mentioned 'triangle' Southern Spain became one of the "hot spots of development --- made possible by combining regional peculiarities with highly centralized Mediterranean-wide systems of 'connectivity' and by a high external demand"¹⁴. Much of this development was focused on Rome and its legions, although this should not be exaggerated. There is a tendency nowadays to interpret the rise and growth of major provincial towns and areas as a result of their role as so-called 'feeder-towns' (or 'feeder-areas') of Rome¹⁵. For Baetica this concept may be more appropriate and it may have more explanatory value than for certain areas in the Greek East. In the latter merchants are less likely to have travelled on the back of tax goods transported to Rome under the regime of

¹² For 'Smithian' growth see J. Mokyr, *The Lever of Riches. Technological Creativity and Economic Progress* (Oxford 1990), 5: "Economic growth caused by an increase in trade may be termed Smithian growth".

¹³ J.H. D'Arms, 'Memory, Money, and Status at Misenum: Three New Inscriptions from the *Collegium* of the *Augustales*', *Journal of Roman Studies* 90 (2000), 126-144.

¹⁴ B.D. Shaw, 'Challenging Braudel: A New Vision of the Mediterranean', *Journal of Roman Archaeology* 14 (2001), 419-453, esp. 431. 'Hot spots of development' is more or less what H.W. Pleket meant when he wrote about "Polen um die herum Wachstum stattfinden konnte und stattfand". See Pleket 1990, op.cit. (n.1), 61.

¹⁵ See Hopkins' article in *Kodai* (see note 2), 58, 60 and 63, and the remarks of H.W. Pleket in *Epigraphica Anatolica* 1998, op.cit. (n.5), 122 with note 22.

the *annona*. A case in point is the trader Flavius Zeuxis from Hierapolis in Phrygia who, according to the epitaph engraved on his impressive sarcophagus, sailed seventy-two times round Cape Malea to Italy. He is likely to have exported, *inter alia*, high-class woollen garments from Laodicea/Hierapolis to prosperous regions of Italy¹⁶. There is no evidence for the view that *annona*-ships regularly sailed from Ephesus to Italy; nor is there reason to believe that the developments in western Asia Minor in general and in a renowned textile centre like Laodicea/Hierapolis in particular were a function of their role as a 'feeder of Rome'¹⁷.

Similarly there is no compelling reason to believe that the regular export of luxury textiles, manufactured in cities like Scythopolis, Byblos and Tyre, could only take place because these cities took advantage of the availability of regular services of *annona*-ships, i.e., of cheap, state-subsidized transport. These cities were governed by mercantile elites and owed their wealth to empire-wide export, which testifies to their 'Smithian' growth. The latter is to a large extent to be explained by the opening up of distant markets, made possible by incorporation in the Empire: in other words, a case of the 'impact of the Roman Empire'.

The above does not alter the fundamental fact that economic activities in the Empire were predominantly local or regional. This view is more or less corroborated by calamities that hit the Empire from about A.D. 230. Most crises were predominantly regional affairs, with the sole exception of the plague, which raged from about A.D. 250 to 280. It remains to be seen whether this situation essentially differs from that in later pre-industrial Europe. P. O'Brien's conclusion, mentioned above, certainly justifies scepticism about an affirmative answer.

We should perhaps place primitivist theories more into their proper perspective than Hopkins, Nicolet, and Duncan-Jones have done. The economy of the Roman Empire may have been less primitive than they, still following Finley, have suggested¹⁸. On the other hand the economies of

¹⁶ See Pleket 1998, op.cit. (n.5), 126.

¹⁷ For an attempt to show that Western Asia Minor went through a process of modest growth both of aggregate and per capita production and that this process owed much of its strength to the incorporation of the region in the Pax Augusta of the Empire rather than it being a 'feeder of Rome', see H.W. Pleket, 'Economy and Urbanization: Was there an Impact of Empire in Asia Minor?' (forthcoming in a volume of *Asia Minor Studien*, Bonn 2003).

¹⁸ A few scholars who try to escape from Finleyan views: H. Parkins, ed., *Roman Urbanism beyond the Consumer City* (London/ New York 1997); Parkins & Smith 1998, op.cit. (n.10); Z.H. Archibald, J. Davies, V. Gabrielsen & G.J. Olivier, eds., *Hellenistic Economies* (London/ New York 2001); P.P.M.

medieval European regions and post-1500 pre-industrial western countries may have been less developed and modern than many historians seem to believe. In this respect it is appropriate to quote the English historian A.R. Bridbury: "The most striking features of the economic institutions of medieval life is *how like they were to those we find both earlier* [italics are ours] and also later in European history". This is not to deny changes, but "many things can change without anything developing"¹⁹. Primitive, pre-capitalistic features were typical of large sectors of the economy both of the Roman Empire and of Europe during the Middle Ages and the period of the *Ancien Régime*, but at the same time in both periods there were 'niches' of a more capitalistic economy, characterized by structural long distance trade in staples (wine, oil, grain) and luxuries (textile, spices, marble), and by production of those goods for the market²⁰. In both periods markets tended to function with a high degree of imperfection. In both the Roman Empire and medieval and pre-industrial Europe scarcity of credit, an inflexible labour market and a constrained land market together constituted imperfect factor markets, and a low degree of market integration, resulting in a high volatility of prices and an insecure exchange value of crops, goods and services, characterized an imperfect product market²¹. Roman bookkeeping and accounting techniques may have been different from medieval and later pre-industrial ones, but they were hardly inferior to them²². As to the alleged technological backwardness of Antiquity in comparison with the alleged technological revolution of the Middle Ages and the general technological performance of later pre-industrial Europe, it is worthy of note to point to A. Wilson's magnificent article about 'Machines, Power and the Ancient Economy'²³: "Agriculture remained fundamental to the Roman economy, but

Erdkamp, 'Beyond the Limits of the Consumer City. A Model of the Urban and Rural Economy in the Roman World', *Historia* 50 (2001), 332-356.

¹⁹ A.R. Bridbury, 'Markets and Freedom in the Middle Ages', in B.L. Anderson & A.J.H. Latham, eds., *The Market in History* (London 1986), 79-119, esp. 91 f. and 95.

²⁰ See Pleket 1993B, op.cit. (n.1), 317.

²¹ A comment made by Paul Erdkamp, to whom I owe thanks. Cf. F. Ellis, *Peasant Economics. Farm Households and Agrarian Development* (Cambridge 1988).

²² Pleket 1998, op.cit. (n.1), 288 f.; cf. Pleket 1990, op.cit. (n.1), 51 f., note 41; 62; 96-99.

²³ *Journal of Roman Studies* 92 (2002), 1-32, esp. 30. Wilson's approach seems to us to have more explanatory potential to explain urbanization and modest economic growth than recent attempts to explain the impressive urbanization within the Roman Empire as a function of ruthless exploitation of the countryside by the 'Romans of Rome'. True enough, Rome itself is a magnificent example of a parasitic pre-industrial metropolis, but other big cities and towns in the intermediate range cannot so easily be explained by the mechanism of exploitation.

the Roman Empire in the earlier centuries A.D. saw both aggregate and per capita economic growth, and I believe this was due to significant technological progress, both in agricultural technology to sustain a greater number of non-agricultural workers in perhaps the most highly urbanized pre-industrial society the world has known, and in non-agricultural technologies, such as mining".

Another equally important problem is that of the typology of cities in the Roman Empire and in later periods of European history. Not all towns in the Roman Empire were small consumer-towns that lived off the surrounding countryside. There were Weberian 'production cities' in the Near Orient (Tyre, Scythopolis, Byblos) and in Asia Minor (Tarsus, Laodicea/Hierapolis), which exported high quality textiles to distant markets and generated significant wealth. Urbanization patterns of the Roman Empire were not all that different from later medieval and 1500-1800 pre-industrial European patterns. In both the Roman Empire and pre-industrial Europe most towns were very small, with locally oriented economic structures. And both the Roman Empire and pre-industrial Europe housed only a handful of really big cities, with more than 100,000 inhabitants, and not many medium-sized towns with 10-20,000 inhabitants. Only well into the nineteenth century did European patterns definitely start to differ from imperial Roman patterns. In that age the number of European towns of more than 10,000 inhabitants rose from 364 to 1709²⁴.

The economic functions of the city of Rome, and analogously of imperial Roman standing armies, may have been more varied and 'modern' than Finley and others suggest. Rome and the armed forces consumed large quantities of food and goods, which had been extorted by Roman governors from provinces like Egypt and Africa, but the city - like the armies - also attracted free traders. In an admittedly rhetorical showpiece, his eulogy of the city of Rome, Aelius Aristides boasts that all products from all corners of the world turn up in Rome²⁵. Free traders, intellectuals, and soldiers accompanying convicts could all travel on the ships that brought food and goods to Rome, and along the paved military highways leading to the city²⁶.

²⁴ Pleket 1998, op.cit. (n.1), 285-288.

²⁵ Aelius Aristides, *Eis Rhomèn* 11-13.

²⁶ On the economic functions of the city of Rome see Pleket 1993A, op.cit. (n.1), 14-35 and N. Morley, *Metropolis and Hinterland. The City of Rome and the Italian Economy, 200 B.C. - A.D. 200* (Cambridge 1996).

Contributions to the debate about the character of the Roman economy are offered by several chapters in this volume. Peter Bang proposes a model of the Roman economy and of the role of tribute extraction; Willem Jongman stresses both primitivist elements in the economy and the scale of Roman urbanization and of the Roman state; Luuk de Ligt considers the mechanisms for money transfers, and both he and Bang draw comparisons with the Mughal Empire. Aspects of governmental economic activity are examined by Anne Kolb, discussing transport, and José Remesal Rodriguez, discussing military supply. Food supply is also considered by Paul Erdkamp, who argues that E. P. Thompson's concept of the 'moral economy' is a fruitful tool for interpreting food riots in the Roman Empire. Differences between Roman and modern business practice are considered by Willem Zwaalve, who discusses the legal status of slaves conducting business with a *peculium* and argues that they may be seen as the Roman equivalent of modern companies.

Several contributors offer studies of particular regions, and three of these deal with Gaul and the Rhineland. John Drinkwater argues that for Gaul, following a period of convergence, the crucial moment of Roman impact and consequent economic transformation came with the reign of Augustus and that emperor's militarization of the province. Philippe Leveau shows how recent archaeological work has illuminated economic development in Gallia Narbonensis. Augustan military activity in Gaul and Germany is also treated by Jos van der Vin, who discusses the coin finds from the Kops Plateau near Nijmegen, occupied c. 15-10 BC at the time of the Augustan advance into Germany, and the monetarization of the Rhine frontier zone. Hugh Elton discusses a region at the opposite end of the Empire, Cilicia, examining the political and economic impact of Roman rule both in the relatively urbanized eastern part of the province and in the wilder zone of Rough Cilicia. Finally, we move beyond the frontier with David Mattingly's discussion of economic development among the Garamantes of the Sahara and the extent to which it may have been influenced by Roman contacts.

The volume closes with a group of chapters focusing on aspects of the Later Roman Empire. Lukas de Blois discusses the third century crisis, arguing that it cannot be dismissed as a modern myth. Antonio Polichetti discusses Diocletian's Price Edict with particular reference to labour costs. Wolfgang Liebeschuetz reviews the evidence for changes in the density of rural settlement in different regions of Italy and the Empire from Republican times to the Late Empire, with a view to shedding light on the problem of ruined landscapes in the Late Empire. Andrew Poulter presents the evidence

for economic collapse in the countryside and the transformation of cities into fortresses on the lower Danube in late antiquity.

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LIST OF ABBREVIATIONS

ANRW =	W.Haase & H.Temporini, eds., Aufstieg und Niedergang der Römischen Welt (Berlin/ New York 1972 -)
BGU =	Aegyptische Urkunden aus den staatlichen Museen zu Berlin, Griechische Urkunden
BMC =	H. Mattingly & R.A.G. Carson, Coins of the Roman Empire in the British Museum
CAH =	Cambridge Ancient History
CIL =	Corpus Inscriptionum Latinarum
CIS =	Corpus Inscriptionum Semiticarum
CJ =	Codex Iustinianus
CTh =	Codex Theodosianus
Dig. =	Digesta
FIRA =	S. Riccobono, <i>et al.</i> , Fontes Iuris Romani Anteiusitaniani (1940-1943)
HEp. =	Hispania antiqua epigraphica (1954 -)
IG =	Inscriptiones Graecae
IGR(R) =	R. Cagnat, <i>et al.</i> , Inscriptiones Graecae ad Res Romanas pertinentes
ILLRP =	Inscriptiones Latinae Liberae Rei Publicae
ILS =	H. Dessau, Inscriptiones Latinae Selectae
Inscr.Ephesus =	Inscriptions from Ephesus
Inscr. Ital.=	Inscriptiones Italiae
OGIS =	W. Dittenberger, Orientis Graeci Inscriptiones Selectae
P. Cair. Masp. =	Catalogue general des antiquités égyptiennes du Musée du Caire: Papyrus grecs d' époque Byzantine I-III (Cairo 1911-1916)
P. Dura =	C. Bradford-Welles, <i>et al.</i> , The Excavations at Dura-Europos: Final Report V 1, The Parchments and Papyri (1959)
P. Fay. =	B.P. Grenfell, A.S. Hunt, D.G. Hogarth, Fayum Towns and their Papyri
P. Freer =	L.S.B. MacCoull, Greek and Coptic Papyri in the Freer Gallery of Art (Washington D.C. 1973)
P. Fuad Univ. =	D.S. Crawford, Fuad I University Papyri (Alexandria 1949)

P. Got. =	H. Frisk, <i>Papyrus grecs de la bibliothèque municipale de Gothembourg</i> (Göteborg 1929)
P. Oxy. =	B.P. Grenfell & A.S. Hunt, <i>et al.</i> , <i>The Oxyrhynchus Papyri</i>
P. Ryl. =	C.H. Roberts & E.G. Turner, <i>Catalogue of Greek Papyri in the John Rylands Library</i> (1911-1927)
PSI =	Papiri Greci e Latini. <i>Pubblicazioni della Società Italiana per la Ricerca dei Papiri Greci e Latini in Egitto</i> (Florence 1912 -)
P. Yadin =	N. Lewis, <i>The Documents from the Bar-Kochba Period in the Cave of Letters: Greek Papyri</i>
PIR =	E. Groag, <i>et al.</i> , <i>Prosopographia Imperii Romani</i> (1933 -)
SEG =	<i>Supplementum Epigraphicum Graecum</i>
SHA =	<i>Scriptores Historiae Augustae</i>
Sylloge =	W. Dittenberger, <i>Sylloge Inscriptionum Graecarum</i>

ROMANS AND MUGHALS
ECONOMIC INTEGRATION IN A TRIBUTARY EMPIRE
By
PETER FIBIGER BANG

...the decline of Rome was the natural and inevitable effect of immoderate greatness...as soon as time or accident had removed the artificial supports, the stupendous fabric yielded to the pressure of its own weight. The story of its ruin is simple and obvious; and instead of inquiring why the Roman empire was destroyed, we should rather be surprised that it had subsisted so long.

Gibbon, *The Decline and Fall of the Roman Empire*, IV, 119

Imperial redistribution or private market?

Those are the immortal words of Gibbon uttered with his characteristic acrimony while contemplating *the decline and fall of the Roman empire*.¹ At first, they may come as a surprise. After all, this was the very same man that proclaimed the age of the Antonine emperors “the period in the history of the world, during which the condition of the human race was most happy and prosperous.”² But alas, those blessed times rested on fragile foundations. The government of the realm was concentrated in the sole powers of one man, the emperor. All depended on his skills and attitude towards his duties as ruler. To Gibbon, the golden 2nd century was an aberration. It was the result of almost unbelievably good luck. Only a fortuitous string of unusually capable, conscientious and moderate emperors had made it possible. In the long run, the situation was unstable. Inevitably a bad person or one of a character less steadfast in the face of the enormous temptations offered by absolute power would succeed to the throne and bring the happy days to an end. That person, by the cruel irony of history, was Commodus, in every

¹ See now P. Garnsey & C. Humfress, *The Evolution of the Late Antique World* (Cambridge 2001), chapter 10 for a treatment of Gibbon’s notion of “immoderate greatness” and despotism. I should like to take this opportunity to thank professors C. A. Bayly, Peter Garnsey, Keith Hopkins, Richard Saller and audiences in Cambridge, Nottingham and Chicago for stimulating discussions and many useful comments and suggestions to improve various versions of this paper. The final outcome, however deficient, has benefited immensely. Need I say that the responsibility for the argument or any remaining errors rests entirely with the author.

² E. Gibbon, *The Decline and Fall of the Roman Empire* I (London 1993, Everyman Library), 90. See further pp. 90-99 for his general reflections on the instability of empire and the corrupting influence of despotism.

way the exact opposite of his father, Marcus Aurelius the enlightened philosopher king. From the reign of the degenerate Commodus the history of the empire was one of arbitrary despotism, corruption, military anarchy, brutal oppression and the withering away of its powers. This view was and is by no means unique to Gibbon. He is only one representative of a strong tradition in European sociological thinking that sees the large universal empires of history mainly as destructive tributary political systems, exploiting the subject populations ruthlessly. Pejorative labels such as capstone government, lethargic state, predators and “sponges that sopped up resources” are often used to sum up the nature of these pre-modern empires in this line of thought.³ And yet, in spite of its alleged pernicious influence on society, the Roman empire managed to linger on for centuries. Indeed, as has lately been suggested, one of the greatest shocks to Gibbon in writing his history was probably to realise the almost, from this point of view, perverse ability of the imperial system to renew itself and regain its strength;⁴ he needed 6 long volumes finally to lay the Roman imperial leviathan to rest.

Ultimately, the universal empire presented itself as a paradox to Gibbon. It was a bit like the bumblebee. For many years science was unable to explain how it could fly. According to established theories it ought to have been impossible. Still, it did fly. Seen from the perspective of the early modern world the universal empires of agrarianate⁵ society were a puzzle which could not easily be unravelled - a contradiction in terms, almost. In the *Wealth of Nations* Adam Smith likewise struggled unsuccessfully to make ends meet in his description of imperial China. On the one hand, he saw one of the richest societies in the world with a highly productive irrigation agriculture, a substantive division of labour and an extensive inland trade. On the other hand, he observed the imperial tributary elite depress the economic performance of the country through political privileges, taxation, arbitrary administration and outright predatory encroachment on the wealth of the producing and mercantile layers of

³ E. L. Jones, *Growth Recurring* (Oxford 1988), chapters 7 and 8, contains a fair selection (citation from p. 117). Other recent examples are J. Hall, *Powers and Liberties* (London 1985), chapters 2 and 4, and D. Landes, *The Wealth or Poverty of Nations* (New York 1998).

⁴ J. Robertson, ‘Gibbon’s Roman Empire as a universal monarchy: the decline and fall and the imperial idea in early modern Europe’, in R. McKitterick & R. Quinault, eds., *Gibbon and Empire* (Cambridge 1997), 247-270.

⁵ The term agrarianate society was coined by the great comparative historian, M. Hodgson, in *The Venture of Islam I*, 107-109 to denote complex civilisations still dominated by agricultural production.

society.⁶ How could those phenomena go together? The answer, so far, has mainly been in the negative. They couldn't. Agrarian empire and market are normally treated as opposites within the tradition of historical sociology.

In the debate on the Roman economy between *primitivists* and *modernists* this has boiled down to a question of redistribution vs. market activities. Those inclined to emphasise the particular nature, the otherness as it were, of the Roman economy have pointed to redistribution in kind organised by the state rather than market trade as the most important explanation for movement of resources over longer distances.⁷ Those that stress the role of the market in the Roman world prefer to paint the economy in less "foreign" colours. They normally insist on the similarities with later European developments and try to assimilate the function of the Roman imperial system as much as possible to the practices associated with the rising, bourgeois nation states.⁸ Symptomatic, in this respect, is the way the debate on Keith Hopkins' taxes and trade model has evolved. Basically, in response to Finley's *Ancient Economy*, Hopkins suggested that the taxation of the Roman state promoted commercialisation and urban manufactures because the provincials in the long run had to earn back, through exports, the coinage they needed to pay a large part of their taxes. Otherwise, the imperial tax demand would soon have depleted large tracts of the empire of their money supplies and rendered them unable to meet their tax obligations. Thus the empire would have experienced a moderate growth – a fact he finds corroborated by the expansion in the volume of the interregional transfer of goods documented by archaeologists studying amphorae, shipwrecks and

⁶ A. Smith, *An Inquiry into the Nature and Causes of The Wealth of Nations* (Oxford 1976, the Glasgow edition), 111-112 contains the essence of his analysis.

⁷ Some examples stressing the importance of redistribution are P. Middleton, 'The Roman Army and Long-Distance Trade', in P. Garnsey & C. Whittaker, eds., *Trade and Famine in Classical Antiquity*, (Cambridge 1983), 75-83; D. Peacock & D. Williams, *Amphorae and the Roman Economy* (London 1986); C. Wickham, 'Marx, Sherlock Holmes and late Roman commerce', *Journal of Roman Studies* 78 (1988), 183-193; C. Whittaker, *Frontiers of the Roman Empire. A Social and Economic Study* (Baltimore/ London 1994) and J. Remesal Rodriguez, *Heeresversorgung und die wirtschaftlichen Beziehungen zwischen der Baetica und Germanien* (Stuttgart 1997).

⁸ H.W. Pleket, 'Wirtschaft', in F. Vittinghoff, ed., *Europäische Wirtschafts- und Sozialgeschichte in der Römischen Kaiserzeit* (Stuttgart 1990), 25-160 is the best and most fully developed example of this position. For some other examples, see J. D'Arms, *Commerce and Social Standing in Ancient Rome* (Cambridge/Mass 1981); W.V. Harris 'Between archaic and modern: problems in Roman economic history', in *The Inscribed Economy. Journal of Roman Archaeology*, Supplementary Series 6 (Ann Arbor 1993), 11-29 and P. Horden & N. Purcell, *The Corrupting Sea* (London 2000), though the latter concentrate mainly on reducing the contrast to Medieval Europe.

various types of fine ware.⁹ Finley remained sceptical. He preferred to see exploitation of the provinces and a static economy. Others have added that state taxation and redistribution in kind combined with internal transfer of resources between the widely scattered estates belonging to the households of the elite would go a long way to explaining the material remains and significantly reduce the role of the market.¹⁰ The principal merit of these criticisms is that they call attention to the many institutional and logistic "imperfections" characterising most pre-modern economies. At ground level the expectations of Hopkins' macro-model may turn out to be too neat. In practice, even taxes assessed in money may occasionally have been delivered in kind.¹¹

None the less, transactions in kind can hardly account for all or most movement of material goods around the empire. As Hopkins has pointed out, the state would not have been able to consume most of its taxes in kind. It would have had to sell some of them on the markets around the empire and thereby promote commercialisation - a practice that is well enough attested not to be doubted even if it cannot be documented with much precision.¹² The market seems in other words to play a significant role in the economy. The state could not do without it. In this connection we should note the growing number of studies that emphasise the small extent of the state apparatus, the very limited importance of state redistributive activities, and the corresponding need to up-grade the importance of the market and the private economy. These have adopted the taxes-and-trade mechanism as one factor among others that worked to promote the formation of large markets and their integration on an empire wide scale. Here we also find the notion that the *Pax Romana*, the common currency, standardised measures, and more orderly administration all worked to increase economic efficiency and growth. It has lately, even, been suggested that the economic integration of the empire probably could be seen as equal to that of the European market-system including the colonies around 1750.¹³

⁹ K. Hopkins has now conveniently restated his position in 'Rome, Taxes, Rents and Trade', *Kodai* 6/7 (1995/1996), 41-75.

¹⁰ M.I. Finley, *The Ancient Economy* (London 1985, 2nd ed.), 182-183. C. Whittaker, *Land, City and Trade in the Roman Empire* (Ashgate 1993), chapters 12 and 13, and Idem 1994 op. cit. (n. 7), D. Foraboschi, 'Economie Plurale ed Interdipendenze', *L'Italie D'Auguste à Diocletien*. Collection de l'École Française de Rome 198 (Rome 1994), 215-218.

¹¹ P. Brunt, 'The Revenues of Rome', *Journal of Roman Studies* 71 (1981), 161-172 and R.P. Duncan-Jones, *Structure and Scale in the Roman Economy* (Cambridge 1990), 30-48 and 187-198.

¹² K. Hopkins 1996, op. cit. (n. 9), 55-56. See also Duncan-Jones 1990 op. cit. (n. 11), 193-194.

¹³ Harris 1993, op. cit. (n. 8), 18-20. In addition to the other works cited in note 8 one could mention,

All good textbook liberalism. Yet, I am not convinced about the parallel to the early modern European world system. The Europeans, after all, fought endless wars during the 17th and 18th centuries, often motivated by trade, without preventing the formation of a highly integrated trading system. This calls for some clarification. During the middle ages the sugar consumed by Europe was produced in the Mediterranean area. But that was almost brought to a complete end when sugar-cultivation was moved, first to the plantations of the Atlantic islands and then to Brazil and the West Indies. Later the same happened to coffee, which was moved from Yemen to Java and the plantations of the new world, to say nothing of tea which was brought from China to India and Ceylon.¹⁴ These relocations of production of export crops happened as part of a commercially directed process where the economic geography of Europe and large tracts of the world was re-organised to fit the needs of a system based on a steadily deepening regional specialisation.¹⁵ The underlying principle received its classic expression in David Ricardo, the father of modern international trade theory, when he observed that foreign commerce and the resulting international division of labour ensured that each country would concentrate on¹⁶:

“producing those commodities for which by its situation, its climate, and its other natural and artificial advantages, it is adapted, and...exchanging them for the commodities of other countries...Under a system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each. This pursuit of individual advantage is admirably connected with the universal

E. Lo Cascio, ‘The Roman Principate: The Impact of the Organization of the Empire on Production’, in Idem & D. Rathbone, eds., *Production and Public Powers* (Cambridge 2000), 77-85; J. Paterson, ‘Trade and Traders in the Roman World: scale, structure and organisation’, in H. Parkins & C. Smith, eds., *Trade, Traders and the Ancient City* (London 1998); and the Italian attempt to revive the ideas of Rostovtzeff headed by A. Carandini, for example in his *Schiavi in Italia* (Roma 1988).

¹⁴ N. Steensgaard, ‘The growth and composition of the long-distance trade of England and the Dutch Republic before 1750’, in J. Tracy, eds., *The Rise of Merchant Empires* (Cambridge 1990), 152 and N. Steensgaard, ‘Opdagelsernes plads i verdenshistorien’, *Historisk Tidsskrift* 90 (1990), 221-246, especially 226-228.

¹⁵ Landes 1998, op. cit. (n. 3); J. Israel, *Dutch Primacy in World Trade 1585-1740* (Oxford 1989); C. A. Bayly, *Imperial Meridian* (Harlow/New York 1989); F. Braudel, *Civilisation and Capitalism*, especially vols. 2-3 (London/New York 1982-1984); E. Wolf, *Europe and the People without History* (Berkeley 1982) and I. Wallerstein, *The Modern World-System* (New York 1974) for some different approaches to this process.

¹⁶ D. Ricardo, *Principles of Political Economy and Taxation* (Harmondsworth 1971), 151-152.

good of the whole. By stimulating industry, rewarding ingenuity, and by using most efficaciously the peculiar powers bestowed by nature, it distributes labour most effectively and most economically: while, by increasing the general mass of productions, it diffuses general benefit, and binds together by one common tie of interest and intercourse, the universal society of nations throughout the civilized world. It is this principle which determines that wine shall be grown in France and Portugal, that corn shall be grown in America and Poland, and that hardware and other goods shall be manufactured in England.”

It is curious that such a model of interregional specialisation and market integration organised by economic competition continues to command the support of many ancient historians, in spite of repeated demonstrations of its inadequacy. For the empire seems to behave contrary to the expectations of the model. Interestingly it was the founder of the *concorrenza* paradigm, Rostovtzeff, who was the first to realise that it was difficult to make the patterns revealed by the *archaeological* data fit the notion of an economy organised as a conglomeration of interdependent markets.¹⁷ This is the problem, which we have come to know in the historiography as the so-called “crisis of Italy”. In the second century B.C. considerable quantities of Italian exports start to appear in the Mediterranean, especially in the Aegean and Gaul. To judge from archaeological finds, these exports seem primarily to have consisted of wine (carried in Dressel 1 and Lamboglia 2 amphorae) and fine pottery (the black glazed Campanian, followed by the red glossed Arretine terra sigillata) riding ‘piggy back’ on the shipments of wine. In the final phase of the Republic with the conquest of Gaul, the consolidation of empire in the Eastern Mediterranean and the coming of Augustus, the level of activity drops significantly. In the West, for instance, the wine exports from Italy to Gaul experience a steep fall and then peter off during the 1st century A.D. In the same period, Gaul gradually established a domestic production of the former imports of wine and pottery and eventually even began to send substantial consignments of wine to Rome.¹⁸

¹⁷ M.I. Rostovtzeff, *The Social and Economic History of the Roman Empire* (Oxford 1957), 172-199 who talked about the decentralisation and provincialisation of production.

¹⁸ The archaeological data are collected by C. Panella, ‘La Distribuzione e i mercati’, in A. Giardina & A. Schiavone, eds., *Società romana e produzione schiavistica II* (Roma 1981), 55-80; ‘Merci e scambi nel Mediterraneo tardoantico’, in *Storia di Roma III* 2 (1993 Turin), 613-697 and C. Panella &

Thus paradoxically with the inclusion of Gaul in the empire, regional specialisation and economic integration seems to suffer.¹⁹ Rather than the expected increased regional division of labour where the province would have specialised in a different product (say ham or iron tools) it could use in exchange for Italian wine, Roman exports collapse and the province becomes self-sufficient in its former imports. According to modern economic perceptions this apparent decreasing division of labour ought to be a sign of economic crisis and decline. And this, too, is what Rostovtzeff and his modern Italian followers have suggested. The fall in Italian exports has been seen as an indication of a growing economic crisis, as first Italy and then the empire entered a downward spiral of declining division of labour and diminishing economic integration.²⁰ This is unconvincing for several reasons. Firstly, however one estimates the condition of Italy from the second century A.D. onwards, a hotly debated issue, the peninsula seems to have been in perfect economic health at least throughout the first century A.D. and probably for much longer. The changes that do occur are better described as transformations rather than decline.²¹

Secondly, to be forced to describe the incorporation of Gaul in the empire as a process of decreasing economic integration simply seems to miss most of what is going on and to grossly overestimate the economic effects of the Italian wine exports. They were not the result of a deep economic interdependence between the two regions. On the contrary, they seem to have been the result of a very restricted set of circumstances, mostly depending on a very low degree of integration between the two areas. During

A.Tchernia, 'Produits agricoles transportés en amphores: l'huile et surtout le vin', in *L'Italie D'Auguste à Dioclétien*. Collection de l' École Francaise de Rome 198 (Rome 1994), 145-165.

¹⁹ "Entspezialisierung" is even used by H. von Freyberg *Kapitalverkehr und Handel im römischen Kaiserreich* (27 v. Chr.-235 n. Chr.) (Freiburg im Breisgau 1989), 151-152 to describe the process in the terms of modern trade theory. G. Woolf, 'Imperialism, empire and the integration of the Roman economy', *World Archaeology* 23 (1992), 283-293 too argues for placing the culmination of economic integration in the first century B.C.

²⁰ Seminal works within this school of thought are Giardina & Schiavone 1981, op.cit. (n. 18) and Carandini 1988, op.cit. (n. 13). The interpretation seems to have acquired almost paradigmatic status in Italy. The idea of Italy as losing out in the competition on the "imperial world market" plays an important role even within consciously less modernising analyses such as A. Schiavone, *The End of the Past* (Cambridge MA 2000, Italian version 1996) and E. Lo Cascio's inspiring attempt to compromise, in 'Forme dell' economia imperiale', in A. Schiavone, ed., *Storia di Roma*, II 2 (Turin 1991), 313-365.

²¹ A. Tchernia, *Le Vin de l'Italie Romaine* (Rome 1986) is a devastating critique of the concorrenza-paradigm. See further J. Patterson, 'The Crisis of Italy: what crisis?', in *Papers of the British School at Rome* (1987) and the contributions of C. Whittaker and D. Vera in *L'Italie d'Auguste à Dioclétien*, op.cit. (n.10).

the age of expansion the demand for “barbarian” slaves and metal increased in Italy. With the more frequent contacts between Roman and Celtic civilisation the Gaulic nobility acquired a taste for wine, a product of the Mediterranean. In return for this exotic and luxurious product, Gaulic nobles seem generously to have supplied Roman merchants with slaves of Celtic origin and metals. After Gaul was made a province this traffic became unacceptable and came to a fairly abrupt end. Once the very particular conditions had gone the wine trade was doomed.²² At the same time, however, social and economic integration became more extensive and involved a greater volume of resources. Gaul may have stopped sending many slaves to Rome, instead it now had to pay a far more substantial imperial tribute and supply men for the troops of the Roman army.²³ At the same time, the province entered a phase of partial adoption of Roman institutions, material culture and productive strategies. Urbanisation increased and production both grew and became more diversified.²⁴ It simply does not make much sense to describe this process of inclusion and intensified contact spanning a much broader spectrum of activities as one of decreasing economic integration and specialisation. It is, in other words, difficult to capture the experience of Roman imperialism within the analytical framework of a commercially organised interregional division of labour. We need to free our understanding of the relationship between the Roman imperial system and the trading world from such modernising analogies. The task is to find a way of integrating the two phenomena, empire and market, more closely, an interpretation that allows us to understand the imperial economy as an independent socio-economic formation rather than a weak and ultimately failed imitation of early modern Europe.

The Political Economy of Empires

Weber provided an important clue when he observed that the Ottoman empire lacked some characteristic features of the contemporary capitalism in

²² Tchernia 1986, op. cit. (n. 21), especially 169-193.

²³ A theme running through Tacitus's description of the Gallic rebellion at the beginning of Vespasian's reign is the joint dissatisfaction with both tribute and army levies, e.g. Tacitus, *Historiae* 4.26 and 71.

²⁴ G. Woolf, ‘Regional productions in early Roman Gaul’, D.J. Mattingly & J. Salmon, eds., *Economies beyond Agriculture in the Classical World* (London 2001), 49-65 and Idem, *Becoming Roman* (Cambridge 1998) for the Romanisation of Gaul.

Europe, precisely because it had been able to build on what was left of the complex money-economy of the Greco-Roman world. The European states, on the other hand, had had to develop from the much less commercialised economy of the early middle ages. The link between extensive trade and capitalist markets is far from straightforward.²⁵ What is missing from the argument is institutions. At some stage during the middle ages the European states came increasingly to depend on forging close alliances with commercial groups. Consequently they began to support the interests of merchants and invest them with greater powers. In the early modern period this had crystallised into an arsenal of mercantilist strategies for promoting the interests of national commerce. These were designed, for instance, to ensure the continued dependence of the economy in newly acquired colonies on trade with the mother country and thus create and preserve an "international" division of labour.²⁶ As we saw in the case of Gaul, this does not seem to have been a major priority of Roman imperialism. Indeed, it was this apparent lack of concern with the promotion of trade that has prompted European sociologists to heap so much scorn on the Roman and other tributary empires over the last centuries.²⁷ The empires simply seemed to defy their notions of efficient statecraft. They had become a foreign country. One could not learn much about the principles of modern trade by studying the examples of colonialism offered by the Greco-Roman world, as Montesquieu remarked.²⁸

Behind the incomprehension and disapproval of the imperial performance lies one essential but often neglected fact. If the tributary empires did not promote the interests of commerce in accordance with modern doctrines it was less a question of a direct failure than a matter of not having any strong reasons for doing so. The empires simply did not depend on income generated from trade to anything near the same extent as the burgeoning European nation-states in the 17th century and later.²⁹ Their

²⁵ M. Weber, *Wirtschaft und Gesellschaft* (Tübingen 1972), 630; see further 640-643.

²⁶ Apart from the works already cited above J. de Vries, *Economy of Europe in the Age of Crisis 1600-1750* (Cambridge 1976) offers a convenient and lucid summary of this process. See also T. Brady Jr. 'The Rise of Merchant Empires, 1400-1700', in J. Tracy, ed., *The Political Economy of Merchant Empires* (Cambridge 1991), 117-160 and W. McNeill, *The Pursuit of Power* (Chicago 1982).

²⁷ K. Pomeranz, *The Great Divergence* (Princeton 2000), 20-21 and 245-251 offers a parallel example from late imperial China of economic development in the peripheries making imports from the old core area redundant.

²⁸ Montesquieu, *L'esprit des lois*, book 21, chapter 21.

²⁹ E.g. M. Pearson, 'Merchants and States', in J. Tracy, ed., *The Political Economy of Merchant Empires* (Cambridge 1991), 41-116 and C. Wickham, 'The Uniqueness of the East', *Journal of Peasant Studies* 12 (1985), 167-197. On the absence of mercantilism in Rome, J. Andreau, 'La cité

political economy was based on a different constellation of social forces. Traditionally agricultural production has provided the large tributary empires of history with their main income.³⁰ It is on the basis of this fundamental principle that any attempt to examine the particular nature of the relationship between tributary system, the economy and the market must proceed. This puts taxation or surplus extraction at the centre of our concerns. Therefore, I would like to take a closer look on the taxes-and-trade model and try to tease out some implications, which are generally overlooked or at least little commented on. It has become customary to stress the surprisingly small share of total production that the Roman state was able to command. Looking at state expenses tells us that it would probably have been in the area of 5-7 % of gross production. Some would be inclined to go even lower but this leaves us with the analytical problem of the near absence of the state in the total economy.³¹

Historians of Mughal India struggle with the opposite problem. The Mughal empire was a large and powerful state based on the floodplains of Northern India from the 16th to the 18th century (fig. 1).³² For many years it

romaine dans ses rapports à l'échange et au monde de l'échange', in J. Andreau, P. Briant, R. Descat, et al., eds., *Économie Antique. Les échanges dans l'antiquité: le rôle de L'Etat* (Saint-Bertrand-de-Comminges 1994). Further, for the odd Scandinavian reader, P. Bang, et al., eds., *Agrarimperier Mellem Marked og Tribut*. Den Jyske Historiker 86/87 (1999).

³⁰ Occasionally it is suggested that taxes from trade might have been of crucial importance to the Roman state. That is highly unlikely for an empire the size of Rome. The story told by Tacitus in *Annales* 13.52 about the wish of Nero to abolish the collection of *portoria* offers confirmation of the dominance of land taxes. First of all, the very fact that the emperor could seriously contemplate such an action indicates that customs cannot have been the primary source of revenue. Secondly, Nero's senatorial advisers reject the proposal because it would jeopardise the empire by, and this is crucial, creating a demand for the abolition of land taxes as well. Apparently *portoria* were not in itself sufficiently important to warrant such an argument (C. Nicolet, *Rendre à César* [Paris 1988], 203 f. misses this point completely and argues the opposite).

³¹ Hopkins 1995/1996, op. cit (n. 9) opts for 5-7%. Lo Cascio 2000, op. cit. (n. 13), following R. Goldsmith, *Pre-Modern Financial Systems: A Historical Comparative Study* (Cambridge 1987), 48-51, goes as low as 3-5% of GDP. But that seems improbably pessimistic and does not fit the data we have on tax extraction either. In Egypt alone, the Roman state was able to get perhaps sometimes up to a fifth of GDP, cf. R.P. Duncan-Jones, *Money and Government in the Roman Empire* (Cambridge 1994), chapter 4. Even allowing for the fact that Egypt was taxed above the average, it still seems unlikely that the Roman state should have been so massively less successful in the remaining provinces with official tax rates ranging between 10-20% that it was unable on average to get more than a petty 2-3% of their GDP.

³² For some general treatments J. F. Richards, *The Mughal Empire* (Cambridge 1993); A. Hintze, *The Mughal Empire and Its Decline: an interpretation of the sources of social power* (Ashgate 1997); M. Alam & S. Subrahmanyam, *The Mughal State 1526-1750* (Oxford 1998); I. Habib, *The Agrarian System of Mughal India* (Oxford 1999, 2nd ed); C. A. Bayly, *Rulers, Townsmen and Bazaars*, (Cambridge 1983) and I. Habib & T. Raychaudhuri, *The Cambridge Economic History of India I: c. 1200-1750* (Cambridge 1982).



Figure 1. The Mughal Empire. Map taken from J.F.Richards, *The Mughal Empire*. The New Cambridge History of India, vol 1, 5 (Cambridge 1993)

was seen as the quintessential leviathan, a degenerate despotism and a terrifying bureaucratic system, plundering and totally dominating its wretched subjects. During the last decades, however, this image has gradually given way to a more realistic assessment of its capacity. Scholars are now much more aware of the narrow limits on its reach and policy forming capacities. Like the Roman empire it can be described as a patrimonial-bureaucratic system.³³ This means that the state was based on a large imperial household, the army and an imperial aristocracy to fill important positions within the system. Bureaucratic features, on the other hand, were not strongly developed. The mechanisms governing the administrative and military system, for example, depended more on patronage connections to the emperor than bureaucratic principles such as promotion on merit, clearly defined lines of command and spheres of authority. For our present concerns, the most interesting thing is that the Mughal imperial formation provides an example of the taxes-and-trade cycle in action. The so-called forced commercialisation thesis is generally accepted as the governing mechanism of the imperial economy. When the spending power of the imperial centre declined in the 18th century the ability of Bengal to pay its taxes was severely curtailed because it could not sell its cotton cloths to the capital anymore and in that way earn back its tax money.³⁴ In this case, however, the state claimed, notionally at least, around one third of total production. Some consider this a low estimate and opt for a higher figure closer to one half. But this would entail the confiscation of the total agricultural surplus. That is unlikely, not to say impossible.³⁵

Romans and Mughals compared - Tribute extraction and the disposable surplus

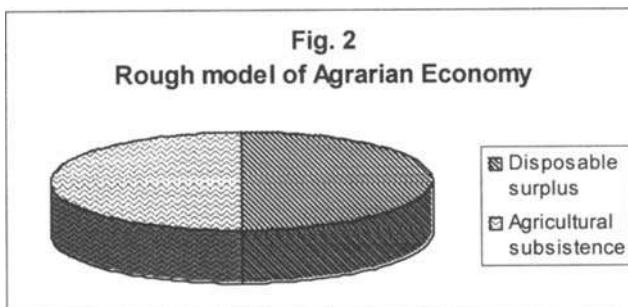
Two things can be brought to bear on the Roman case. First, 5-7% of gross production is a misleading measure of the impact of the Roman state. The limits set on the scale of activities in a pre-industrial economy are much narrower than we are accustomed to thinking of today. It would have been

³³ S. Blake, 'The Patrimonial-Bureaucratic Empire of the Mughals', *Journal of Asian Studies* 39 (1979), 77-94 and M. Alam & S. Subrahmanyam, 'Witnessing Transition: Views on the End of the Akbari Dispensation', in K. Panikkar, T. Byres & U. Patnaik, eds., *The Making of History. Essays presented to Irfan Habib* (New Delhi 2000), 104-140. For the Roman empire as a patrimonial-bureaucratic entity see R.P. Saller, *Personal Patronage in the early empire* (Cambridge 1982) and Garnsey & Humfress 2001, op. cit. (n. 1), chapter 3.

³⁴ Bayly 1983, op. cit. (n. 32), 63-65.

³⁵ Richards 1993, op. cit. (n.32), chapter 4 for a summary of the details. Habib 1999, op. cit (n.32), 230- 236 for the more optimistic view.

impossible to collect 75% of GDP as the Danish welfare state does today without causing economic havoc and widespread suffering. Agriculture on the floodplains of Northern India may be a little more productive than in the Mediterranean. Still, it provides us with a rough idea of the space we are operating within. Not much more than half of total production, and often less, would have been available for extraction in the first place. The rest was already spoken for. It was required to maintain the livelihoods of the peasants and their households without whom there would be no economy to speak of (See fig. 2). *Therefore a more realistic idea of the scale of state*



expenditure can only be gained from seeing it in relation to the total disposable surplus.³⁶

The implications of this can be brought out with greater clarity by attempting a simple quantitative model of the Roman economy. That is far less hazardous than it sounds. Only industrialisation has managed to create enormous differences in the productive capacities between complex societies. In the agrarian world of *l'ancien régime* we do find local and regional variations in wealth. But they fall within a relatively narrow range. And what is more important, the differences tend to be ironed out when very large areas such as the Mediterranean, India, or China are compared.³⁷ It follows that estimates on a global scale, such as are relevant to the Roman empire, operate within a fairly manageable margin of uncertainty, say 30 or 40%. This is acceptable when we remember – and this bears emphasis – that we are not setting out to produce exact figures. Rather, our quantitative model is a heuristic device, which will allow us to spell out our qualitative

³⁶ E. Wolf, *Peasants* (Englewood Cliffs 1966), chapters 1 and 2, remains one of clearest discussions of the surplus in peasant economies.

³⁷ See, for instance, P. Bairoch, *Economies and World History. Myths and Paradoxes* (New York 1993), 101-110 and Pomeranz 2000, op. cit. (n. 27), chapters 1 and 3, especially.

insights with greater clarity, to provide us with a rough idea of the order of magnitude, the sort of rules that govern the game.

I have taken my lead from Hopkins' latest estimates of total production published in *Kodai* 1996.³⁸ The calculations have been summarised in table 1. The all important component in an estimate of the Roman as in any agrarian economy is the size of the population. Due to the relatively modest differences in productivity the number of producers is going to be the single most important determinant of the size of the economy. Of course, there are no proper population statistics from the empire. But when we put the little information we have together with better-known population figures from later periods in the pre-industrial Mediterranean, a peak of approximately 60 million people in the middle of the second century A.D. just before the arrival of the Antonine plague is unlikely to be wide off the mark.³⁹ At the same time, from the work of development economists, we have a fairly good idea of the minimal material requirements of populations living in agricultural societies. On average, a person needs to consume 250 kg wheat equivalent per year to subsist at an absolute bare minimum level.⁴⁰ Within this figure food accounts for around four fifths, the rest is provision for a little clothing, firewood, etc. The notion of wheat equivalents may require a little further explanation. Ideally, of course, we would like to have statistics of all the different products that people consumed apart from wheat in order to determine their relative significance in the economy. In the absence of that wheat equivalents are a useful fallback. Before industrialisation food grains play a dominant role in the economy of the vast majority. As a consequence, the value of the rest of production tends to stand in a fairly close relationship to the price of grain. In times of famine, for instance, the value of non-

³⁸ The following builds heavily on Hopkins 1995/1996 op. cit. (n. 9), 44-48. Hopkins employs several strategies to argue for the plausibility of his estimate. Most of them go to the internal consistency of his model. In general I find his arguments compelling and refer to them. Rather than repeating them here, though, I have chosen to add a number of additional observations to further support his case.

³⁹ B. Frier, 'Demography', Chapter 27 in CAH² XI (Cambridge 2000), 787-816. W. Scheidel, *Debating Roman Demography* (Leiden 2000), 63-64 argues, without strong reasons, it seems to me, for a peak of 80 million. F. Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II* I (London 1972), 394-398 estimated the Mediterranean population to have reached a new peak of 60-70 million around 1600. Considering that historical demographers normally operate with a weakly rising secular trend underneath the ebbs and flows of population size through human history, it seems most probable to opt for the 60 million figure. See M. Livi-Bacci, *A Concise History of World Population* (Oxford 1997, 2nd ed.), chapter 1 for the secular trend in global population figures.

⁴⁰ C. Clark & M. Haswell, *The Economics of Subsistence Agriculture* (London 1970), 54-60 for minimum consumption needs.

Table 1

*Estimate of disposable surplus, state impact
and interregional trade in the 2nd century AD*

1. The population of the empire in the mid second century AD is set at **60 million**.
2. Minimum subsistence is set at **250 kg wheat equivalent per person per year**.
3. Agriculture was relatively low yielding. A reasonable estimate puts average yield at **4 × seed**. This means that 25% of total minimum produce would have to be put aside for next year's crop.
4. **Minimum GDP will then be:**
$$60 \text{ mill} \times (250 \text{ kg subsistence} + 83.33 \text{ kg seed}) = 20 \text{ mill tonnes wheat equivalent}$$
5. A large part of the population will have had to live close to this level. But cities were normally privileged, some were also very rich and not all peasants were equally poor. Production of manufactured goods and services by the 10-20 % not employed with primary agricultural production also needs to be added. It seems reasonable with Hopkins to increase total production by half in order to get to **actual GDP: 20 mill tonnes × 1.5 = 30 mill tonnes wheat equivalent**.
6. The average price of wheat is set to **3 HS per modius (6.55 kg)**. To judge from prices in Egypt this may be a bit on the high side. But since this operates against the point I am trying to make I have chosen not to alter.
7. This makes **GDP: 30 mill tonnes × HS 3/modius = 13.700 mill HS**
8. From other pre-industrial societies we can operate with a proportion of 10-20% living in cities and 80% working the land to feed the remaining 20 %. The total disposable surplus can then be defined as GDP minus minimum subsistence for 80% and seed required to produce subsistence for 60 mill. That is unrealistically generous but by increasing the surplus which actually entered circulation outside the peasant household and its village network I work against the point I am attempting to make.
9. In numbers this makes our estimate of the **total disposable surplus: 13.700 - (48 mill × 250 kg + 60 mill × 83.33 kg) × HS 3/modius = HS 6000 mill (in round figures) or 40-45 % of GDP**.
10. Following Duncan-Jones state expenditure in the middle of the second century AD is set at approximately **HS 900 mill**. Direct state expenditure then constitutes **15 % of the disposable surplus**.
11. To this should be added the imperial elite. 600 senators with an annual income (not to be mistaken for the census requirement) of around 1 mill HS each and a similar number of knights, estimated at half the income of senators. **The income of the imperial elite then can reasonably be assumed to be in the same range as that of the state, 900 mill HS**. In other words, the central aristocracy can account for another **15 % of the disposable surplus**.
12. 10 % of GDP, entering inter-regional trade (inter-town), works out at 23 % of disposable surplus.
20% of GDP, entering inter-regional trade (inter-town), works out at 46 % of disposable surplus. (add another 10% and we would reach 69 % of surplus which would be totally unrealistic).

To conclude, any understanding of economic integration in the empire must needs take the imperial tribute extraction as its point of departure. It is able to account for a very substantial part of all inter-regional flows of resources, be they in form of trade or redistribution.

essentials drops sharply because people need to draw heavily on their

resources to procure high priced cereals or their substitutes.⁴¹ Documents from Roman Egypt show the mutual relationship of grain and other prices in greater detail. They reveal a broad tendency in the price of wine to behave contrary to developments in the grain market. When prices were at a high level in the latter, wine would often tend to be at a low as people now had less money to spend on everyday "luxuries".⁴² Therefore it makes good sense initially to express an agrarian economy in terms of wheat equivalents.

By combining population size with minimum subsistence requirements we get a rough minimum estimate of the Roman economy. However, it could not have functioned at this level. Essentially two factors have been left out which need to be added to the calculation. First, it takes seed to grow grain. If the economy is going to reproduce itself we also need to add this to our calculation. Grain yields vary according to climate, region and soil. But on a global scale the most probable estimate is that yield figures will have averaged approximately four times seed. A much higher rate than this is not realistic. It would imply far too high a productivity and it would force us to accept a level of urbanisation that is not normally reached before industrialisation.⁴³ Moreover, as Hopkins observes, it would be difficult to understand why Italy needed to import grain from the provinces to feed Rome. Secondly, we also know that the Roman economy as a whole did not function at minimum subsistence, though a considerable number of people probably had to exist at this level. Otherwise there would have been no imperial palaces, temples, theatres, baths, aqueducts, luxuries at aristocratic dinner tables, nor most other products of Greco-Roman material civilisation. Therefore we should probably increase our minimum estimate of the Roman economy by approximately half in order to come to the real Roman GDP in

⁴¹ P. Garnsey, *Famine and Food-Supply in the Graeco-Roman World* (Cambridge 1988), 3-7 citing the chronicle of Joshua the Stylite on a famine in late Roman Edessa. For comparative confirmation of the rough relationship between prices in food and non-essentials, see K. Chatterjee, *Merchants, Politics and Society in Early Modern India. Bihar 1733-1820* (Leiden 1996), 54: "Grain being the staple article of consumption, its price bore a distinct relation to prices of other goods and commodities supplied to markets."

⁴² D. Rathbone, 'Prices and Price Formation in Roman Egypt', in *Économie Antique. Prix et formation des prix dans les économies antiques* (Saint-Bertrand-de-Comminges 1997), 183-244 on page 213 including fig. 7. In general about the sensitivity of wine to grain prices, Tchernia 1986, op cit. (n. 21), 188.

⁴³ In simple terms at 3:1 a society will experience difficulties reproducing itself; at 5:1 perhaps up to 40% can live in cities. Most of the pre-industrial history of complex societies were somewhere between these limits, cf. J. de Vries, *European Urbanization 1500-1800* (London 1984), 242-243. Within this field 4:1 seems the most realistic. It would allow up to 20% urbanization. We cannot go much higher than this.

the second century A.D.⁴⁴ Finally, we need to express this in Roman monetary terms to enable comparison with state expenditure. Again detailed price series covering markets across the empire are lacking. But there is sufficient information to form an idea of the general level of wheat prices. In Egypt prices seem to hover close to 2 HS per *modius*. Most grain will have been marketed near this level. In larger cities the price would generally have been higher. Hence an average of 3 HS per *modius* has been adopted.⁴⁵ To sum up, our approximate estimate of Roman GDP in the second century A.D. is based on 5 components:

(population [= 60 million] × minimum subsistence [= 250 kg wheat equivalent per person] + seed at a yield ratio 4:1 + 50% to account for activities above subsistence) × 3 HS/*modius* (6.55 kg wheat per *modius*).

All in all this gives a Roman gross domestic product of some 13.700 million HS. Is that realistic? Expressed as per capita income it amounts to 229 HS per person. A couple of decades ago an economist suggested a per capita income of some 380 HS per person for the first century A.D.⁴⁶ This is problematic; adjusting for differences in wage levels between city and countryside and between men and women, it would imply that the average male labourer earned more than the pay of a legionary in the first century and only a little less in the second century. This is implausible. The legionaries were a powerful and privileged group in Roman society. We would expect them to do a lot better than the average adult male labourer. Consequently, per capita income should be comfortably below 380 HS. Indeed, if instead the information preserved about the wages of Roman labourers is used, the result comes out with a per capita income a little below ours.⁴⁷ It looks like we have got the rough dimensions right.

⁴⁴ This gives a total per capita production of 500 kg wheat equivalent or net of seed 417 kg. In 1960 the traditional agricultural and still dominant sector of the Indian economy had a per capita production of 382 kg wheat equivalent net of seed, confirming that the dimensions of Hopkins' estimate are probable, cf. Clark & Haswell 1970, op. cit. (n. 40), 78.

⁴⁵ Rathbone 1997, op. cit. (n. 42) now provides the most up to date list of wheat prices in 1st-2nd century Egypt. Other material can conveniently be found in G. Rickman, *The Corn Supply of Ancient Rome* (Oxford 1980), 143-153 and R.P. Duncan-Jones, *Economy of the Roman Empire* (2nd ed.; Cambridge 1982).

⁴⁶ Goldsmith 1987, op. cit. (n. 31), 35 followed by Frier 2000, op. cit. (n. 39), 812.

⁴⁷ I am much obliged to Richard Saller who has presented his estimate to me in correspondence. Using Duncan Jones 1982, op. cit. (n. 45), 54 he sets urban male labour at 3HS a day and rural at 1.5. He sets population at 60 million with half of it actually working (250 days per year), 20% living in cities and female income at half the rate of male, a practice that is attested from antiquity. Finally he assumes

We can now use our GDP as the basis of an attempt to quantify the disposable surplus, the really crucial element in the Roman economy. In this exercise it is important to reach a generous estimate, more likely to be an overestimate than the opposite, since this will work against the point I am trying to make. Therefore I have tried to include some analytical buffers in defining the surplus which to some extent may help to nullify the damage done to our conclusions if, in spite our efforts, we have underestimated the Roman GDP. Hence I generously and unrealistically allow an urban population without any engagement in agriculture of 20% for the empire. This means that only 80% were occupied in agricultural production. All production in Roman society above the bare minimum requirements of these 80% and seed necessary for producing the minimum GDP, I define as the disposable surplus. This is, in fact, quite generous. It does not even allow for peasants having to feed oxen to plough their fields. The total disposable surplus will then be:

$$\text{GDP} - (80\% \text{ of } 60 \text{ mill} \times 250 \text{ kg wheat equivalent + seed}) \times 3 \text{ HS/modius} = 6000 \text{ million HS (rounded up).}$$

Basically this means that only about 45% of the economy would have been available for taxation, market circulation and so on. Recently Duncan-Jones has produced a rather conservative estimate of Roman state expenditure in the 2nd century A.D. at around 900 million HS.⁴⁸ Combining the two estimates enables us to see that *the net expenditure of the imperial system (mainly the imperial household, bread and circuses and the army) probably took up at least 15% of the disposable surplus.*⁴⁹ This is quite substantial -

that the sex distribution of the population was 50:50. This works out at HS 10,000 million. To this he adds 20% for elite income and 7.8 % for state income. Final result app. HS 13,000 million or HS 217 per capita. If we insert Goldsmith's estimate of HS 380 in the equation we see, since only half of the population worked, that average working income would be twice the base figure, that is 760. If male income is twice as much as female income, it would be HS 1013. For comparison the annual pay of a legionary was HS 900 in the first century and HS 1200 in the second century (Duncan-Jones 1982, op. cit. [n. 45], 10).

⁴⁸ R.P. Duncan-Jones, *Money and Government in the Roman Empire* (Cambridge 1994), 45.

⁴⁹ A simple calculation may lend further support to the credibility of this figure. Combined state expenditure probably supported at least a million persons (half the population in Rome and a sizeable army and its civilian train of dependants). However, these were among the most expensive surplus consumers. Maintaining a person in Rome was very costly compared to other areas. Legionaries, too, were a very demanding lot. It seems reasonable to conclude that the two groups would have required resources at twice the average rate of surplus consumers. With 20% outside agriculture there would

especially when we remember, as pointed out by Hopkins, that the state often spent its tax-income at some remove from where it had been collected as taxes. If we hypothesise that 10 % of total production (GDP) entered the interregional circulation of resources, close to two thirds could be accounted for by the flows of money, goods and redistribution in kind caused by net tribute extraction. Suddenly, the imperial state does not seem such a marginal actor in the economy.

Romans and Mughals compared: tribute extraction and elite building

This brings us back to the second lesson we can draw from our Mughal comparison; it is expensive to have taxes collected. Even though the position of the Roman state in the imperial economy has perhaps been underestimated lately, on the face of it there is still a stark contrast between the intake of the two empires. Comparing the Mughal and Roman tax rates, flatly as it were, discloses a surprising discrepancy when their close organisational affinities are kept in mind. Could these two patrimonial-bureaucratic systems really have experienced such enormously differing success rates? However, we are comparing net expenditure with gross income. From the Mughal intake of 1/3 (probably still an overestimate) very substantial amounts went in the form of revenue allocations to pay for the nobility, the so-called *mansabdari* (equal to the senatorial and equestrian orders, broadly speaking), and for local elite groups, the so-called *zamindari* and village headmen, scribes etc. (similar to the *ordo decurionum*, and the village officials documented e.g. in Roman Egypt). Only by forming a strong and costly alliance with the imperial and local elites was the great Mughal able to govern and have his taxes collected. Thus tribute extraction gave rise to a process of increasing social stratification as various elite strata saw their position strengthened through a greater accumulation and concentration of wealth under their control.⁵⁰

This is a process too well known from Roman historiography to require much comment. The Roman state, too, took good care of its different

have been 12 million surplus consumers in the empire of 60 million. Roman state expenditure would then be 2/12 or very close to 15%.

⁵⁰ Richards 1993, op. cit. (n. 32), chapters 3 and 4; Habib 1999, op. cit. (n. 32), 159-160 + chapters 5-7; Hintze 1997, op. cit. (n. 32), e.g. chapters 4 and 9; M. Alam, *The Crisis of Empire in Mughal North India* (Delhi 1986); Bayly 1983, op. cit. (n.32) and finally A. J. Qaisar, 'Distribution of the Revenue Resources of the Mughal Empire Among the Nobility', in *Proceedings of the Twenty-Seventh Session of the Indian History Congress* (Aligarh 1967), 237-243 for a poignant demonstration of just how much of the imperial revenue was channelled into the pockets of the imperial elite.

aristocratic groups.⁵¹ As Dio Cassius had Agrippa and Maecenas observe each in their own way in a set of speeches giving advice to Augustus about how to organise the imperial government, the emperor could not rule without strong and powerful allies. Indeed, he should actively promote “the best men” and make sure that the imperial elite also received its share of the resources generated by the empire.⁵² Right from the beginning of expansion senators and knights had been able to draw substantial profits from the administration of the Roman hegemony. The result was an accumulation of wealth in the hands of the Roman elite on a steadily increasing scale and gradually encompassing properties scattered all across the empire. So far as we can see, Roman aristocrats of the high empire were significantly richer than their late republican predecessors had been, as they had again been considerably more well off than their 2nd century B.C. ancestors.⁵³ During the principate this process was further fuelled by a stronger integration of provincial property into the existing stock of estates controlled by the imperial elite. At the local level, Roman government depended on the elites of the numerous cities around the empire. They were left in control of the distribution and collection of imperial taxes. This was a very powerful tool. Not only would they normally have been able to ensure that they were less heavily taxed than the rest of the city’s property holders. Often they would also have been able to profit further from shifting the burden on to weaker shoulders, for example, by extending credit to people short of money to pay the taxes. When some of those inevitably failed to repay the loan, their property passed to members of the local elite. In this and similar ways, local elites supported by Roman rule in a mutually beneficial partnership effected a considerable redistribution of local property in their own favour.⁵⁴ At the

⁵¹ The literature is vast. A few general references must suffice. A. H. M. Jones, *The Greek City from Alexander to Justinian* (Oxford 1940), Chapter 8; J.H. Oliver, ‘The Ruling Power’, *Transactions of the American Philosophical Society* 43 (1953); P. A. Brunt, *Roman Imperial Themes* (Oxford 1990), chapter 12; P. Garnsey & R.P. Salter, *The Roman Empire* (London 1987), chapter 2; P. Garnsey 1988 op. cit. (n. 41), chapter 15 ; F. Jacques & J. Scheid, *Rome et l’intégration de l’empire* (Paris 1990), chapters 5, 6 and 7, part 4.

⁵² Dio Cassius, 52.2-13 and 52.19.1-3. Saller 1982, op. cit. (n 33), for a discussion of the importance of imperial patronage for the imperial elite.

⁵³ K. Hopkins, ‘Rents, Taxes and the City of Rome’, in E. Lo Cascio, ed., *Mercati Permanenti e Mercati Periodici nel Mondo Romano* (Bari 2000), 255 for a conveniently short statement of the gradual accumulation of aristocratic riches.

⁵⁴ The process is well described, for instance by Libanius, *Oratio* 48, 37-41 (It does little that Libanius is a late source). See also, for example, Cicero, *In Verrem* 2.2.138; Plutarch, *Praecepta rei publicae gerendae* 815a where the greed of the good and the great is said to drive the lesser people from the towns; the discussion of *munera* in *Digesta*, e. g. 50.4.3.15 and some very instructive letters preserved in line 68-71 and 145-152 of *P. Panop.* 2. For some case studies of how Roman government built up

apex of this process, we find some rising to become magnates on a provincial scale and eventually being incorporated into the imperial elite as it needed replenishment, thus taking a large part of their expenditure from the provinces to the capital.⁵⁵

To sum up, as in the Mughal empire, tribute extraction was accompanied by a substantial build up of wealth controlled by aristocratic groups located at various levels in the imperial system. This needs to be added to the bill if we are to reach a proper assessment of the economic impact of the Roman state. At least for the central aristocratic groups, senate and knights in the imperial administration, it is possible to get an idea of how this works out in our quantitative model of the imperial economy (table 1, section 11). Based on Pliny's letters, Duncan-Jones has estimated the annual income (not the census requirement) of a middling senator at approximately 1 million HS in the early second century A.D. Some senatorial households would have experienced much greater incomes. On the other hand, some also had problems even about meeting the economic requirements of a political career.⁵⁶ Hence it seems reasonable to adopt the figure based on Pliny's experience as an average annual income for the 600 or so senators, even though we might actually be underestimating the wealth of the senate then.⁵⁷ The contours of the equestrian part of the central imperial elite are more hazy. But to judge from the growing number of equestrian procuratorships in the imperial administration (127 are attested by the reign of Marcus Aurelius, 174 at the death of Severus) it would have required a

elites in conquered areas see for example P. Ørsted, *Roman Imperial Economy and Romanization* (Copenhagen 1986); M. Millett, *The Romanization of Britain* (Cambridge 1991); F. Quass, *Die Honoratiorenenschicht in den Städten des griechischen Ostens* (Stuttgart 1993) and Woolf 1998, op. cit. (n. 24).

⁵⁵ The incorporation of provincial aristocrats in the imperial elite can be followed in most detail for the senate. For a recent convenient synthesis, see S. Roda, 'Il Senato nell'alto impero Romano' in *Il Senato nella Storia. Istituto poligrafico e zecca dello stato* (Rome 1998), 129-221. Chapter 3 in K. Hopkins, *Death and Renewal* (Cambridge 1983) is fundamental. On the equestrian leg of the imperial elite, there is still much of value in A. Stein *Der Römische Ritterstand* (Munich 1927). Fundamental is H.-G. Pflaum, *Les procurateurs équestres sous le Haut-Empire romain* (Paris 1950). See also the more recent work of S. Demougin, *L'Ordre Équestre sous les Julio-Claudiens* (Rome 1988) and S. Demougin & H. Devijver, eds., *L'Ordre Équestre. Histoire d'une aristocratie* (Rome 1999). Saller 1982 op. cit. (n. 33), chapter 5 in particular for a detailed study of the patronage ties which paved the way for recruitment of provincial aristocrats to the imperial elite.

⁵⁶ F. Millar, *The Emperor in the Roman World* (London 1992, 2nd ed.), 297-299 for imperial gifts to senators in financial problems.

⁵⁷ Duncan-Jones 1982, op. cit. (n. 45), 21. A. Chastagnol, *Le sénat romain à l'époque impériale* (Paris 1992), chapter 10 is undoubtedly right in seeing this a conservative estimate for Pliny's time. For the following generations this is even more so, cf. Duncan-Jones's own comments.

group more or less equal in size to the senate to fill the available spaces.⁵⁸ The wealthiest and most powerful knights were clearly richer than many members of the senate. But this would not generally have been the rule, rather the opposite if the lower property qualification of this group is anything to go by. We might estimate the income of the equestrian members of the central imperial aristocracy at half that of the senate. In numbers this gives $600 \times 1 \text{ million HS} + 50\% = 900 \text{ million HS}$ or another 15% of the disposable surplus.

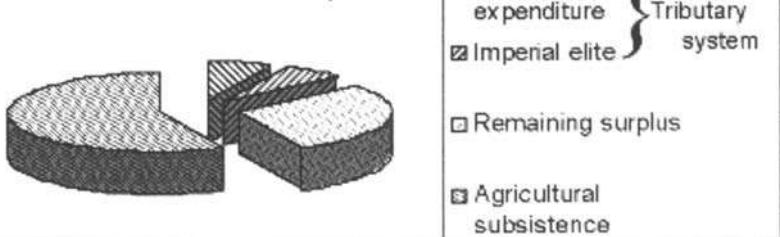
This makes the empire look a lot more like the Mughal, especially if we take into consideration that the Mughals' notional intake of 1/3 of production in reality would probably have been closer to one fourth or one fifth.⁵⁹ Then when we subtract the substantial part that went into the pockets of the local Indian aristocracies, the *zamindars*, the revenue structure of the two empires appears to be very similar or at least of the same order of magnitude. In both cases, the revenue of the central imperial system (emperor, army and central aristocracy) seems probably to have been within a range of 10-15% of GDP. This does not look impressive. But when we realise that this would have constituted close to one third of the disposable surplus in the Roman case (and it cannot have been wildly different in the Mughal case) it is clear that it could not easily have been much larger (fig. 3).⁶⁰

⁵⁸ Pflaum 1950, op. cit. (n. 50), 76-96 for the number of imperial procurators. Under Marcus Aurelius there were 160 senatorial posts in the imperial administration. This suggests that the number of knights engaged in the imperial service must have been of the same order of magnitude. See Whittaker 1993, op. cit. (n. 9), chapter 12, 60-62 for a similar estimate but with more detailed discussion of the problems. W. Eck, 'The Growth of Administrative Posts', CAH² XI, Chapters 5 and 6 (Cambridge 2000) for a recent treatment of the development in the imperial administrative system.

⁵⁹ The Mughal revenue intake is a thorny issue. But independently of how we assess this problem two things operate in favour of lowering towards one fourth or one fifth of GDP. The figure of one third is of agricultural production. To be strictly comparable to our Roman figure, it should be adjusted to take account of urban production and services which only contributed modestly to Mughal taxes. On top of this, many cash crops were only taxed at a rate of one fifth. Taken together these two factors go a long way to bring the Mughal tax figure within "our" range.

⁶⁰ R. Huang's seminal study of Ming taxation, *Taxation and Governmental Finance in Sixteenth-Century Ming China* (Cambridge 1974), 159-161 reached a similar conclusion about the very narrow limits on imperial taxation.

Fig. 3
Roman GDP, Surplus and Tributary Empire



Tribute and Economic Integration: the market as surplus transformer

As already mentioned, the revenues of the imperial system (emperor, army and central aristocracy), were normally spent unevenly across the empires. In the Roman case it was to a very large extent consumed by emperor and elite in the capital and in the border regions where the army was stationed. This means that much of the revenue intake had to enter regional and interregional circulation in order to reach its point of expenditure. In table 1, section 12 I have tried to indicate the consequences of different proportions of GDP going outside its nearest marketing network, that is entering inter-city (state) resource flows. At 10% of GDP about 20-25% of the disposable surplus would be spoken for in this way. At 20% of GDP it would be 45-50%. Clearly this must be pushing against the maximum limit of what could have happened. Even though the consumer-city model has been hotly debated, few people would doubt that a very large section of the surplus was spent locally by the municipal aristocracies around the numerous ordinary cities of the empire. Data from both 18th and 19th century India and late imperial China, too, suggest that we can imagine the level of inter-city exchange to be within a range of 10 to 20% of GDP in the Roman empire.⁶¹ For our understanding of market exchange in the empire this has important implications. To begin with, it is difficult to identify the market as the

⁶¹ A. A. Yang, *Bazaar India* (Berkeley/ Los Angeles 1998), 223-224 lists a number of estimates from 18th and 19th century India. Of the agrarian surplus, about two thirds stayed within the area of production. The remaining third, or approximately 11 % of total agricultural production entered interregional circulation. To this should be added manufactures and other luxuries. This suggests a level of interregional trade of about 10-20% of GDP. D. Perkins, *Agricultural Development in China, 1368-1968* (Chicago 1969), 115-120 estimates total value of interregional trade in late imperial China at 15-20% of gross farm output. Expressed as a proportion of GDP (farm output + production and services in the cities) the figure will be a little lower, perhaps 10-15%.

dominant organising force of economic integration in the empire. At our imagined maximum level of inter-regional resource transfers, expenditure related to the imperial system would be able to account for two thirds. Even if we should have underestimated the economic surplus and interregional trade by say a third, this conclusion is not affected much; imperial expenditure would still take up more than 50% of our maximum level of inter-city transfers. It is no wonder that archaeologists again and again emphasise the different scale of activity between Greek and Roman history.⁶² Imperial tribute extraction must have dramatically changed or at least considerably modified the pre-existing pattern of economic circulation in the Mediterranean world. *If we want to speak of economic unity in the Roman empire we would do well to start by looking at tribute extraction and shared elite developments rather than a conglomeration of interconnected capitalist markets.* Consumption related to the profits of empire comes out as such a powerful stimulus that there cannot be much room for a development in interregional trade driven by regions specialising in one product and exchanging that with regions specialising in other products.⁶³

Taking a last glance at our Mughal comparison tells us that in such a system the role of market exchange and inter-regional trade is not first and foremost that of co-ordinating and organising the economy in an inter-regional division of labour. *Rather its task is the subordinate one of acting as transformer and conveyer of the extracted surplus.*⁶⁴ In that perspective, the dichotomy between market and state redistribution which has attracted so much attention over the years reveals itself to be a modernism. In the empire both activities, often in direct collaboration, aimed at turning the extracted tribute into flexible resources which could be disposed of in other contexts.⁶⁵

⁶² A recent example is the introduction in Mattingly & Salmon 2001, op.cit. (n.24), 8-11.

⁶³ Perkins 1969, op. cit. (n. 61), too noted how the nexus of imperial tax and aristocratic rents dominated over regional specialisation in long-distance trade in late imperial China. Lo Cascio 1991, op. cit. (n. 20), clearly sees how political exploitation "embedded" the market in the Roman empire but does not recognise how that renders the retention of the model of Rostovtzeff and Carandini highly problematical. Empire and a capitalist market organisation do not go together, as observed by Wallerstein 1974, op. cit. (n. 15). G. Woolf, 'World-systems analysis and the Roman empire', *Journal of Roman Archaeology* 3 (1990), 44-58 for a discussion of the world-empire terminology in relation to Roman history.

⁶⁴ This is the primary implication of Hopkins' taxes-and-trade model. See Bayly 1983, op. cit. (n.32), 63-73, for a description of the mechanism in late Mughal India. Schiavone 2000, op. cit. (n.20), chapter 3 makes the same point but in more general terms.

⁶⁵ L. De Salvo, *Economia privata e pubblici servizi nell'Impero Romano: i corpora naviculariorum* (Lietta 1992), 69-78 dealing with the grain supply of Rome, is a good example of how meaningless it is to discuss Roman trade exclusively in terms of free market or state redistribution. The boats carrying the grain arriving in Rome may have been free but their bottoms were to a very large extent dominated

Such a system of markets developing around political exploitation is what Weber referred to as political capitalism or even "Raub Kapitalismus". It is a rough, violent and conflict ridden economic regime. Yet, contrary to received sociological and economic wisdom, it cannot be seen as wholly parasitic even if it does not include the alliance with commercial interests which characterised later European developments. In a critique of the sociological tradition on tributary empires, Michael Mann argues that the alliance between state and aristocracy was socially productive; it worked to increase surplus extraction and agricultural output and therefore allowed greater scope for the development of manufacture and trade.⁶⁶

Whether this translated into significant per capita growth is a different matter.⁶⁷ Many have suggested as much in recent years. Undoubtedly a heavier exploitative pressure will have worked towards increasing peasant production. But this is primarily done by forcing people to work harder, not by improving their efficiency. This sets fairly narrow limits to how much production can increase, especially because growth in economies dominated by agriculture is often achieved at the price of falling marginal returns on extra added labour.⁶⁸ Some of this may be offset by gains from making possible a greater division of labour brought about by increased urbanisation or economies of scale. We are, however, looking at marginal improvements here, such as the gradual growth in the carrying capacity of some amphorae types documented by archaeologists. The best African oil amphorae, for instance, allowed a 20% larger cargo of oil in the same shipping tonnage than the worst Spanish amphorae (the average gap is narrower). Thus on the very generous assumption that sea transport would have added 30% to the

by state owned shipments. Middleton 1983, op. cit. (n.7); Whittaker 1994, op. cit. (n. 7) and G. Jacobsen, *Primitiver Austausch oder freier Markt* (St. Katharinen 1995) have explored the nexus of market and redistribution more fully. C. Whittaker, 'Trade and the Aristocracy in the Roman Empire', *Opus* 4 (1988), 49-75 for a demonstration of how the aristocratic households in a similar manner mixed market and redistributive activities, even if the article puts emphasis too heavily on redistribution.

⁶⁶ M. Mann, *The Sources of Social Power I* (Cambridge 1986), 167-174 and chapter 9.

⁶⁷ P. Millett, 'Productive to some purpose? The problem of ancient economic growth', in Mattingly & Salmon 2001, op.cit. (n. 24), 17-48 for a recent discussion of the question of growth in the ancient economy, pointing to the problems in using modern conceptions.

⁶⁸ For this, see for example E. A. Wrigley, *Continuity, Chance and Change: The Character of the Industrial Revolution in England* (Cambridge 1988) who offers a powerful defence of the failure of early classical economics (the dismal science) to recognise the possibility of modern sustainable growth; agriculture based on organic technologies, such as still dominated the world of Smith and Malthus, cannot produce that. In the long run industrial technology is required. See further J. Lee, 'Trade and the Economy in Pre-Industrial East Asia, c. 1500-1800', *The Journal of Asian Studies* 58 (1999), 2-26.

price of oil sent to Rome from Spain or Africa, the improvement would have lowered the price with about 5%.⁶⁹ It is difficult to see how such measures could have raised productivity decisively across the empire.⁷⁰ At the same time, it seems probable that population rose, up until the Antonine plague. This will have put more marginal land, less fertile soil that is, into cultivation and worked towards lowering productivity and per capita income. Thus there is no strong reason to hypothesise a strong growth in per capita production under the high empire.

What has generally been absent from discussions of growth in the ancient economy is that increased productivity/per capita income may not be the best guide to economic activity in pre-industrial societies. With the arrival of the Black Death in Europe total production plummeted while per capita income rose as the sharp drop in population size made more and better land available to the individual peasant. The point is that as long as productivity remains relatively low, compared with industrial economies, the number of producers may be more decisive for the aggregate size of the economy than a modest increase in productivity.⁷¹ This, I would suggest, provides the crucial element in an explanation of economic developments in the Mediterranean under Roman hegemony. What really sets the imperial economy apart in ancient and pre-industrial European history are the vastly different aggregate dimensions of the total disposable surplus brought about by intensified extraction and the incorporation of a much wider area with a gradually growing population into the same tributary system. It was the ability to mobilise and command resources from a larger geographical area than both before and quite some time after that is the primary reason for the formation of larger markets, such as Rome, and the larger scale of production found for different types of fine ware, fired bricks, amphorae etc.

⁶⁹ The calculation is based on the table of carrying capacities of amphorae in Peacock & Williams 1986, op.cit. (n.7), 52. The worst recorded dressel 20 contained 39 l or 35.5 kg oil in 19.9 kg clay. For a cargo of 100 tonnes this gives 64 tonnes oil to 36 tonnes clay. The corresponding figures for the best African is 57 l or 52 kg oil in 14 kg clay. In a cargo of 100 tonnes this gives 79 tonnes oil to 21 tonnes clay. The oil contents have increased with a little more than 20%. If sea transport added around 30% to the price of oil (index 100), then total price would have fallen from 130 to 124 or around 5%. Admittedly we cannot know the exact price of transport. But comparing the price of ordinary oil (section 3) with transport costs (section 37) in Diocletian's Price Edict (Lauffer's ed.) suggests that transport added considerably less than 10%. Without attaching too much weight to this result, it still seems like 30 % is a very generous estimate.

⁷⁰ R.P. Saller, 'Framing the debate over growth in the ancient economy', in J. Manning & I. Morris, eds., *The ancient economy: evidence and models*, Stanford in press, for some cautionary remarks on ascribing too much per capita growth to the Roman economy.

⁷¹ Livi-Bacci 1997, op. cit. (n. 39), 47-55, and chapter 3.

Being surprisingly “primitive” in some basic production technologies, it was this power extensively to amass and concentrate the agricultural surplus from a large territory which allowed the Roman empire to reach levels of economic activity that in some ways are able to stand up to what we find in Europe in the 17th and even 18th centuries.

Corpus Christi College, Cambridge, January 2002

THE ROMAN ECONOMY: FROM CITIES TO EMPIRE¹

By

WILLEM M. JONGMAN

The grandeur that was Rome

The Roman Empire was a vast and populous state. Its size was an order of magnitude bigger than anything else in any period of European history, and only comparable to that of the other world empire of the time, China. The Roman Empire at its peak in the first and second centuries AD, had a population of at least some 60 million people, and perhaps even a bit more.² Again, the only comparison is with the perhaps just a bit less populous Chinese Empire. Between them, these two states ruled perhaps a third or more of the world population of their time. The first modern states to have populations of this size were the United States and Russia, in the late nineteenth century. In the Mediterranean core areas of the Roman Empire population density, moreover, reached levels that would often never be exceeded, or even matched, in later pre-industrial history.

The Roman Empire, however, was not only large and populous; it was also a highly urbanized society. Rome, the capital city, had a population of about 1 million inhabitants.³ That is vastly more than was to be normal in medieval or early-modern times. In 1500 only four European cities had more than 100,000 inhabitants.⁴ Between them those four cities had only 450,000 inhabitants. The city of Rome was and remained unique in European pre-industrial history. It was by far the biggest city in the world, and remained so until the growth of the big Chinese cities of the Sung dynasty in the eleventh

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² Classics for the history of aggregate ancient population include K.J.Beloch, *Bevölkerungsgeschichte Italiens I-III* (Berlin/Leipzig 1937/ 1961); P.A. Brunt, *Italian manpower, 225 B.C.-A.D. 14* (Oxford 1971); K. Hopkins, *Conquerors and slaves* (Cambridge 1978). Recent contributions include W. Scheidel, ed., *Debating Roman demography* (Leiden 2001). See now also N. Morley 'The transformation of Italy, 225-28 B.C.' *Journal of Roman Studies* 91 (2001), 50-62 for a discussion of the higher estimates proposed by Elio LoCascio in numerous important articles.

³ Hopkins 1978, op.cit. (n.2), 96 ff. and W.M. Jongman, 'Roma II: Bevölkerung und Wirtschaft der Stadt Rom' in: H. Cancik & H. Schneider, eds., *Der neue Pauly. Enzyklopädie der Antike X* (Stuttgart/Weimar 2001), 1077-1083 for surveys. Non vidi G. de Kleijn, *The water supply of ancient Rome. City area, water, and population* (Amsterdam 2001).

⁴ J. de Vries, *European urbanization 1500-1800* (London 1984), 269 ff.: Naples had about 150,000 inhabitants, Milan, Venice and Paris each about 100,000.

to thirteenth century A.D.⁵ The first European city to have 1 million inhabitants again was London, in the early nineteenth century.⁶ Rome, moreover, was not the only big city in the Empire. Together, Carthage, Alexandria and Antioch probably had at least another 1 million inhabitants. All in all, perhaps 5 % of the population of the Roman Empire lived in cities with more than 100,000 inhabitants. Around 1800, only about 3.3 % of the European population lived in such cities.⁷ Roman urbanism was remarkable for the number of really big cities.

Roman cities were not only large, but also numerous. Administratively, there were at one time 431 cities in Roman Italy alone. It has been estimated that even apart from Rome, about 20 % of the population of Italy lived in cities, although many of them must have been quite small (my estimates imply an average of only about 2000 inhabitants for cities outside Rome). Cities were the centres of civic administration, and the residences of the land-owning elite. The Roman Empire was probably more urbanized than any later period of European pre-industrial history. That is all the more important since urbanization and the size and density of population are often seen as indicators or even engines of economic development. Why then did the Roman Empire fall?

It is important to remind ourselves of the comparative historical magnitude of Rome's achievement. Rome was not a primitive ancestor to the medieval world. On the contrary, on a number of important indicators Rome clearly surpasses anything that would follow until the Industrial Revolution. The bewilderment of Renaissance men about the grandeur that was Rome was genuinely justified: living in Renaissance Rome was like living in New York, a century after a Third World War.⁸

A bleak world without future

Perhaps more than anyone, it was Sir Moses Finley who reminded us that the story of Rome, however, is not only grand.⁹ It is also a story of appalling mortality for all its population, poverty for the masses, and little

⁵ M. Elvin, *The pattern of the Chinese past* (Stanford 1973), 175 ff.; Idem, 'Chinese cities since the Sung dynasty', in Ph. Abrams & E.A. Wrigley, eds., *Towns in societies. Essays in economic history and historical sociology* (Cambridge 1978), 79-89. The similarities with Roman urbanization are remarkable, just as the differences with medieval Europe.

⁶ E.A. Wrigley, 'A simple model of London's importance in changing English society and economy 1650-1750.' In: Abrams & Wrigley 1978, op.cit. (n. 5), 215-243.

⁷ De Vries 1984, op.cit. (n.4), 269 ff.

⁸ Cf. W.M. Jongman, *The economy and society of Pompeii* (Amsterdam 1988), esp. 15 and 73.

⁹ M.I. Finley, *The ancient economy* (London 1985, 2nd revised ed.).

improvement in the standard of living or productive technology over many centuries. Average life expectancy at birth was probably hardly more than twenty years.¹⁰ The innovative demographic research of historians like Hopkins, Bagnall and Frier, Saller or Scheidel has offered horrific visions of a world we have fortunately lost.¹¹ For me, this represents the most dramatic gain in our understanding – and appreciation – of the ancient world of the last few decades. Mortality was so high because most people were poor and vulnerable to infectious diseases.¹² Mortality was higher in cities and probably highest in big cities.¹³ People infected each other: living in cities

¹⁰ Of course, this does not mean people did not get older than twenty years (as some still seem to think). The figure is greatly, but certainly not exclusively, influenced by high infant mortality. Average life expectancy increased after the first year of life.

¹¹ K. Hopkins, 'On the probable age structure of the Roman population', *Population Studies* 20 (1966), 254-264 represents the kind of devastating breakthrough which happens only rarely. It has taken a long time before scholars have begun to realize the fundamental nature of the article: K. Hopkins, *Death and renewal* (Cambridge 1983) uses the methodology with model life tables in a revolutionary analysis of (dis)continuity among the senatorial elite – cf. Jongman 1988, op.cit. (n.8), 317 ff. for the *ordo decurionum* of Pompeii. R.S. Bagnall & B.W. Frier, *The demography of Roman Egypt* (Cambridge 1994) founded the subject in ancient sources, but is now criticized in W. Scheidel, *Death on the Nile. Disease and the demography of Roman Egypt* (Leiden 2001). R.P. Saller, *Patriarchy, property and death in the Roman family* (Cambridge 1994) added important methodological innovation by using simulation techniques and probabilistic argument. For recent surveys see: T.G. Parkin, *Demography and Roman society* (Baltimore 1992); W. Scheidel, 'Progress and problems in Roman demography' in: W. Scheidel, ed., *Debating Roman demography* (Leiden 2001), 1-81; B.W. Frier, 'Demography' in *The Cambridge ancient history* 2nd ed. XI (Cambridge 2000), 787-816. W. Scheidel, 'Roman age structure', *Journal of Roman Studies* 91 (2001), 1-25 criticizes model life tables because they disguise the great variation around the mean. That may be true, but a mean may still be useful, depending on the purpose. The important thing is whether the variation is largely random, or according to some identifiable pattern. The importance of Scheidel's work has been that he has gone beyond aggregates, and looked at causes of death.

¹² There is controversy about the relative importance of diet and infectious disease. Scheidel 2001, op.cit. (n.11) suggests the debate is settled, but that is not quite true. See for example R.W. Fogel, 'Nutrition and the decline in mortality since 1700: Some preliminary findings' in: S.L. Engerman & R.E. Gallmann, eds., *Long-term factors in American Economic growth. Studies in income and wealth* 51 (Chicago 1985), 439-555 for an eloquent analysis of the importance of nutrition. The causality may well be rather more complex. Of course, infectious diseases are usually the executioners, but often of populations which were significantly weakened by bad nutrition. Therefore, high mortality among Roman emperors (see W. Scheidel, 'Emperors, aristocrats and the Grim Reaper: towards a demographic profile of the Roman élite', *Classical Quarterly* 49 [1999], 254-81) may be the consequence of infectious diseases fed by a badly fed population. Moreover, the rich may have eaten enough calories, but they may have eaten (and drunk) naughty things which made them unhealthier. See Fogel for the bad eating habits of the English elite, and the alcoholism of their pregnant women.

¹³ W.M. Jongman, 'Slavery and the growth of Rome. The transformation of Italy in the first and second centuries BCE', in C. Edwards and G. Woolf, eds., *Rome the Cosmopolis* (Cambridge, 2003), 100-122; W. Scheidel, 'Germs for Rome', in Edwards and Woolf, op.cit. R. Sallares, *Malaria and Rome. A history of malaria in ancient Italy* (Oxford 2002) adds to the horrors. A. Scobie, 'Slums, sanitation and mortality in the Roman world', *Klio* 68 (1986), 399-433 provides a horrific picture of

was a lethal habit, for rich and poor alike.¹⁴ In the city of Rome some 50,000 corpses had to be disposed of every year, often in pits, together with dead animals and household refuse.¹⁵ Some bodies were not even thrown into these *puticuli*. Suetonius (*Vesp.* 5.4) tells us that one day (as a portent of Vespasian's future power) a stray dog came in when the future emperor was having breakfast, to drop a human hand from the cross-roads under the table. When Martial (10. 5. 11-12) recounts the fate of a beggar dying in the streets of Rome, and surrounded by dogs and vultures, the point of the story is whether the poor man will be eaten dead or alive. Of the skeletons at a Roman cemetery at Cirencester, more than half were gnawed by dogs.¹⁶ A tomb on the Via Appia was not for everyone. Few societies have such disregard for their dead as to treat them as waste. People were not in short supply.

The standard of living of most Romans was and remained low. High mortality is an obvious indicator, as is the unbalanced diet of the masses. As a sombre Peter Garnsey wrote: 'accounts of the diet and health of ancient classical societies have generally been unrealistically favourable.'¹⁷ Bread itself was a luxury compared to porridge, and only afforded by Rome's conquest of Sicily. Food counted for most of popular private expenditure, and cereals provided the bulk of the calories in this diet.¹⁸ Rome was and remained an agricultural economy. Not only was consumer demand mostly for agricultural products, but agriculture also occupied most of the labour force. Both aggregate demand and supply were governed by the biological logic of hungry mammals and unyielding and unpredictable food crops.

This low standard of living was not for all. The increasing wealth of the elite and the emperor was both stupendous and unchallenged. Social

the filth and stench of that 'other antiquity'. It should be read by anyone who may feel some scepticism about antiquity as an example for our time, and who needs some revolting anecdotes.

¹⁴ Scheidel 1999, op.cit. (n.12) for the mortality of the rich.

¹⁵ Hopkins 1983, op.cit. (n.11), ch 4 for thick description of death in Rome. The figure of 50,000 assumes a stationary population of one million, and a life expectancy at birth of twenty years. Reality was probably worse. In Jongman, op.cit. (n.13) I argue that Rome needed a large number of immigrants just to maintain its size. Therefore, people came to Rome, to die.

¹⁶ A. Mc Whirr, et al., *Romano-British cemeteries at Cirencester II* (Cirencester 1982), 194 f. I owe this and other examples to Scobie 1986, op.cit. (n.13).

¹⁷ P. Garnsey, *Food and society in classical antiquity* (Cambridge 1999), 60.

¹⁸ W.M. Jongman, 'Roma II: Bevölkerung und Wirtschaft der Stadt Rom, C Lebensmittel versorgung', in H. Cancik & H. Schneider, eds., *Der Neue Pauly. Enzyklopädie der Antike X* (Stuttgart/Weimar 2001), 1081-1083 and A. King, 'Diet in the Roman world: a regional inter-site comparison of the mammal bones', *Journal of Roman Archaeology* 12 (1999), 168-202 for the nuances to this blunt generalization.

inequality was large and extended well beyond the inequality of incomes. Access to both criminal and civil justice was differentiated between status groups. Slaves had few rights, but increasingly the same was true for ordinary citizens. The great divide was between those who owned land, and those who did not. High population density had made land scarce and expensive, and labour abundant and cheap. The wealth of the elite has disguised the poverty of the masses. When modern historians imagine what it was like to be a Roman, they too easily imagine themselves as senators.

This bleak picture did not change appreciably over time. Perhaps some periods showed mildly improved conditions, but others showed possible deterioration. In the long run, the trend was probably neither considerably up nor down. Even a small *per annum* growth of *per capita* incomes should have shown large and unmistakably visible changes in standards of living after a few centuries.¹⁹ A half percent growth would have increased *per capita* incomes twelve fold after five hundred years. A one percent annual growth, often viewed as a minimum for modern economic growth, increases *per capita* incomes 144 times over this same period. I do not think anyone would argue that that ever occurred. Technology changed little: it made abundant use of labour that was cheap as result of population pressure and legal oppression. Rome was and remained what has been termed an organic economy, without the technology to use fossil fuels for heat and power.²⁰

The spell of Moses Finley

Ancient Rome presents us with two faces, one of extraordinary achievement, and one of stagnation and underdevelopment. We need not be surprised that scholars have wildly different views of this economy.²¹ I want to argue that current debate on the Roman economy is flawed because it attempts to choose between these two faces of Rome, between ‘achievement’ and ‘underdevelopment’. The so-called ‘modernists’ are impressed by Rome’s achievement; deep in their hearts they cannot accept that such an impressive state could have an underdeveloped economy. The so-called ‘primitivists’ see the stagnation, and their minds are filled with anthropology and images of small-scale pre-market societies in Polynesia *vel sim.* The debate has now reached something of a stalemate; neither side has had much new to say in

¹⁹ Cf. R.P. Saller, ‘Framing the debate over growth in the ancient economy’ in: W. Scheidel & S. von Reden, eds., *The ancient economy* (Edinburg 2002), 251-269.

²⁰ E.A. Wrigley, *Continuity, chance and change. The character of the Industrial Revolution in England* (Cambridge 1988).

²¹ Scheidel & von Reden 2002, op.cit. (n.19), for the most recent survey.

recent years, and neither side has convinced the other. I want to argue that this is so because even Finley's 'modernist' critics have been spellbound by his terms of the debate. I also want to argue that they are wrong.

Finley's critics agreed with him that the scale and status of trade and manufacturing were the crucial group of variables. Finley had argued that antiquity was underdeveloped and fundamentally different from some other societies, and in particular from medieval and early-modern Europe, because it lacked 'an enormous conglomeration of interdependent markets'.²² In antiquity, economic behaviour was governed more by the value systems of social groups than by economic rationality (thus precluding the use of modern economic theory for the analysis of the ancient economy). The prevailing value system largely excluded the elite from trade and manufacturing. As a consequence, and in contrast to the later history of Europe, trade remained the domain of people of low status without the means to realize the potential of commercial growth. Ancient cities were 'consumer cities' rather than 'producer cities'.

Criticism has largely been empirical rather than conceptual. Finley's critics pointed to what are, in their view, clear examples of (sometimes indirect) elite involvement, and of comparatively large-scale trade and manufacturing. The most outspoken critics have often been historians of the Roman Empire, who, perhaps not surprisingly, have found it harder than many historians of archaic and classical Greece to accept the 'primitivist' model of *the ancient economy*.²³ Finley's critics, however, tried to play a game they could not win. The more examples of large-scale trade and manufacturing they recounted, the harder it became to explain the ultimate lack of modernization. The Roman world did not have an Industrial Revolution; instead it fell.²⁴

Ironically, both Finley and his critics also played the wrong game. They focussed on the scale and status of trade and manufacturing in antiquity because they shared the belief that the later modernization of the European

²² Finley 1985, op.cit (n.9), 22.

²³ But see E.E. Cohen, *Athenian economy and society: a banking perspective* (Princeton 1992).

²⁴ Historians of Late Antiquity have tried to deny that the Roman Empire fell, or even declined: it just transformed. They are right to insist that change was complex, and not overnight. To deny the decline is perverse, however. For amusing recent controversy see the responses to J.H.W.G. Liebeschuetz, 'The uses and abuses of the concept of "decline" in later Roman history, or Was Gibbon politically incorrect?' in Luke Lavan, ed., *Recent research in late-antique urbanism*, Journal of Roman Archaeology, Suppl. Series 42 (Ann Arbor 2001), 233-245, plus following pages for responses. See now M. McCormick, *Origins of the European economy. Communications and commerce, AD 300 - 900* (Cambridge 2001) for a new comprehensive synthesis.

economy was due to the emergence of a commercial bourgeoisie and to the increased division of labour between town and country. Finley's *The ancient economy* has been so important precisely because it gave us a view of the ancient economy in that wider perspective, and gave ancient history its rightful place in the intellectual debates of our times. Sadly, few critics have had such helicopter vision. Sadly, also, I fear that Finley's view of where the ancient economy stands in world history is ultimately wrong. The man who argued that first and foremost is H.W. Pleket.²⁵ He has consistently shown that it is wrong to think of mediaeval and early modern Europe as more highly developed than the Roman world. He is the champion of a *longue durée* which includes classical antiquity, and which, with perhaps a few exceptions such as Holland, only ends somewhere in the late eighteenth or early nineteenth century.

Inevitably, therefore, the debate on the ancient economy has had an – often largely implicit – comparative historical component. It assumed that we know what caused the later growth and modernization of the European economy (the growth of a commercial bourgeoisie, and of trade and markets in manufactured goods), and looked to those parts of the economy for an assessment of Roman achievement. Some, the so-called 'primitivists', said trade and manufacturing were of small scale and low status. Others, the so-called 'modernists', said that, really, the scale and status of trade and manufacturing were rather more substantial. But what if the later economic modernization and growth of the European economy actually had rather different causes, and a different course? That, indeed, is the drift of much recent scholarship on European economic history. Robert Brenner and Jan de Vries, for example, have in quite different ways drawn our attention to rural social relations and changes in agriculture.²⁶ Sir Tony Wrigley has once again insisted on the essential discontinuity of modern economic change.²⁷ For him, the Industrial Revolution is both industrial and revolutionary. Therefore, we are now in a different game, with different goals. If trade, traders and markets mattered less to the later modernization of the European

²⁵ H.W. Pleket, 'Wirtschaft', in W. Fischer, et al., eds., *Handbuch der Europäischen Wirtschafts- und Sozialgeschichte* I: F. Vittinghoff, ed., *Europäische Wirtschafts- und Sozialgeschichte in der römischen Kaiserzeit*. (Stuttgart 1990), 25–160; W.M. Jongman & M. Kleijwegt, 'H.W. Pleket, epigraphist and comparative historian', in W.M. Jongman & M. Kleijwegt, eds., *After the past. Essays in ancient history in honour of H.W. Pleket*. (Leiden 2002), ix–xxiv.

²⁶ R. Brenner, 'Agrarian class structure and economic development in pre-industrial Europe', *Past and Present* 70 (1976), 30–75; J. de Vries, *The Dutch rural economy in the golden age, 1500–1700* (New Haven 1974).

²⁷ Wrigley, 1988, op.cit. (n.20).

economy, their small scale and low status also matter less for our understanding of the ancient economy. Ancient historians may have wasted their time on the wrong questions.

Exchange and the *longue durée*

With the growth of the Roman Empire, a much larger economic system emerged than had existed before. The spoils of empire began to be fed into the Italian economy, allowing an unprecedented growth of cities and, undeniably, more trade. Particularly expressive have been two famous graphs from Keith Hopkins' article on taxes and trade.²⁸ In one, he shows the enormous growth in Roman silver coinage in the Late Republic. In the other, he plots the rise (and later decline) of Roman shipping in a count of the number of dated shipwrecks per period. How did this increased economic integration and exchange transform the economy, and did it generate growth and development? Did it allow (at least some parts of) the Roman Empire to escape some of the niggardliness of nature?

What I want to do is inspect three instances where this may have been the case. The first is in agriculture. Did the growth of a large Italian urban market for food transform Italian agriculture? The second is textile manufacture. Did the growth of an urban market stimulate the emergence of urban manufacturing for external markets of a kind witnessed in medieval and early-modern Europe? Third, does the increased volume of Roman coinage point to higher levels of monetization and to a larger volume of transactions? What I shall try to argue in all three cases is that we would be wrong to underestimate the scale and complexity of the Roman economy. However, I also want to argue tentatively that what we have is not quite economic growth and development either. In each case, I shall argue that what we see has little to do with Adam Smith's eulogy on the benefits of division of labour and exchange. The Empire was a large unit, so the Roman economy was large and complex. It did not, however, obviously escape the limits to growth imposed by nature and technology.

Agriculture was and remained the most important sector of the Italian economy. Some scholars have argued in recent years that Roman urbanization and the integration of the Roman economy created scope for specialized and market oriented agriculture. The city of Rome in particular,

²⁸ K. Hopkins, 'Taxes and trade in the Roman Empire (200 B.C.- A.D. 400)', *Journal of Roman Studies* 70 (1980), 101-125, esp. 109 and 106.

they argue, was a huge market encouraging the specialized production of vegetables, wine and oil.²⁹ Indeed, it belongs to the stock of traditional knowledge taught by all of us that, from the late Republic, large tracts of Roman Italy were turned into vineyards owned by the rich. For Hopkins, that was one of the economic advantages of Roman imperialism. However, I think the model is wrong, and fatally dependent on tendentious literary sources.³⁰ Instead, we should try to estimate what was a probable maximum demand for wine, and see how that could be produced. The advantage of the methodology is that we do not need ancient sources for what are essentially biological parameters. Of course these are only rough estimates. Yet, with them the range of the possible is often much narrower than we might be able to establish from ancient sources. The total thirst of the city of Rome, for example, may have been satisfied from an area of about 50000 hectares of vineyards. That is an area of about 23 km square. For all of Italy, under average Roman conditions about 5% of agricultural land in Italy was enough to produce a bottle a day per Italian adult. Therefore, it is unlikely that Italy was ever transformed into one large vineyard.

Roman agriculture was undoubtedly quite sophisticated. Members of the elite wrote manuals on estate management, and small farmers tended their land with great dedication. Every traveller to the Mediterranean region has seen the ancient terracing of now barren and unused hillsides, bearing witness to the hunger for agricultural land, and the toil required. Agriculture was able to feed a large population, and that was its great achievement. In some areas of the Empire it could feed populations up to about 200 people per square kilometre.³¹ In Egypt, agricultural output was even higher.³² And yet, there was a chilling downside. In recent years, scholars including myself have argued that many Roman peasants did not normally use oxen for the heavy work.³³ Economically, their plots were too small to support an ox (the terraces to which I just referred offered physical obstacles as well). The labour savings an ox would have brought were meaningless to peasants

²⁹ K. Hopkins 1978, op.cit. (n.2), chapters I and II; Hopkins 1980, op.cit.(n.28); Keith Hopkins, 'Rome, taxes, rents and trade', *Kodai. Journal of Ancient History* 6/7 (1995/1996), 41-75, now conveniently reprinted in Scheidel & Von Reden 2002, op.cit. (n.19), 190-230. Also, H.W. Pleket, 'Rome: a preindustrial megalopolis', in Th. Barker & A. Sutcliffe, eds., *Megalopolis: the giant city in history* (London 1993), 14-35, and N. Morley, *Metropolis and hinterland: the city of Rome and the Italian economy* (Cambridge 1996).

³⁰ More extended argument in Jongman, op.cit. (n.13).

³¹ Jongman 1988, op.cit. (n.8), esp. 131-137.

³² Scheidel 2001, op.cit. (n.11), 224 ff. for yields and 115 for population density.

³³ Jongman 1988, op.cit. (n.8), 83-4, 152, 201; W.M. Jongman 'Viehzucht: Rom' in: *Der Neue Pauly*.

whose own labour and that of their families was not fully employed, and available at zero cost. So rather than ridding themselves of part of their family and improving their labour productivity by using an ox, they and their family worked the land with spades and hoes. Thus they probably achieved remarkable yields per hectare, growing cereals in almost horticultural fashion, but at the price of long and hard toil. It is a model which demonstrates that ceilings on production can be breached, but at a price.³⁴ That price was paid when circumstances required it, when, for example, in the family lifecycle adolescent children needed much food, and when their labour was freely available. High production per hectare was achieved at the expense of labour productivity and standard of living.

Roman agricultural underdevelopment should in my view be analysed most of all in terms of various physical constraints. Rather than worry about the mentality and rationality of Roman landowners, we should, I think, be concerned with the physics and biology of low returns in agriculture within particular climatic systems and on specific soil types, with variability due to bad weather, with the effects of malnutrition and disease, or with the dependence on organic sources of heat and power. In short, with man's inability to reach much beyond other mammals and overcome the rule of nature.

Of all branches of the medieval and early-modern economy, textile manufacturing and trade have been most important for the debate on economic growth and development. Yet, the Roman textile industry has not been served well by ancient historians. I have argued recently that, unlike in medieval and early-modern Europe, the Roman textile industry was not concentrated in a few centres which specialized in production for distant markets.³⁵ Given prevailing technology, there were no economic advantages to such concentrated production. So, instead, production of cloth was distributed across the many urban centres of consumption, allowing close contact with consumers. What was concentrated, however, was the production of better quality raw wool in areas of relatively low population

³⁴ P. Halstead, 'Traditional and ancient rural economy in Mediterranean Europe: plus ça change?', *Journal of Hellenic Studies* 107, 77-87, now reprinted in Scheidel & Von Reden 2002, op.cit. (n.19), 53-70, for the best analysis of the great variation that was possible.

³⁵ W.M. Jongman, 'Wool and the textile industry of Roman Italy', in E. Lo Cascio, ed., *Mercati permanenti e mercati periodici nel mondo Romano. Atti degli incontri Capresi di storia dell'economia antica (Capri 13-15 ottobre 1997)*. Pragmateiai 2 (Bari 2000), 187-197. See now also the thoughtful contribution by S. Dixon: 'How to count them if they're not there? New perspectives on Roman cloth production' *Opuscula romana* 25-26 (2000-2001), 7-17.

density, and generous pastures. The trade that there was, was of wool rather than cloth.³⁶

This goes to show that the Roman Empire was not a conglomerate of Polynesian islands, but it also shows that more trade and division of labour are not necessarily economically advantageous. What matters is the balance between the costs and benefits of increased specialization. Both are physically constrained by nature, and technological possibilities. Of course, pointing to such constraints does not explain everything (they could be overcome, and ultimately were – in recent times) but serves to underscore that what people did made sense. There were no easy fixes.³⁷

The integration of production and consumption into a system of interdependent markets has been an important part of the debate on the ancient economy. Was it an integrated market economy, or not? Part of that discussion is about the goods themselves, of course. Was there much division of labour and specialization between regions, and were prices interconnected? With prices, we enter the other part of the discussion: how monetized was the Roman economy?³⁸ Monetary integration greatly facilitates market integration. As we have seen, Keith Hopkins argued that the growth of the Empire in the late Republic witnessed an enormous monetary expansion. Indeed, in his *Money and government* Richard Duncan-Jones arrives at the important conclusion that Rome's monetary stock was much larger than we ever thought, and was perhaps equal to between one and two times (our best estimates of) Gross National Product.³⁹ Moreover, of the value of this monetary stock some two-thirds was in gold coins. Whatever the precise value of such estimates, it is now more difficult to maintain that Rome was an under-monetized economy. Here, a historical comparison may be revealing. In the seventeenth and eighteenth century, the money supply of the Dutch Republic was largest of any European economy:

³⁶ This view has now been challenged by F. Grelle & M. Silvestrini, 'Lane apule e tessuti canosini', in *Epigrafia e territorio. Politica e società. Temi di antichità romana VI* (Bari 2001), 91-136.

³⁷ W.M. Jongman, 'Hunger and power. Theories, models and methods in Roman economic history', in A.C.V.M. Bongenaar, ed., *Interdependency of institutions and private entrepreneurs. Proceedings of the second MOS symposium, Leiden 1998*. Nederlands Historisch-Archaeologisch Instituut te Istanbul: MOS Studies 2 (Istanbul 2000), 259-284, esp. 280 for the need to avoid prescriptive patronizing of our ancestors.

³⁸ M.H. Crawford, 'Money and exchange in the Roman world', *Journal of Roman Studies* 60 (1970), 40-48 is the primitivist classic. Cf. Hopkins 1980, op.cit. (n.28) and Idem 1995/1996, op.cit. (n.29); S. von Reden, 'Money in classical antiquity: a survey of recent literature' *Klio* 84 (2002), 141-174.

³⁹ R.P. Duncan-Jones, *Money and government in the Roman Empire* (Cambridge 1994), esp. 168-170; Hopkins 1995/1996, op.cit. (n.29), 45-48.

it may have just exceeded half of Gross Domestic Product. To the best of our knowledge, therefore, Roman money supply may be unrivalled in any period of European pre-industrial history.

Perhaps counter-intuitively, however, I want to maintain that this large money stock reflects Rome's lack of development.⁴⁰ Roman money supply was far larger than was needed for ordinary transactions. Moreover, the gold coins were too valuable for that: an *aureus* was worth HS 100, which would buy almost a year's subsistence for any average Roman. The gold coins were largely held and used by the rich. So why did the Romans hold such large cash reserves in (gold) coin? Of itself, holding idle cash is not attractive, unless there are specific reasons. Economists distinguish three motives for the demand for money: the transaction motive, the precautionary motive and the speculative motive (which actually refers to the aversion to be forced to speculate with one's assets). What I want to argue is that it was precisely the dangers and uncertainties of pre-industrial life that motivated the Roman elite to hold large cash balances, rather than the need to facilitate a very high volume of ordinary transactions of consumer goods and services.

Elite mortality was high: as Richard Saller has recently shown, perhaps a third of Roman real estate was held by orphans.⁴¹ Mortality was also unpredictable: either there were too many children, or there were too few because they had all died. Therefore, long lineages were real exceptions. The long-term stability of high mortality and high natality at population level hid great discontinuity at the level of individual families. Without primogeniture (and with daughters receiving substantial inheritances and cash dowries as well), estates had to be divided between children. Property changed hands frequently, and was often split up. That required a lively real estate market, and large sums of money to settle inheritances and property deals.⁴² With some of the family capital in cash, such divisions were far easier. Since inherited wealth provided the bulk of elite income, the value of such transactions was large relative to national income.⁴³ It paid to hold large

⁴⁰ More extended argument in W.M. Jongman, 'A golden age. Death, money supply and social succession in the Roman Empire', in E. Lo Cascio, ed., *Credito e moneta nel mondo Romano* (Bari, forthcoming).

⁴¹ Saller 1994, op.cit. (n. 11), 189 f.

⁴² J. Andreau, *Les affaires de monsieur Iucundus* (Rome 1974), esp. 116 argues that disposal of property and inheritances in particular were important sources for the auctions of the Pompeian auctioneer L. Caecilius Iucundus. Also Jongman 1988, op.cit. (n.8), 216-224.

⁴³ A numerical example will illustrate this clearly. If the annual return on elite landed wealth was 5 %, and if their estates were sold once every twenty years, the annual value of these property transactions equaled annual elite estate income.

cash balances as a precaution, the more so since the banking system was not quite capable of coping with these large sums. Selling assets when necessary may not always have been an attractive alternative. When many members of the elite experienced a need for cash at the same time, assets could rapidly lose their value (the 'speculative motive'). The enormous volume of gold coin was needed because Rome's elite was stupendously rich and very mortal.

Growth and productivity

Ancient economic historians have been wrong to narrow their discourse to one on trade and markets. There is much more to say about the Roman economy than trade and traders, and there is much more that is important for the real question: how well did the Roman economy succeed to satisfy the wants of the Roman people? Did it do this better or worse than other pre-industrial European economies, or just differently? Did it get better at this, and if not, why not? In short, the debate is really about economic growth, and that involves a much wider range of problems than ancient historians have allowed.⁴⁴ However, the debate on the ancient economy has not only been marred by the selective vision of modernists and primitivists who could only see their favourite half of ancient reality. It has also been marred by terminological and theoretical confusion about precisely the concept of growth. Increases in aggregate production, a growth in the area under agricultural cultivation, or a growth in the production and diffusion of particular goods and services that may arguably serve as markers for the economy at large, have all been quoted as indicative of some measure of economic growth. Indeed, the scale of things Roman was often large.

For an economist, such expansion in the scale of economic life is not necessarily the same as economic growth and development. For that, two conditions must apply. The first is a sustained increase in aggregate production and consumption. The second is that this growth in national income outstrips population growth; as a result *per capita* incomes increase. This rise in the standard of living of the population must continue over a longer period of time, and a large proportion of the population must benefit from this increase in average income.

⁴⁴ For this, P. Millett's 'Productive to some purpose? The problem of ancient economic growth', in D.J. Mattingly & J. Salmon, eds., *Economies beyond subsistence in the classical world* (London/New York 2001), 17-48 is fundamental, and should really be the starting point for all further discussion of the ancient economy. Also Saller 2002, op.cit. (n. 19), and P. Temin, 'Growth theory for ancient historians', in W.M. Jongman & W. Scheidel, eds., *Debating the Roman economy* (forthcoming).

Historically, and until the Industrial Revolution, these conditions did not apply at the same time.⁴⁵ Economies expanded when their populations grew and worked harder, to bring more land under cultivation, and work that land more intensively. In the thirteenth century in Europe, aggregate production and consumption were higher than they had probably ever been, and would be for quite a long period. It is wrong, however, to call this expansion growth, because such periods of expansion coincided with a declining standard of living for the mass of the population. Land had become quite scarce, and labour abundant. So rents were high, wages low, and social inequality large. In the fourteenth century, therefore, the Black Death was a blessing in disguise for the survivors. It made labour scarce, and land abundant. So rents plummeted, wages rose, and social inequality was reduced. However, to call such contraction economic growth is just as wrong.

Behind this conceptual confusion about growth lurks confusion about the concept of productivity. Productivity is commonly though incorrectly equated with production. People write of increases in agricultural productivity when they mean to say increases in aggregate agricultural production. Productivity as a concept in economic theory, however, is always related to a specific factor of production, be it labour, land or capital. So, marginal labour productivity denotes the extra output from using one extra unit of labour - with an unchanged amount of land and capital, the other factors of production. The tragedy of human life is that such marginal productivities tend to decline. So even if aggregate production can be increased by using more land, labour and capital, output does not increase by the same proportion as input. Moreover, the supply of factors of production is not equally elastic: the supply of land in particular is highly inelastic. Once all attractive land has been brought under cultivation, only less attractive (*i.e.* less fertile, or inconveniently located) land remains. Thus, extra demand for land largely increases its price, rather than the quantity on offer. Therefore, beyond quite low density levels, population pressure changes the proportions in which factors may be used, and the ratio of labour to land in particular. However, the more labour we use on a given piece of land, the less extra output we may expect from each additional unit of labour. This means that farmers can increase their production, but only at the expense of declining labour productivity. That is important, because, theoretically, wages are

⁴⁵ Jongman 1988, op.cit. (n.8), 76 f., 151 f.; Jongman & Kleijwegt 2002, op.cit. (n.25).

equal to this marginal productivity of labour. A higher output is realized at the expense of a lower standard of living for labour.

In principle there are two ways to avoid this trap. The first is to use more of the other factors of production. Normally, that is not possible with land, as its supply is so inelastic. Here, the only possibilities were misappropriation and conquest; these were indeed effective and unquestioned parts of ancient life. A more 'modern' alternative would have been to use more capital. For an economist like Walt Rostow, that was in fact the crucial change in the beginning of the Industrial Revolution.⁴⁶ In pre-industrial agriculture, however, the scope for this is limited. One way would be to sow more seed. By doing this, farmers may increase the production per hectare a bit (at the expense of the sowing ratio).⁴⁷ More and better draught animals probably represent the best opportunity, but they also eat food and thus compete with humans, and members of a peasant's household in particular.⁴⁸ We shall return to them.

The second way is improved technology, or as the economist would say, a change of the production function. With improved technology, the same amounts of land, labour and capital can produce more output. This can be from improved organization and division of labour, but also from technological innovation of the more physical kind such as the invention and introduction of the steam engine. Here, I have an admission to make: for years I taught that the first was really much more important than the latter, and that change, therefore, was slow. Thus, the Industrial Revolution was neither industrial nor revolutionary. However, as any archaeologist and ancient historian knows, it is dangerous to pronounce on a site if you have never actually seen it. So when I was on a visit to Sheffield I decided to visit some museums of industry. I was overwhelmed by the images of radical change in the technology and organization of production. Within a period of no more than a few decades the Sheffield metal industry had changed from a mostly artisanal technology and organization to big factories with gigantic machines. For me, that was a highly visual and dramatic mark of the end of the world of the *longue durée*. Shortly afterwards, I read Sir Tony Wrigley's *Continuity, chance and change*, which gave the argument and the analysis to

⁴⁶ W.W. Rostow, *The stages of economic growth: a non communist manifesto* (Cambridge 1993, 3rd ed.).

⁴⁷ This shows that the seed:yield ratio is not just a measure of technological achievement, but also of intensification. A high ratio may indicate great achievement, but also a choice for low-intensity farming.

⁴⁸ Jongman, op.cit. (n.33).

match my gut feeling.⁴⁹ He demonstrated that the change was indeed rapid, and depended on the introduction of fossil fuels as sources of heat and power.

Political economy

The Roman economy, however, did not escape the constraints of the *longue durée*. In many respects the lives of ancient Romans were not unlike those of their twelfth or eighteenth century descendants. Life was brutish and short, hunger was an ever-present danger, and diets were mostly simple. Work was hard, and social inequality was large. Agricultural technologies and yields did not change much over the course of many centuries.

I also think, however, that that is not where the story ends. After all, there were also large differences with medieval or early modern Europe. As I argued earlier, the Roman world shows some extraordinary achievements such as a high population density in many areas of the Empire, unprecedented urbanization or political and economic integration. So, the Roman world was different, but not a primitive ancestor - on the contrary. The focus on the scale and status of trade and manufacturing is unfortunate because it cannot explain what sets Rome apart: its extraordinary achievements within what clearly remained a pre-industrial and underdeveloped economy.

What we need is a model that allows us to see both sides of the ancient reality, rather than one part at the expense of the other. What we need is a model that makes sense of precisely the combination of Roman achievement and underdevelopment. What I now want to illustrate tentatively is that if we can hardly underestimate the scale of Roman achievement, it was scale rather than development which marked the economy of the Roman Empire: under certain conditions pre-industrial economies can produce momentous achievements, but these were not the beginnings of growth and development - on the contrary. I shall also try to argue and illustrate that the scale of the Roman economy has everything to do with the enormous size of the Roman empire, unique in pre-industrial European history. It was the scale of the political unit that allowed for the scale of at least some aspects of the economy.

Roman urbanization was and remained unprecedented for a pre-industrial state, an observation comfortably ignored by most 'primitivists'.

⁴⁹ Wrigley 1988, op.cit. (n.20).

Why could Rome be so urbanized? A first reason may be that its cities were primarily based on landed wealth. As we know, administratively, town and country were one. Even when we allow for exceptions and some modernist revisions, most of us will agree that for a long time, the landowning elite and the urban elite were largely one and the same social group. It was landed wealth that was the basis of the really large fortunes, in Rome, and, we may add, in later pre-industrial Europe. Roman cities were large and many because they were the central places of the power system, and were not, as Postan said of medieval cities, 'non feudal islands in a feudal sea'.⁵⁰ Roman urbanism could be so substantial precisely because it drew on the exploitation of agriculture, the central sector of the economy.

Roman cities were not only large and many, and inhabited and dominated by a different set of people, they also looked different from later pre-industrial cities. The scale of public - and sometimes private - building exceeded almost anything that was to come.⁵¹ For example, the passion for the extravagant use of water for fountains or baths was both expensive and full of political meaning for those living in a dry climate. Aqueducts were frightfully expensive showpieces of Roman engineering skill, in nearly all cases requiring imperial funding. It has recently been calculated that the Baths of Caracalla may have cost the equivalent of 120,000-140,000 tons of wheat-equivalents to build them – enough to provide a year's subsistence to more than half a million people.⁵² Many public buildings were exquisitely ornated with expensive materials: within a few centuries, the Romans quarried more marble than has been quarried in all centuries since.⁵³ The archaeology of Roman urbanism thus gains an importance well beyond the symbolic and cultural. Building is an expensive burden in any society, but

⁵⁰ M.M. Postan, *The medieval economy and society* (Harmondsworth 1975), 239. Of course this leaves questions: why did the Roman elite prefer to live together in cities (a quite lethal habit), and why did later aristocracies prefer rural isolation? Here we shall leave them aside.

⁵¹ H. Jouffroy, *La construction publique en Italie et dans l'Afrique romaine* (Strasbourg 1986); M.T. Boatwright, *Hadrian and the city of Rome* (Princeton 1987); A. Kolb, *Die kaiserliche Bauverwaltung in der Stadt Rom: Geschichte und Aufbau der cura operum publicorum unter dem Prinzipat* (Stuttgart 1993).

⁵² J. Delaine, *The baths of Caracalla. A study in the design, construction, and economics of large-scale building projects in imperial Rome*. Journal of Roman Archaeology, Suppl. Series 25 (Ann Arbor 1997), 207-226 for these and other building costs.

⁵³ Excellent surveys in H. Dodge, 'Ancient marble studies: recent research'. *Journal of Roman Archaeology* 4 (1991), 28-50; J. Clayton Fant, 'Ideology, gift and trade: a distribution model for the Roman imperial marbles' in: W.V. Harris, *The Inscribed Economy*. Journal of Roman Archaeology, Suppl. Series 6 (Ann Arbor 1993), 145-170; P.F.B. Jongste, *Het gebruik van marmer in de Romeinse samenleving* (Leiden 1995).

particularly in a pre-industrial economy with only few resources available beyond quite bare subsistence for many. The Roman building craze clearly testifies to a strong commitment on the part of its ruling elite and their emperors. Sometimes the urban poor supplied the workforce, both paid and as a community service. At other times it was convict labour, or soldiers with nothing else to do. Special building materials such as extra long wooden beams or rare marbles required an imperial *beneficium*. Distribution maps of virtually any kind of building show a recurrent pattern of a heavy concentration in the political core of the Empire: the central regions of Italy.⁵⁴ Outside this area, heavy building activity can be found where and when allegiance to Rome must be underscored, such as in provincial capitals, when an area became Roman, or when, for example, it gave the empire an emperor. Both emperors and local elites were able and willing to adorn the urban landscape.

Economically, the Empire's many cities were undoubtedly linked by some long-distance trade. Fairs and markets supplied goods from distant origins.⁵⁵ The Mediterranean provided a relatively cheap conduit for bulk transport, and for shorter distances and inland destinations Roman roads would be unsurpassed until recent times. It will not do to disregard their economic importance because they were built with military and administrative intentions; equally it would be unwise to forget that they were built because the state had to overcome the disadvantages of its large size. It had to reduce the delays in travel and in the spread of information if it wanted to survive. Its size was both a military advantage, and a drawback. For survival, it had to reduce the friction of distance, even at a high cost. Military transport and the *cursus publicus* were essential state services. That cost may in fact have been quite low: Roman roads were mostly built by soldiers who had nothing better to do.

Finally, this brings us to the exceptional character of the Roman state itself. It covered a large territory, existed for many centuries as a world empire, and represented a level of cultural homogeneity and administrative

⁵⁴ Jouffroy 1986, op.cit. (n.50).

⁵⁵ L. de Ligt, *Fairs and markets in the Roman Empire. Economic and social aspects of periodic trade in a pre-industrial society* (Amsterdam 1993) argues that Roman markets were no less important than medieval ones. That may be so (although his dossier of 'markets' often consists of fairs rather than markets), but conceptually the problem is that periodic markets probably were a sign of lack of integration, rather than the opposite. Peter Temin, 'A market economy in the Early Roman Empire', *Journal of Roman Studies* 91 (2001), 169-181 for a fascinating but at times anachronistic perspective from a modern economic historian.

sophistication that would set an example for a long time after. As Marx saw only too well, in a world without growth, increased prosperity will have to be at someone's expense. In the Roman world, this process had two strands. The first was the large social inequality within the central regions. Here, a neo-classical economic analysis such as I once gave of high rents and low labour productivity in Pompeii under high population pressure, may well provide the logic to understand how the misery of the mass of the population could go hand in hand with the wealth of the rich, and the intensity and scale of the Roman economy.⁵⁶ Population pressure had made land scarce. Therefore, landownership marked the 'haves' from the 'have nots'. The demographic forces at work in the labour market were reinforced by socio-political and legal pressures on the status of rural labour. Income and wealth were transferred from the country to the cities.

The second strand was that of Roman imperialism. Rome was the perfect warrior state. The gains in the initial phases of conquest were considerable, and sometimes even exceptional. After that, a system of quite effective taxation developed. The various estimates suggest that in the imperial period Rome collected taxes at the upper end of the range commonly found in pre-industrial societies.⁵⁷ The concentration of these resources in a single hand allowed for unprecedented concentrations of public expenditure. Something like half this public expenditure went to the army. As we have seen, because this was a professional standing army, quite a bit of this military expenditure was turned into infrastructural projects, in Italy, but most of all in the provinces. The other half of public expenditure was spent on the imperial court, on the administration of the empire, and on benefits to the population. These imperial benefits were selective. In the early Empire the city of Rome and the cities of Italy were the main

⁵⁶ Jongman 1988, op.cit. (n.8), esp. 85-95, 199-203.

⁵⁷ Jongman 1988, op.cit. (n.8), 22-23, based on estimates from Hopkins 1980, op.cit. (n.28), 119 ff., who himself calls these taxes low. See now also Hopkins 1995/1996, op.cit. (n.29) for the most recent discussion of the size and composition of public expenditure, with references to earlier contributions. The size of military expenditure is relatively secure and uncontroversial. In his work on *Money and Government*, cited above in note 39, R.P. Duncan-Jones even thinks of about 77 %, but that may be exaggerated. The magnitude of other public expenditure really is no more than a wild guess, only constrained by historical comparisons, and by the implications for the tax rate and GDP: if public expenditure was significantly less than twice military expenditure (which would be historically unusual), we must assume remarkably low taxation levels, and/or a GDP that was little more than bare subsistence for nearly all. In the same article Hopkins rightly draws our attention to the competition between rents paid to the elite and taxes paid to the state. With time, the Roman rich really grew much richer, probably partly at the expense of the state.

beneficiaries of distributions of food and money, and of public building.⁵⁸ Moreover, they were exempted from taxation. The Empire generated a major transfer of income and wealth, from the countryside to the cities, and from the periphery to the centre.⁵⁹

I want to conclude, therefore, with the working hypothesis that the achievement that there was, was mostly that of the Roman state. It was the achievement of an underdeveloped economy driven hard towards the concentrated support of one of the few world-empires of pre-industrial history.

Churchill College Cambridge, April 2002

⁵⁸ For discussion and further extensive bibliography on distributions: Jongman 1998, op.cit. (n.37); W.M. Jongman, 'Cura annonae' in H. Cancik & H. Schneider, *Der Neue Pauly. Enzyklopädie der Antike* III (Stuttgart/Weimar 1996), 234-236; W.M. Jongman, 'Beneficial symbols. *Alimenta* and the infantilization of the Roman citizen' in Jongman & Kleijwegt 2002, op.cit. (n.25), 47-80. See Jouffroy 1986, op.cit. (n.51) for public building.

⁵⁹ The state was not the only beneficiary of this transfer from the periphery to the centre. The imperial elite grew increasingly rich, and much of this wealth was due to Empire. In the earlier stages this indeed implied a transfer of income and wealth from periphery to the Italian centre. With time, the elite became increasingly less Italian. For us, it does not matter whether this was because provincials reached the senate (they did), or that senators moved their interests and residences to the provinces (they did). The result is the same: the elite became increasingly an empire-wide elite, extracting surpluses all over the Empire, and investing or consuming them locally. Hopkins 1995/1996, op.cit. (n.29), 206 ff and Jongman 1988, op.cit. (n.8), 189 for diverging accounts of the implications for the 'Taxes and trade' model. A thought experiment may be interesting. Let us assume that the provinces were taxed at 10% of their GDP, and let us assume that the capital value of provincial assets (mostly land) was ten times higher than GDP (*i.e.* I assume, for example, a GDP which is twice subsistence, and a return on investment of 5%), then taxes could be paid by an annual transfer of 1% of provincial assets. Of course, not all taxes were paid by the transfer of assets. However, the time frame implied by these figures clearly suggests that asset transfer to members of the Roman elite could easily have made a significant contribution to the payment of taxes, and could have produced an imperial aristocracy with assets all over the Empire within a period of two or three centuries. Once that had happened, taxation became a much harder job for emperors. With Hopkins, I agree that this emergence of an Empire-wide elite is what is reflected in the stupendously increased wealth of the elite.

TAX TRANSFERS IN THE ROMAN EMPIRE

By

LUUK DE LIGT

The relationships between taxes, trade and the circulation of coin have been a fashionable topic from the publication of Keith Hopkins' articles on the so-called taxes-and-trade model onwards.¹ Although the publications in question contained many methodological subtleties, their central thesis was relatively simple. The basic observation underlying Hopkins' analysis of the Roman imperial economy was that a large amount of tax money was taken from a limited number of tax-exporting provinces, such as Syria, Asia and Spain, in order to be spent in tax-consuming areas, such as Rome and the frontier provinces. Since there is no sign that the tax-exporting provinces were eventually drained of cash, it follows that they must have earned their tax money back by exporting goods either to Rome or to the peripheral parts of the empire. In short, taxation stimulated trade. According to Hopkins, taxation had the same commercializing effect within the tax-exporting provinces, as peasants had to earn the tax money they owed to the local tax collector. Finally, the need to pay taxes not only stimulated local and interregional trade but also pushed up the level of agricultural production, since the imposition of Roman taxation forced peasants to produce larger surpluses than before.

During the past two decades this model of the Roman economy has been criticized and attacked on all kinds of grounds. To start with, some have argued that most taxes were paid in kind, not in cash.² Others have pointed out that even if the Roman government did receive a large part of its tax income in cash it does not follow that money taxes were being paid at the ground level of peasant production.³ Challenging another aspect of the model, some scholars have also argued that Roman taxes bore heavily on the peasantry and caused many of them to abandon their farms. This would mean that taxation, instead of pushing up the level of agricultural production, might actually have depressed

¹ K. Hopkins, 'Taxes and trade in the Roman empire', *Journal of Roman Studies* 70 (1980), 101-125, restated with corrections in Id., 'Rome, taxes, rents and trade', *Kodai* 6/7 (1995/96), 41-75; Idem, 'Rents, taxes, trade and the city of Rome', in E. Lo Cascio, ed., *Mercati permanenti e mercati periodici nel mondo romano* (Bari 2000), 253-267.

² R. Duncan Jones, *Structure and scale in the Roman economy* (Cambridge 1990), 189-194; P. Brunt, *Roman imperial themes* (Oxford 1990), 531.

³ L. de Ligt, 'Demand, supply, distribution: the Roman peasantry between town and countryside, I', *Münsterische Beiträge zur antiken Handelsgeschichte* 9.2 (1990), 42. Cf. now Hopkins 1995/6, art.cit. (n. 1), 255-256.

it.⁴ Another group of critics has focused on the relationship between taxation, interregional trade and the circulation of coins. In his early articles on the taxes-and-trade model Hopkins claimed that an analysis of silver coins found in various provinces showed the empire's coinage to have been completely mixed, at least during the first two centuries A.D. Against this it has been pointed out that, at least for Britain and Gaul, the theory of a completely mixed coinage works only if the coin assemblages from these areas are combined, not if they are looked at separately.⁵ Thanks to the laborious investigations of Richard Duncan Jones we now also know that certain types of coin are found more often or even exclusively in certain parts of the empire, a finding that tells against the idea that coins were continually being pumped around in a well-integrated taxes-and-trade system.⁶ Duncan Jones has also argued that the whole idea of looking at silver coins is misguided, since most interregional transfers of money must have been effected using the ever-expanding imperial gold coinage.⁷ Finally, the general idea that the imposition of Roman taxes increased the amount of interregional trade has been called into question. Thus it has been pointed out that most of Hopkins' tax-exporting provinces, for example Syria and Asia, were earning large amounts of money long before the imposition of Roman rule. This suggests that although Roman taxation may have redirected existing trade flows, it did not lead to any increase in the overall volume of Mediterranean commerce.⁸ Using a variant of this approach, others have argued that even after the imposition of Roman rule in the East there remained a lively inter-urban trade that had nothing to do with the workings of any taxes-and-trade mechanism. The general message is that Rome looms larger in the Hopkins model than it did in reality.⁹

Although some of these criticisms will be touched upon below, the principal aim of this article is to contribute to the ongoing debate by looking at some of the techniques that were used to transfer tax money from one part of the empire to another. The premise underlying this inquiry is, of course, that there was such a thing as a Roman taxes-and-trade system, although it does not

⁴ B.D. Shaw, 'Soldiers and society: the army in Numidia', *Opus* 2 (1983), 149-150.

⁵ R. MacMullen, *Corruption and the decline of Rome* (New Haven/London 1988), 231 n. 139.

⁶ R. Duncan Jones, 'Mobility and immobility of coin in the Roman empire', *Annali dell'Istituto Italiano di Numismatica* 36 (1989), 121-137; Idem, *Money and government in the Roman empire* (Cambridge 1994), 172-179.

⁷ Duncan Jones 1990, art.cit. (n. 2), 45. Cf. now Hopkins 1995/6, art.cit. (n. 1), 264-266.

⁸ Duncan Jones 1990, art.cit. (n.2), 43; cf. P. van Minnen, 'Landbouw en het "taxes-and-trade model" in Romeins Egypte', *Lampas* 31 (1998), 294.

⁹ H.W. Pleket, 'Models and inscriptions: export of textiles in the Roman empire', *Epigraphica Anatolica* 30 (1998), 117-128.

follow that this system embraced each and every part of the Roman world. The coin evidence assembled by Duncan Jones, for example, makes it difficult to maintain that the frontier provinces were part of a system in which reciprocal flows of taxation and trade created completely homogeneous coin populations throughout the empire.

By way of introduction to the theme of this paper, I would like to begin by calling attention to the fact that the Hopkins model is strikingly similar to the model that another Cambridge historian, Christopher Bayly, has proposed for the economy of the Mughal empire during the 17th and early 18th centuries. The model in question is to be found in Bayly's *Rulers, townsmen and bazaars*, which contains the following passage:

The extent to which revenue demand 'primes the pump' for trade has long been recognised. Peasant farmers and zamindars needed to sell more of their crops on the market in order to get cash to pay the revenue or rent. But to an equal extent, trade 'primed the pump' for the revenue demand. The flow of coin from one area to another dried up unless trade gave to the periphery the coin with which to pay the centre ... In effect, Bengal and Gujarat had to sell more of their goods to the centre in order to 'buy back' the bullion which was flowing there as tribute. Otherwise a continual outflow of bullion would soon have made it impossible for the outlying provinces to pay the revenue at all.¹⁰

It will be obvious that Bayly is here positing the existence of a taxes-and-trade circuit closely resembling that of the Hopkins model. It is not my intention here to discuss the similarities between the two models in detail. Instead I shall be looking solely at the way or ways in which transfers of taxes were effected in the two empires to which these models refer.

An intriguing aspect of Bayly's description of the taxes-and-trade system of Mughal India is that it assigns an important role to the transfer of money by means of paper transactions, obviously because the author sees the physical transportation of coin as a high-risk operation.¹¹ From Bayly's book it appears that the annual outflow of taxes from north-east India was made possible by the export of fine grains and luxury textiles. The merchants of Bengal took these

¹⁰ C.A. Bayly, *Rulers, townsmen and bazaars. North Indian society in the age of British expansion, 1770-1870* (Cambridge 1983), 63-64.

¹¹ Bayly 1983, op. cit. (n.10), 64.

goods to the heartland of the Mughal empire, where they sold them in Delhi, Agra and Lahore. Rather than travelling back with their earnings in cash, however, these merchants handed over their money to professional bankers from whom they obtained *hundis*, that is to say payment orders that are often referred to as bills-of-exchange but are better described as cheques.¹² The merchants then took the *hundis* back with them to the coastal cities of Bengal, where local bankers would cash them. Now these same bankers routinely received tax money from tax farmers who were under an obligation to send money to the capital cities in central north India. What actually happened, however, was that the central government was paid with the money that the Bengal merchants had handed over to the bankers in these capital cities. In short, the taxes due from Bengal were paid largely with money that had never left Delhi, Agra or Lahore, while the merchants of Bengal ended up with cash that had never left the commercial cities of the east coast. As a result the risks surrounding the transportation of cash over long distances could largely be avoided.¹³

Another pre-industrial empire showing evidence of a reciprocal flow of taxes and trade is China during the T'ang dynasty (7th to 10th centuries). During this period a lively interregional trade developed between south east China and the city of Ch'ang-an, the western capital of the T'ang dynasty. The main artery of this trade was the T'ung-chi canal, an artificial waterway hundreds of kilometres long that connected the Yangtze and the Yellow River. The main purpose of this canal was to make possible the transportation of supplies to the armies of central and northern China.¹⁴ It was, however, also used for purely commercial purposes, for instance by southern tea merchants who shipped their merchandise north via the T'ung-chi canal and then

¹² For discussions of the *hundi* system and its history, see e.g. L.C. Jain, *Indigenous banking in India* (London 1929), 70-83; B. Bhargava, *Indigenous banking in ancient and medieval India* (Bombay 1934), 131-152; I. Habib, 'The system of bills of exchange (*hundis*) in the Mughal Empire', in S. Chandra, ed., *Essays in medieval Indian economic history* (New Delhi 1987), 207-221; S. Subrahmanyam, 'Introduction', in Idem, *Money and the market in India, 1100-1700* (Delhi 1994), 31-35.

¹³ This is not to suggest that the physical transportation of money became a phenomenon of marginal importance in the Mughal empire. On the continuing importance of cash transactions in Mughal state finance, see J.F. Richards, 'Mughal state finance and the premodern world economy', *Comparative Studies in Society and History* 23 (1981), 285-309 (also in *The Indian Economic and Social History Review* 25 [1988], 475-491). Richards' arguments are not entirely refuted by K. Leonard, 'Indigenous banking firms in Mughal India: a reply', *Comparative Studies in Society and History* 23 (1981), 309-313.

¹⁴ M. Elvin, *The pattern of the Chinese past* (Stanford 1973), 54-59; G. Rozman, *Urban networks in Ch'ing China and Tokugawa Japan* (Princeton 1973), 24.

westward along the Yellow River to Ch'ang-an.¹⁵ For the purposes of this paper, it is interesting to see what happened to the profits made by these merchants in the capital city. According to the Chinese-American historian Yang

[t]he tea merchants wished to transfer profits realized from the sale of tea in north China back to the tea-producing south, but found the shipment of cash both cumbersome and perilous. The same problem of transfer faced the provincial authorities who were obliged to send monetary tribute and gifts to the imperial court. These authorities maintained in the capital liaison offices known as *chin-tsou yuan*, "memorial-presenting courts", part of whose duties was to expedite presentation of these gifts. The transfer problem was solved by the institution "flying money," whereby merchants deposited cash with the "memorial-presenting courts," in return for vouchers guaranteeing reimbursement in designated provinces. Thereby a double transfer of cash was realized without an actual physical transfer.¹⁶

In other words, not only Mughal India but T'ang China too had a taxes-and-trade system that was characterized by extensive circulation of goods coupled with a limited circulation of cash.

Now all this is very similar to what Hopkins says in his most recent articles on the taxes-and-trade model. Originally Hopkins perceived a connection between Roman taxation and the circulation of coins, especially silver coins. As we have just seen, the existence of this specific connection has been questioned by Duncan Jones. This may explain why Hopkins now seems inclined to attach more importance to credit. In one of his recent articles it is asserted, for example, that 'transfers between provinces could be made by balancing credits between bank accounts'.¹⁷ If this is true, the fiscal system of the Roman empire must have operated in roughly the same way as its Indian and Chinese counterparts.

The comparison between India, China and Rome raises some questions that have so far received little attention from ancient historians. Is there any Roman evidence, for example, to suggest that private people or state officials

¹⁵ For merchants combining shipments of tribute grain with private cargoes, cf. T.G. Rawski and L.M. Li, eds., *Chinese history in economic perspective* (Univ. of California Press 1992), 185 and n. 14.

¹⁶ L. Yang, *Money and credit in China. A short history* (Cambridge, MA, 1952), 52-53.

¹⁷ Hopkins 1995/6, art.cit. (n. 1), 266.

were reluctant to transport cash over long distances? A closely related question is whether there were any legal and administrative techniques by means of which the physical transfer of money could be avoided. My attempt to shed some light on these questions falls into two parts. In the first part I shall be looking at transfers of money by private individuals. In the second part I shall focus on the interregional transfer of public revenues, especially taxes.

Interesting indications that at least some private individuals were reluctant to send cash or to travel with it to far-away places are to be found in Cicero's correspondence and in the *Digest*. My earliest example concerns the way in which Cicero obtained a large sum of money from one of his clients during his stay in Brindisi in 47 B.C. The client in question, a certain Gnaeus Sallustius, was waiting with Cicero for Caesar's return from the East, both men wanting to be pardoned for having chosen the wrong side in the civil war. When Cicero ran out of money, Sallustius provided him with 30,000 sesterces. The interest of this transaction lies in the fact that this sum was to be paid back not to Gnaeus Sallustius but to a certain Publius Sallustius in Rome. Publius Sallustius was actually to receive the money from Atticus, to whom Cicero sent written instructions. In short, by relying on a network of friends and clients it was possible to transfer 30,000 sesterces from Rome to Brindisi or *vice versa* without any need to send sacks of coin.¹⁸

A rather similar arrangement was made in 45 B.C., when Cicero wanted to send some money to his son Marcus in Athens. This time Atticus contacted a Greek friend who owed him money and instructed him to pay off his debt by handing over the money to Cicero's son.¹⁹ The classical jurists call this type of transaction a *delegatio solvendi*. Needless to say, the effect of such an arrangement was to release the original debtor and to create a new claim against the receiver of the debt money.²⁰ In theory, then, Atticus acquired a claim against Cicero's son. What actually happened, of course, was that Atticus was reimbursed by Cicero in Rome. Again the overall effect was to bring about a double transfer of money without any coins travelling between Italy and Greece.

Further examples are to be found in the *Digest*. In one text the Severan jurist Paul deals with a case involving two creditors to whom money is owed in

¹⁸ Cicero, *Ad Atticum* 11.11.2; *Ad Familiares* 14.11. Cf. J. Andreau, *Banking and business in the Roman world* (Cambridge 1999), 21.

¹⁹ Cicero, *Ad Atticum* 12.24.1; 12.27.3; 13.37.1; 14.16.4; 15.15.4; 16.1.5. Cf. Andreau 1999, op. cit. (n.18), 20-21.

²⁰ M. Kaser, *Das römische Privatrecht, I. Das altrömisches, das vorklassische und klassische Recht* (München 1971, 2nd ed.), 650-651.

Rome and Carthage respectively. Paul's aim is to explain the legal state of affairs that will arise when an agreement is made that authorizes creditor A to demand payment of B's money in Carthage and creditor B to collect A's money in Rome.²¹ The obvious explanation is that A and B are thought of as living in Africa and Italy respectively. If this supposition is correct, the agreement referred to in the text must have been made because the two parties wanted to avoid the physical transportation of cash from Carthage to Rome and *vice versa*.

My second example from the *Digest* shows that coinless transfers of money could also be effected by means of bottomry loans. In a long fragment the late second-century jurist Scaevola sketches the following case. A certain Callimachus, a merchant, has borrowed money in Beirut in order to finance a trading trip to Brindisi. After selling his goods in Brindisi Callimachus is to look for a suitable return cargo with which he is to sail back to Syria before 13 September.²² Part of the interest of this text lies in the fact that it shows that commercial shipments of goods did not always lead to the transportation of coins: Callimachus buys his Syrian cargo with Syrian money that stays in Syria and his Italian return cargo with Italian money that stays in Italy.²³ For the purposes of this paper, however, the second part of Callimachus' contract is even more interesting. This part of the agreement prescribes what is to be done if Callimachus is unable to depart from Brindisi with a suitable return cargo before 13 September. In this case Callimachus will be obliged to pay off the bottomry loan to one of the creditor's slaves who has accompanied Callimachus on his trip to the West.²⁴ This slave will then take the money to Rome. As we have just seen, the first scenario envisaged in the contract is an exchange of goods between Syria and Italy without any coins travelling from one region to the other. In the second scenario the bottomry loan provided in Beirut is to be used to finance a one-way movement of goods to Brindisi and also to effect a coinless transfer of money from Syria to Italy.

The existence of various techniques for avoiding the physical transportation of cash, such as *delegationes solvendi*, exchanges of debt claims, and loans repayable in far-away places,²⁵ is thus well attested. The mere existence of these techniques suggests that at least some private individuals

²¹ Paul, *Dig.* 19.5.5.5.

²² Scaevola, *Dig.* 45.1.122.

²³ Cf. Duncan Jones 1990, op.cit. (n.2), 42.

²⁴ For slaves accompanying merchants on trading trips financed by means of bottomry loans, cf. Papinian, *Dig.* 22.2.4.1.

²⁵ Cf. also Scaevola, *Dig.* 45.1.122 pr.: a loan made in Rome but repayable in a distant province.

were reluctant to send cash over long distances. The next question is whether similar fears affected the way in which public revenues were transmitted from the provinces to Italy and other tax-consuming areas. In trying to shed some light on this question, I shall start with the relationship between the *aerarium* and the *societates publicanorum* during the last century of the Republic. An exhaustive discussion of the activities of the tax-farming companies would, of course, be beyond the scope of this article. I shall therefore concentrate on the province of Asia, partly because the evidence relating to Asia is better than that relating to most other eastern provinces, but also because before Pompey's annexation of Syria Asia seems to have been the only eastern province to yield a regular surplus.²⁶

The principal chronological cut-off point in the history of Roman taxation in Asia is 48 B.C., when the task of collecting all direct taxes within city territories was taken away from the publicans and entrusted to the cities themselves.²⁷ If the *societates publicanorum* played any part in the transmission of direct taxes, then, they can only have performed this function before the mid-forties B.C. Before turning to the problem of transmission, however, we should ask in what form Asia's direct taxes were collected. It is, of course, a well-known fact that the most important tax, the land tax, took the form of a *decuma*, a tenth part of the harvest. It is tempting to infer from this that the land tax was levied in kind. Before yielding to that temptation, however, we should pause to consider some pieces of evidence that would seem to point in the opposite direction.

To begin with, the Republican evidence makes it quite clear that the Roman treasury received money, not grain or other natural products, from the publicans who farmed Asia's taxes.²⁸ This has led some scholars, including Claude Nicolet, to venture the hypothesis that the *decuma* was levied in kind but converted into money by the tax-farming companies.²⁹ In support of this thesis Nicolet cites a passage from the new Ephesian customs law that seems to say that no customs duties shall apply to those *decumae* that the *publicani* want to export from the province of Asia. In reality, however, the passage simply says that customs duties do apply to agricultural produce on which a *decuma* is

²⁶ Cf. Cicero., *De imperio Gn. Pompei* 14.

²⁷ Brunt 1990, op.cit. (n.2), 380; 388-389.

²⁸ C. Nicolet, 'Le monumentum Ephesenum et les dîmes d'Asie', *Bulletin de Correspondance Hellénique* 115 (1991), 476. Cf. M.I. Rostovtzeff, art. 'Frumentum', in *RE* 7 (1912), 155.

²⁹ Nicolet 1991, art. cit. (n.28), 476; Idem., 'Dîmes de Sicile, d'Asie et d'ailleurs', in *Le ravitaillement en blé de Rome et des centres urbains des débuts de la République jusqu'au Haut Empire* (Naples/Rome 1994), 224-226; M. Heil, 'Einige Bemerkungen zum Zollgesetz aus Ephesos', *Epigraphica Anatolica* 17 (1991), 15-17; Pleket 1998, art.cit. (n. 9), 122.

owed to a tax-farmer.³⁰ The produce in question may have come from land outside city territories, where the land tax continued to be farmed out to *publicani* after Caesar's tax reforms.³¹ The new customs law from Ephesus therefore confirms what we already knew, namely that grain, wine and olive oil were exported from the port cities of Asia. There are no indications, however, that such goods were exported from the province by *publicani* who had collected them as taxes in kind.

Caesar's description of the preparations made by Pompey and his supporters in 49 and 48 B.C. sheds some further light on the form in which Asia's *decumae* and similar taxes in other parts of the East were collected by the publicans. In the third book of his *Commentary on the Civil War* Caesar tells his readers that Pompey spent the second half of 49 B.C. collecting enormous sums of money (*magnam pecuniam*) not only from the kings and dynasts of Asia and Syria but also from the *societates* of the provinces that he held. Further details are to be found elsewhere in the same book. It appears, for instance, that Metellus Scipio, then governor of Syria, helped Pompey by collecting the arrears owed by the *publicani* for the two previous years and by forcing the same *publicani* to pay the tax money for the current year in advance. Metellus then went on to do the same thing in Asia. Here too the *publicani* were forced to hand over all the funds under their control and compelled to pay in advance the amount of taxes they were expecting to collect during the following year. After the battle of Pharsalus more money was exacted from Cyprus. According to Caesar, Pompey departed from the island only after denuding the *publicani* of their money (*pecunia societatibus*

³⁰ Nicolet 1991, op.cit. (n. 28), 469 and 479, suggests that lines 72-74 of the Ephesian customs law should be restored as follows: οὐ πράγματος δεκάτας καρπῶν ἀροτῆριστ ποριζομένων ἡ τ' μέρος οίνου καὶ ἔλαιον τῷ δημοσιώνῃ δίδοσθαι [δεῖ φυλακε]ιῶν ἐνεκεν, τούτον <τόν> δημοσιώνην καρπεύεσθαι τὸ τέλος ὡς ἔξεμισθωσαν Λούκιος Ὁκτάσιος, Γάιος Αὐρήλιος Κόττας ὄπατοι, ... In my view this should be emended to οὐ πράγματος δεκάτας καρπῶν ἀροτῆριστ ποριζομένων ἡ τ' μέρος οίνου καὶ ἔλαιον τῷ δημοσιώνῃ δίδοσθαι [δεῖ ε. 9] Ιων ἐνεκεν, τόν<τού> τόν δημοσιώνην καρπεύεσθαι τὸ τέλος ὡς ἔξεμισθωσαν Λούκιος Ὁκτάσιος, Γάιος Αὐρήλιος Κόττας ὄπατοι. The passage that follows seems to prescribe that no customs duties shall be charged when goods are moved from one part of Asia to another. Cf. Vittinghoff, art. 'Portorium', in RE 48 (1953), 377-378: no *portoria* due on goods that were shipped within the boundaries of a single tax district.

³¹ Cf. Brunt 1990, op.cit. (n. 2), 389-391. One cannot rule out the possibility that the *portoria* and the *decumae* owed in respect of land outside city territories were farmed by a single company. Cf. C. Nicolet, "Frumentum municipale": en Sicile et ailleurs', in A. Giovannini, ed., *Nourrir la plébe* (Basel 1991), 134 (one company farming the *portoria*, the *scriptura* and the *decuma* due from possessors of *agri populi Romani* in Sicily). This would explain why par. 31 of the Ephesian customs law uses the non-specific term 'the tax-farmer' (ό δημοσιώνης) to refer both to the tax-farmer collecting the *decuma* and to the man who has acquired the right to collect the Asian *portoria*.

sublata).³² The striking thing about these stories is that the publicans of the eastern provinces are consistently pictured as sitting on large amounts of money but never as controlling stocks of grain. This strongly suggests that most taxes in Asia and Syria, including the *decuma*, were paid to the *publicani* in cash.

How then do we explain the fact that a tax that was defined as a fixed proportion of the harvest took a monetary form as far as the *publicani* were concerned? The answer must lie in the annual *pactiones* that the tax-farmers of the East concluded with the individual cities in their districts.³³ In my view one of the functions of these annual agreements was to fix the sums of money that would discharge the duty of the cities of Asia to pay the *decuma* and other taxes. This reading of the evidence implies that if the *decuma* was paid in kind by landlords and peasants it must have been converted into money either by local officials or by local tax collectors, unless of course the rural population itself was in the habit of paying the land tax in cash. In this context I cannot refrain from citing the epigraphical evidence from Nakrason, a small town in Asia, and from an anonymous village on the site of modern Dereköy in ancient Lycia. The evidence from Nakrason refers to an annual obligation to pay a fixed sum of money as tax on two olive gardens, a vineyard and some pieces of uncultivated land.³⁴ The sum in question is described as 'twelve *denarii per uncia*', a local or regional tax unit of unknown size.³⁵ The inscription from Dereköy, which dates from the second or third quarter of the second century A.D., refers to a tax on grain land that was called the *sitike apomoira* or simply the *sitike*.³⁶ Originally this tax, which must have been the Lycian equivalent of the Asian *decuma*, must have been levied in kind. From the remainder of the inscription it appears, however, that by the second century A.D. the village of Dereköy possessed a treasury that served, *inter alia*, to meet the villagers' annual tax obligations in cash. It follows either that the peasants of Dereköy

³² *De Bello Civili* 3.3.2; 31.1; 32.6; 103.1.

³³ For these *pactiones* see E. Badian, *Publicans and sinners* (London 1972), 79-80; Brunt 1990, op.cit. (n.2), 366; Nicolet 1991, art.cit. (n. 28), 467 and n. 10.

³⁴ Pace Duncan Jones 1990, art.cit. (n. 2), 192, the inscription does not refer to the tax money due 'on a small portion of vineyard'.

³⁵ P. Herrmann and K.Z. Polatkan, *Das Testament des Epikrates und andere neue Inschriften aus dem Museum von Manisa* (Sitzungsberichte der Österreichischen Akademie der Wissenschaften, Phil.-hist. Klasse, no. 265,1, Wien 1969), 10 and 25-26. Cf. L. Neesen, *Untersuchungen zu den direkten Staatsabgaben der römischen Kaiserzeit* (Bonn 1980), 69 and n.1; M. Alpers, *Das nachrepublikanische Finanzsystem. Fiscus und Fisci in der frühen Kaiserzeit* (Berlin/New York 1995), 276-277; Pleket 1998, art.cit. (n. 9), 121-122.

³⁶ M. Wörle and W. Wurster, 'Dereköy: eine befestigte Siedlung im nordwestlichen Lykien und die Reform ihres dörflichen Zeuskultus', *Chiron* 27 (1997), 447-458.

paid the grain tax in money or, alternatively, that any taxes that were levied in kind were converted into cash by village officials.

The aim of this digression has been to argue that the original nature of the *decuma* did not prevent the publicans who continued to farm this tax until 48 B.C. from receiving most of their revenues in cash. This means that we can rule out the possibility that the land tax in Asia, at least, was transmitted in kind. Should we then conclude that the transmission problem was resolved by shipping large amounts of cash from Asia to Italy? Although physical shipments of cash no doubt occurred, there are several grounds for thinking that a significant proportion of the money that the publicans of Asia owed to the central treasury never left the province.

At this point a few words must be said about the role that the *societates publicanorum* are known to have played in state finance during the last century of the Republic. This role is particularly well attested in the eastern part of the empire. The main reason for this must be that it was only in a handful of eastern provinces, such as Asia, Cilicia and Syria, that the right to collect direct taxes was farmed out to tax-farming companies.³⁷ Since the right to collect these taxes was leased out in Rome, it seems clear that the annual instalments that the *publicani* were required to pay were owed to the *quaestores urbani*. In practice, however, a considerable proportion of the sums due from the *publicani* were paid directly to Roman governors and generals, mainly because the provinces whose direct taxes were farmed out to *societates publicanorum* were, precisely for that reason, characterized by the absence of rich provincial treasuries from which payments could be made by provincial quaestors.³⁸ This explains why the grant by means of which Verres was to buy wheat for the Roman state took the form of a draft on the tax-farming company that handled Sicily's pasture tax and some of its customs dues.³⁹ Similarly, Cicero, who took up the governorship of Cilicia in 51 B.C., drew his allowance from the publicans at Laodicea, evidently because there was no provincial state treasury to speak of.⁴⁰ On his return he again used the services of the same city's *publicani*, this time to deposit the balance of his grant, which was apparently 1

³⁷ Cf. Brunt 1990, op.cit. (n. 2), 388.

³⁸ It is sometimes supposed that the *publicani* paid their annual instalments to provincial quaestors (D. Magie, *Roman rule in Asia Minor* [Princeton 1950], 165; G. Rickman, *The corn supply of ancient Rome* [Oxford 1980], 43), but there seems to be no evidence for this.

³⁹ Badian 1972, op. cit. (n.33), 77.

⁴⁰ A.H.M. Jones, 'The aerarium and the fiscus' (orig. 1950), in Idem, *Studies in Roman government and law* (Oxford 1960), 103.

million sesterces.⁴¹ In one of his letters Cicero explains why he prefers not to travel back with the surplus money to Italy: by depositing the balance of his grant (and the booty captured during his military campaign in eastern Cilicia) with the *publicani*, who will be required to give sureties, he will relieve himself and the Roman people of the 'risk of transportation' (*periculum vecturae*).⁴² It seems likely that the same consideration led Cicero to deposit the private profits he had gained from his governorship, 2.2 million sesterces, with the publicans of Ephesus. Not long after Cicero's return to Italy, Pompey seems to have asked him to leave the money where it was, so that he might draw on it in case of a civil war,⁴³ and from a later letter we learn that Cicero called in half the money during the early months of 48 B.C., almost certainly in order to make it available to Pompey.⁴⁴ Since Cicero appears not to have seen any of his Asiatic money again,⁴⁵ the other half may also have ended up in Pompey's hands. So in the end the 2.2 million sesterces were never transferred to Italy. Yet it cannot be doubted that Cicero's original aim had been to effect such a transfer, for in one of his letters he is asking Atticus to make his 2.2 million available in Italy by means of a *permutatio pecuniae*.⁴⁶ The idea may have been to hand over the money to one of Atticus' agents in Asia while asking him to make available an equivalent sum in Italy.⁴⁷ Interestingly, the publicans of Ephesus are not assigned any role in this private *permutatio pecuniae*.

An earlier episode in Pompey's career also illuminates the role of the *publicani* in late Republican state finance. I am referring here to the well-known provision of the *Lex Gabinia* of 67 B.C. that authorized Pompey to draw 6,000 talents 'from the provincial treasuries and from the *publicani*' (ἐκ τῶν ταμιείων καὶ παρὰ τῶν τελωνῶν).⁴⁸ The lesson to be learnt from all this is that the late Republican government was in the habit of using the *publicani*'s funds to cover the expenses of administration and warfare, especially in the East. Of course, this arrangement was also in the interests of

⁴¹ Cicero, *Ad Familiares* 2.17.4 (= Shackleton Bailey no. 117) and Idem, *Ad Atticum* 7.1.6 (= Shackleton Bailey no. 124); Jones 1960, art.cit. (n.40), 103, confuses this money with Cicero's private profits, which were deposited with the *publicani* at Ephesus.

⁴² *Ad Familiares* 2.17.4.

⁴³ *Ad Familiares* 5.20.9.

⁴⁴ *Ad Atticum* 11.2.3.

⁴⁵ *Ad Atticum* 11.13.4.

⁴⁶ *Ad Atticum* 11.1.2.

⁴⁷ G. Maselli, *Argentaria. Banche e banchieri nella Roma repubblicana* (Bari 1986), 118-119.

⁴⁸ Plutarch, *Pompeius* 25; Appian, *Mithr.* 94. Cf. Jones 1960, art.cit. (n. 40), 102. F.E. Steffensen, 'Fiscus in der späten römischen Republik', *Classica et Mediaevalia* 28 (1967), 271-280, has vainly tried to argue that Plutarch's ταμεῖα should be identified as municipal treasuries.

the *publicani*, since any money handed over by them to a Roman governor or general must have been deducted from the sum due from them to the *aerarium* in Rome.

Despite the existence of these arrangements, however, it seems unlikely that the need to transfer money to Italy could have been dispensed with altogether. How were these transfers carried out? In the absence of hard evidence, any answer to this question has to be speculative. It seems possible that, for instance, the publicans used revenues from their extensive properties in Italy to pay at least some of the cash that was due to the public treasury in Rome. This would have enabled them to use some of their Asian tax money to buy Asian land or to make usurious loans.⁴⁹ In theory, Asian tax money could also have been transferred to Rome by exporting Asian goods and selling them in Italy, or by providing bottomry loans that were repayable in Italian ports (cf. above). Unfortunately, there seems to be no evidence to back up any of these suggestions. It seems therefore preferable to assume that, despite the efforts that were made to ship as little coin as possible from the provinces to Rome, the physical transportation of money could not be avoided altogether.⁵⁰

We are now in a position to address the question of how the tax revenues from Asia (and from other eastern provinces such as Syria) were handled after the *publicani* had ceased to collect direct taxes in city territories. One obvious effect of Caesar's tax reforms was that state officials became responsible for the transfer of cash income from direct taxes. It may, therefore, be no coincidence that several references to the physical transportation of money by soldiers and state officials are contained in the literary sources relating to the period immediately following Caesar's death in 44 B.C. An interesting example is Appian's brief description of Octavian's arrival in Brindisi in late March or early April 44 B.C. According to Appian's description, Octavian found the city bustling with activity, with some groups of soldiers carrying money and supplies (*ἀποσκευὰς ἢ χρήματα*) to the army in Macedonia and other groups arriving with 'money and tribute' (*χρήματα καὶ φόρους*) from other parts of the empire.⁵¹ The most natural interpretation of the phrase *χρήματα καὶ φόρους* is that it

⁴⁹ For publicans acquiring landed property in Asia and other eastern provinces, see M. Crawford, 'Rome and the Greek world: economic relationships', *Economic History Review* 30 (1977), 48-49; S. Mitchell, *Anatolia. Land, men and gods in Asia Minor I* (Oxford 1993), 154.

⁵⁰ Cf. Crawford's suggestion (*Idem* 1977, op.cit. [n.49], 52) that Asian *cistophori* were melted down in Rome and struck into *denarii*.

⁵¹ Appian, *Bella Civilia* 3.11.

refers to taxes in money and in kind. Another reference to the physical transportation of money is to be found in Velleius Paterculus' description of how Brutus and Cassius went about collecting money after their departure from Italy. According to Velleius, 'they received sums of money (*pecunias*) that were being carried to Rome from the transmarine provinces by the quaestors, who willingly handed them over'.⁵² Further details concerning these shipments of money are to be found in Plutarch's *Life of Brutus*, in the fourth book of Appian's account of the civil wars and in Cicero's correspondence. From Cicero it appears that Brutus received 2 million sesterces from Gaius Antistius Vetus, the returning *quaestor pro praetore* of Syria, who was travelling back with the money to Italy.⁵³ In Plutarch's *Life of Brutus* this transfer is confused with a rather similar shipment of money that took place under the supervision of Marcus Appuleius, the retiring *proquaestor* of Asia, who handed over his public funds to Brutus at Carystus in the autumn of 44 B.C.⁵⁴ According to Appian, the money handed over by Appuleius amounted to the huge sum of 16,000 talents, or 384 million sesterces.⁵⁵ For our purposes it is interesting to see that Plutarch describes the quaestor of Asia (whom he mistakenly identifies as Antistius) as sailing to Italy with his province's tribute money.⁵⁶

There is little direct evidence for state-organized transfers of money from Asia to Italy during the Principate, for the obvious reason that the authors whose works have come down to us found little reason to refer to the physical transportation of coin. Significantly, the only passage in which Tacitus seems to be referring to transfers of eastern tax money concerns the civil war of 69 A.D., when Vespasian was in a position to deprive Vitellius not only of Egyptian grain but also of 'the tax revenues of the most wealthy provinces'.⁵⁷ The impression that considerable amounts of tax money were shipped to Italy is confirmed by the Neronian tax law from Ephesus, which declares all shipments of money carried out by or on behalf of the Roman people to be

⁵² Velleius Paterculus 2.62.3: *ubicumque ipsi essent, praetexentes esse rem publicam, pecunias etiam, quae ex transmarinis provinciis Romanam ab quaestoribus deportabantur, a volentibus acceperant.*

⁵³ Cicero, *Ad Brutum* 1.11.1 and 2.3.5. I agree with R.Y. Tyrrell and L.C. Purser, *The Correspondence of M. Tullius Cicero VI* (Dublin/London 1899), 128 n. 1, that Antistius must have handed over the money in February 43 B.C., not in the autumn of 44 B.C., as Plutarch, *Brutus* 25, has it.

⁵⁴ Plutarch, *Brutus* 24.3: πλοῖα Ρωμαϊκὰ μεστὰ χρημάτων ἐξ Ασίας προσφέρεσθαι; and 25.1: ἀφ' ὧν ἦγε καὶ αὐτὸς εἰς Ἰταλίαν χρημάτων.

⁵⁵ Appian, *Bella Civilia* 4.75.

⁵⁶ See n. 54.

⁵⁷ Tacitus, *Historiae* 3.9.

exempt from customs duties.⁵⁸ For the rest, there are some general references to shipments of money, one example being a passage from the *Digest* in which the Severan jurist Paul explains that people who have undertaken to transport public money by sea can never correctly be described as having committed the crime of *peculatus* (embezzlement) because if they steal the money they can be held liable on other grounds, for example on the basis of their contracts.⁵⁹

Before leaving the topic of cash shipments under the Empire I would like to add a few words about Egypt, another area that is known to have produced vastly more taxes than it consumed. It has been calculated that the annual tax revenue of early imperial Egypt amounted to 17.5 million *artabae* (ca. 500,000 tons) of wheat plus ca. 120 million sesterces in money taxes.⁶⁰ In order to put these figures into perspective, it may be pointed out that the amount of wheat needed for the corn dole in Rome and to feed the entire Roman army amounted to roughly 250,000 tons.⁶¹ This means that an alternative destination had to be found for at least 250,000 tons of Egyptian tax grain.⁶² Now there is nothing to suggest that the imperial government in Rome had at its disposal large amounts of Egyptian or African tax grain in addition to the grain that was needed for the *frumentationes*. This has led some scholars to venture the attractive hypothesis that large amounts of tax grain must have been sold off by government officials in Alexandria.⁶³ There is a theoretical possibility that some of these hypothetical sales were made on the condition that the purchase price would be paid in Italy. In that case the sale of Egyptian tax grain would have resulted in a coinless transfer of money from Alexandria to Italy. This doubly hypothetical

⁵⁸ SEG 39, 1180, lines 58-61.

⁵⁹ Paul, *Dig.* 48.13.11.4: *Is autem, qui pecuniam traicendam suscepit vel quilibet alius, ad cuius periculum pecunia pertinet, peculatum non committit.* For contractual liability, cf. Paul, *Dig.* 47.2.54.2: *Quod si servus tuus rem tibi commodatam subripuerit, furti tecum actio non est, quia tuo periculo res sit, sed tantum commodati.* It is also possible that Paul has in mind people performing the *munus pecuniae preferendae*, for which see Ulpian *Dig.* 50.5.2.7; Arcadius Charisius *Dig.* 50.4.18.3. For physical shipments of money, cf. also Seneca, *Epistulae* 76.13: *navis bona dicitur non ... quae fiscis atque opibus regis pressa est*, and F. Miliar, 'Les congaires à Rome et la monnaie', in A. Giovannini, ed., *Nourrir la Plèbe* (Basel 1991), 148, citing Arrian, *Periplus Mari Euxini* 6 and 10: money shipped to the auxiliaries manning Roman forts on the Black Sea. For the physical transportation of bullion during the late Empire (carried out by officials using the *cursus publicus*), see e.g. *C. Th.* 8.5.48 pr. (386 A.D.).

⁶⁰ Duncan Jones 1994, art.cit. (n. 6), 53.

⁶¹ Hopkins 1995/6, art.cit. (n. 1), 256.

⁶² Since most of the frontier troops depended on supplies from their immediate hinterlands (P. Garnsey and R. Saller, *The Roman empire. Economy, society and culture* [London 1987], 90), the actual surplus must have been much larger than 250,000 tons.

⁶³ Brunt 1990, op.cit. (n. 2), 532; Duncan Jones 1990, op.cit. (n. 2), 193. Cf. also D. Rathbone, 'The ancient economy and Graeco-Roman Egypt' in L. Criscuolo and G. Geraci, eds., *Egitto e storia antica dall'ellenismo all'età araba* (Bologna 1989), 173-174.

scenario, however, sits rather uncomfortably with the juridical evidence, which strongly suggests that goods belonging to the public or imperial treasury were normally sold for cash.⁶⁴ Nor is there any evidence that Egyptian tax money was transferred to Italy by means of bottomry loans.⁶⁵ It would seem to follow, then, that most of the money brought in by the sale of Egyptian grain and a large proportion of those taxes that were collected in cash must have been shipped to Italy under the supervision of state officials. One advantage of this theory is that it explains the existence of a *procurator fisci Alexandrini* in Rome under the Flavian emperors.⁶⁶ Even A.H.M. Jones, who placed great emphasis upon the importance of transactions on paper, interpreted the creation of this post as evidence that cash was regularly shipped from Egypt to Rome.⁶⁷

I am not suggesting, of course, that all the tax money from Asia and Egypt was taken to Italy by government officials. In the case of Asia, one qualification that has to be made concerns the *portoria* and other indirect taxes, which continued to be leased out to tax-farming companies for a very long time.⁶⁸ During the Principate it seems to have become more common for indirect taxes to be leased out in the provinces in which they were levied.⁶⁹ The customs law from Ephesus, however, makes it quite clear that the Asian *portoria* were still being leased out in Rome in the third quarter of the first century A.D.⁷⁰ There is also evidence for the continued existence of provincial *promagistri* working for tax-farming companies whose *magistri* must have been based in Rome.⁷¹ The relevance of all this is that if the *portoria* of Asia

⁶⁴ See e.g. Ulpian *Dig.* 49.14.5.1: *Si ab eo, cui ius distrakhendi res fisci datum est, fuerit distractum quid fisci, statim fit emptoris, pretio tamen soluto*, and for a general discussion of fiscal sales G. Boulvert, 'L'autonomie du droit fiscal: le cas des ventes', in *ANRW* II, 14 (Berlin 1982), 816-849, esp. 846.

⁶⁵ Although we hear occasionally of people borrowing money from the *fiscus* (e.g. Flavius Josephus, *Antiquitates Judaicae* 18.158 and 163; Scaevola *Dig.* 20.4.21 pr.), such loans seem to have been unusual. In the late Empire several emperors explicitly forbade fiscal agents to lend out money to private individuals; see *C. Th.* 10.24.1-2 (= *CI* 10.6.1-2). Cf. Boulvert, art.cit. (n.64), 820 and n. 19.

⁶⁶ Rome was also the seat of a *procurator fisci Asiatici*, who must have handled cash revenues from Asia. On these *procuratores* see e.g. Jones 1960, art.cit. (n. 40), 110; Alpers 1995, op.cit. (n. 35), 198-200, and 278-286. Cf. Duncan Jones 1994, op.cit. (n. 6), 177 n. 22, for the suggestion that special *fisci* were set up for Asia and Egypt because both provinces used their own currency.

⁶⁷ Jones 1960, art.cit. (n. 40), 110.

⁶⁸ For the persistence of tax-farming companies during the Principate see Brunt 1990, op.cit. (n.2), 354-432.

⁶⁹ Brunt 1990, op.cit. (n. 2), 357, 370, 377, 385, and 393; A. Lintott, *Imperium Romanum. Politics and administration* (London 1993), 77 and 122-123.

⁷⁰ SEG 39, 1180, lines 101-103, 110-112, 124-126 and 140-143.

⁷¹ On these provincial *promagistri*, see M.R. Cimma, *Ricerche sulle società di publicani* (Milano 1981), 81-84; Brunt 1990, op. cit. (n.2), 407; Nicolet 1991, art.cit. (n. 31), 138-140. A new inscription referring to a *promagister publici Cyrenensis* has been discovered at Cyrene; see F.A. Mohamed and J.

and other provinces continued to be leased out in Rome, the burden of transferring the money in question is likely to have rested on the tax-farming companies, in precisely the same way as during the Republic. It may be noted that the customs law from Ephesus orders the person who has leased the right to collect Asia's *portoria* to pay his annual instalments not to any provincial *quaestor* or *procurator* but to the *aerarium* in Rome.⁷² In short, even after 48 B.C. the *societates publicanorum* continued to play a part in the transmission of Asian tax revenues to Rome.

A second caveat that must be entered is that a significant proportion of the tax money that the cities of Asia paid into the provincial treasury may not have travelled to Rome because this money was spent in other parts of the empire. More than sixty years ago the Swedish ancient historian Erik Gren pointed out that the taxes that were raised in the eastern Balkan provinces must have fallen short of what the Roman government had to spend on the army units that were stationed in that region.⁷³ In principle the deficit could have been made up by sending money from Rome. The coin evidence leaves little doubt that part of the missing money was supplied in this way.⁷⁴ Nonetheless it is difficult not to be impressed by Gren's argument that it would have made more sense to send surplus tax money from Asia directly to the Balkans than to ship it to Rome for distribution to areas with large concentrations of troops.⁷⁵ Anticipating the Hopkins model, Gren went on to suggest that Asia Minor may have earned back some of the tax money that left the province by supplying the armies of the Balkan with textiles, wine and olive oil.⁷⁶ Alternatively, imperial procurators who were based in Asia may have used Asian tax money to buy Asian goods for the troops on the lower Danube.⁷⁷ Unfortunately, there seems

Reynolds, 'An inscribed stone from the sanctuary of Demeter and Kore in the Wadi Belgadir at Cyrene: cult, corn and Roman revenues', *Libyan Studies* 25 (1994), 211-216.

⁷² SEG 39, 1180, lines 99-101.

⁷³ E. Gren, *Kleinasiens und der Ostbalkan in der wirtschaftlichen Entwicklung der römischen Kaiserzeit* (Uppsala 1941), 144-145.

⁷⁴ Duncan Jones 1994, op.cit. (n. 6), 176.

⁷⁵ Gren 1941, op. cit. (n.73), 144-145.

⁷⁶ Gren 1941, op. cit. (n.73), 63-72. More recently Mitchell 1993, op.cit. (n. 45), 250-251, has suggested that the Roman armies on the Danube were partly fed with tax grain sent from Asia Minor. Against this see Gren, op. cit., 138-139 (emphasizing local supplies).

⁷⁷ For the role of provincial procurators in supplying the Roman army, see J. Remesal Rodriguez, 'Die *procuratores Augusti* und die Versorgung des römischen Heeres', in H. Vettters and M. Kandler, eds., *Akten des 14. Internationalen Limeskongresses 1986 in Carnuntum* (Wien 1990), 55-56 (citing Strabo 3.4.20); T. Kissel, *Untersuchungen zur Logistik des römischen Heeres in den Provinzen des griechischen Ostens* (St. Katharinen 1995), 142-154. Cf. S. Faroqhi, *Towns and townsmen of Ottoman Anatolia. Trade, crafts and food production in an urban setting, 1520-1650* (Cambridge 1984), 129-

to be no archaeological evidence to support the theory that large amounts of wine or olive oil were exported from Asia Minor to the Balkans during the first two centuries A.D.⁷⁸ This means that Gren's theory, attractive though it is, remains an unproven hypothesis.

My final and perhaps most important qualification is that the focus of this article has been on the province of Asia and, to a lesser extent, on Egypt. In his article on the *aerarium* and the *fiscus* A.H.M. Jones described these areas as 'the two provinces which produced a substantial surplus over the costs of their own administration or the needs of neighbouring provinces'.⁷⁹ Although this may be an exaggeration, it would certainly be absurd to apply the findings of this article to all of the empire's Mediterranean provinces. The same reservation must *a fortiori* apply to the frontier provinces. About these provinces I have nothing to say except that I find myself in agreement with Duncan Jones' view that the numismatical evidence rules out the idea of a closely integrated monetary system in which money moved quickly from Rome to the peripheral provinces and back again.⁸⁰

It is time to sum up the principal findings of this article. To begin with, the existence of taxes-and-trade systems in pre-modern China and India may be said to lend a certain measure of support to the Hopkins model of the Roman economy, at least as far as the Mediterranean parts of the empire are concerned. At the same time the literature on China and India raises the question of whether the physical transportation of cash could have been avoided by means of paper transactions. The Roman evidence leaves no doubt that private individuals made various kinds of personal arrangements to avoid shipping coin to far-away places. On the other hand, the very fact that these arrangements were always *personal* tells against the existence of a coordinated system comprising both private transfers of money and transmissions of provincial tax revenues to the central treasury in Rome.

130: Ottoman officials using tax money collected by local tax-farmers to purchase sailcloth, tents and cotton goods on behalf of the navy and the army.

⁷⁸ Cf. Gren 1941, op. cit. (n.73), 63-64, noting the scantiness of the archaeological evidence for Asian goods reaching the Balkans during the Principate. There is good numismatical evidence for the existence of close contacts between the Balkan provinces and north-west Asia Minor in the third and fourth centuries A.D.: Gren, op. cit., 19-20; K. Butcher, 'The coins', in A. Poulter, ed., *Nicopolis ad Istrum: a Roman, late Roman and early Byzantine city* (London 1995), 311-314.

⁷⁹ Jones 1960, op.cit. (n. 40), 110.

⁸⁰ Duncan Jones 1989, art.cit. (n. 6); Idem 1990, op.cit. (n. 2); Idem 1994, op.cit. (n. 6). Duncan Jones' findings are nuanced but not refuted by C.J. Howgego, 'Coin circulation and the integration of the Roman economy', *Journal of Roman Archaeology* 7 (1994), 5-21; and Idem, *Ancient history from coins* (London 1995), 107-110.

During the late Republic the Roman government relieved itself of the task of shipping large amounts of money by farming out the taxes of some very rich provinces and requiring the tax-farmers to pay their dues in Rome. Another technique that helped to reduce the need for physical shipments of coin was the use of the provincial *fisci* and of the funds accumulated by the *publicani* to cover the costs of provincial administration and to finance military operations in nearby areas. In this field there was a direct continuity between the extensive powers received by Pompey under the Gabinian law of 67 B.C. and the very similar powers that the Julio-Claudian emperors and their successors were always able to exercise.⁸¹

There is, however, no evidence that either the publicans or, later on, the imperial *fiscus* set up or used any system of paper transfers or credit that was also available to private merchants. The absence of such a system meant that the Roman government had fewer ways of avoiding physical shipments of cash available to them than had the governments of T'ang China and Mughal India. The overall impression we are left with is that, despite Hopkins' recent suggestions to the contrary, the financial techniques by means of which the Roman government transmitted its taxes were less sophisticated than those that were used in some other pre-industrial empires.

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⁸¹ For the more or less unlimited financial powers of the emperors, see e.g. Jones 1960, op.cit. (n. 40), 104-106; Brunt 1990, op.cit. (n. 2), 135, 154-162; Alpers 1995, op.cit. (n. 35), 75, 81, 147-151.

THE IMPACT AND INTERACTION OF STATE TRANSPORT IN THE ROMAN EMPIRE

By
ANNE KOLB¹

Transport was inevitably an integral part of ancient life. Land transport offered great advantages over river or sea transportation, because of its simple and general accessibility as well as the fact that it is much less dependent upon weather conditions. Thus the greatest importance was attached to land transport, whether in connection with private, business or state interests, as is reflected throughout the source material. Land transport in itself and the road system, which provided the essential requirements for such transport, form a typical characteristic of Roman culture and the organization of Roman rule, which sought to control the Empire by means of a network of connecting lines and by efficient communication².

Within the framework of my topic I shall limit myself to land transport, without in any way wanting to play down the value which the Romans attached to transport by water. Hence it follows that the problem of the relative costs of land and sea transport and its possible consequences for the economy lie outside the scope of this paper.

Regarding the organization and the interaction of public and private transport the following questions will be examined: what relationships exist between public and private transport? what influences and impact can be observed? In order to answer these questions it is necessary first of all briefly to define state transport and to outline its principles of operation and organization. It will become clear that state transport consisted to a large extent of private resources, which were bound to the state by means of obligation and compulsion. Central to the discussion are sources which document interactions between state and private sector and illustrate how they were strongly bound together. The burdens and obstacles which state transport caused become clear, as it is these phenomena which are predominant in the sources. Positive influences of state transport on the private sector can also be traced, but it is not easy to judge their influences particularly clearly.

¹ I would like to thank Chr. Marek (Zürich) for comments on this paper and thank as well J.W. Rich for his linguistic revision.

² For different aspects of this topic see now R. Laurence – C.E.P. Adams, ed., *Travel and Geography in the Roman World* (London 2001); for the road network in Italy see esp. R. Laurence, *The Roads of Roman Italy: Mobility and Cultural Change* (London 1999).

Organization of state transport³

The state had to see to it that numerous transport tasks were carried out; these had to be performed in different ways according to their importance and extent. The tasks were of three main types: the arrangement of journeys, the transfer of messages and the transport of goods. They might be performed either by using the state's own resources or those of others.

Since the state resources were strictly limited - for example the vehicles for imperial travel or means of transport for the army or for functionaries - it was necessary for the majority of transport needs to make use of the resources of others, i.e. by requiring the population to perform duties or make use of their services. These could be acquired either by purchase or rent on the open market, i.e. as part of general free market processes, by compulsory exactions. Here we can observe strict approaches - such as complete or temporary expropriation and requisition - or less strict forms – such as the grant of privileges or payment of compensation for services and duties performed by the population.

For some of its transport needs the Roman state under Augustus developed a system which was known as the *cursus publicus* from the 4th century onwards⁴. Since the late imperial institution was based on the same principles as in earlier times, it seems justifiable to apply the same name to the system in its early imperial form as well. With the help of this system the most urgent tasks could be performed rapidly, safely and efficiently. The use of this system was severely restricted, so that not all state requirements for journeys, message transfer and the transport of goods could be met through the *cursus publicus*. The functions carried out through the *cursus publicus* were messenger services for the emperor, journeys of high state representatives, and the transport of goods which were important for the state, such as gold and silver or clothes and equipment required by the court and army. In the following I shall only refer to this aspect of state transport, leaving aside other forms such as grain haulage and the transport of army supplies.

The *cursus publicus* was a government transportation facility based on a service obligation by private persons. They provided equipment, animals and wagons used by government agents during their travels. This obligation of

³ In detail see now A. Kolb, *Transport und Nachrichtentransfer im Römischen Reich* (Berlin 2000).

⁴ For a full discussion of the *cursus publicus* see Kolb 2000, op. cit. (n. 3), 49-226.

the population to perform duties, *munera*, rested on the municipalities, which had in the long run to take care of the functioning of this infrastructure.

The impact and interaction of state transport in the sources

The burdens which state transport imposed on the population cannot be measured accurately, since the few references in extant sources provide us with only an indistinct picture of the demand for the services of the *cursus publicus*.

Procopius in his *Secret History* tells us that the individual stations would have been equipped with forty horses⁵. This appears, however, to be exaggerated; horses were the most expensive transport animals of all, and in the 4th century only five to six horses - later ten - were allowed to leave a station on one day. At best one could imagine that Procopius' forty horses were in fact the total stock of all animal species of any given station, without any details concerning specific animals. As early as the reign of Tiberius it is attested that a functionary of the highest rank could claim ten carts or substitute three mules for each cart or two donkeys for each mule, so yielding a maximum of thirty mules or sixty donkeys. This represents the maximum obligation which the municipality of Sagalassus had to contribute to travellers at the behest of the state⁶. In the 4th century a *vicarius* was permitted to use thirty donkeys, but only ten horses⁷.

Further information is provided by the Theodosian Code, with data concerning the number of draught animals used with individual vehicles. The *reda* usually seems to have been pulled by four mules, though in the reign of Julian - perhaps only in special situations - also eight (in summers) and up to ten animals (in the winter) were permitted⁸. The heaviest wagon of the *cursus publicus*, the *angaria*, might under normal conditions have been drawn by two oxen, as the name *angaria* - a team of oxen - itself indicates, but in order to obtain higher speeds, apparently quite often four or even more oxen were used. As we have already noted, in the 4th century five to six horses - later ten - as well as one *reda* were allowed to leave a station on one day⁹. On this basis we may arrive at a a number between at least nine

⁵ Procopius, *Historia Arcana* 30.4.

⁶ SEG XXVI 1392.

⁷ CTh 8.5.38 (a. 382).

⁸ CTh 6.29.5 (a. 359); CTh 8.5.8 (a. 357 [356 Mommsen, Seeck]). Moreover Libanius (*Orationes* 18.143) states that under Constantius II. 20 mules were used to pull one wagon because of their bad condition.

⁹ CTh 8.5.35 (a. 378). 40 (a. 382); CJ 12.50.8.

(five horses and four mules) and twenty animals (ten horses and ten mules) as a standard station stock for the requirements of the fast transport section (the *cursus velox*), plus at least two to four oxen for the *cursus clabularius*. Moreover, the legal texts assert that approximately a quarter of the station stock of animals had to be renewed every year. Thus in view of the uncertainty of the evidence I would hesitate to make any estimate of standard station stock¹⁰. There may in any case have been regional variations.

In order to make an estimation of further burdens on the population additional factors must be taken into account: the number of stations as well as the density of settlements and municipalities along any given route, as the municipalities were obviously responsible for the stations along the main highways, which ran through their territory. Finally a certain sum of money would have to be deducted from the burdens during the early Empire, because at that time there existed firm tariffs for the limited obligation renting established by the state. Since these travellers' fees were sums specified by the state, they did not correspond to the market prices. They are, therefore, only to be evaluated as compensatory payment for the absence of beasts and waggon during the period of the use. Very probably a profit could not be made in this way.

Beside these regular burdens the inhabitants of the Empire had to reckon with additional ad hoc requirements, which were raised when necessary. In such a case no private interests could be claimed. State demands had absolute priority as the following Egyptian private letter illustrates¹¹: "Troilos to his Sister Mazatis, greeting. Above all I pray that you prosper, and the child also, bless him. I wanted to send the child a few gifts, and a demand for transport beasts having suddenly occurred, the camels were away from home ..." This 3rd century papyrus shows that a sudden demand for camels could occur for state tasks. These could then be claimed from the people without any consideration of their circumstances and activities: state transport had absolute priority.

However, illegal requisitions of transport and other services, which are very fully documented, formed the heaviest burden. Numerous complaints of the population (and reflections of those) are documented in inscriptions and papyri from the 1st to 3rd century¹². For the later Empire some of the

¹⁰ Cf. calculations by L. Di Paola, *Viaggi, trasporti e istituzioni. Studi sul cursus publicus* (Messina 1999), 49 n. 60, on the basis of Procopius.

¹¹ P. Fuad. Univ. 6.

¹² Kolb 2000, op. cit. (n. 3), 118 n. 5; esp. for the 3rd century see P. Herrmann, 'Hilferufe aus römischen Provinzen: Ein Aspekt der Krise des römischen Reiches im 3. Jhd. n. Chr.', *Berichte aus*

constitutions of section 8.5 of the Theodosianus Code likewise show that the regulations concerning the permitted contingents of animals were ignored again and again. According to the rules only animals assigned to the *cursus publicus* were to be taken for state transport purposes, as the following text shows explicitly¹³: “*For if any person should complete a stage of his journey and by chance should not have oxen for its continuance, he must wait until oxen have been produced by those who supervise the cursus publicus, and he must not remove those oxen that serve the cultivation of the earth.*” However, the failings of the office-holders frequently obstructed the economic activities of the inhabitants of the Empire.

Positive influences of state transport

As stated above the *munera* for the *cursus publicus* rested on the municipalities of the Empire. These could meet their obligation in different ways: either by carrying out the services themselves or by putting dependent municipalities in charge of their execution¹⁴.

Within the first category two methods can be seen. A city could on the one hand lay the obligation on individual liturgists; this means persons were appointed, who had to fulfil their contribution either financially or physically. On the other hand the city could use private transport providers, who made animals and carts available probably in return for financial compensation by the municipality. Such transport contractors were frequently organised in *collegia* and are up to now documented in Italy substantially better than in the rest of the Empire¹⁵. The rental of carts and draught animals with and without drivers - in particular in Italy – was obviously important not only for the private economy. Cooperation between the state and transport contractors in the framework of the *cursus publicus* is documented up to now only in Italy. The provinces can provide similar examples only for other state transport requirements, in particular army supplies and the transport of corn to Rome.

den Sitzungen der Joachim-Jungius-Gesellschaft der Wissenschaften 8/4 (Göttingen 1990), but see the contrasting view of W. Scheidel, ‘Dokument und Kontext: Aspekte der historischen Interpretation epigraphischer Quellen am Beispiel der ‘Krise des dritten Jahrhunderts’, *Rivista Storica dell’Antichità* 21 (1993), 145-164.

¹³ CTh 8.5.1 (a. 315).

¹⁴ SEG XXVI 1392 l. 11-12.

¹⁵ Kolb 2000, op. cit. (n. 3), 184 n. 5.

In the organisation of the services for the *cursus publicus* Italy constituted a special case at least at the beginning of the 3rd century, with transport providers working in direct conjunction with the state officials responsible for the administration of the *cursus publicus*, the *praefecti vehicularum*, to ensure the upkeep of certain roads and highways. This is documented in three inscriptions, in which associations of drivers honour the emperor Caracalla, as in the present example dated to 214 A.D.¹⁶:

Magno et invicto ac super omnes principes fortissimo felicissimoque imp(eratori) Caes(ari) M(arco) Aurelio Antonino Pio Fel(ici) Aug(usto), Parth(ico) max(imo), Brit(annico) max(imo), German(ico) max(imo), pont(ifici) max(imo), trib(unicia) pot(estate) XVII, imp(eratori) III, co(n)s(uli) IIII, p(atri) p(atriae), mancipes et iunctores iumentarii viarum Appiae Traianae item Anniae cum ramulis, divina providentia eius refoti, agentes sub cura Cl(audii) Severiani, Mamili Superstitis, Modi Treventini, praef(ectorum) vehicularum.

To the great and undefeated and above all *principes* strongest and most fortunate Imperator Caesar Marcus Aurelius Antoninus Pius Felix Augustus, Parthicus Maximus, Britannicus Maximus, Germanicus Maximus, *pontifex maximus*, in the 17th year of his tribunician power, saluted as *imperator* for the third time, consul for the fourth time, father of his country, the contractors, harnessers and drivers of the roads Appia, Traiana and Annia with their branches, revived by his divine providence, acting under the care of Claudius Severianus, Mamilius Superstes, Modius Treventinus, *praefecti vehicularum*.

The documents, therefore, suggest that the prefects and not the municipalities appointed the service providers. However the inscriptions do not permit further definite conclusions concerning the organisation of the services.

Thus it must remain open to question whether payment for the services was made through the state or whether the services were compensated for by privileges. In any case the transport agents were grateful for their position,

¹⁶ CIL VI 31338a = ILS 452; similar are CIL VI 31369; 31370.

which suggests that they could use it to their advantage, very probably a financial advantage. What could this have been?

Here one should probably think first of auxiliary duties within the framework of the state transport and secondly of possible earnings independent of it. The users of the *cursus publicus* only had the right to claim a certain contingent of carts and animals at the expense of the state. When more than such a contingent was necessary, it therefore had to be acquired at customary market prices. This might have happened quite often, since the carts and animals allotted to state officials were strictly limited¹⁷. Precisely this may have occurred not infrequently in the case of journeys undertaken by office-bearers, who usually travelled with a larger entourage - for example on the journey to their province. In these cases the transport contractors could practise their profession at a profit.

The second and probably by far the more extensive possibility for making deals, was with private persons and businessmen who were travelling or had to conduct transports, but did not have their own carts and animals. In these cases the entrepreneurs co-operating with the prefects had the advantage that they were already established at fixed and conveniently situated places of one or several roads or highways and thus dominated this market. Alongside fulfilling the requirements of state transport provision for private transport was probably their priority.

Considering the interaction of state and private sector for the benefit of the private ones, one could also imagine a comparable situation for those, who provided accommodation at the stations.

Turning again to the secret history of Procopius, we find descriptions of the functions and structure of the *cursus publicus* in earlier times (30.1-7). He states that land owners - in particular in the interior of the country - would have taken most advantage of the institution, because they sold their surplus agricultural products annually to the state for the maintenance of horses and horse caretakers¹⁸: "The owners of the land everywhere, and particularly if their lands happened to lie in the interior, were exceedingly prosperous because of this system. For every year they sold the surplus of their crops to the government for the maintenance of horses and grooms, and thus earned much money."

For his own times Procopius draws a picture of drastic deterioration of the system, because Justinian is said to have reduced routes and above all to

¹⁷ SEG XXVI 1392 l. 20-21: "sed amplius desiderabit conduced arbitrio locantis".

¹⁸ Procopius, *Historia Arcana* 30.6-7.

have limited the number of changing stations. Consequently the profits made by agrarian producers also disappeared¹⁹. „He allowed one station only for each day's journey, using not horses, however, but mules and only a few of them. It is no wonder, consequently, that things which take place in each country, being reported both with difficulty and too late to give opportunity for action and behind the course of events, cannot be dealt with at all, and the owner of the lands, with crops rotting on their hands and going to waste, continually lose their profits.“ Procopius establishes a direct correlation between the stations of the *cursus publicus* and the agrarian producers. Farmers are said to have sold their surplus to the change stations in internal regions.

We have to ask ourselves, which products this concerns and whether the picture of Procopius' libellous pamphlet on the imperial couple corresponds to ancient reality. Procopius defines the type of the agrarian products as "produce for the maintenance of horses and grooms". Therefore it concerns on the one hand animal foodstuff (chaff, barley) and on the other hand food for the maintenance of the subordinate personnel of the post stations.

In order to keep the animals of the *cursus publicus* in fodder supplies had to be present at the change stations. From the few documents which provide information about this integral part of the station equipment, it follows that its supply would have to be performed by the population during the early and high Empire. This is indeed illustrated by the argument between the two Phrygian villages Anosa and Antimacheia in the years 200-237. Beside the extent of the obligation the argument concerned, how animals and also the fodder were to be made available, which were to be provided by each municipality. The imperial procurator Threptus decided that both settlements were responsible for the necessary fodder, whereby each had to cover half of the requirement²⁰. An Egyptian ostraca from the Arsinoites - dating from autumn 290 - is the next document chronologically speaking²¹. It transmits the receipt of a citizen, who had delivered fodder for the 'fiscal' horses.

The later sources show that such deliveries in kind continued to be customary. The animal feed for the *cursus publicus* at that time was part of

¹⁹ Procopius, *Historia Arcana* 30.11.

²⁰ SEG XVI 754 (a. 200-237) l. 14, for the interpretation of ἐνθήκη as fodder see W.H.C., FREND, 'A Third-Century Inscription Relating to Angareia in Phrygia', *Journal of Roman Studies* 46 (1956), 51 and 55; T. Zawadski, 'Sur une inscription de Phrygie relative au *cursus publicus*', *Revue des Études Anciennes* 62 (1960), 90.

²¹ PSI XII 1268 (a. 290).

the real estate tax²². As late as the 6th century an Egyptian papyrus from Antaeopolis illustrates such a fee for animal rations (*capita*), since barley and chaff for the animals of the *cursus* formed a part of the *annona*²³. On the other hand in Egypt as *adaeratio* of the *annona* payments were also made in money, with which the station directors could buy fodder²⁴. This purchase of feeding stuffs from tax funds had been taking place also in some other parts of the Empire as early as the 4th century: in Illyricum, Italy and Africa²⁵. Further information on these arrangements is provided by evidence of their abuse²⁶. An edict from the year 403 already shows both procedures operating alongside one another²⁷.

What follows from all this for the way in which we view the picture presented by Procopius ?

The purchase of animal foodstuffs from farmers did not take place in all regions of the Empire. As mentioned in Egypt in the 6th century both payments in cash and in kind were contributed. The levying of money in place of fodder and the direct purchasing of feeding stuffs by the station directors - mentioned by Procopius - could refer among other things particularly to the route from Byzantium up to the Persian border, since Procopius mentions this route explicitly. In addition Procopius stresses that it is predominantly inland farmers, who would have enjoyed such advantages.

This procedure would also be dependent upon the economic realities of any given period, since it was expensive to transport of cereals from internal regions to coastal harbours for shipping. Therefore it appears logical that the taxpayers there generally did not pay their fees in kind, but in money and therefore the stations could not be provided with fodder via cereals raised by tax.

As to the second point, the provision of subsistence for the grooms, these were - according to the laws of the 4th and 5th century - at that time *servi publici*²⁸ and were supplied by the state with *vestis* and *annona*²⁹. Whether they still held this status under Justinian remains as yet unattested,

²² CTh 11.1.21 (a. 385). 11.1.9 (a. 365).

²³ P. Freer 08.45 c-d (6. cent.) l. 30, cf. J. Gascou, 'La table budgettaire d'Antaeopolis', in: *Hommes et richesses dans l'Empire byzantin I, 4.-7. siècle* (Paris 1989), 279-313, esp. 301.

²⁴ P. Cair. Masp. 67057 (ca. a. 539) l. 10.

²⁵ Over these districts ruled the pretorian prefect Mamertinus, to whom the following was addressed: CTh 8.5.23 (a. 365); cf. Zosimus 2.8.3.

²⁶ CTh 8.5.60 (a. 400).

²⁷ CTh 8.5.64 (a. 403).

²⁸ CTh 8.5.58 (a. 398); 8.5.60 (a. 400); 8.5.21 (a. 364).

²⁹ CTh 8.5.31 (a. 370 [376 Seeck]).

but it is nevertheless conceivable that they did. If this applies, Procopius' reference can concern only additional sales in Procopius' text, which the farmers transacted with the grooms in supplementation of their state rations. However, if the manning of minor service was not carried out by state personnel any more - as could for instance have been the case in parts of Egypt³⁰ - then the grooms were normal consumers acquiring all their supplies by purchase, and so formed a better sales opportunity for the farmers.

Altogether the complaint of Procopius nevertheless appears to be exaggerated, because in the inland regions the state rest and change stations cannot have formed the only outlet of the farmers. Mainly the local markets were certainly their customers. A decrease in the number of stations alone - if it took place at all - can therefore hardly have brought about the ruin of the agrarian producers. If one however does not only think about the grooms of the stations - specified by Procopius as customers - but takes into account that at the same places beside official traffic also private traffic was very probably conducted, then the stations actually had a larger volume as outlets for the surrounding farms. The losses for agrarian producers were then certainly larger when such stations were abolished.

To sum up, state transport consisted to a large extent of private sector resources, which were bound by obligation and compulsion to the state. Interactions between state and private sector and the ties which bound them become clear particularly in the burdens and obstacles, to which state transport gave rise and of which we hear so much in the sources. We can however, also observe positive influences of state transport on the private sector, although to precisely what an extent they operated is not clear.

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³⁰ P. Got. 9 (a. 564) shows a registrar whose wages were paid by corporations; cf. Kolb 2000, op. cit. (n. 3), 198.

MILITARY SUPPLY DURING WARTIME
By
JOSÉ REMESAL RODRÍGUEZ*

Research on food in the ancient world has made an enormous advance in recent years. The subject has been tackled from different perspectives, one of them being the study of military supply in the Roman Empire¹. My work has followed this last approach: the study of food supply to distant regions and the intervention of the Roman government in the organisation of food supply to the army and to Rome.

Following this line of research, I believe I have sketched out the following:

-The *praefectura annonae* not only had the duty to control the required grain for the *frumentationes* in Rome but also had the function of controlling food supply to Rome and to the army. This view is contrary to the thesis of H. Pavis d'Escurac².

-As a result of the above, there never existed an office of the *annona militaris* because one office monitored all needs of the Roman state, that is, the supply to Rome and to the army. This approach contradicts the thesis by D. Van Berchem³.

-The Roman state, by accepting tax payments in goods, in addition to products obtained from Imperial lands, had a considerable volume of products by which it could influence market prices in Rome.

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¹ Current research has been biased by the work of D. van Berchem who denied the existence of a central office of food supply. See D. van Berchem, 'L'Annone militaire dans l'Empire romain au IIIe siècle', *Mémoires de la Société Nationale des Antiquaires de France* 10 (1937), 117-202; Idem, 'L'annone militaire est-elle un mythe?', in: *Armée et fiscalité dans le monde antique* (Paris 1977), 331-339; O. Hirschfeld, *Die kaiserlichen Verwaltungsbeamten bis auf Diocletian* (Berlin 1905), 230-246; R. Cagnat, *L'armée d'Afrique et l'occupation militaire de l'Afrique sous les empereurs* (Paris 1913), 311-326; J. Lesquier, *L'armée romaine d'Auguste à Dioclétien* (Cairo 1918), 347-375 denied the existence of a central office of supply in Rome. See J. P. Adams, *Logistics of the Roman Imperial Army: Major Campaigns on the Eastern Front in the first three centuries AD* (Ann Arbor, Michigan 1976); L. Wierschowski, *Heer und Wirtschaft. Das römische Heer der Prinzipatszeit als Wirtschaftsfaktor* (Bonn 1984). For military supply during the Roman Republic see: A. Labisch, *Frumentum commeatusque. Die Nahrungsmittelversorgung der Heere Caesars* (Maisheim 1975); P. Erdkamp, *Hunger and the Sword. Warfare and Food Supply in Roman republican Wars (264-30 B.C.)* (Amsterdam 1998).

² H. Pavis d'Escurac, *La préfecture de l'Annone, service administratif impérial d'Auguste à Constantin* (Roma 1976).

³ Van Berchem 1937, op.cit. (n.1); Van Berchem 1977, op.cit. (n.1). Another contrasted opinion to the thesis of D. van Berchem is the one by A. Cerati, *Caractère annonnaire et assiette de l'impôt foncier au Bas-Empire* (Paris 1975).

- In this way, the state could also control the prices of those products that were offered to the soldiers and, consequently, soldiers were freed from any fluctuation in their salaries.

- I have also pointed out the fact that the Roman state withheld two thirds of the soldier's pay as payment for maintenance. This is shown in the Latin papyrus Genève no.1 and recently, in the Massada documents⁴.

- The facts stated in the paragraph above are significant for the elucidation of the functioning of the Roman economy and particularly for theories and discussions about the amount of coinage required to keep the army active.

- All these considerations have led me to propose that the finances of the Roman state were based on a system of compensations between Rome and her provinces and between each and every province. I have thus analysed the Roman system as a system of interdependencies of economic, political and social character, whereby it is required to know the development and function of each of the provinces in order to understand the role that each of them had in the total evolution of the Roman Empire. This is what I have called the "annonary system" and "system of interdependencies".

For my research, I set off from the analysis of a particular research subject, that of the production and trade of Baetican olive oil. Through the study of this phenomenon, I have attempted to study the whole economic organisation of the Roman Empire. I believe that a detailed analysis of a specific historical phenomenon, insignificant as it may seem at first sight, might help to clarify the historical situation at a particular moment in time. Accordingly, my work has focused on two aspects: first of all, the study of the production and trade of Baetican olive oil during the early Roman Empire and, secondly, the economic and political implications of this trade. The work has been carried out always bearing in mind that, in the ancient world, as in our modern world, the control of foodstuffs is one of the most important aspects of any society. It was particularly so in Roman society where the Emperor was obliged to satisfy the needs of a triumphant people, Rome and her Army, and at the same time, to offer them the resources of a large Empire⁵.

⁴ H. Cotton & J. Gaiger, *Masada II. Yagazel Yadin Excavations 1963-1965. Final Report: The Latin and Greek Documents* (Jerusalem 1989), no. 722.

⁵ For my earlier work on this topic see: J. Remesal Rodriguez, 'Ölproduktion und Ölhandel in der Baetica: Ein Beispiel für die Verbindung archäologischer und historischer Forschung', *Münstersche Beiträge zur antiken Handelsgeschichte* (1983/2), 91-111; Idem, *La annona militaris y la exportación de aceite bético a Germania* (Madrid 1986), translated as *Heeresversorgung und die wirtschaftliche*

I have therefore proposed a model for the interpretation of the Roman economy whereby the state had a significant role in promoting the economy. The needs of the state led it to rely for many commodities on private traders⁶ and therefore, behind the trade controlled by the state, a long-distance trade developed.

In my opinion, research on Roman government has usually been undertaken by making use of a technique that I would call "vertical prosopography". First, this type of research was needed because it was necessary to define Roman administrative functions and their historical development. Second, there was no opportunity to develop a "horizontal prosopography" (a synchronic analysis of all functional levels in a particular administrative function) due to a lack of sources. This type of studies would allow us, in my opinion, to know more precisely not only the administrative practice of the Roman Empire but also the relationship between the numerous characters that managed the government and consequently, to gain a better knowledge of the society of the Roman Empire.

Beziehungen zwischen der Baetica und Germanien (Stuttgart 1997), with additional epigraphic evidence; Idem, 'Die Organisation des Nahrungsmittelimports am Limes', in: *Studien zu den Militärgrenzen Roms* (Stuttgart 1986), 759-767; Idem, 'Die Procuratores Augusti und die Versorgung des Römischen Heeres', in *Aktien des 14. internationalem Limeskongresses* (Wien 1990), 55-65; Idem, 'Sextus Julius Possessor en la Bética', in: *Alimenta. Estudios en homenaje al Dr. Michel Ponsich*. Anejos de Gerión 3 (Madrid 1991), 281-295; Idem, 'Instrumentum domesticum e storia economica: le anfore Dressel 20', *Opus* 11 (1992), 105-113; Idem, 'El sistema annonario como base de la evolución económica del Imperio Romano', in T. Hakens & M. Miró, eds., *Le commerce maritime romain en Méditerranée occidental. PACT* 27 (Rixensart 1995), 355-365; Idem, 'Mummius Secundinus. El Kalendarium Vegetianum y las confiscaciones de Severo en la Bética. SHA, Severus 12-13', *Gerión* 13 (1996), 195-221; Idem, 'Baetican olive oil and the Roman economy', in S. Keay, ed., *The archeology of early Roman Baetica* (Portsmouth RI 1998), 183-199; Idem, 'Politica e regimi alimentari nel principato di Augusto: il ruolo dello stato nella dieta di Roma e dell' esercito', in D. Vera, ed., *Demografia, sistemi agrari e regimi alimentari nel mondo antico* (Bari 1999), 247-272; Idem, 'L. Marius Phoebus mercator olei Hispani ex provincia Baetica. Consideraciones en torno a los términos mercator, negotiator y diffusor olearius ex Baetica', in G. Paci, ed., *Epigraphai. Miscellanea epigrafica in onore di Lidio Gasperini* (Roma 2000), 637-652; Idem, 'Politik und Landwirtschaft im Imperium Romanum am Beispiel der Baetica', in P. Herz & G. Waldherr, eds., *Landwirtschaft im Imperium Romanum* (St. Katharinen 2001), 235-255. The central discussion of the ideas here presented is to be found in my work on the *annona militaris* (Madrid 1986; German edition: Stuttgart 1997).

⁶ P. Herz, *Studien zur römischen Wirtschaftsgesetzgebung* (Stuttgart 1988); L. de Salvo, *Economia privata e pubblici servizi nell' Impero romano. I corpora naviculariorum* (Messina 1992); B. Sirks, *Food for Rome* (Amsterdam 1991); E. Höbenreich, *Annona. Juristische Aspekte der stadtromischen Lebensmittelversorgung im Prinzipat* (Graz 1997); *Münstersche Beiträge zur antiken Handelsgeschichte* 20, 2 (2001).

In this paper, I would like to explain my view of the organisation of the administrative office of food supply and the different levels of its administration and supply.

The Roman army made use, when patrolling or defending frontiers, of a logistic organisation that implied the conjunction of various factors. First, it was dependent on the resources that soldiers were able to produce in the *fabricae legionis*. Second, it was also dependent upon the resources that it could gather from around the occupied regions or nearby areas. Third, it depended on the resources that it could manage to carry from far away regions. In wartime, if the army was in enemy territory, it could plunder as much as it could.

The resources that the state could place at the disposal of its army had different origins: they could be products received by the State as taxes in goods, or products coming from the Imperial properties, or products acquired by the State in the market, or finally, products requisitioned by the State (*indictiones*).

The Imperial administrative office left to private hands the transportation of the products carried to Rome. Private traders received an economic compensation (*vecturae*) for carrying those products that were already property of the state. To stimulate the transportation of products to the Roman market, and, in my opinion, also to the army, traders received in exchange social privileges already from the time of the Emperor Claudius⁷. Consequently, as I have already remarked, the need to supply Rome and the army was the main motive that led to the development of long-distance trade and, as a result, this was the main factor for the development of the economy of the Roman Empire⁸.

During peacetime, the army was in a situation whereby it could gather all products required or that were at its reach, whether foodstuffs or any other kind of products, either from areas near its location or from areas which it passed through, as numerous papyri demonstrate⁹.

⁷ Suetonius, *Claudius* 18.2; Caius, *Inst.* I.32c.

⁸ See C. Carreras Monfort, *Una reconstrucción del comercio en cerámicas: La red de transporte en Britannia. Aplicaciones de Modelos de Simulación en PASCAL y SPANS* (Barcelona 1994); P.P.A. Funari, *Dressel 20 Inscriptions from Britain and the Consumption of Spanish Olive Oil*. BAR British Series 250 (1996); C.Carreras Monfort & P.P.A. Funari, *Britannia y el Mediterráneo. Estudios sobre el abastecimiento de aceite bético y africano en Britannia* (Barcelona 1998); C. Carreras Monfort, *Economía de la Britannia Romana: la importación de alimentos* (Barcelona 2000).

⁹ S. Daris, *Documenti per la Storia dell'esercito Romano in Egitto* (Milan 1964); R. Fink, *Roman Military Records on Papyrus* (Princeton 1971). See also Lesquier 1918, op.cit. (n.1) and J. Schwartz,

The decree by Sextus Sotidius Strabo Libuscidianus shows how important it was for the Roman administrative office to guarantee the army supply as well as limiting the prerogative of the use of private means of transport by military and civil servants. However, as I have already commented somewhere else, I believe that what is significant is that soldiers had the same privileges as high-ranking civil servants¹⁰.

A well - known letter by Pliny the Younger, with the Emperor Trajan's reply, reveals that even the governor and a special envoy to the emperor had to place part of their guard at the service of the *procurator* who was a freedman having the mission of collecting grain in Paphlagonia. I would like to stress this 'subversion' of the social order. Part of the guard of the governor is placed under the orders of a freedman who was an imperial agent because the supply of food is of prime interest to the state. Any other considerations must abide to that¹¹.

Other documents, like the *Pridianum* from Moesia, reveal that soldiers could be sent to remote provinces with the duty of collecting certain products¹². In their journey from and back to their detachments, these soldiers made use of the system described in the decree of Strabo Libuscidianus. For these journeys, soldiers did not have to carry money with them as any expenses were paid (by means of the final payment of taxes) by the cities that they came across in their journey, as a passage in Siculus Flaccus shows¹³.

Until now, the role of *praefecti castrorum*¹⁴, *primipilares*¹⁵ and *frumentarii*¹⁶ in the supply of their units has been underlined. However, I

'Le Nil et le ravitaillement de Rome', *Bulletin de l'institut français de l'archéologie orientale (Le Caire)* 47 (1948), 179-200.

¹⁰ S. Mitchell, 'Requisitioned Transport in the Roman Empire. A new Inscription from Pisidia', *Journal of Roman Studies* 66 (1976), 87-105; Idem, 'The Requisitions Edict of Sextus Sotidius Strabo Libuscidianus', *Zeitschrift für Papyrologie und Epigraphik* 45 (1982), 99-100; A. Kolb, *Transport und Nachrichtentransfer im Römischen Reich* (Berlin 2000).

¹¹ Plinius Minor, *Epistulae* 10.27-28.

¹² British Museum Papyrus 2851; Fink 1971, op.cit. (n.9), nr.63.

¹³ Siculus Flaccus, *De conditione agrorum* (Ed. Lachmann) 165. 3-8: *Quotiens militi praeterunti aliive cui comitatui annona publica praestanda est, si ligna aut stramenta deportanda, quaerendum quae civitates quibus pagis huiusmodi munera praeberet sollicitae sint.*

¹⁴ P. Gen. Lat. 1, recto, part II, sector A, 1-2 B, C; Fink 1971, op. cit. (n. 9), nr.10.

¹⁵ A. von Domaszewski & B. Dobson, *Die Rangordnung des Römischen Heeres* (Bonn 1967), 90; A. Mócsy, 'Das lustrum primipili und die annona militaris', *Germania* 44 (1966), 312-326; B. Dobson, 'The Significance of the Centurion and "Primipilaris" in the Roman Army and Administration', *ANRW* II 1 (1974), 329-434; Idem, *Die Primipilaren* (Bonn 1978); Idem, "The *primipilares* in Army and Society", in: G. Alföldy, B. Dobson & W. Eck, eds., *Kaiser, Heer und Gesellschaft in der Römischen Kaiserzeit* (Stuttgart 2000), 139-152.

believe that the way by which these officials transmitted information on their needs has not been the subject of study yet, nor how the state acquired and distributed the materials requested. In my opinion, the *castra peregrina* of Rome, made up of soldiers from any legion, constituted the headquarters of the army where petitions of each unit were received and from where these petitions were sent to either the administrative office of the *annona* or to the provincial governors. The later, by means of military men of their *officium*, were the ones to seek resources. There has been recent emphasis on the role of *beneficiarii*, who carried out the orders of provincial governors, in performing these tasks¹⁷. Payment for products, obtained by purchase or requisition, was the responsibility of *procuratores*. Land transport was entrusted to cities within the limits defined in the decree of Strabo Libuscidianus. Maritime trade was in the hands of *navicularii* who received an economic compensation (*vecturae*) for this commitment. Nevertheless, we cannot forget the role that the Roman army must have played at least in times of war¹⁸.

The recent studies of the logistics of the Roman Imperial Army by T. H. Kissel and by J. P. Roth assemble an enormous amount of information, but do not, in my view, give a comprehensive treatment of the subject, at least in regard to the administrative aspects of military supply¹⁹.

In Table 1, I have compiled epigraphic evidence up to Severan times that explains the organisation, both administrative and logistic, of military supply in wartime. A "vertical" reading of this table shows how the organisation evolves through time. A "horizontal" reading, even though it is limited by lack of documents, shows specific operations at a certain moment in time and the various levels of the economic and financial administrative office of both the state and the army.

1. Financial administration of war

In the first column, I have listed the names of those who, in my opinion, represent the financial authority of military campaigns. The names refer to

¹⁶ M. Clauss, *Untersuchungen zu den principales des römischen Heeres von Augustus bis Diokletian: Cornicularii, Speculatores, Frumentarii* (Bochum 1974).

¹⁷ J. Nélis-Clément, *Les Beneficiarii: militaires et administrateurs au service de l'Empire*. (Bordeaux 2000).

¹⁸ L. de Salvo 1992, op. cit. (n. 6); M. Reddé, *Mare nostrum. Les infrastructures, le dispositif et l'histoire de la marine militaire sous l'Empire romaine* (Rome 1986).

¹⁹ T. H. Kissel, *Untersuchungen zur Logistik des römischen Heeres in den Provinzen des griechischen Ostens (27 v. Chr.- 235 n. Chr.)* (St. Kaharinen 1995); J. P. Roth, *The Logistics of the Roman Army at War, 264 B.C. – A.D. 235* (Leiden 1999).

Imperial slaves and freedmen who, under the title of *a copiis militaribus* first and *dispensatores* later, were in charge of the accounting of war expenditure. It is not yet known to which office these men were assigned. None of them indicates in their inscriptions any link to the *praefecturae* that seem to be most directly involved, that is, the *praefectura annonae* and that of the praetorian prefect. Like Rickman, I also believe that these men were dependent on the office of the *procurator a rationibus*²⁰. Even though the title *a copiis militaribus* does not explain the function of these men, the later use of the title *dispensator* makes it clear that these people were in charge of administrative and economic tasks. Both inscriptions, dated in the 2nd c. AD, seem to indicate specific positions related to certain military campaigns. Literary sources elucidate how the emperor paid personal attention to this matter²¹.

2. Reinforcement of the *praefectura annonae*

The second column shows civilians that contributed to reinforcing the office of the *annonae*. These men were of equestrian rank from the time of the Flavians onwards. We are not in a position to establish a direct relationship between these people and military campaigns. It could well have been that they acted in times of food shortage. However, in the cases of Aurelius Papirius Dionysius²² and Furius Sabinus Aquila Timesitheus²³, their association with military supplies is clearly indicated. In my opinion, it is also clear in the cases of Sex. Julius Possessor²⁴ and C. Attius Alcimus Felicianus²⁵. I understand the function of *proc. Romae frumenti comparandi* of M. Arrutius Claudianus as a task undertaken in Rome (*Romae* is therefore a locative)²⁶, in contrast to the function of M. Claudio Faustus Secu[ndus]

²⁰ G. E. Rickman, *Roman Granaries and Store Buildings* (Cambridge 1971), 271-278. This opinion was already held by D. v. Berchem 1937, op.cit. (n.1), 143.

²¹ Suetonius, *Augustus* 101; SHA, *Vita Hadriani* 11.1; 21, 5; *Vita Antonini Pii* 8.11; *Vita Marci Antonini* 8.14; *Vita Alexandri* 44.2; 52.3.

²² CIL X 6662; H.-G. Pflaum, *Les carrières procuratoriennes équestres sous le Haut-Empire romain* (Paris, Vols. I-III 1960-1961, Supplément 1982) 1 nr. 181.

²³ CIL. XIII 1807; Pflaum 1960/1, op. cit. (n. 22) II nr.317; H.Devijver, *Prosopographia militiarum equestrium quae fuerunt ab Augusto ad Gallienum* (Leuven, I, 1976; II, 1977; III, 1980), F 99.

²⁴ CIL. II 1180; Pflaum 1960/1, op. cit. (n. 22) I nr.185; Devijver 1977, op.cit. (n.23), I 99; Remesal 1991, op.cit (n.5), 281-295.

²⁵ CIL. VIII 822; 23948; CIL. XIII 1797; Pflaum 1960/1, op.cit. (n.22) II nr.327.

²⁶ AE 1972, 572; H. Devijver 1976, op.cit. (n.23) A.166. Julius Possessor was also a *adiutor praefecti annonae ad oleum Afrum et Hispanum recensendum* in Rome, see Remesal Rodriguez 1991, op. cit. (n. 5) in contrast to the opinion of H. Pavis d'Escurac 1976, op.cit. (n.2).

of whom it is said that he was active *in provincia*²⁷. In other cases, like Carpus Palantianus²⁸, T. Flavius Macer²⁹, the unknown *procurator ad olea comparanda per regionem Tripolitanam*³⁰ or others that are known to have accomplished unusual tasks on behalf of the *annona*, it is not known if they acted in times of war or, as I have already said, in times of food shortage³¹. As I have already argued, the *subpraefectura annonae* was probably introduced as part of the enlargement of the organisational structure of the administrative office of the *annona* in response to the Marcomannic Wars. According to current evidence, some men received during the first century A.D. and until the middle of the second century A.D., the titles of *adiutores*, *curatores*, *comparatores*, and in later times, the title of *procuratores*.

3. Curatores copiarum expeditionis (publicani)

In the third column, we include names that have not been studied from the perspective here explained. As Vegetius says: De copiis expensisque sollers debet esse tractatus ut pabula, frumentum ceteraque annonariae species quas a provincialibus consuetudo deposita maturius exigantur, et in opportunis ad rem gerendam ac munitissimis locis amplior semper modus quam sufficit adgegetur. Quod si tributa deficiunt, prorogato auro comparanda sunt omnia³². When the army or the emperor³³ moved from one place to another, their supply was the duty of the provinces to which they went along. Most of the majority of the cities through which the army passed would not have had at their immediate disposal all the resources required to supply the needs of thousands of men or the funds to buy and distribute these resources. Guey has shown the significance of an inscription from Thiatira (Lydia), dedicated to someone whose name is only partially preserved, ...ius Secun... This person supplied legions of Trajan, the legiones V Macedonia, VII Claudia Pia Fidelis, IV Scythica and I Italica, during the Parthian campaign, and put at their disposal any financial resources needed³⁴. In

²⁷ CIL. VIII 12066; Devijver 1976, op.cit. (n.23) C 197.

²⁸ CIL. VI 8470.

²⁹ CIL VIII 5351; AE.1922, 19; Pflaum 1960/1, op.cit.(n.22) I nr. 98.

³⁰ AE. 1973, 76; Pflaum 1982, suppl. op. cit. (n.22) nr.278A.

³¹ For instance, Sex. Attius Suburanus Aemilianus, who was *adiutor Iulii Ursi praefecti annonae* in Flavian times, AE.1939, 60; Pflaum 1960/1, op.cit. (n.22) I nr.56; Devijver 1976, op.cit.(n.23) A 189.

³² Vegetius 3.3.

³³ H. Halfmann, *Itinera Principum. Geschichte und Typologie der Kaiserreisen im römischen Reich* (Stuttgart 1986).

³⁴ J. Guey, 'Inscription du second siècle relative à l'annone militaire', *Mélanges d'Archéologie et d'Histoire* 55 (1938), 56-77.

addition, I have shown that the Digest also attests the existence of men that act as publicani, by means of advancing money and resources to the provinces so as to supply the army and later, by charging them back and thus making a profit³⁵. One individual known to have performed this function is C. Valerius Marianus, attested as adlectus annonae for III Italica³⁶, a legion that was created by Marcus Aurelius as a result of the Marcomannic wars between the years 166 and 170 AD³⁷. In this category, I believe that it is necessary to include actions that have been considered until now as evergetism, namely the advancing of advance money and supplies to individuals' home towns in response to the requirements of a visiting army or emperor. Even though in some cases one can discern a philanthropic attitude, as in the case of the Palmyrian Malē, nick-named Agrippa³⁸, in other cases it is obvious that personal profit could be derived through advancing money and offering low-price products, as in the case of M. Solarius Sabinus³⁹. As Vegetius says, provinces had to provide for the required resources: but, if there are no taxes, gold can buy anything: *Quod si tributa deficiunt, prorogato auro comparanda sunt omnia.* Therefore, wealthy people could become prorogatores auri, making profit in times of war even under an appearance of evergetism.

In this way, the finances of war had a two-fold social repercussion: the provinces had to maintain the army while in movement and, in addition, men that had enough resources could benefit by financing war in advance. The state had also another way to finance war by means of the feared *indictiones* whereby civilians were obliged to sell products at a fixed rate. As Pliny complains, this actually meant an increase in taxes that was very much feared by civilians. Our literary sources are very sensitive to this problem: a good emperor is the one that keeps the balance between the interests of the state and those of society. Augustus, Trajan, Antoninus Pius, and Marcus

³⁵ Dig. 16. 2. 20. (*Papiniani Lib. XIII, responsorum*): *ob negotium copiarum expeditionis tempore mandatum curatorem condemnatum pecuniam iure compensationis retinere non placuit, quoniam ea non compensatur.* Remesal Rodriguez (1986), op.cit (n.5), 98.

³⁶ CIL. V 5036 from Trento where he followed a municipal career. Cf. Pflaum 1960/1, op. cit. (n. 22) I apud nr 181 bis, 481 note 16.

³⁷ Dio Cassius 55.24.4; R.E. XII.2.1535.

³⁸ CIS II 3959; C. Dunant, *Le Sanctuaire du Baal-Shamin à Palmire. Vol. III: Les inscriptions* (Rome 1971), nr 44.

³⁹ AE 1921, 1 = SEG I 276; L. Wierschowski, *Heer und Wirtschaft. Das römische Heer der Prinzipatszeit als Wirtschaftsfaktor* (Bonn 1984), 261 n. 601 where the author gathers several other examples. See also other examples collected by S. Mitchell, 'The Balkans, Anatolia, and Roman Armies across Asia Minor', in S. Mitchell, ed., *Armies and Frontiers in Roman and Byzantine Anatolia*. BAR. International Series 156 (1983) and Kissel 1995, op. cit. (n. 19), 84-88.

Aurelius⁴⁰ all were considered to be good emperors because of this. Pliny, while comparing the policy of Domitian with that of Trajan, writes: *emit fiscus quidquid videtur emere. Inde copiae inde annonae, de qua inter licentem vendentemque conveniat, inde his satietas nec fames usquam*⁴¹.

4. Transport to the frontline

Once products had been received at the military supply bases, they were transported to the battlefield under military control. This important mission was entrusted to equestrian military officers chosen for their ability who, in most cases, obtained military medals in return, as in the cases of L. Aburnius Tuscianus⁴² and M. Valerius Maximinus⁴³.

Supply bases could be set near the front line, as the missions of L. Aburnius Tuscianus and T. Antonius Claudius Alfenus Arignotus⁴⁴ demonstrate, or very far away from the battlefield. For the latter, the missions of C. Cominius Bonus Agricola⁴⁵, M. Valerius Maximinus and L.Castricius Honoratus⁴⁶ are good examples. The first co-ordinated from Arles the collecting of products either from Gallia and Liguria or transported by the *navicularii marini* (who were the ones to offer the inscription)⁴⁷. The second controlled, from his position near the Danube headwaters, the river transport of products that reached Pannonia with the help of, on the one hand, the *vexillationes* of the fleet of Misenum, Ravenna and Britannia and, on the other hand, a light cavalry unit that had the duty of defending the convoy⁴⁸.

⁴⁰ Suetonius, *Augustus* 42.3; SHA, *Vita Antonini Pii* 8.11; *Vita Marci Antonini* 21.9.

⁴¹ Plinius Minor, *Panegyricus* 29. 5.

⁴² AE.1911, 161; Devijver 1976, op.cit.(n.23), A 5.

⁴³ H.-G. Pflaum, Deux carrières équestres de Lambèse et de Zama (*Diana Veteranorum*), *Libica* 3 (1955), 135-154 = AE 1956, 124; Pflaum 1960/1, op.cit. (n.22) I nr.181 bis; G. Alföldy, 'P. Helvius Pertinax und M. Valerius Maximianus', *Situla* 14/15 (1974), 199-215; Devijver 1977, op.cit.(n.23), V 23.

⁴⁴ CIG 3884; Pflaum 1960/1, op. cit. (n. 22) I nr.218 ter; Devijver 1976, op.cit.(n.23), A 132.

⁴⁵ CIL XII 672; Pflaum (1960/1), op. cit. (n. 22) I nr.186; Devijver 1976, op.cit. (n.23), C 220.

⁴⁶ CIL. II 1183; Dobson 1978, op. cit. (n. 15), n.158.

⁴⁷ CIL XII 672.

⁴⁸ Pflaum 1955, op.cit. (n.43), 123-154; Alföldy 1974, op. cit. (n. 43) believes the missions *ad deducendam per Danuvium quae in annonam Pannoniae utriusque exercitu denavigarent* are different to the mission *praepositus vexillationum classium praetorianum Misenatis item Ravennatis item classis Britannicae item equitum Afrorum et Maurorum electorum ad curam explorationis Pannoniae*, dating the former in A.D. 169 and the latter in A.D. 170-171. In my opinion, all the references are to the same mission. Valerius Maximianus, in order to transport products along the river, needed sailors and light cavalry to defend the convoy.

H.G. Pflaum⁴⁹ expressed surprise that C. Cominius Bonus Agricola carried out the duties of his mission as *adiutor procuratoris Augustorum ad annonam provinciae Narbonensis et Liguriae* before he took his third *militia*. However, the mission that he undertook as well as the one by Ti. Plautius Felix Ferruntianus, were not civilian missions intermingled among their *militia* but special missions of military character, previous in both cases to the *praefectura* of a cavalry unit.

5. Head commanders of logistics

Any military campaign requires a good logistic organisation Vegetius puts the point well: *Saepius enim penuria quam pugna consumit exercitum, et ferro saevior fames est. Deinde reliquis casibus potest in tempore subveniri, pabulatio et annona in necessitatem remedium non habent, nisi ante condantur. In omni expeditione unum est et maximum telum, ut tibi sufficiat victus, hostes frangat inopia*⁵⁰

Hunger is worse than anything. The logistics headquarters had to be in the hands of someone, not only efficient, but also someone whom the emperor could trust. Some of the persons to whom was given this role are known to have already carried out important military tasks, for example C. Caelius Martialis⁵¹. Others, like L. Aurelius Nicomedes⁵² and T. Claudius Candidus⁵³, received military medals after carrying out the job. The great majority were rewarded with the entrance to the *ordo senatorius*, as is the case for Plotius Grypus⁵⁴, L. Aurelius Nicomedes, tutor to Lucius Verus and friend of Antoninus Pius and Marcus Aurelius, T. Claudius Candidus, the great general of Septimius Severus, Cn. Marcus Rusticus Rufinus⁵⁵ and M. Aurelius Tuesianus⁵⁶. M. Rossius Vitulus⁵⁷, the head of supply for the three civil war campaigns of Septimius Severus, became a *ducenarius*.

A horizontal reading of the table shows that the evidence may be interpreted in accordance with the five functions that I have been

⁴⁹ Pflaum 1960/1, op. cit. (n. 22) I nr. 186.

⁵⁰ Vegetius 3.3.

⁵¹ AE. 1934, 2; Pflaum 1960/1, op. cit. (n. 22) I nr. 74; Devijver 1976, op.cit.(n.23), C 31.

⁵² CIL VI 1598; Pflaum 1960/1, op. cit. (n. 22) I nr.163.

⁵³ CIL II 4114; G. Alföldy, *Die römischen Inschriften von Tarraco* (Berlin 1975), 130; Pflaum 1960/1, op. cit. (n. 22) I nr.203; Devijver 1976, op.cit. (n.23), C 128.

⁵⁴ Statius, *Silvae* 4.7.15; Pflaum 1955, op.cit. (n.43), 144, n.1. F. Bérard, 'La carrière de Plotius Grypus et le ravitaillage de l'armée en campagne', *MEFRA* 96 (1984), 259-324.

⁵⁵ CIL IX 1582; CIL X 1127. Pflaum 1960/1, op. cit. (n. 22) II nr.234.

⁵⁶ G. Alföldy, 'Zur cursus honorum des Aurelius Tuerarius', *Zeitschrift für Papyrologie und Epigraphik* 34 (1979), 247-272.

⁵⁷ Pflaum 1960/1, op.cit.(n.22) II nr.224; Devijver 1977, op.cit. (n.23), R 11.

commenting upon and corresponds to a well-structured model of organisation. War required a financial control of state resources and this task was entrusted to slaves and imperial freedmen that were probably assigned to the *officium a rationibus*. War obliged the *praefectura annonae* (the office that, in my opinion, was in charge of the supply to Rome and its army) to acquire resources for the army and this task was entrusted, from the Flavians onwards, to men of equestrian rank who executed it from Rome and from the provinces. The duty of the provinces where the army was in action or in transit was that of contributing to the maintenance of the army. This caused the appearance of actual *publicani* who advanced money or goods to the provinces, in exchange for profit, even though in some cases some men did it as an act of evergetism. War required that, once products reached their supply bases, whether near to or remote from the front line, transport to the actual front line had to be entrusted to military men of equestrian rank, who had soldiers and civilians to carry the resources entrusted to them. Finally, war required a logistic direction entrusted to someone who should be both capable and trustworthy.

War is a determining factor for the social and economic evolution of any society⁵⁸. Augustus had created a standing army, extended along a wide frontier. This army had, in theory, a defensive role. The life and the salary of a Roman soldier was not very stimulating. Augustus, however, knew how to give soldiers a stimulus or a future dream: the *aerarium militare*⁵⁹. This ensured soldiers the security of receiving resources to guarantee their pay and to permit their reinsertion into civilian life.

From the total amount of a soldier's pay, part of it was withheld to pay for expenses of his maintenance and equipment. The fact that the state supplied the army meant that, in the first place, soldiers were freed from any fluctuation in prices and therefore, soldiers were more operative in times of war because their subsistence was guaranteed. On the other hand, it also meant that resources, especially food, could be distributed from imperial properties and tax payments in goods, avoiding coinage circulation.

Although the army always played a part in the gathering of whatever it needed, especially in those areas next to their camps, the long-distance trade in staple products like grain and oil and probably many others, was left in

⁵⁸ A. Chastagnol, C. Nicolet & H. Effentome, eds., *Armée et fiscalité dans le monde antique* (Paris 1977); *Économie antique. La guerre dans les économies antiques*. Textes rassemblés par J. Andreau, P. Briant & R. Descart (Saint-Bertrand-de-Comminges 2000).

⁵⁹ M. Corbier, *L'aerarium Saturni et l'aerarium militare. Administration et prosopographie sénatoriale* (Rome 1974).

private hands (*mercatores*, *negotiatores*, *navicularii*, and *diffussores*⁶⁰). This made it possible that, besides a redistributive exchange system that guaranteed a certain benefit to traders, a free-market long-distance trade developed which formed the basis of the economic development of the Roman Empire.

In my opinion, soldiers dispatched to the *castra peregrina* at Rome and to the *officia* of provincial governors were the ones that set up the basis for the logistic structure of the army, through which news about the needs of each unit circulated. A unique office, the *praefectura annonae*, by means of the *procuratores Augusti*, was in charge of the administrative organisation for the collection and distribution of foodstuffs, either for Rome or for the army. In wartime, the system was reinforced in the way I have here attempted to explain.

Barcelona, May 2002

⁶⁰ As inscriptions dedicated to these people show. Remesal Rodríguez 2000, op. cit. (n. 5).

Table 1

Financial administration of war	Reinforcement of the Prefectura annone	Curatores copiarum expeditionis	Transport to the frontline	Head commanders of logistics
T CLAVDIVS FAVSTVS <i>a copiis militaris</i> Cl. Nérón (libertus)	CARPVS PALANTIANVS <i>Adiutor pref. Annonae.</i> Nero (libertus)			
POLYCHRISUS <i>a copiis militaris</i> Flavios (libertus)	MARRVNTIVS CLAVDIANVS <i>Proc. Romae frumenti</i> <i>Comparandi</i> (eques)			PLOTIUS GRIPUS <i>Artiller secretarii annonae</i> (pref. Vehiculorum)
PÆZON	T. FLAVIVS MACER <i>curator frumenti</i> <i>comparandi in annona</i> <i>utris</i> (eques)	...IUS SECVN[...] <i>Cura copiarum expeditionis.</i> 113/14 A.D. (eques)	L. AIBURNINNIUS TUSCIANUS <i>Curator annonae bello Parthico ad</i> <i>riparum Euphratis</i> (Praef. Coh.) 114/117 A.D.	C. CAELIVS MARTIALIS <i>Copiarum curam adiavit,</i> <i>qua universa Dacia devicta</i> <i>est</i> (Trib. Milium)
		M. SOLARIVS SABINVS (Hadrian)		
		Male (qui Agrippa) Palmyra 129 A.D.		
SALVIUS	M. CLAVDIVS FAVSTVS SECV[MDVS] <i>Ad comparationem</i> <i>frumentum in provinciae.</i> (servus)	C. VALERIUS MARIANVS <i>Adelectus annonae Leg. III</i> <i>italicæ</i> 165/166 A.D. (eques)	M. VALERIUS MAXIMIANVS <i>Missus in procinu germanicae</i> <i>expeditionis ad deducendam per</i> <i>Danuvium quae in annona</i> <i>Pannoniae utriusque exercitu</i> <i>denavigarent.</i> (trib. coh.) 169 A.D.	L. AVRELJUS NICOMEDES <i>Cura copiarum ei iniuncta</i> (Pref. Vehiculorum)
	S. IVLIUS POSSESSOR <i>Adiutor Praef. Annonae</i> (eques) 169 A.D.			T. CLAVDIVS CANDIDVS <i>praepositus copiarum</i> <i>expeditiois germanicæ</i> <i>secundæ.</i>
		L. CASTRICIUS HONORATUS (primuspilius) 169 A.D.		

(servus)	M. AVRELIUS PAPIRIUS DIONYSIUS Præf. <i>Vehiculorum a copiis</i> <i>Aug. per viam Flaminiam</i> (eques) P. COMINIVS CLEMENS <i>Subpref. Annonae</i> Post 170 A.D. (eques)	C. COMINIUS BONUS AGRICOLA <i>adieuotor præc. Augg. ad annoram</i> <i>provinciae Narbonensis et Liguriae</i> 176-180 A.D. (Trib. leg.)	T. PLAUTIUS FELIX FERRVNTIANVS <i>proc. Ad solaminiu (sic) et horrea</i> (Trib. mil.) post 176 A.D.	T. ANTONIVS CLAVDIVS ALFFENVS ARIGNOTVS <i>Curator annone portas Seleustiae</i> <i>Pieriae</i> (Præf. Coh.) 173 A.D.	M. ROSSIUS VITVLVS <i>præpositus annoneae</i> <i>expeditiois felicissimæ</i> <i>urbicae 193 A.D.</i> <i>procurator arca</i> <i>expeditiois 193-194</i> A.D. <i>procuator annoneae ob</i> <i>expeditioem felicissimam</i> <i>gallicam 196-197 A.D.</i> (Præf. Alæ)	
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		CN. MARCIVS RVSTICVS RVFINVS <i>praepositus annoneae</i> <i>Imp. Laci Septimi Severi pii</i> <i>Pertinaci et M. Aurelii</i> <i>Anonini Augg.</i> Before 205 A.D.
C. FVRIVS SABINIVS AQVILA TIMESTITHEVS proc. Prov. Syriæ Palestinae ibi exactor reliquorum annoneae sacrae expeditionis 232 A.D.	C. SULGIVS CAECILIANVS <i>praepositus thensauris dominicis et</i> <i>bastigis copiarum devehendarum</i> 231-233 A.D.	M. AVRELIVS TVESIANVS <i>Præpositus sacrae</i> <i>annoneae expeditionalis</i> 231-233 A.D.
C. ATTIVS ALTIMVS FELICIANVS proc. annoneae prov. Narbonensis		IGNOTVS <i>præpositus annoneae expeditio-</i> <i>nis germanicae</i>

‘A STARVING MOB HAS NO RESPECT’
URBAN MARKETS AND FOOD RIOTS IN THE ROMAN WORLD, 100
B.C. – 400 A.D.¹
By
PAUL P.M. ERDKAMP

Introduction

“One may not hoard in the Land of Israel those products which are basic commodities such as wines, oils, flours and fruits [...] During a year of drought one should not even hoard a *kab* of carobs since it introduces a curse into the prices.”²

The Talmudic texts of Roman Palestine contain many such prohibitions; in general, it was not allowed to export or resell food or to profit from dearth. Although one recent commentator dismisses these laws as the Rabbinic view of an economic utopia, which does not reflect any economic reality, they do reflect a common feeling about what is right and wrong in dealing with matters of food supply.³ The fear of dearth and high prices, which lies at the heart of such regulations, is widespread in Antiquity. “Give us our daily bread” should be taken literally. Christianity developed its own tradition regarding food supply. In his *Sermons*, Augustine (354–430 A.D.) wrote that hunger was man-made and not caused by bad weather. Hence, if there was hunger, somebody was to blame.⁴ For most of the populace of Rome and other cities, whose living standards were low at best of times, a sudden rise in food prices would recall memories of hunger and starvation. The members of the ruling elites intervened in the market and regulated market supply, primarily to avoid dearth. Why did the elite go to such length to avoid ‘a curse into the prices’? Sometimes, when confronted with a shortage of food, the masses of the cities rioted. Why did they riot?

¹ The food supply in the Graeco-Roman world has not failed to attract scholarly attention in past decades and there is no need to repeat all data and arguments here. While trying to substantiate my main arguments concerning the urban response to market failure, the following paper inevitably ignores many points of debate. I hope to discuss these issues and other topics in more detail later. Meanwhile, for brevity’s sake, references will be limited mostly to publications later than P.D.A. Garnsey, *Famine and food supply in the Graeco-Roman world. Responses to risk and crisis* (Cambridge 1988). For further references, see Garnsey’s comprehensive work.

² T Avodah Zarah 4(5):1. Quoted from Z. Safrai, *The economy of Roman Palestine* (London 1994), 310.

³ *Ibidem*.

⁴ Augustine, *Sermons* 25.4.

Thompson's 'moral economy'

In 1971, E.P. Thompson published his seminal essay, titled 'The moral economy of the English crowd in the eighteenth century'.⁵ Previously, food riots were commonly regarded as instinctive responses to hunger, simple reactions to a direct stimulus. In his study of food riots in eighteenth century England, this view was rejected by Thompson as "crass economic reductionism" and as not explaining adequately either the complex nature of motive and behaviour of those people rioting or the function of food riots themselves. Far from being simply responding to hunger, the tumultuous crowd consciously behaved according to well-established ideas and objectives. Although deprivation or even hunger may have aroused food riots, more important is that the people responded to the feeling of being treated outrageously by farmers and traders. Rioters in eighteenth century England felt legitimised "by the belief that they were defending traditional rights or customs; and, in general, that they were supported by the wider consensus of the community".⁶ If the food market did not provide sufficient food to all, or at least not at a price regarded as 'just', it did not operate according to their norms of what was right and the people therefore had a right to take matters into their own hands. Their beliefs were "grounded upon a consistent traditional view of social norms and obligations, or the proper economic functions of several parties within the community, which, taken together, can be said to constitute the moral economy of the poor".

According to Thompson, the traditional beliefs of the masses of the eighteenth century concerning food supply largely stemmed from governmental measures in previous centuries.⁷ Between 1580 and 1630, the Crown empowered local magistrates to search the stocks of grain of landowners and merchants, to enforce the sale of at least part of this grain on the market and to ensure that the grain market functioned in a way as to ensure a moderate price. Though these laws fell into abeyance during the later seventeenth century, they remained firmly fixed in the collective memory of the English people. When during the eighteenth century the magistrates failed to act upon these former measures in times of dearth, the people felt they had a right to take matters into their own hands and do what the government failed to do. Hence, during the eighteenth century riots, the

⁵ *Past and Present* 50 (1971), 76-136.

⁶ *Ibidem* 78.

⁷ *Ibidem* 107 ff.

tumultuous crowd did not behave haphazardly, but punished the offending landowners and traders, searched the stocks in barns and granaries, and often sold what they found at a 'just' price. Killings, however, hardly ever occurred.⁸

In a later publication, Thompson welcomed, although not wholeheartedly, the application of his concept beyond its original context to include "cultures whose moral premises are not identical with those of a Judeo-Christian inheritance".⁹ This paper intends to be one such application. The roots of European traditions, as of Christianity itself, partly lie in the Graeco-Roman world. John Bohstedt, one of the most persistent opponents of Thompson's moral economy, agreed that "rioters acted on the basis of moral judgements about markets".¹⁰ He disagreed, however, with Thompson's specific explanation of the nature and origin of the rioters' beliefs. According to Bohstedt, the beliefs of the rioters did not originate in official regulation, but had a much more general background: "rioters seemed to be simply taking the most direct approach to their manifest problem of high prices". The causal relationship between riot and regulation are compared to the 'chicken-and-egg' question. While it is agreed by Bohstedt that the people's actions were aroused in times of dearth by offences to what they believed to be the 'morals' of the food market, these beliefs were much more general and less specific than Thompson's concept. Bohstedt's words regarding early modern England may also be true regarding market regulation and food riots in the ancient world: "Probably riot and paternalist regulation were a political chicken and egg, emerging *pari passu* as markets and trade developed."¹¹ The 'moral economy' remains a valuable analytical concept, which directs ancient historians to some of the

⁸ The bibliography on the 'moral economy' and food riots has become very extensive indeed. The following titles may be cited as of particular interest to ancient historians: Louise A. Tilly, 'The food riot as a form of political conflict in France', *Journal of Interdisciplinary History* 1 (1971), 23-57; J. Stevenson, 'The "moral economy" of the English crowd. Myth and reality', in: A. Fletcher and J. Stevenson, eds., *Order and disorder in early modern England* (Cambridge 1985), 218-238; H.-D. Löwe, 'Teuerungsrevolten, Teuerungspolitik und Marktregulierung im 18. Jahrhundert in England, Frankreich und Deutschland', *Saecculum* 37 (1986), 291-312; J. Bohstedt, 'The moral economy and the discipline of historical context', *Journal of Social History* 26-1 (1992/93), 265-284; M. Gailus, 'Food riots in Germany in the late 1840s', *Past and Present* 145 (1994), 157-193; B. Sharp, 'The food riots of 1347 and the medieval moral economy', in: Adrian Randall and Andrew Charlesworth, eds., *Moral economy and popular protest* (Basingstoke 2000), 33-54; J. Bohstedt, 'The pragmatic economy, the politics of provisions and the 'invention' of the food riot tradition in 1740', in *idem*, 55-92.

⁹ E.P. Thompson, 'The moral economy reviewed', E.P. Thompson, ed., *Customs in common* (London 1991), 345.

¹⁰ Bohstedt 1992/93, op. cit. (n. 8), 265.

¹¹ Bohstedt 2000, op. cit. (n. 8), 78, 80.

questions they should ask about food riots in the Graeco-Roman world: Who were the targets of food riots in the towns and cities of the Roman world? What beliefs lie at the basis of the ancient rioters' actions and what were its relations to official regulations and the views of central and local governments? The question whether there was a 'moral economy' of the ancient crowds, and whether the ruling elite shared these attitudes, is important for our understanding of the rights and obligations of the various members of Graeco-Roman society in dealing with the urban food market.

The ancient world cannot match the hundreds of food riots in eighteenth-century England that were analysed by Thompson. Historians of the Graeco-Roman world may wish to follow the example of Thompson, but the ancient sources are much more limited in number and scope than those of early-modern Europe. The courts left no archives for modern historians to study, and there was little reason to commemorate riots on stone. There was, moreover, every reason for local authorities to conceal such events from their Roman overlords, since the latter disliked disturbances. Dio Chrysostom (c. 40 - after 110 A.D.) reminded the people of the town of Prusa (Bithynia, modern Turkey): "Just as relatives denounce to the teachers the children who are too disorderly at home, so also the misdeeds of the communities are reported to the proconsuls."¹² We have to make do with sparse mentions in the literary sources, sometimes in contemporary speeches and letters, more often in later works of historiography.

Remarkably, Athens has left no evidence of food riots, and neither has the Greek or Hellenistic world in general. Lack of evidence cannot explain the silence regarding Athens: authors like Xenophon or Aristotle, let alone Demosthenes or Lysias, are very interested in the city's food supply. Regarding the Hellenistic states, however, the case is different. As Garnsey states: "the evidence is predominantly epigraphic and weighted towards the successful resolution of food crises rather than their less cheerful aspects." However, Garnsey assumes that riots were rare events in the Hellenistic age, since euergetism "could usually be relied upon to ward off both starvation and unrest".¹³ However, the ancient elite never had the economic capacity to ward off shortages, although they could shift the impact somewhat. An argument from silence is inadmissible in this case. Moreover, the ancient sources paint a distorted, or rather incomplete picture. Ancient historiography is largely about the deeds of great men in the field of war and

¹² Dio Chrysostom 46.14.

¹³ Garnsey 1988, op. cit. (n. 1), 30.

in the public domain of urban politics. Inevitably, we will read most about those food riots that had any relationship to statesmen and grand politics. However, this makes the few other instances even more interesting.

The following section distinguishes food riots in Rome and those in the cities of the Roman Empire. Interestingly, Garnsey's "impression is that peaceful protest was much more common than riot, and that only in the city of Rome itself in certain periods was the food riot a phenomenon of any significance".¹⁴ The first statement might be true, but lack of evidence does not allow its substantiation. In any case, the latter is a far more significant form of communication between the rulers and the ruled, both in the capital itself and in the lesser towns and cities of the Roman Empire.

Something should be said, however briefly, about governmental intervention in the urban markets during the Roman era. The measures taken by the government concerning the food supply of the capital were largely aimed at solving one way or another the lack of a sufficiently stable supply of corn to reduce price volatility, which is symptomatic of the weakness of the market in the Roman world. On the one hand, the corn dole and the importation of tax-corn did not so much regulate the corn-market as to bypass it. The steady provision of cheap (or even free) corn to part of the city's consumers reduced their dependency on the market and thereby weakened the impact of supply shocks on market prices. On the other hand, privileges to traders tried to improve the performance of the market by providing added incentives to corn merchants to supply the city of Rome. In order not to endanger market supply, the price of corn was not permanently fixed. Roman authorities were much less directly interested in the food supply of the provincial towns and cities. Nevertheless, Roman officials intervened regularly in local affairs. In all other respects, the market intervention on behalf of urban consumers and the instruments that were available to the local elite had probably not much changed in Roman times in comparison to the classical or Hellenistic Greek world.¹⁵ In times of dearth, benefactors and officials used available stocks or bought corn on their own or the city's expense, and made corn available to at least part of the urban population in order to limit the impact of supply shocks. Urban magistrates controlled the price of bread, but usually not the price of corn. Price volatility remained a prime concern for local authorities. However, the presence of Roman authorities significantly altered the workings of market intervention. Firstly,

¹⁴ *Ibidem*.

¹⁵ Likewise, Garnsey 1988, op. cit. (n. 1), 266.

the Roman emperor controlled huge amounts of corn and on occasion made these stocks available to provincial cities. Secondly, urban rulers and their subjects could count on the intervention of provincial governors, who had the power and authority to force traders, landowners and neighbouring communities into compliance.

Food riots in Rome and Italy

Despite regular market intervention and ad hoc measures, prices would sometimes rise and the system would seem to fail in the eyes of the common people. The satirical novel of Petronius provides an interesting, though fictional example of how dearth could lead to rumours and urban unrest. One of the characters, Ganymedes, is made to exclaim:

“You go talking about things which are neither in heaven nor earth, and none of you care all the time how the price of food pinches. I swear I cannot get hold of a mouthful of bread to-day. And how the drought goes on. There has been a famine for a whole year now. Damn the magistrates, who play ‘Scratch my back, and I’ll scratch yours’ in league with the bakers. So the little people come off badly; for the jaws of the upper classes are always keeping carnival. I do wish we had the fellows I found here when I first came out of Asia. [...] I remember Rafinius [...] You could trust him [...] So at that time food was dirt-cheap. Buying a loaf of bread for an as, it took more than two to eat it. One sees an ox’s eye bigger now!”¹⁶

The novel is set in southern Italy in Petronius' own time, i.e. mid first century A.D. Clearly, Petronius refers to price fixing by way of establishing the weight of bread. Parallels of this practice may be found in the city of Ephesus in antiquity and in early modern cities throughout the early modern era. In their discussion of prices fixed by the *agoranomoi* of the city of Ephesus, Garnsey and Van Nijf point out that the price of a loaf of bread was fairly constant, while the weight varied. They rightly conclude from this feature that in Ephesus, the price of a loaf of bread was regulated by varying its weight.¹⁷ Petronius seems to imply that the price was fixed continuously:

¹⁶ Petronius, *Satyricon* 44.

¹⁷ P.D.A. Garnsey et O.M. van Nijf, ‘Controle des prix du grain à Rome et dans les cités de l’empire’, *La mémoire perdue. Recherches sur l’administration romaine* (Rome 1998), 311 f.

when a man like Safinius had been aedile, a small sum bought a lot of bread; during the present shortage, it is smaller than the eye of an ox. Obviously, the bakers were instrumental in fixing the weight of a loaf of bread, but, as Ganymedes complaints, nowadays, aediles are in league with the bakers. Contemporary graffiti in Pompeii reveal the close connection between *aediles* and bakers: "Please elect Gaius Iulius Polybius aedile. He has good bread."¹⁸ During his tirade, Ganymedes makes the following remark: "If we had any spunk in us he [the magistrate] would not be so pleased with himself. Nowadays people are lions in their own houses and foxes out of doors" (*Sat.* 44). This is clearly a reflection of how rumours and dissatisfaction with public officials could lead to unrest and rioting.

Naturally, rioters aimed their actions at those people they thought responsible for ensuring an adequate supply. This feature is common of food riots in the city of Rome throughout Antiquity, although late Republican crowds directed their anger at different people than their imperial or late-Roman counterparts. During the highly contentious first century B.C., food riots were part of the political unrest that was rife in the city of Rome. Nevertheless, these riots were genuine food riots.¹⁹ In 75 B.C., a mob, which, according to our source, was worn down by scarcity, attacked the consuls, which had to take refuge in the house of one of them.²⁰ In 67 B.C., rioters threatened the Roman Senate, because the senators hesitated to give Pompey the wide-ranging powers that were necessary to deal with the pirates who threatened the city's corn supply.²¹ Ten years later, on two occasions, tumultuous crowds again demanded full power for Pompey, this time to deal directly with the corn supply of Rome.²² During the civil war against Sextus Pompeius, food shortages arose in the city because of hostilities. Hence, the population demanded restoration of peace.²³ Although not strictly Republican, one may add the riot of 22 B.C., during which rioters threatened to burn the senators alive if they did not hand the *cura annonae* to Augustus.²⁴

¹⁸ CIL IV, 429.

¹⁹ Cf. Garnsey 1988, op. cit. (n. 1), 31, 206 ff. See also D. Cherry, 'Hunger at Rome in the late Republic', *Echos du monde classique* 37, n.s. 12 (1993), 449 f.

²⁰ Sallust, *Historiae* 2.45 M.

²¹ Cassius Dio 36.24.2 f. Cf. Plutarch, *Pompeius* 25.1.

²² Cicero, *de domo sua* 1 ff; Cassius Dio 39.9.2 f. Cf. Plutarch, *Pompeius* 49.4 ff.

²³ Appian, *De bello civili* 5.67 f; Cassius Dio 48.31.1 ff. Cf. Suetonius, *Augustus* 16.1; Cassius Dio 48.18.1.

²⁴ Cassius Dio 54.1.3 f.

Rioters aimed their violence against the people who they thought were responsible for taking the necessary measures, which meant throwing stones at the consuls in 75 B.C., at the senators in 67, 57 and 22 B.C. and at Octavian and Mark Antony in 40 B.C. Food supply and food riots were a public affair. Hence, riots often took place in the theatre or during political gatherings.²⁵ Although some politicians used food riots to aid their own cause, rioters acted upon their own initiative and had their own agenda. In his speech concerning the troubles in 57 B.C., Cicero carefully distinguishes between the role of Clodius in stirring up violence and the genuine unrest among the “people of Rome”, who acted upon the legitimate fear that high prices would lead to hunger. If Pompey could give them low prices and shipments to the city of Rome, then Pompey was their man.²⁶ These instances show that politics and food riots were indissolubly connected in many ways, but not simply in the sense that food riots were instruments of political leaders to put pressure on the government.

In his account of the riots of which Octavian and Mark Antony became victim, Appian (d. 160s A.D.) refers to attacks on the houses of the rich. Previously he made mention of similar actions of the Roman mob:

“The mass of the people in Rome openly denounced the war and the victory, because the grain was kept under guard for the soldiers. They broke into the houses in search of food, and carried off whatever they could.”²⁷

The huge number of soldiers that were kept under arms during the civil wars undoubtedly depleted the stores that were available for the city of Rome. However, while the provisioning of the soldiers fuelled the agitation among the Roman populace, the rich had little to do with it and were not to blame. A not historic but nevertheless interesting account of the strained relations between the wealthy and the poor in Rome in 492 B.C. in the works of Dionysius of Halicarnassus sheds additional light on this kind of mob violence:

“Their hatred did not lead to any irreparable mischief as often happens in like disorders. For on the one hand the poor did not

²⁵ Cassius Dio 39.9.2; 48.31.4.

²⁶ Cicero, *de domo sua* 6; 16. Also, Plutarch, *Pompeius* 27.2.

²⁷ Appian, *De bello civili* 5.34. Cf. 5.18.

attack the houses of the rich, where they suspected they should find stores of provisions laid up, nor attempt to raid the public stores.”²⁸

Dionysius would not have deemed it necessary to mention what he thought had not happened in early Rome, if this had not provided a striking contrast to the unrestrained violence of his own time, i.e. the late first century B.C. As far as we know, the victims whose houses were plundered were not held responsible for the shortages in any way. In late Republican Rome, it seems, dearth and high prices were sufficient to legitimise the plundering of civilian and public stores.

Food riots continued in Rome after the restored order of the Principate had succeeded the anarchy of the late Republic. I cannot agree with Garnsey, who writes, “the impression given by the sources is that public disorder of this kind was a peripheral phenomenon under the Principate as opposed to the late Empire.”²⁹ Riots were probably much more common than the few instances recorded in our sources, as is indicated by Suetonius, who writes that Augustus only used freedmen to repress unrest in the city of Rome when fires occurred or when the price of food had risen.³⁰ Nevertheless, neither Suetonius nor the other authors mentions one particular instance of serious rioting during the reign of Augustus, although one historian mentions “commotion in the city ... until the scarcity of grain was at an end” in A.D. 6.³¹

The riots reflect the political changes in Rome from the first century B.C. to the fourth century A.D. The evidence does not support Garnsey’s opinion that the nature of the popular response changed at the end of the Republic: “riots became almost obsolete and demonstration the standard response, once power was concentrated in the hands of one man.”³² Because the emperors became the ones who were ultimately responsible for the food supply of the city,³³ they became the targets of tumultuous crowds, who made use of public appearances of the emperors to make their complaints known. Tiberius was jeered at in the theatre because of high food prices,

²⁸ Dionysius of Halicarnassus 7.18.3. Cf. Garnsey 1988, op. cit. (n. 1), 175.

²⁹ Garnsey 1988, op. cit. (n. 1), 241.

³⁰ Suetonius, *Augustus* 25.2.

³¹ Cassius Dio 55.27.3.

³² Garnsey 1988, op. cit. (n. 1), 31.

³³ Interestingly, the Roman populace feared shortages when Nero left the city. Tacitus, *Annales* 15.36.4.

while a crowd on the forum, who threw pieces of bread at him, physically threatened Claudius. As in late republican times, rioters used the public domain to urge the emperor to lower the prices.³⁴ More than a century later, the audience in the theatre accused Cleander (d. 189 A.D.), a freedman of Commodus, who had been given free rein in the city of Rome by the emperor, of abuse of the city's food supply. A mob that tried to persuade the emperor to eliminate Cleander, were violently attacked by soldiers. The resulting bloodshed eventually led to the freedman's downfall. His head was publicly displayed to placate the Roman populace.³⁵

After a long silence in our sources,³⁶ it is only in mid fourth century A.D. that Ammianus Marcellinus provides us again with a detailed picture of events in the city of Rome. Ammianus Marcellinus regularly remarks on the endemic and violent nature of rioting in the streets of Rome: "a thing which constantly happens in Rome".³⁷ During shortages in contemporary Milan, Ambrose informs us, the populace regularly demanded the expulsion of foreigners and destitute peasants, who had fled from the countryside, as happened in Rome.³⁸ Ammianus sees the *praefectus urbi* as the one who was ultimately responsible for the city's provisioning, remarking for instance regularly on a prefect's administration that there were supplies in abundance.³⁹ Hence, angry crowds of food rioters did not direct their actions on the emperor anymore, who had all but disappeared from the political stage in Rome, but at the *praefectus urbi*. The prefects' responses differed: one prefect had a man, whom he recognised as a ringleader of the crowd, arrested and flogged in public, at which the rioters dispersed. Another prefect pleaded innocence and threw himself at the mercy of the violent mob, holding out his infant sons to arouse their pity.⁴⁰ In 364/5 A.D., the prefect Symmachus incurred the wrath of the city's populace:

"After some years had passed, they set fire to Symmachus' beautiful house in the Transtiberine district, spurred on by the fact

³⁴ Tacitus, *Annales* 2.87; 6.13.1; 12.43; Suetonius, *Claudius* 18.2. Cf. Suetonius, *Augustus* 70.2.

³⁵ Herodian 1.12-13. Cassius Dio 73.13.1 ff says that the troubles were caused by the grain commissioner in order to cause the downfall of Cleander.

³⁶ According to the *Historia Augusta*, *Alexander* 22.7, the Roman populace requested a reduction in the price of pork and beef during the reign of Alexander Severus (222-235 A.D.), but it is unclear whether this event was a real riot. *Historia Augusta*, *Alexander* 22.7.

³⁷ Ammianus Marcellinus 26.3.6. Cf. 14.6.1; 21.12.24.

³⁸ Ambrose, *De officiis* 45 ff; Ammianus Marcellinus 14.6.19; 28.4.32.

³⁹ Ibidem 21.12.24; 26.3.6; 27.3.11.

⁴⁰ Ibidem 15.7.3 ff; 19.10.1 ff. Cf. Ambrose, *De officiis* 46.

that a common fellow among the plebeians had alleged, without any informant or witness, that the prefect had said that he would rather use his own wine for quenching lime-kilns than sell it at the price which the people hoped for.”⁴¹

Tumultuous crowds were not only roused by high corn prices, but also by the high price of wine. Wine, it must be recognised, was an important part of the ancient diet. Already during the reign of Augustus, the Roman populace had complained about the high price of wine, only to be reminded by the emperor of the excellent water supply his son-in-law had built.⁴² Wine had not been an important issue of the city’s administration before the third century A.D. From that century onwards, wine was regularly distributed to the Roman populace. In the 350s and 360s, the price of wine had become just as sensitive as the price of bread, leading to several riots.⁴³

Summing up: from the first century B.C. until the fifth century A.D., the sources indicate that the high price of bread (and later wine) regularly caused tumult among the populace of Rome. The urban poor would have been threatened by starvation if high prices continued too long or occurred too often. Nevertheless, a shortage of wine does not cause hunger, and starving people do not use bread to throw at the emperor. Rioters responded primarily to what they perceived to be injustice, not to hunger. Rioters became sufficiently outraged to put the emperor to flight, to cause bloodshed in the streets of Rome and to burn the house of the city’s highest administrator. They acted in the strong belief that the city’s leading men – whether these were senators, emperors or prefects – were responsible for the conditions on the food market. As far as we know, their demands were not revolutionary: appoint Pompey or Augustus, eliminate Cleander, make peace, improve shipments, fill the granaries, etcetera. However, rioters not only urged statesmen to act on their behalf. They also attacked the houses of the rich and plundered their stores. Remarkably, corn merchants and bakers do not occur at all in the accounts of riots in Rome. The possibility must be admitted that our literary sources might not have been sufficiently interested in rioters’ condemnation of the bakers’ greedy dealings or in attacks on

⁴¹ Ammianus Marcellinus 27.3.4. His successor’s house was almost burned down as well. Ibidem 27.3.8.

⁴² Suetonius, *Augustus*. 43.1. Wine and olive oil were distributed, at first during scarcities, later regularly. *Historia Augusta*. *Antoninus* 8.11; *Septimius Severus* 18.3; *Alexander* 22.2; *Aurelian* 48.1; 48.5. Cf. *Aurelian* 35.2 (pork).

⁴³ Ammianus Marcellinus 14.6.1; 15.7.3.

merchants' property. However, the silence in the sources may be significant in the sense that it reflects not lack of interest, but the rioters' perception of bakers and corn merchants as mere instruments of the governments' care of the city's food supply, and not the one's primarily to blame.

Food riots in the Greek East

The Greek author Philostratus (late second, early third century A.D.) provides us with two interesting examples of urban food riots in the Greek East of the Roman Empire. In his *Life of Sophists*, he mentions briefly that a riot arose in the bread-sellers' quarter of the city of Athens. The angry mob almost stoned to death the famous second century A.D. sophist P. Hordeonius Lollianus, who, as *strategos* of Athens, was responsible for the food supply of the city at the time. The cynic philosopher Pancrates, Philostratus tells us, managed to calm down the riot by observing laconically that "Lolianus sells words, not bread".⁴⁴

Because of the intervention by the miracle-worker and prophet Apollonius of Tyana, whose biography Philostratus has written, the same author provides us with a more detailed narrative of a food riot in the town of Aspendus (Pamphylia, modern Turkey) in the first century A.D. Apollonius, when visiting Aspendus during his travels in the eastern half of the empire, found its population in dire straits, because

"the rich men had shut up all the corn and were holding it up for export from the country. Consequently an excited crowd of all ages had set upon the leading magistrate, and were lighting a fire to burn him alive."⁴⁵

Without saying a word, because he was observing a vow of silence, Apollonius managed to ask the magistrate what was the matter. The magistrate answered that he had done no wrong, but that several landowners, whom he then mentioned by name, kept the corn under lock and key. Apollonius could just stop the crowd from making towards the accused landowners' estates. Instead, he made them send envoys to fetch these men. Once arrived in town, the landowners were so much impressed by

⁴⁴ Philostratus, *Vitae Sophistarum* 526.

⁴⁵ Philostratus, *Vita Apollonii* 15.

Apollonius' statement, which the magistrate read aloud, that "they filled the market-place with corn and the city revived".⁴⁶

A riot in the town of Prusa provides some significant parallels. In the late first century A.D., one of the leading citizens of this town was the wealthy landowner and orator Dio Chrysostom. As one of his orations informs us, Dio Chrysostom was threatened by the populace, together with an unnamed neighbour, to be "stoned or burned to death".⁴⁷ His defence sheds interesting light on the accusations against him and his neighbour:

"No man is more blameless than I am in connection with the present shortage. Have I produced the most grain of all and then put it under lock and key, raising the price? Why, you yourselves know the productive capacity of my farms – that I rarely, if ever, have sold grain, even when the harvest is unusually productive, and that in all these years I have not had even enough for my own needs, but that the income from my land is derived exclusively from wine and cattle. Nay but, some one may claim, though I lend money, I am unwilling to supply it for the purchase of grain. There is no need for me to say anything on that score either, for you know both those who lend money in our city and those who borrow."⁴⁸

In both cases, the market was depleted of corn, which in the case of Prusa explicitly caused high prices, which led to outrage among the rioters. The mobs of the Greek cities were extremely violent (although in the above cases no lives were actually lost): the Athenian sophist was almost stoned to death, Aspendus' leading magistrate almost burned alive, while Dio Chrysostom had to fear either fate. Both Dio Chrysostom and the landowners of Aspendus were accused of hoarding corn, which raised the price. According to the rioters, it was objectionable for wealthy landowners to profit from a stressed market situation or, even worse, to cause dearth in the first place. Instead, landowners had an obligation to supply the local market. For the same reason, the assembly of a Lydian town condemned a citizen to be

⁴⁶ Ibidem. See regarding the wider context of the story, J.J. Flinterman, *Power, paideia and pythagoreanism. Greek identity, conceptions of the relationship between philosophers and monarchs and political ideas in Philostratus' Life of Apollonius* (Amsterdam 1995), 111 f.

⁴⁷ Dio Chrysostom 46.4; 6; 11.

⁴⁸ Ibidem 46.8.

publicly whipped, because he had exported corn during a shortage.⁴⁹ The horizons in the world of the poor were near indeed. As a rich citizen, Dio Chrysostom is blamed for not lending money to purchase corn. It is unclear whether this meant money for a community fund or for individual consumers. However, it is clear that a wealthy citizen should provide money to the community in response to dearth. In general, the rioters in Aspendus and Prusa demanded direct measures from the local elite to improve their market situation: corn on the market and, in the case of Prusa, money to buy it. In Athens and Prusa, the crowd perceived town officials to be a suitable target for their demands, while also Dio Chrysostom was a leading citizen and member of the council of Prusa. Neither in Philostratus' account, nor in Dio Chrysostom's oration do the operatives of the market – corn merchants, local traders, millers and bakers – ever come into view.

Finally, food riots in mid-fourth century A.D. Antioch (Syria) involved members of the imperial family, which makes these cases more like Rome than like Athens, Aspendus or Prusa. In 354 A.D., when Gallus was staying in the city of Antioch, he ordered a lowering of prices, "at an unseasonable time, since scarcity threatened". When the leaders of the senate of Antioch protested, he almost executed them all. The people of Antioch beseeched him to see to the food supply of the city. Gallus, however, refused. After the situation had deteriorated, the lower classes, "driven by hunger and rage", set fire to the houses of leading citizens and subsequently mutilated and killed a local governor. Ammianus Marcellinus stresses that Gallus behaved unlike "leading men whose widely extended power sometimes cures local troubles".⁵⁰ It seems, therefore, that the populace of Antioch could have expected his assistance when they approached him with their request. His refusal undoubtedly added to their outrage.

Less than ten years later, the emperor Julian visited Antioch. "When I arrived among you, the populace in the theatre, who were being oppressed by the rich, first of all cried aloud, 'Everything plentiful, everything dear!'" According to his own account, Julian responded in the expected manner: he urged the rich to supply the market, but to no avail. He then fixed "a fair price" for all goods and had tax-corn imported from neighbouring regions. However, while grain became plenty, all other goods, like wine and olive oil, disappeared from the market. Julian incurred the hatred of the people of Antioch, but he blamed the wealthy citizens for the continuing problems,

⁴⁹ Cicero, *Pro Flacco* 17.

⁵⁰ Ammianus Marcellinus 14.7.2 ff. Cf. Julian, *Misopogon* 370c.

since they secretly sold their goods for inflated prices.⁵¹ Ammianus Marcellinus, although an admirer of Julian, provides a different point of view. He emphasises that Julian, like his brother Gallus, tried to enforce a lower price, "although sometimes, when this matter is not properly regulated, it is wont to cause scarcity and famine".⁵² One is reminded of the price-edict of Diocletian, which unsuccessfully fixed the price of food and many other goods and services.⁵³

The emperor was perceived to be the greatest power on earth; hence, he was the man to seek help from. As in Rome, a public location like the theatre was the place to do so. As Ammianus' remark and Julian's response show, the rioters from Antioch were not addressing the wrong persons. When disappointed by the outcome of their request, however, the rioters unleashed their anger on lesser men: leading citizens' houses were burned and a local governor was killed. The urban populace regarded a plentiful supply of the market as no mere favour; it was their right. The urban populace was entitled to a fair share of the harvest of the local landowners, which meant that market supply was to be plentiful and not to be manipulated by the rich to their advantage. In general, it was the obligation of the imperial and local rulers to see to a sufficient market supply. As in the smaller towns of the Greek East, failure even justified killing in the eyes of the ancient crowd.

The 'moral economy' of the ancient elite

Ancient rioters acted upon very strong notions of what was right and wrong regarding matters of food supply. The question remains, whether the ideas about the obligations of landowners and rulers and about the workings of the market were held in common by the urban masses and their ruling elite. The ancient sources contain numerous statements about the moral aspects of food supply, which reflect the attitudes the wealthy citizens of the Roman world were supposed to have. Whether the orators, historians, philosophers and their social peers actually lived up to their creed is at first of little interest; what concerns us here are the morals of the ancient elite, not their actions.

The morals of the urban elite are explicitly addressed by Philostratus, whose hero Apollonius of Tyana clearly sympathises with the hungry crowds of Aspendus. The tears of the crowd, the groaning of the old men and the presence of women and children affect him deeply. He censures the local

⁵¹ Julian, *Misopogon* 368 ff; Libanius, *Orationes* 18.195.

⁵² Ammianus Marcellinus 22.14.1 f.

⁵³ AE 1973, 526b = H. Freis, (Hrsg. und Übers.), *Historische Inschriften zur römischen Kaiserzeit von Augustus bis Konstantin* (Darmstadt 1994), nr. 151.

landowners with the following words: "The earth is mother of us all, for she is just; but you, because you are unjust have pretended that she is your mother alone."⁵⁴ In other words, the landowners are only caretakers of the earth's products; since the earth is for all, all are entitled to its harvests. By withholding from the populace their share of the harvest, the wealthy farmers are offending the morals of the urban market.

Figures of authority in the Roman Empire continued to hold and publicly acclaim similar notions about the obligations of landowners. In the fourth century A.D., pagans and Christians agreed on these matters, as opinions, which were expressed by the emperor Julian and Ambrose, bishop of Milan, show. As we have seen, the emperor Julian was confronted in 362 A.D. with the outcry of the people of Antioch, "who were being oppressed by the rich". He tried to persuade the leading citizens "that it is better to despise unjust profits and to benefit the citizens and the strangers in your city".

"When I saw that there was truth in the outcry of the populace, and that the pressure in the market was due not to any scarcity but to the insatiate greed of the rich, I appointed a fair price for everything, and made it known to all men. [...] What did your rich men do? They secretly sold the corn in the country for an exaggerated price, and they oppressed the community by the expenses that private persons had to incur."⁵⁵

In the end, Julian confesses, he was disappointed by the ungratefulness of the city's population. However, he remarks, "I thought it was my duty to assist the mass of the people who were being wronged."⁵⁶

Julian's contemporary Ambrose did not only possess religious authority as bishop of Milan, as a Roman senator and son of a praetorian prefect he belonged to the ruling elite of the Late Roman Empire. In a treatise on the duties of the clerics, he dealt with the obligations of landowners. Agriculture, he wrote, is a noble source of wealth. However, a landowner should be satisfied with the rightful earnings that the fertility of the soil and his labour offered. He censured those farmers who fraudulently raised their profits by pretending harvests had failed and by withholding nature's produce, which

⁵⁴ Philostratus, *Vita Apollonii* 15.

⁵⁵ Julian, *Misopogon* 368c ff.

⁵⁶ *Ibidem* 370b.

was intended for all, from consumers. Such profits, he concluded, are at the cost of the common good.⁵⁷ In words that are reminiscent of those of the pagan Philostratus, Ambrose reminds his readers that the produce of Mother Earth is meant for all.⁵⁸

It is agreed by these authors that landowners had a moral obligation to use their harvests, which were as much nature's produce as their own, to the benefit of the community. Since the people were entitled to a fair share of the crop, landowners were not allowed to sell it at the highest possible profit. It was a sign of greed to manipulate the market in order to increase profits. Even the wealthy landowners had to abide by the notion of the 'common good' and the morals of the urban market.⁵⁹

Moreover, one often comes across the notion of a 'just' price.⁶⁰ Whether a price is 'just' or not is not simply determined by its level, but rather by what is perceived as the rightful operation of the market. Not surprisingly, market failure is often blamed on the immoral actions of the landowners and corn merchants, such as hoarding or export in the face of local dearth. Invariably their motive is *avaritia*, i.e. greed.⁶¹ The fourth century Christian author Asterius, addressing the personification of Avarice, writes: "You fill the land with brigands and murderers, the sea with pirates, the cities with riots ..."⁶² This passage serves as a reminder that at the time riots were more common than the few instances in our sources. Because the morals of the market were sometimes violated, it was recognised by the urban elite that the local market required supervision. Dio Chrysostom, for example, censures his audience that their violent behaviour was no proper conduct. "It is necessary to take steps to make it cheaper", but supervision "is the course of sensible human beings and in this no one will oppose you."⁶³ Similarly, the famous price-edict of the emperor Diocletian publicly asserted that low prices were best ensured by curbing the avarice that was, according to the emperor, the source of all economic problems.⁶⁴ Hence, governmental

⁵⁷ Ambrose, *De officiis* 37 ff.

⁵⁸ Ibidem 45. On the development of christian thought about social justice, R. McMullen, *Enemies of the Roman order. Treason, unrest and alienation in the Empire* (Cambridge MA. 1966), 181.

⁵⁹ The religious laws of ancient Palestine offer a further important source of attitudes towards the food market. See recently, Safrai 1994, op. cit. (n. 2), 309 ff.

⁶⁰ Aristotle, *Athenaion Politeia* 49.3. Cf. Julian, *Misopogon* 368d; Libanius, *Orationes* 18.195.

⁶¹ Lysias 22.15; Demosthenes 56.7 f; Cicero, *de domo sua* 11; Philostratus, *Vita Apollonii* 15; Julian, *Misopogon* 368a ff; Libanius, *Orationes* 18.195; Ambrose, *De officiis* 41. Also V.J. Rosivach, 'Some economic aspects of the fourth-century Athenian market in grain', *Chiron* 30 (2000), 61.

⁶² Quoted from McMullen 1966, op. cit. (n. 58), 345.

⁶³ Dio Chrysostom 46.10; 14.

⁶⁴ AE 1973, 526b = Freis 1994, op. cit. (n. 53), nr. 151, 16.

intervention in the food market was perceived and publicly advertised as a necessity in order to guarantee the proper operation of the market.

The communication between the urban populace and the elite

One particular question is stimulated by Thompson's analysis of 18th-century riots: to what degree were the notions held by the urban masses influenced, maybe even determined, by the market intervention of the authorities and by the ideas that the central and local authorities expressed concerning the morals of the market. In classical Greece, food supply had been a concern of the *polis*, the whole community of citizens, and it is often addressed as such in honorific inscriptions and in the orations of Demosthenes and other authors.⁶⁵ The numerous inscriptions of Roman provincial rulers and local elites offer insight into the communication between officials and their subjects in Roman times. Four examples should be sufficient to make this point.

The *agoranomoi* of Ephesus publicly advertise their achievements regarding a 'plentiful' and 'just' market, which was achieved, it is stressed, through their intervention.⁶⁶

Another inscription contains the decision by the provincial governor Antistius Rusticus, whom the councillors of Pisidian Antioch in 93 A.D. asked to intervene in their market. He is called 'patron of the city' because he took care of its corn supply. We are told that the *duoviri* and council of the city had approached the Roman governor because of a dearth and that they requested him "to provide an opportunity to purchase for the populace". He saw to it that private stocks above personal needs were sold and thus supplied the market.⁶⁷ As one of his measures, he determined a maximum corn price, because – as he publicly proclaimed - "it is very unjust to profit from the hunger of a fellow-citizen".

In the late second century A.D., the conduct of the bakers in Ephesus led to unrest among the populace. All our information we owe to the inscription that made public the decision of the provincial governor in this matter. Despite their behaviour, the bakers were not punished, the governor says, because that would not be in the city's interest. What exactly had incited the populace to riot, remains in the dark. However, it seems likely, that the bakers' disregard for market regulations caused rioting of sufficient scale to

⁶⁵ Demosthenes 20,30; 50,59; 56,7; Sylloge³ 304 (c. 325 BC); IG II² 903 (175/4 BC). See also Xenophon, *Memorabilia* 3.6.13; *Poroi* 3.4; Aristotle, *Rhetorica* 1.4.11.

⁶⁶ Garnsey et Van Nijf 1998, op. cit. (n. 17), 307.

⁶⁷ AE 1925, 126 = Freis 1994, op. cit. (n. 53), nr. 65.

warrant the intervention of the provincial governor in this urban conflict. The governor ordered them to adhere to the city's regulation, which had been proclaimed for "the common good".⁶⁸

A law from the emperor Hadrian concerning his favourite city Athens regulated the marketing of fish.⁶⁹ Hadrian probably issued this law while holding a local magistracy.⁷⁰ The inscription containing this law is damaged and thus difficult to interpret and date, but the main issue seems to be the limitation of the role of middlemen on the fish market: "When traders sell the same ware three times, it rises prices." Most significantly, the inscription contains the following order: "Inscribe this letter in stone and have it displayed in Piraeus in front of the market."⁷¹ Thus, the public was kept well informed of governmental policy.

Such inscriptions left no doubt about the emperors' and provincial governors' opinion of the proper workings of the market. These examples show that the urban food supply is publicly addressed as a moral issue that concerned the whole community. The effect of these public statements was dual: they strengthened the authority of the rulers by advertising their exertions on behalf of the community and legitimised the notions of the populace regarding a properly functioning market.

"A starving mob has no respect"

Keeping in mind the conditions of the urban food market in Roman times, it is not surprising that Tacitus depicted the 'mob' of first century A.D. Rome as continuously preoccupied by the price of bread. Tacitus provides the following example from the years of Civil War in 68 and 69 A.D., when a false rumour was spread that the governor of Africa was holding back the corn shipments that were meant for Rome.

"Since the grain ships for Rome were now detained by the severity
of the winter, the common people at Rome, being accustomed to
buy their food day by day and having no interest in public affairs

⁶⁸ Inschr. Magn. 114 = SEG IV 512 = Freis 1994, op. cit. (n. 53), nr. 112. Cf. Diocletian's price-edict, issued on behalf of the 'common good'. AE 1973, 526b = Freis nr. 151, 5. Cf. Garnsey 1988, op. cit. (n. 1), 259. See also P.Oxy. XLII 3048 (246 A.D.): "so that the city [Oxyrhynchos] can have its nourishment and the public necessities can be fulfilled".

⁶⁹ Olive oil: IG II/III² 1100 = SEG XV 108, XXI 501 = Freis 1994, op. cit. (n. 53), nr. 85. Fish: IG II/III² 1103 = Freis nr. 89. Cf. M.T. Boatwright, *Hadrian and the cities of the Roman empire* (Princeton 2000), 91 ff.

⁷⁰ Boatwright 2000, op. cit. (n. 69), 57 ff, 91 f.

⁷¹ IG II/III² 1103 = Freis 1994, op. cit. (n. 53), nr. 89.

save the grain supply, believed in their fear that the ports were closed and the convoys of grain held back.”⁷²

Hence, both the masses, as the food riots show, and the ruling elites, as witnessed by their market intervention, displayed deep concern for the level of food prices. In Rome as in other towns and cities, the main purpose of market regulation was to ensure that the market operated in such a way that supply was plentiful and prices low. Rioters demanded nothing else but a plentiful supply and the proper operation of the market. State authorities and local rulers were held responsible and rulers had accepted the responsibility for the workings of the food market. The process that led to the common acceptance of obligations by the rulers and expectations by the ruled was complex and possibly beyond the scope of our sources to unravel.

While the rulers of the city of Rome and of the towns and cities in the Greek East were guided by notions of what was right and wrong regarding the food market, they were also pragmatists. Regarding a dearth in Rome in 492 B.C., Dionysius of Halicarnassus states that:

“The consuls … took great care to supply the city plentifully with both grain and other provisions, believing that the harmony of the masses depended on their well-being in this respect.”⁷³

This remark is clearly anachronistic for early-republican Rome, but Dionysius provides a very clear and direct statement that statesmen perceived the corn supply as a means to keep the masses quiet.⁷⁴ Plutarch leaves no doubt that Cato the Younger proposed an extension of the corn dole as a political move against Caesar. Nevertheless, Plutarch describes it as “an act of humanity and kindness”. It seems that moral obligations and political gain were not mutually exclusive.⁷⁵ The first century A.D. poet Lucan provides a very hostile parallel in his *Pharsalia* (3.55), which is an epic account of the Civil War of the years 49–48 B.C., which was won by Caesar, whom Lucan heartily despised.

⁷² Tacitus, *Historiae* 4.38. Cf. Procopius, *Bella* 5.25.11: “Since they were all men who worked with their hands, and all they had was what they got from day to day...” Cherry 1993, op. cit. (n. 19), 439 ff offers some estimates of the cost of living in late Republican Rome.

⁷³ Dionysius of Halicarnassus 7.20.

⁷⁴ Cf. Aristophanes, *Wasps* 715; Tacitus, *Annales* 1.2.1.

⁷⁵ Plutarch, *Cato Minor* 26.1. Cf. Caesar 8.4; *Moralia* 818d. Likewise, H. Kloft, H., ‘Das Problem der Getreideversorgung in den antiken Städten. Das Beispiel Oxyrhynchos’, in: H. Kloft, ed., *Sozialmaßnahmen und Fürsorge. Zur Eigenart antiker Sozialpolitik* (Horn 1988), 153.

Caesar “turned purposeful to peace and plans for snaring the affections of the hare-brained mob, assured that above all things the price of bread determines hate or favour: hunger alone makes cities free, and power’s buying fear when it feeds the people apathetic – a starving mob has no respect.”⁷⁶

The general acceptance of a ‘moral economy’ in the ancient world may partly originate in the notion of the city-states as communities of citizens sharing in the resources of the *polis* or *civitas*, which was still the ideal adhered to by Plato.⁷⁷ The development can best be traced in the Greek world, but we may assume that the Italic communities developed along similar lines.⁷⁸ In the archaic age, the power of the aristocrats was based on their control of the land, but it depended also on their capacity to allocate the resources that were required to ensure the survival of their dependants. Economic position and social role were indissolubly connected. However, in the classical period there was “an essential tension in the *polis*, with the interests of the economically dominant group coming into conflict with the interests of the state”.⁷⁹ In the classical *polis*, the authority of the ruling elite largely depended on their ability to provide food and other resources for their community. As the nature of society changed, and it did so most of all in the large cities that emerged along the Mediterranean coast, direct social ties between the elite and the masses disappeared. Food riots may be seen as a reflection of this development, as the urban masses had lost the close ties with a few families, but had gained independence and communicated now in a different way with authorities. By explicitly and publicly making the city’s food supply their obligation, the urban and imperial elites also made themselves the natural target of the discontented populace. The continuous experience of market intervention by the authorities and emergency measures by the wealthy citizens (in an official capacity or not) legitimised

⁷⁶ Lucan, *Pharsalia* 3,53 ff. Cf. Juvenal’s “bread and games”, *Satires* 10,81; Sallust, *Epistula ad Caesarem* 1.7.2.

⁷⁷ Plato, *Nomoi* 847c.

⁷⁸ See discussion and references in T. Cornell, *The beginnings of Rome. Rome and Italy from the Bronze Age to the Punic wars (c. 1000 – 264 BC)* (London 1995), 242 ff.

⁷⁹ P.D.A. Garnsey and I. Morris, ‘Risk and the polis. The evolution of institutionalised responses to food supply problems in the early Greek state’, in: P. Halstead and J. O’Shea, eds., *Bad year economics. Cultural responses to risk and uncertainty* (Cambridge 1989), 101. See also P. Halstead, ‘The economy has a normal surplus. Economic stability and social change among early farming communities of Thessaly, Greece’, *ibidem*, 77 ff. See also on the political origins of the corn dole in Rome: P. Erdkamp, ‘Feeding Rome or feeding Mars? A long-term approach to C. Gracchus’ *lex frumentaria*’, *Ancient Society* 30 (2000), 53-70.

and reinforced the notion that the leading families and representatives of Roman power – in Rome, primarily the emperor himself – were the ones to blame when the system failed.

Conclusions

Thompson's concept of a 'moral economy' proves valuable as an analytical tool of behaviour, ideas and communication in the Roman world. In their communication with the authorities of city and empire, rioters in Roman cities acted upon their notions of 'right' and 'wrong' regarding the urban food supply. These notions were shared and strengthened by the ruling elite, who publicly addressed the urban market as a moral issue that concerned the 'common good' of the community. However, the form these riots took was not solely determined by governmental regulation, in contrast to Thompson's conclusions regarding eighteenth century English riots. While ancient magistrates sometimes requisitioned food stores during shortages,⁸⁰ and thus may have legitimised plundering of civilian stocks by the urban mob, Roman authorities never encouraged local officials to be stoned to death or their houses burned. This feature makes food riots in Roman times unlike eighteenth century English food riots and may support Bohstedt's argument that food riots were based on more general ideas than Thompson allowed. In the end, the urban populace's sense of outrage and their fear of hunger determined the violent nature of food riots in ancient cities.

The ruling elite of the Roman world, which was a land-owning elite, agreed with their subjects on the morals of the market. Food riots did not stem from a fundamental difference of opinion between the populace and 'liberal' statesmen, as was the case at the height of rioting in eighteenth century Europe.⁸¹ The literary spokesmen of the elite – expressing themselves in language that Thompson would label 'paternalistic' – confirm a 'moral economy' that was not governed by profits, but by obligations. Interestingly, market regulation was always to the advantage of the urban populace; it was never in the commercial interest of the land-owning class.⁸² Though trade customs were levied as a source of state finances, import restrictions in order to keep out competition were unknown in Antiquity. During the Principate, there was indeed no need for such a policy, because

⁸⁰ For instance in Pisidian Antioch in 93 A.D.: AE 1925, 126 = Freis 1994, op. cit. (n. 53), nr. 65. Also in Oxyrhynchos in 191 A.D. (P. Oxy. XLVII 3339) and 246 A.D. (P. Oxy. XLII 3048). Cf. Thucydides 8.90.5; Cicero, *de domo sua* 25.

⁸¹ K.G. Persson, *Grain markets in Europe, 1500-1900* (Cambridge 1999), 151 ff.

⁸² Cf. Suetonius, *Augustus* 42.3.

their landownership offered the ruling elite sufficient economic security. A recent analysis of Pliny's letters has shown that "his overriding concern was to maintain the level of income adequate for his social obligations".⁸³ The attitudes of the elites of the ancient world were not only governed by economic considerations of profit, but at least as much by their aspiration of social eminence. The urban food supply constituted an important opportunity to gain and hold the respect and 'harmony' of the masses. In this sense, morals and pragmatism went hand in hand. Riots in antiquity seem not to have triggered a violent response from the authorities, except when the masses threatened to interfere in an unstable political situation, as in the Civil War of the early 30s B.C. and during the reign of Commodus. The ruling elite in the provincial towns and cities did not have any troops at their disposal to deal with mass riots. Their Roman overlords, moreover, expected them to rule their communities by influence and authority, while they supported prominent cities by subventions of corn and access to external markets. The ruling class of wealthy landowners realised that their social status depended largely upon their ability to act as benefactors and protectors of their communities. Faced with the possibility of a food riot by a violent mob, it was often opportune to live up to one's creed and to make sure that market supply was plentiful and the price 'just'.

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⁸³ Recently, D. Kehoe, *Investment, profit and tenancy. The jurists and the Roman agrarian economy* (Ann Arbor 1997), 25 ff (quote from p. 28). See also D. Kehoe, 'Investment in estates by upper-class landowners in early imperial Italy. The case of Pliny the Younger', in: H. Sancisi-Weerdenburg *et al.*, eds., *De agricultura. In memoriam Pieter Willem de Neeve (1945-1990)* (Amsterdam 1993), 214-237.

CALLISTUS'S CASE
SOME LEGAL ASPECTS OF ROMAN BUSINESS ACTIVITIES
By
WILLEM J. ZWALVE

Introduction

Sometime in 222 a certain Callistus consulted the young emperor Alexander Severus about his legal position. He had contracted with a slave and wanted to sue the owner. The owner contended that his liability was limited to the amount of the working capital, *peculium*, at the disposal of his slave. Callistus wanted to know if, and – if so – on what ground, he could sue the owner for the surplus.¹ His question goes to the heart of what we now know as 'business law'; it touches upon the question of limited liability and business law, as we know it, is all about limited liability. Yet Roman law had to do without the legal devices that modern law has come up with in order to achieve that end. There was, in fact, nothing even remotely resembling modern company law in the law of Rome.² But there were devices serving the same needs as modern company law purports to do.

In order to understand the scope of this assessment, it is worth while to draw attention to the origin of modern company law. As every lawyer knows, it is a fairly recent development and, unlike most of modern continental-European commercial law, it was not inspired by the law of Rome. Modern company-law originated in Amsterdam, where, in 1602, the Dutch East India Company, the first joint-stock company in the history of law, was patented. As I see it, there were three motives resulting in the development of that legal device:

- limiting the liability of the directors of the company,
- limiting the liability of the participants in the company,
- raising capital, otherwise not available on the capital market.

The Dutch East India Company was established primarily because of a relative shortness of supply of venture capital on the market. Very few banks and individual entrepreneurs in the Netherlands were prepared to risk the investment of the enormous sums of money involved at such uncertain odds. It is here that we touch upon an important difference between the Roman

¹ C.J. 4.25.2 (Alexander); for the text see n. 48 *infra*.

² M.I. Finley, *The Ancient Economy* (Berkeley 1973), 141 *ff.*

economy and the Dutch economy of the late sixteenth and early seventeenth century. It is the difference between what has been called the first modern economy³ and an economy that was all but modern. Take, for example, the capital market. There was no such thing in Rome. There was a money market, but no capital market in the modern sense of that concept.

Raising capital

One of the first things that strike a modern lawyer as rather odd when contemplating the broader aspects of the Roman credit system as handed down to us in Justinian's *Corpus Iuris Civilis*, is the fact that credit institutions, financing companies and banks, are practically absent from the scene. True as it may be that there are indeed (a few) references to *nummularii*, *tabularii* and *argentarii*, they seem to have lost their way in a world that was largely dominated by other players. This impression is confirmed by some of the very good work that has been done recently on the history of Roman banking, such as Jean Andreau's important book on Roman financial institutions⁴ and Christopher Howgego's inspiring article on the supply and use of money in the Roman world.⁵ Both scholars emphasise that Roman 'bankers' merely offered short-term credit for a particular kind of transactions (especially auctions) to a fairly modest public. The elite, senators and *equites*, did not 'bank with the bankers'. Long term credit for large amounts of money seems to have been above the means of Roman 'bankers'. It was only to be had from private individuals, from enterprising *equites* and senators. They must have had enormous hoards at their disposal, more often than not stashed in temples and *horrei*.

Howgego has stressed the importance of the velocity of circulation of money for the working of a monetary economy. He is right, but one should be very much aware of the fact that in Rome money circulated at a pace much slower than we are accustomed to. One should not be too impressed by a 'monetary' economy that had no need for cheques and bills of exchange.⁶ We know Assyrian traders

³ J. de Vries & A. van der Woude, *The First Modern Economy* (Cambridge 1997).

⁴ *La vie financière dans le monde Romain (les métiers de manieurs d'argent)* (Rome 1987). See also his *Banking and Business in the Roman World* (Cambridge 1999) and A. Bürgi, 'Fiktion und Wirklichkeit: soziale und rechtliche Strukturen des römischen Bankwesens' in *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte* (ZSS) 104 (1987), 465 ff.

⁵ *Journal of Roman Studies* 82 (1992), 1-31.

⁶ This point is also stressed by Fr. de Martino, *Wirtschaftsgeschichte des alten Rom* (Munich 1991), 365.

used those, relatively simple, legal devices almost a thousand years before the apogee of the Roman economy. The fact that they were unknown to Roman law should have some meaning in determining questions relating to the use of money in the Roman empire. Roman law was unable to think of money in other terms than 'real money', that is ready cash as opposed to e.g. the right to receive cash. This inability reflects a pre-capitalistic, if indeed not a rather primitive state of mind that makes the use of the term 'monetary economy' in a description of the Roman economy very misleading.

The Roman upper classes of the Principate, senators and *equites*, have been criticised for not investing their huge fortunes in trade and industry by spending it on luxury goods and the acquisition of land⁷, but they may not have been as irresponsible as is suggested.

'*Quaestus omnis patribus indecorus*', says Livy.⁸ This attitude, as well as the well-known prohibition on owning ships⁹, seems to have left senators with few other opportunities than aggrandising their already considerable holdings in real estate¹⁰ and, indeed, the supply of monetary credit. Not taking into account the popular *fenus nauticum*, exempted from the 12% ceiling on interest rates¹¹, the latter was not attractive. It has been established that in the first century A.D. an investment in Italian vineyards secured an average profit of 7-10%, whereas the average return on a well-secured long term loan was 4-6%¹² and in the age of the Antonines even as low as 3-5%.¹³ No wonder therefore that the younger Pliny had invested practically all

⁷ A.H.M. Jones, *The Roman Economy* (ed. by P.A. Brunt, Oxford 1974), 124.

⁸ 21.63.4.

⁹ *Dig.* 50.5.3 (*Scaevola*).

¹⁰ A.M. Andermahr, *Totus in praediis (senatorischer Grundbesitz in Italien in der frühen und hohen Kaiserzeit)* (Bonn 1998), 1: 'Ein derartiges Wirtschaftsgebaren – Festlegung nahezu des gesamten Vermögens in Grundbesitz bei gleichzeitigem Mangel an flüssigen Geldmitteln – war freilich keine wunderliche Eigenart des Plinius, sondern dürfte für Angehörige der römischen Oberschicht typisch gewesen sein.'

¹¹ The *centesimae usurae* was fixed at a maximum of 12 % *per annum* since the end of the Republic until it was changed by Justinian in 528: Paulus, *Sententiae* 2.14.2-4; C.Th. 2.33.2 and C.J. 4.32.26.2. See for the origin of the *centesimae usurae* M. Kaser, *Das römische Privatrecht* I (Munich 1971), 497 (with further literature). On the exceptional position of the *fenus nauticum* see C.J. 4.33.2 (Diocletianus).

¹² R. Duncan-Jones, *The Economy of the Roman Empire* (Cambridge 1974), 59.

¹³ G. Billeter, *Geschichte des Zinsfusses im griechisch-römischen Altertum bis auf Justinian* (Leipzig 1898), 180.

¹⁴ G. Billeter, op.cit. (n. 13), 211 ff.

his money in real estate and only a little in bonds.¹⁵ There was no market where venture capital was put at the disposal of business enterprises: ‘apparently no influential men were interested in industry’¹⁶, whereas the necessary funds were never at the disposal of the all but influential Roman *argentarii*. Consequently, Roman industry never developed into great concerns: there was no capital available for such enterprises. But, one would venture to observe, neither was there in the Netherlands in the sixteenth century and so Dutch entrepreneurs and their legal council invented the joint-stock company as a means of raising capital. So why did Roman lawyers fail to contrive a financing device like that?

A Roman partnership, *societas*, is not a legal arrangement suited to serve as a financing mechanism.¹⁷ A *societas* was (and is) contracted between partners having in mind the specific qualities of each one of them. It was (and is) essentially a contract obliging the partners to co-operate for a specific purpose, mostly (not always) the pursuit of profit. The emphasis was (and is) on collaboration, rather than contribution. Consequently, the relation between the contracting parties was (and is) of a highly personal nature. Death and bankruptcy of, as well as unilateral renunciation by one of the partners terminated the partnership.¹⁸ Of course, a partner was also unable to transfer his share in the partnership to a third party.¹⁹ The latter aspect is important. A share in a modern joint stock company is, as a rule, an assignable property right. The assignability of bonds and equities is the most essential element of modern company law and of the modern economy as such: the stock exchange, where equities are sold and transferred all over the world every minute of the day, is the symbol of our modern economy. As we have just seen, Roman law did not provide for the assignability of a partnership in a *societas* and neither did it acknowledge the assignability of a common bond.²⁰ True as it may be that an ingenuous device (powers of

¹⁵ *Epistulae* 3.19.8: ‘Sum quidem prope totus in praediis, aliquid tamen fenero, nec molestum erit mutuari’.

¹⁶ M. Rostovtzeff, *The Social and Economic History of the Roman Empire* (Oxford 1927), 165.

¹⁷ This point is also stressed by R.W. Goldsmith, *Premodern Financial Systems* (Cambridge 1987), 36.

¹⁸ See Kaser, op.cit. (n. 11) I, 575. In all cases the partnership was also dissolved as far as the remaining partners were concerned. When they decided to continue the partnership, it was regarded as a new *societas*. See Kaser, l.c. and R. Zimmermann, *The Law of Obligations* (Cape Town 1990), 455-456.

¹⁹ The only thing a partner could do was to share his share in a new (sub-) partnership with an outsider. In such a case there was no relation between that third party and the partners of his partner on account of the maxim ‘socii mei socius meus socius non est’ (*Dig.* 17.2.20 [*Ulp.*]).

²⁰ Gaius, *Institutiones* 2.38 and *Dig.* 41.1.43.1 (Gaius).

attorney) was conceived in order to circumvent the rule against alienability of choses in action, the doctrine of assignment of choses in action was never as central to Roman commercial law as it is in modern law.²¹ I believe all this largely accounts for the absence of a genuine capital market in the Roman economy. In early modern history, and certainly in the Netherlands at the turn of the sixteenth and seventeenth century, choses in action were assignable as a matter of course.²² Consequently, bills of exchange, bonds and shares in the East India Company were freely traded in another institution of fairly recent origin, the Amsterdam Exchange, the 'Beurs', and the Amsterdam Exchange Bank, established in 1609. Since then – after, that is, the rise of modern capitalism – our perception of what an 'economy' is has fundamentally changed. The Roman 'economy' was different, not the least on account of the structural mobilisation of slave labour in *all* levels of economic activity.

Limiting liabilities

Whenever Roman capitalists wanted to engage in entrepreneurial activities without incurring full liability, they could – and would – use their slaves. I am convinced that senators and *equites* rarely – if ever – engaged in activities of this kind without deploying slaves. No senator or distinguished *eques* would demean himself to personally venture into this kind of activities, nor were they inclined to advance money to that end to outsiders, but they were keen to exploit the talents of their slaves and to invest money into their enterprises. In doing so, they avoided liabilities they would have incurred if they had entered into this kind of business themselves and gained considerably higher profits on their investment than would have been gained by giving credit to outsiders. In order to understand the full impact of these assessments, it is necessary to emphasise a basic rule of the Roman law of slavery.

As a matter of course, a slave-owner is never liable for his slave's contracts.²³ A slave has no legal capacity and consequently he cannot engage in legal activities on his own right.²⁴ His contracts do, however, bind his master if he has acted on authority (*iussum*) to engage in a contract on behalf

²¹ On the development of the doctrine of assignment of choses in action see R. Zimmermann, *op.cit.* (n. 18), 60 ff. (with further literature).

²² On this see H. Coing, *Europäisches Privatrecht I (Älteres gemeinses Recht)* (Munich 1985), 445 ff.

²³ Masters were only liable for damages caused by tortious conduct of their slaves, on the same basis as their liability for damages caused by animals in their *potestas*. See Kaser, *op.cit.* (n. 11) I, 163 ff.

²⁴ Gaius, *Institutiones* 3.104.

of his master.²⁵ In this case, the master is fully (*in solidum*) liable for his slave's engagements:

‘merito ex iusu domini in solidum adversus eum iudicium datur,
nam quodammodo cum eo contrahitur qui iubet’.²⁶

There was a way to avoid *in solidum* liability for the engagements of a slave acting on behalf of his master. Whenever a master had provided his slave with a working capital (*peculium*) in order to enable the latter to pursue an enterprise, the liability of the master for the engagements of his slave was limited to the amount advanced to the latter.²⁷ In granting a *peculium*, the master raised the status of his slave considerably. The slave *cum peculio* was not a free man, but he had ceased to be a mere commodity in the eyes of the law, for in assessing the scope of the *peculium*, the law took notice of ‘liabilities’ of the master to his slave and vice versa.

The factual separation of the estate of the master and the ‘equitable’ estate of the slave *cum peculio* became apparent at the latter’s bankruptcy. In order to establish the assets available for distribution among the creditors, all the liabilities of the slave to his master had to be deduced from the *peculium*.²⁸ Consequently, the master was a *de facto* preferential creditor in his own slave’s bankruptcy. The rule on *paritas creditorum* did not apply in the case of a bankrupt *peculium*, so Gaius’s maxim ‘*in actione de peculio occupantis melior est condicio*’²⁹ implied that there was usually very little left after the master had been satisfied.

Though formally and technically still a part of the estate of the master, in fact and even at law the *peculium* had become a special fund separated from the rest of the estate of the master. In doing so, the law had created a

²⁵ Gaius 4.70.

²⁶ Dig. 15.4.1 pr. (Ulpianus, *libro vicensimo nono ad edictum*). According to A. Kirschenbaum, *Sons, slaves and freedmen in Roman commerce* (Jerusalem 1987), the fact that many business-men were in fact slaves largely explains why Roman law failed to develop a ‘law of agency’. There was no urgency, because more often than not a principal could be sued on account of a *iussum* to his slave.

²⁷ On *peculium* generally see A. Kirschenbaum, op.cit. (n. 26); J.J. Brinkhof, *Een studie over het peculium in het klassieke Romeinse recht* (Meppel 1978), containing a resumé in German, and I. Zeber, *A study of the peculium of a slave in pre-classical and classical Roman law* (Wroclaw 1981).

²⁸ Gaius 4.73 and Tubero's definition in Dig. 15.1.5.4 (Ulpianus): ‘*peculium autem Tubero quidem sic definit, ut Celsus libro sexto digestorum refert, quod servus domini permissu separatum a rationibus dominicis habet, deducto inde si quid domino debetur*’.

²⁹ Dig. 15.1.10.

new person, albeit a fictitious person. The Roman lawyers were aware of this: *peculium simile homini*, says Papirius Fronto.³⁰ It is not unlike a modern corporation, which is also essentially a complex of property rights and liabilities treated by the law as a person capable of participating in commercial activities. The analogy with modern company law goes even further than that, for it should be stressed that it was the *peculium* that was treated as a separate legal identity, not the slave acting on behalf of it. In other words, the *peculium*, not the slave *cum peculio*, was the bearer of property rights and responsibilities. So the slave was not liable at all, whereas his master was merely liable on account of the fact that it was only through him, as the legal representative of the *peculium*, that a creditor could lay his hands on it. In this way Roman law met the same needs as those underlying modern company law, where the liability of a shareholder in a company is limited to his duty (to the company) to pay up for his shares in full. No wonder, therefore, that many Roman business enterprises – banks, factories, shops and even schools – were run by slaves acting as grantees of a *peculium*.³¹

It was not unusual, even normal, for a slave to pay for his manumission out of his *peculium*.³² The agreement to that end (*pactum libertatis*)³³ was even actionable on the part of the slave: if his master failed to set him free on being offered the prize agreed upon, the slave could file a complaint with the *praefectus urbi* or the *praeses provinciae*.³⁴ At first sight, the arrangement seems rather odd from a legal perspective. A slave could not own property so the master was paid for the manumission of his slave out of his own pocket. ‘Whenever we say that a slave buys his freedom *suis nummis*’, says Ulpian, ‘we do so by closing our eyes to the fact that a slave cannot own property’.³⁵ But it was not out of the master’s estate that the slave paid for his freedom, but out of his *peculium*. There was a nice distinction between the grant of a

³⁰ *Dig.* 15.1.40 (Marcianus): ‘Peculium nascitur crescit decrescit moritur, et ideo eleganter Papirius Fronto dicebat peculium simile esse homini’.

³¹ Of course, slaves *cum peculio* were entitled to leave the administration of part of their *peculium* to slaves that were part of the original *peculium* (*servi vicarii*). So a slave could ‘own’ his own slaves, thus making his master a genuine ‘holding company’. On *peculium vicarii* see e.g. *Dig.* 15.1.6; 7.4 and W. Buckland, *The Roman Law of Slavery* (Cambridge 1908 (2nd ed., 1970)), 246 ff.

³² M. Kaser, op.cit. (n.11), 288; Brinkhof, op.cit. (n. 27), 133 ff.; Zeber, op.cit. (n. 27), 72; Kirschenbaum, op. cit. (n. 26), 35 and, of course, Buckland, op.cit. (n.31), 640 ff.

³³ See, for an example, *Dig.* 44.5.2.2 (Paulus). The agreement may not have been actionable in the Republic, but there are frequent references to it in Plautus’s plays. See, for example, *Rudens* 929 ff.

³⁴ *Dig.* 40.1.5 (Marcianus).

³⁵ *Dig.* 40.1.4.1.

peculium and the delivery of some money to a slave *ad negotiandum*.³⁶ By granting a *peculium* to his slave, the master had, for all practical purposes, segregated his own estate from the *peculium* of his slave. Of course Roman lawyers were aware of the fact that the concept of a separate 'estate' belonging to a slave is, at best, rather tortuous. At law (*iure civili*), a slave cannot own things, neither can he be a creditor or a debtor.³⁷ Nevertheless, Paul emphasises that in order to establish a separate fund in his estate the mere will of the master that it should be so was insufficient. There had to be a genuine transfer of the elements of the *peculium* to the slave.³⁸ There is a striking resemblance to the creation of an '*inter vivos* trust' in modern Anglo-American law: in order to establish a *peculium*, the master had to transfer certain specified elements of his estate to a slave with the unequivocal intention to create a *peculium*. An English or American lawyer will immediately recognise the 'certainties' of modern 'trust'-law.³⁹

Be this as it may, the creation of the *peculium* was to the mutual benefit of master and slave, for as a freedman the latter was allowed to take the entire *peculium* or a part of it with him unless it was expressly reserved.⁴⁰ This accounts for the presence of so many rich freedmen among the merchants and shopkeepers of Italy in the age of the Antonines.⁴¹ It was a very profitable investment for the owner, for all the profits were his, whereas his liability was limited to the amount of the *peculium* advanced to his slave. If he had invested in monetary credit, he would have been merely awarded

³⁶ *Dig.* 40.7.39.2 (Iavolenus).

³⁷ See *Dig.* 15.1.41 (Ulpianus, *libro quadragesimo tertio ad Sabinum*): 'nec servus quicquam debere potest nec servo potest deberi, sed cum eo verbo abutimur, factum magis demonstramus quam ad ius civile referimus obligationem. itaque quod servo debetur, ab extraneis dominus recte petet, quod servus ipse debet, eo nomine in peculium et si quid inde in rem domini versum est in dominum actio datur'.

³⁸ *Dig.* 15.1.8 (Paulus, *libro quarto ad Sabinum*): 'Non statim quod dominus voluit ex re sua peculii esse, peculium fecit, sed si tradidit aut, cum apud eum esset, pro tradito habuit: desiderat enim res naturalem dationem'.

³⁹ Paul's ruling that a genuine transfer of the elements of the *peculium* was required in order to create a *peculium* and that a mere declaration to that purpose was insufficient, has its counterpart in modern 'trust'-law: 'the Court will not hold the *intended* transfer to operate as a declaration of trust, for then every imperfect instrument would be made effectual by being converted into a perfect trust' (*Milroy v. Lord* (1862) 4 De G.F. & J. 264 at 274 (Lord Turner)).

⁴⁰ *Dig.* 15.1.53 (Paulus) and 23.3.39 pr. (Ulpianus). See also *Fragmenta Vaticana* § 261, where it is made clear that the rule only held with *inter vivos* manumissions. It is, therefore, hardly surprising to find freedmen carrying on the same kind of business after their manumission as they had been running while still slaves. See, for example, *Dig.* 37.14.18 (Scaevola, *libro quarto responsorum*): 'quaero, an libertus prohiberi potest a patrono in eadem colonia, in qua ipse negotiatur, idem genus negotii exercere. Scaevola respondit non posse prohiberi'.

⁴¹ Cf. Rostovtzeff, op.cit. (n. 16), 99 and 176-177.

with a fixed income, whereas the advancement of a peculium to an enterprising slave gave him a profit easily exceeding the interest rate. There were, however, some setbacks bringing us back to Callistus's case.

Callistus's case

As we have seen, the acquisitions of a slave *cum peculio* were not treated as belonging to his master, but to the slave, or rather to his *peculium*. They belonged, as it were, to the 'equitable estate' of the slave. Consequently, acquisitions of a slave *cum peculio* did not enrich the master as a matter of course. To hold differently would have been '*aperte falsum*' according to Tryphoninus.⁴² So a genuine *versio in rem domini* was required in order to enrich the estate of the master. If this had occurred, the master's estate was enriched. As a consequence, he was not allowed to hide behind the peculium of his slave and his liability was extended to the amount of his enrichment. This is what Callistus was given to understand by the imperial chancery. Still, the master's liability was not full (*in solidum*) liability, for the master of a slave *cum peculio* was only liable on condition and *to the extent* of his enrichment.

As has been observed above, *in solidum* liability for the acts of a slave was based on the master's explicit authority (*iussum*). There was no doctrine of apparent authority, but for two instances: the case of a slave acting as business manager (*institor*) on behalf of his master and the slave acting as captain (*exercitor*) on one of his master's ships.⁴³ The former were shopkeepers or little business-men in charge of a shop or a business *not* belonging to their *peculium*, but to the master's own estate. If the owners put slaves in charge to run them on their behalf, they were holding them out as acting on ostensible authority and were consequently held liable for all contracts concluded in the course of that particular business. The problem was what should be held whenever an *institor* was acting *ultra vires*. Normally the master could not be held accountable as the slave acted without his authority. There were, however, circumstances allowing for an imputation of *ultra vires* contracts. A

⁴² *Dig.* 15.3.6.

⁴³ On the *actiones institoriae* and *exercitoriae* see Kaser, op.cit. (n. 11) I, 605 ff. The imperial chancery advised Callistus that, apart from a *iussum* to that end, *in solidum* liability of the master could only be had if Callistus had contracted with an *institor*, adding explicitly '*ex causa cui praepositus fuit*'. See *infra* n. 48.

famous example, even among historians⁴⁴, is the case of the runaway slave reported by Paul in the first book of his *Decreta*.⁴⁵ His master had put him in charge of an enterprise in the money-lending business. As it happened, the slave turned to other forms of financial services as well, in the course of which he incurred liabilities. One day the slave absconded (taking all the cash with him) and his master was held liable for his slave's *ultra vires* contracts. On appeal from the *praefectus annonae*, the lawyers in the imperial *consilium* held that the master was not liable, as there was no authority to engage in other contracts than providing loans on security. Severus, however, decided differently. He upheld the sentence of the *praefectus annonae* by holding the master liable for all the debts incurred by his slave. Clearly, because the master was estopped to plead want of authority on the part of his slave by allowing him to go on with his illicit practices for a considerable time. The emperor (himself a lawyer) must have thought that this was a case of ostensible authority if ever there was one. This is a case involving a slave without a *peculium*, but acting as his master's *institor*, for whom the master takes full responsibility; he had been given money *ad negotiandum*, not by way of a *peculium*. Had the master granted a *peculium*, he would not have been held fully (*in solidum*) liable for the debts incurred by his slave.

Even in antiquity, the relation of the *actio de in rem verso* to the *actio de peculio* was the subject of some controversy as the *praetor* proposed them in one provision of his Edict.⁴⁶ Julianus, however, emphasised that an *actio de in rem verso* could still be brought on account of any enrichment exceeding the amount of the *peculium* even after the *actio de peculio* had been brought successfully.⁴⁷ The imperial chancery seems to have elaborated on this in Callistus's case.⁴⁸ However, assessing enrichment surpassing the amount of the *peculium* implied a difficult burden of proof as is exemplified by the subtle decisions on the question as to what amounted to a *versio in rem*.

⁴⁴ See, e.g., F. Millar, *The Emperor in the Roman World* (London 1992, 2nd ed.), 238.

⁴⁵ *Dig.* 14.5.8.

⁴⁶ Gaius 4. 74a: 'eadem formula et de peculio et de in rem verso agitur'.

⁴⁷ *Dig.* 15.3.1.2 (Ulpianus).

⁴⁸ C.J. 4.25.2 (Imp. Alexander A. Callisto): 'Ex contractibus servorum quamvis de peculio dumtaxat domini teneantur, de eo tamen, quod in rem eorum versum est vel cum institore ex causa cui praepositus fuit contractum est, in solidum conveniri posse dubium non est'. PP. iii k. mai. Alexandro A. cons. (A.D. 222)

domini and what not. It was, for example, held that an outright gift by a slave *cum peculio* from his *peculum* into the estate of his master was not a *versio in rem domini*.⁴⁹ It was, however, if a slave *cum peculio* had borrowed money in order to pay a debt of his master without expecting to be reimbursed by him.⁵⁰ Another example concerns the prize of freedom. The money paid to the master by the slave on account of his manumission was not regarded as an enrichment of the master.⁵¹ If, however, the slave had lent money from a third party and paid it to his master in order to procure his freedom, the master was enriched and could be sued *de in rem verso* by that third party if the slave was worth less than the prize that was paid to the master.⁵² We may leave the casuistry aside, as it suffices to observe that there was one overriding principle deciding them all: '*melior condicio nostra per servos fieri potest, deterior fieri non potest*'.⁵³

Conclusion

Slaves carrying on business as grantees of a *peculum* were the Roman equivalent of modern companies, certainly so when it is realised that a slave *cum peculio* could be owned by a group of investors.⁵⁴ The slave was not responsible for his acts, his master was under a limited liability and there were strong commercial and speculative motives behind the creation of a *peculum*, as can be shown by what happened on the slave's manumission. It was then that the master (or masters) capitalised on his (or their) investment; accounts had to be settled and there had to be decided what the slave could keep and what not. The legal title to all the elements of the *peculum* that the slave was to keep had to be transferred to him on his manumission; a mere letter of intent to that purpose has been held insufficient.⁵⁵ Of course, there

⁴⁹ *Dig.* 15.3.7 pr. (*Ulpianus, libro vicensimo nono ad edictum*): 'si donaverit servus domino rem peculiarem, actio de in rem verso cessabit'.

⁵⁰ *Dig.* 15.3.7.1 (*Ulpianus*): 'si mutuum servus acceperit et donandi animo solvit, dum non vult eum debitorem facere peculiarem, de in rem verso actio est'. See on the difficulties arising here G. Mandry, *Das gemeinsame Familiengüterrecht II* (Tübingen 1876), 500 ff. and Buckland, op.cit. (n.31), 180.

⁵¹ *Dig.* 15.3.2 (*Iavolenus*).

⁵² *Dig.* 15.3.3 pr. (*Ulpianus*).

⁵³ *Dig.* 50.17.133 (*Gaius, libro octavo ad edictum provinciale*).

⁵⁴ Co-ownership of slaves *cum peculio* caused numerous notoriously difficult questions, especially in as far as their manumission was concerned. The law on this matter was reformed by Justinian in C.I. 7.7 (*De servo communii manumisso*).

⁵⁵ On the exigency of a formal transfer of title to the *libertinus* see the interesting case reported by Scaevola in *Dig.* 39.5.35 pr., where a former slave lost a considerable share in the debts that were owed to his former *peculum* on account of the fact that his former master (a well-meaning slob) had neglected to transfer them formally. The master's letter of intent was held to be insufficient to vest the interest in the *libertinus*.

was not only a prize for the grant of freedom, but also for the surrender of the *peculium*. In many cases, this was the end of the master's financial involvement in the enterprises of his slaves *cum peculio*.⁵⁶ The arrangement, allowing for a limited liability of what was in fact the sleeping partner in the enterprise and the total exclusion of all liability on the part of the director (the slave), had come to an end. Of course, enterprising freedmen applied the same device in employing the commercial capabilities of their own slaves, more often than not former *vicarii*. So, to sum up a long story in a few words, there were indeed devices in Roman law answering to the same needs as modern company law tries to meet in another society at another time. It was not the institution of slavery as such that served the purpose, but a very 'peculiar' device allowing a slave to participate in commercial activities as if he were a freeman. A part of his master's estate was, as it were, 'incorporated' in the slave's *peculium*. Notions of *humanitas* had very little to do with this. On the contrary: it was a *bellissima machinatio* originating from the hard and cynical legal minds of the likes of Cato, who perceived that the prospect of liberty by industry is one of the strongest incentives of human ingenuity and resourcefulness.

Leiden, September 2001

⁵⁶ It was not unusual that the master stipulated for a share in the future profits of his freedman's enterprises as his partner (*socius*).

PROLOGUE AND EPILOGUE. THE SOCIO-ECONOMIC EFFECT OF ROME'S ARRIVAL IN AND DEPARTURE FROM GAUL

By
JOHN F. DRINKWATER^{*}

Our subject is 'the transformation of economic life under the Roman Empire', as part of a general consideration of 'the impact of Empire'. This paper derives from my disquiet over the use of the words 'impact' and 'transformation' in describing the socio-economic relationship between Rome and her provinces, and over too narrow a chronological delimitation of the discussion of this relationship. I deal with the first under 'Prologue' and the second, necessarily briefly, under 'Epilogue'.

Prologue

'Impact' and 'transformation' occur frequently in this context in all the major languages of scholarship,¹ and appear generally to be used as synonyms for the effect that the Roman Empire had on subject societies. 'Effect' may be represented graphically as in Fig. 1. However, human societies are not static, and the same situation is better represented as

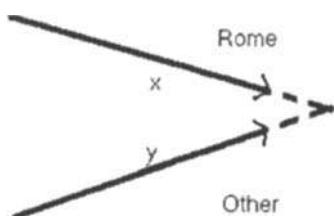


Fig. 2



Fig. 1

shown in Fig. 2. Here, the two arrows represent movement, as a pair of societies, *x* (Roman) and *y* (non-Roman), develop individually while approaching each other in space and time, the main effect of *x* on *y* being at the projected point of intersection.

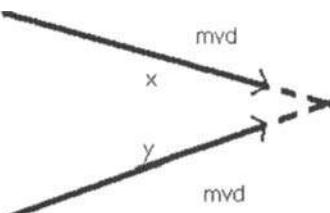
This representation is further developed in Fig. 3, where I

* I must thank Professor John Collis, Department of Archaeology and Prehistory, University of Sheffield, for helping me with important aspects of this paper.

¹ J. F. Drinkwater, *Roman Gaul. The Three Provinces, 58 B.C.-A.D. 250* (London/Canberra 1983), Ch. 6 ('The impact of the army'); M. Py, *Les gaulois du Midi. De la fin de l'Âge du Bronze à la conquête romaine* (Paris 1993), 123 discusses the "impact of transformations"; and N. Roymans, 'The sword or the plough. Regional dynamics in the romanisation of Belgic Gaul and the Rhineland area', in N. Roymans, ed., *From the Sword to the Plough* (Amsterdam 1996), 99, uses "transformation" in tandem with "reformulation".

tentatively label the main forces determining the trajectories of x and y as 'mass' (m : how developed each is), 'velocity' (v : how quickly each is developing) and 'direction' (d : how likely both are to come into contact with each other). At the point of intersection, the fate of x and y will depend on their relative socio-economic, political and military robustness. Therefore in Fig. 4 I add another variable, c : 'composition'.

Fig. 3



This treatment suggests that the relationship of x and y might be capable of mathematical modelling. Calculation of the forces involved in the convergence of two or more bodies is possible using 'vector' or 'scalar' analysis. It is employed, for example, by experts investigating collisions between vehicles. In this field, unknowns can be safely deduced from

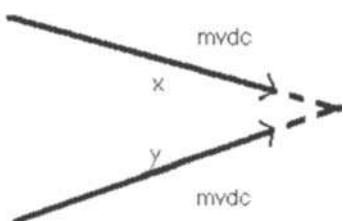
knowns, e.g. the speed of vehicles concerned from the damage each has sustained.

However, these sorts of calculations are not available to social historians, especially those of the ancient world. The variables are infinite; and anyway we have neither the data nor the mathematics to process them. So where do such

Fig. 4

considerations take us in respect of the history of the Roman Empire? I propose that they produce three axioms that should be taken into account in more orthodox study:

- 1) The investigation of 'impact' or 'transformation' is not possible without some knowledge of the state of *both* bodies involved. In other words, it is unsound to discuss the impact of the Roman Empire on a society without first establishing, as a base line, the economic, social and political characteristics of that society at the point of contact, and indeed perhaps without considering how that society might have developed had there been no direct contact. In short, ideally we should start by consulting Hellenistic historians and Iron Age archaeologists.



2) In certain cases, 'contact' might not amount to 'impact'. With reference to my earlier propositions, if $(mvdc)_x$ and $(mvdc)_y$ are broadly similar, i.e. if a diagram of forces resembles that in Fig. 5, where angle 'a' is relatively acute, then surely we should be talking about 'convergence', not collision or total change. Strong words, such as 'impact' and 'transformation', should be reserved for other, more powerful and dramatic types of interaction.

3) Finally, whether we are dealing with convergence or impact, the notion of a point of intersection reminds us that we have to try to establish a specific date, or at least period, for the events we are attempting to understand, i.e. we have to say precisely which 'Roman Empire' we have in mind:

- The one that comprised the Italian peninsula south of the Apennines – in existence c. 270 B.C.?
- The one that comprised roughly modern Italy, including land north of the Apennines, and the surrounding islands—in existence by c. 220 B.C.?
- The one that gave Rome hegemony over the western Mediterranean region—in existence by c. 200 B.C.?
- The one that gave Rome hegemony over the entire Mediterranean region—in existence by c. 60 B.C.?
- The one which had its frontiers on the Rhine and Danube—in existence by the end of the first century B.C.?
- Or some other?

It is plainly impossible to pursue all these concerns in respect of the whole of the Roman Empire within a short paper. In what follows I will, therefore, by way of example, consider them with regard to Gaul. And even here, because of the size and complexity of the subject, and because I am no prehistorian, I will adopt a very broad approach.

From the start I have to state frankly that for the most part we appear to be in the presence of convergence rather than collision. In general terms, the most important changes in Gallic society had taken place long before the arrival of Rome. In particular, by the end of the Bronze Age there had occurred the crucial agricultural revolution that led to the clearing of much

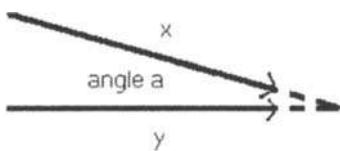


Fig. 5

y

x

angle a

y

of the forest and to the establishment of a successful mixed agriculture which, though still basically subsistence-orientated, was capable of innovation and expansion. It was able to sustain a relatively large population, among which was developing significant economic and social specialisation. The process was not uniform, and there were setbacks, for example consequent upon the still mysterious transformation of the Hallstatt culture.² But Gallic Iron Age society was resilient and, overall, continued to move towards a sophisticated pre-industrial economy. In addition, we have to remember that this society, unlike that, say, of Germany or Britain, was open to direct stimulation from the older cultures of the Mediterranean, Etruscan, Punic and Greek. It is surely reasonable to suppose that an advanced culture would have developed in Gaul had Rome never existed. Roman Gaul was not created *ab initio*, but was built on substantial pre-Roman foundations.

Acceptance of convergence rather than collision is implicit in most modern studies of western provincial life. Indeed, it lies at the heart of recent re-interpretations of Romanisation, no longer seen as a fixed pattern, imposed from the imperial centre, but as an infinitely variable design, determined at local level by (to use the current jargon) 'dialogue', 'negotiation', between the participating cultures, native and foreign.³ As I have already said, it seems to me that archaeologists and historians use such words as 'impact' and 'transformation' when they really mean interaction and natural change.

Let us move to specific areas of study. This interpretation is familiar in the excellent work being done by Dutch and British archaeologists on northern Gaul. I cite the recent, reliable and deservedly acclaimed collection of papers edited by Nico Roymans.⁴ In his own contribution, Roymans reconstructs Late Iron Age society in Caesar's Belgica. In one way this society appears primitive, because predominantly pastoral and martial, its products probably changing hands more by gift-exchange and raiding than by trade.⁵ However, underneath Roymans detects major technological advances resulting in greater agricultural productivity, a

² B. Cunliffe, *Greeks, Romans and Barbarians* (London/New York 1988), 33-35; cf. C. Haselgrave, 'Roman impact on rural settlement and society in southern Picardy', in Roymans, ed., 1996, op. cit. (n 1), 140.

³ Cf. Roymans 1996, art. cit. (n. 1), 99, 103: "creative interpretation"; an "articulation" of native and Roman values. Cf. most recently J. Webster, 'Creolizing the Roman provinces', *American Journal of Archaeology* 105 (2001), 209-225.

⁴ Roymans 1996, op. cit. (n.1).

⁵ Roymans 1996, art. cit. (n.1), 44-47.

significant rise in population, increasing economic specialisation and a more complex social hierarchy.⁶ While in the north of the region farming remained pastoral and to some degree peripatetic, in the south it became more arable, its settlements becoming more nucleated and permanent.⁷ Rome simply took over and exploited these developments. Southern Belgica became a region of villas and towns, growing wealthy by supplying cereals to the Roman army on the Rhine.⁸ In contrast, northern Belgica continued its pastoral and military tradition, providing live beasts, animal products and fighting-men to the Rhineland forts and settlements.⁹ There was change, but this should be interpreted as an intensification of existing lines of development, going with the grain of native values and aspirations, rather than as anything entirely novel or disruptive.¹⁰ As Roymans says of those in the north:

These changes, however, mainly represent autonomous native developments which began in the Late Iron Age; for this reason they cannot be considered products of 'romanisation'.¹¹

In the same volume, Colin Haselgrove depicts the development of a particular set of rich arable lands in the south of Roymans' study-area, in the Aisne valley, in almost identical terms. By the Late Iron Age, i.e. the second century B.C., good soil, an improving climate and advances in tool-technology and farming-techniques had produced a rising population, "which laid the foundation for subsequent developments".¹² Since the title of Haselgrove's paper is 'Roman impact on rural settlement and society in southern Picardy', it is hardly surprising that he proceeds to show how these "subsequent developments" included strong elements of change. Rome's arrival in southern Gaul in the second century B.C. caused political and military tension further north, precipitating, *inter alia*, the widespread construction of *oppida*;¹³ and the Roman conquest of the north was

⁶ Ibid., 49-50, 53.

⁷ Ibid., 51-55 (pastoral), 55-58 (arable).

⁸ Ibid., 58-72.

⁹ Ibid., 72-84, 86-87.

¹⁰ 'Intensification': used by Roymans 1996, art. cit. (n.1), 63, in respect of villas, but from what he says at 61-72, generally applicable to developments in the region; cf. 99. For 'grain' see ibid., 87-88.

¹¹ Ibid., 83.

¹² Haselgrove 1996, art. cit. (n.2), 146.

¹³ Ibid., 147-52; 164.

followed by the 'Romanisation' of the region.¹⁴ On the other hand, however, Haselgrove is also at pains to point out the vitality of the indigenous culture, and significant continuities from the Iron Age to the Roman period, for example the design of the Belgic courtyard-villa, and even the operation of the taxation-system.¹⁵ He concludes:

In practice, indigenous developments during the later Iron Age were far more significant than Mediterranean contacts in providing a base on which Roman institutions could later flourish ...¹⁶

This society had a dynamism of its own which allowed it to interact with, rather than be crushed by, the more (though, in absolute terms, not very much more) advanced cultures from the south. Again, it is surely possible to hold that much of what happened in the 'Gallo-Roman' Aisne valley would have happened anyway, Rome or no Rome, as Gaul was drawn increasingly into Mediterranean life.

Mention of the Mediterranean takes us to an arguably even more important area, southern Gaul, 'the Province', the modern regions of Provence and the Languedoc. Recent years have seen a welcome tendency for scholars working in these areas to collate and assess the massive amount of archaeological data available for study. Here, I refer particularly to books by Michel Py and Bert Freyberger.¹⁷

According to Py, agricultural revolution in this region occurred very early, with extensive de-forestation being practised from the late Neolithic period. By the Iron Age the landscape was very much as we see it today.¹⁸ By the end of the Bronze Age there was developing a mixed-arable and pastoral-agriculture, which was being stimulated by the adoption of new tool-materials and farming-techniques and new varieties of crops.¹⁹ These advances were associated with a rise in population, and the beginning of skill-specialisations and a social hierarchy.²⁰ From the seventh century B.C. this indigenous development was accelerated by the area's first significant contact with developed Mediterranean cultures—principally Etruscan,

¹⁴ Ibid., 155-61; 164-67.

¹⁵ Ibid., 155-57, 175.

¹⁶ Ibid., 178.

¹⁷ Py 1993, op. cit. (n.1); B. Freyberger, *Südgallien im I. Jahrhundert v. Chr. Phasen, Konsequenzen und Grenzen Römischer Eroberung (125-27/22 v. Chr.)* (Stuttgart 1999).

¹⁸ Py 1993, op. cit. (n.1), 150.

¹⁹ Ibid., 58-61.

²⁰ Ibid., 49-50, 66-69, 76-77.

Greek and Iberian. However, Py stresses the continuity of native ways, and of interaction, as the indigenous population chose from what was on offer. Specifically in respect of the arrival of Classical culture, he refers to a 'dialectic process' between newcomers and original inhabitants, reflected, for example, especially (or even) in the urbanisation of the littoral.²¹ Overall there was change, sometimes great change, as the area moved from subsistence to market production.²² However, such change was slow, uneven over space and time, and always embedded in previous practice.²³ It may be regarded as resulting from the catalysation, not the transformation, of local ways by outside cultures. It was evolutionary, not revolutionary; we should think of 'debarbarisation' rather than Hellenisation, since what came about was not a new culture but rather a new stage in the development of the old.²⁴ And, again, Rome was able to build on earlier developments.²⁵ According to Py, a flourishing indigenous society, reacting to, keeping pace with and even, in some respects, gaining on, Mediterranean culture, persisted in southern Gaul until the reign of Augustus.²⁶

We find Py's arguments recently taken up and developed in detail by Freyberger, with regard to the early Roman period. He agrees that there was a flourishing indigenous culture in southern Gaul at the time of the Roman conquest of the area, from 125 B.C.²⁷ Records of native unrest under Roman rule, and Cicero's picture of a country overrun by outside traders, though not untrue, tell only part of the story.²⁸ Archaeological evidence suggests a remarkable resilience and continuity in almost every aspect of life, urban and rural, from coins to religion.²⁹ Freyberger attributes Roman laissez-faire in respect of the region to political expediency (including, down to 49 B.C., respect for the sphere of influence of Marseille).³⁰ However, whatever the cause, we seem again to be in the presence of evolution, not revolution, of convergence, not impact, of organic change, not transformation.

²¹ Ibid., 83 ("un processus dialectique"); cf. 93, 102-104.

²² Ibid., 149.

²³ E.g. ibid. 134-40 (6th-5th c.); 217 (4th-2nd c.).

²⁴ Ibid., 70, 104-107, 148.

²⁵ Ibid., 234: Languedoc.

²⁶ Ibid., 260-61.

²⁷ E.g. Freyberger 1999, op. cit. (n.17), 54-60 (urbanisation).

²⁸ Ibid., 188-203.

²⁹ E.g. ibid., 146-68 (towns); 192-94 (agriculture); 194-99 (coinage); 205-13, 226-29 (religion/religious art).

³⁰ Py 1993, op. cit. (n.1), 97, 237-38.

Therefore, given this general trend of convergence, may we in any way talk of a Roman 'impact' on, a Roman 'transformation' of, Gallic society or the Gallic economy? I believe that we can, and that a close understanding of what this was allows us to resolve the third of the issues I raised at the start of this paper: the question as to which Roman Empire we are talking about here.

The key to such understanding is to decide what we are looking for. Again as I said near the start of this paper, this should not be the ordinary but the extraordinary, the dramatic: that which need not have happened, but which in happening had immense consequences. I attempt to represent such a situation in Fig. 6. Here, the vectors are shown diverted by a sudden change in direction of one of the participating bodies.

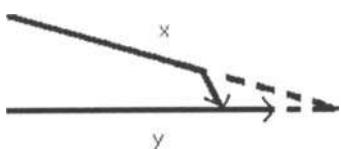


Fig. 6.

It might be thought that such a phenomenon is characteristic of wars of conquest, but I would disagree. This was clearly not so in the case of southern Gaul, where, as we have seen, conquest was followed by a

remarkably long period of continuity. But it was also not the case in respect of the much more extensive and destructive conquest of northern Gaul by Julius Caesar. His bloody wars were followed by almost a generation of little change during which, among other things, the surviving tribal leaders simply switched their loyalty to another great chief.³¹ As Py remarks, we must not exaggerate the effect of war on such societies.³² It was part of life; both sides knew the rules, and losers had simply to live with the consequences. We must also bear in mind that the fragmented nature of Gallic society would have prevented those involved from seeing the wider picture. None of Caesar's vanquished foes could have fretted about the fact that their defeat marked the end of 'the late La Tène' in Gaul. As far as they were concerned, they, among other tribespeople, had been overcome by one mighty chief and his tribe, whom they were, under their own customs of war, now bound to follow.³³ My contention is that Gaul was impacted upon and transformed by something related to these wars, but different from them: the institution of the Principate and, so, by the Augustan Empire.

³¹ Drinkwater 1983, op. cit. (n.1), 18-20.

³² Py 1993, op. cit. (n.1), 241, 262.

³³ Drinkwater 1983, op. cit. (n.1), 26 (Germanicus as 'chief').

Here I must emphasise that my point is not simply that Augustus' policies precipitated major change in Gaul. Such a proposition would hardly be new; and in this respect, of course, Gaul was not alone among the imperial provinces. My aim is rather to bring out the particular role that Gaul was made to play in the operation of a very curious system and, through this, to reach a closer understanding of the history of both the region and the office of 'emperor'.

Both Py and Freyberger agree that from 27 B.C. Augustus' decisions in respect of southern Gaul had immediate and decisive effects on its development. According to Py, it was with Augustus that the 'protohistory' of the region finally came to an end.³⁴ Freyberger, even more forcefully, argues that major change came to the region with the mass of colonies, veteran and Latin, founded by Caesar and Augustus and, in particular, with the latter's encouragement of the full-scale monumental urbanisation of the region as an essential element in his publicisation of his 'New Order'.³⁵ Allowing for some time-lag, to cover the deployment of the expertise and materials required to implement such changes across a huge country, much the same may be said for the rest of Gaul.³⁶ However, this is not what I wish to examine here. My subject is, rather, Gaul and the Principate.

We should begin by asking some basic questions. Why was Augustus so interested in Gaul? Why did he give the country so much of his attention? Why, with regard to Augustus and his immediate successors, is it possible to talk of a 'special relationship' between Gaul and the ruling dynasty?³⁷ The short answer is, of course, that Augustus was interested in Gaul because Julius Caesar had been interested in it: Gaul was part of his political inheritance, of the Julian *clientela*. In one way this response is unhelpful, simply pushing the issue back one generation. In another way, however, it suggests a more interesting answer. Caesar was interested in Gaul because his wars there enabled him to acquire sufficient military renown, wealth and military strength to take over the Roman state. Similarly, we might say, from 44 B.C. Octavian was interested in Gaul because it provided military strength to help him establish his claim to be Caesar's sole political heir. Finally, from 27 B.C. Octavian-become-Augustus continued this interest because Gaul played a unique role in helping him maintain his new position of *princeps*.

³⁴ Py 1993, op. cit. (n.1), 259.

³⁵ Freyberger 1999, op. cit. (n.17), 97-99, 121-38.

³⁶ Drinkwater 1983, op. cit. (n.1), 189-90.

³⁷ Cf. ibid., 20, 25, 27, 35.

The existence of a permanent Roman army is something that we take for granted. Indeed, since Gibbon, we have become accustomed to admiring the economy of force deployed: so few men defending so much territory.³⁸ However, Romans of the late Empire grumbled about the burden it represented; and we should ask what this army was defending the Roman Empire against. Here, again, I concern myself only with Gaul, where the answer seems clear—against Germanic invaders. However, I now believe that it can be demonstrated that throughout the imperial period the ‘Germanic threat’ was illusory.³⁹ The Germanic tribes produced troublesome, at times very troublesome, raiders, but from beginning to end there were never any massed hordes of potential invaders constantly pressing against the frontiers. Most aggression was on the Roman side.⁴⁰ So, again, why were there so many troops in Gaul, in particular under the Julio-Claudians? Tacitus, writing somewhat later and, perhaps, sensing the problem, famously observed that the Roman army on the Rhine faced in two directions: outwards, against the Germanic peoples, and inwards, to keep an eye on the Gauls.⁴¹ This could be true; relations between Romans and Gauls were always somewhat strained.⁴² However, it seems to me to be only part of the answer, and that the rest lies in the requirements of the Principate.

As is well enough recognised, this was a wonderful political sleight of hand. However, it was not the only way out of Rome’s problems. The disappearance of the Republic could have had various outcomes, including the partition or even the disintegration of the Republican Empire. Augustus’ invention of the Principate was not the most obvious solution, and it was to cause problems for centuries to come; but it worked. Its success depended on many factors, but of major importance among these was military backing. The newly legitimised warlord could not risk his personal safety and the continuance of his power by fully demobilising his forces. He needed a standing army. Of course, he gave himself the Praetorian Guard, but to begin with this was relatively small, dispersed and, perhaps, not

³⁸ E. Gibbon, *The History of the Decline and Fall of the Roman Empire*, vol. 1 (London 1900, ed. J. B. Bury), 18.

³⁹ I.e. contrary to Drinkwater 1983, op. cit. (n.1), 120, 122.

⁴⁰ See most recently J. F. Drinkwater, ‘Ammianus, Valentinian, and the Rhine Germans’, in J. W. Drijvers and D. Hunt, eds., *The Late Roman World and Its Historian. Interpreting Ammianus Marcellinus* (London 1999), 127-37. Cf. W. Pohl, *Die Germanen* (Munich, 2000), 13-15, 18, 25.

⁴¹ Tacitus, *Annales* 4.5.2: *commune in Germanos Gallosque subsidium*.

⁴² See e.g. Drinkwater 1983, op. cit. (n.1), 48-9.

regarded as entirely legitimate.⁴³ Augustus therefore required a substantial force of regular legions, relatively close to hand.

I propose that Augustus made Gaul a reservoir of military strength to support his position. (The abortive advance into Germany, from 12 B.C. to A.D. 9, may be regarded as an unforeseen consequence of this strategy.⁴⁴) Troops stationed in Gaul did not offend the Roman tradition that was still solidly against the garrisoning of Italy; and they were not feeding off Italy. However, they were close to Italy and could be called upon (or, simply, alluded to) as necessary. In other words, I suggest that Gaul was essentially militarised by Augustus, and that it was this militarisation—seen first in the planting of more colonies in the south and then in the movement of troops to the Rhine frontier, and their maintenance there—that ‘impacted’ on Gaul, that ‘transformed’ the economy and society of the country, in ways that would not have come about under the ‘normal’ evolutionary process.

The army on the Rhine was surely what made Gaul special in Roman imperial history, and gave it its distinctive character. The need to chronicle the activities of the Rhine garrison is why we have so much about the region in the literary sources, from Tacitus to Zosimus. It was the presence of this garrison that fired-up the Gallic economy. The Rhine troops, and their various dependants, provided the markets for the northern farmers and the southern and Mediterranean traders. As I have said elsewhere, if the Rhône was the flue of Gallic trade, it was the Rhine army that generated its massive upward draught.⁴⁵ The same force also gave Gaul its shape and meaning. The functioning of Gaul as a single unit is best seen in the activities of western usurpers. These, having won the backing of the Rhine troops were, as a matter of course, immediately recognised throughout the country, and so immediately gained the tax-base on which to support their military and political strength.⁴⁶ When the Rhine army disappeared during the first half of the fifth century, Gaul as a meaningful geo-political entity went with it: “One either held all of Gaul, or none of it. There was nothing to be gained by trying to hang on to bits [sc. of it].”⁴⁷

⁴³ OCD³ 1241.

⁴⁴ Pohl 2000, op. cit. (n. 40), 95.

⁴⁵ Drinkwater 1983, op. cit. (n.1), 129.

⁴⁶ Cf. Tacitus, *Annales* 1.47.2: the Rhine army “depended upon the riches of Gaul” (*Galliarum opibus subnixus*).

⁴⁷ H. Elton, ‘Defence in fifth-century Gaul’, in J. F. Drinkwater and H. Elton, eds., *Fifth-Century Gaul: A Crisis of Identity?* (Cambridge 1992), 172, with Drinkwater and Elton, *ibid.*, 320.

Epilogue

This takes us to the end of the Roman period in Gaul, and to my promised Epilogue. Everything has a beginning and an end. Empires change and impact upon other cultures when they are growing. However, it should not be forgotten that they also affect other cultures when they are shrinking. I suggest that in any discussion of the 'Impact of Empire' or the 'transformation' of provincial economies and societies this feature of imperial development should also be given attention. I offer, by way of example, an aspect of Alamannic history.

The militarisation of Gaul, stimulated by the institution of the Principate, persisted as a matter of policy, and then as one of habit and convenience. Gaul remained a useful place to 'park' imperial troops, and to win military glory. The western Germanic peoples helpfully confirmed Rome's professed justification for keeping large forces on the Rhine by raiding into the Empire when it was distracted by civil war. This situation changed in the fifth century, when Visigoths, Burgundians, Alans and Franks were allowed to settle west of the Rhine. The old frontier lost its significance; Gaul disappeared piecemeal. However, recent archaeological study has shown that a Roman presence on the river was maintained to around 450, by garrisons of Germanic federates. On the upper and middle Rhine these comprised Alamanni, who had settled on former imperial territory in Upper Germany and Raetia from the later third century. During the fourth century, local Alamannic chiefs developed a distinct lifestyle, founded on Roman military service. Living on Roman pay, subsidies and, no doubt, booty taken during Roman campaigns, they led a heroic existence on imposing hill-settlements. Few of the goods they imported from the Empire or had made by Empire-trained craftsmen made their way to Alamannic rural sites. This suggests little contact with, interest in, or development of local agriculture: the Alamannic ruling class were economic parasites. Final Roman disengagement, and so the ending of pay and subsidies, after 450 must therefore have come as a great shock, and must have impacted considerably on the way of life of such people. I propose that this can be seen in the archaeological record. Finds of rich grave-goods, in particular of gold-handled long-swords, appear to indicate that in the later part of the fifth century there was, for the first time, intense aristocratic

interest in the rich farmlands of the middle and upper Neckar valley.⁴⁸ I suggest that this may be interpreted as the Alamannic aristocracy's falling back on native agricultural resources to fill the gap left by the withdrawal of Roman pay: economic transformation caused by the end of empire.

Nottingham, July 2001

⁴⁸ H. Steuer, 'Herrschaft von der Höhe. Vom mobilen Söldnertrupp zur Residenz auf repräsentativen Bergkuppen', in *Die Alamannen* (Archäologisches Landesmuseum Baden-Württemberg) (Stuttgart 1997), 153, 157–60, and fig. 160 (distribution of swords and 'Bügelsibeln'). Steuer appears to come close to my interpretation, but nowhere states it explicitly.

INDICATEURS PALEOENVIRONNEMENTAUX ET ECONOMIE
RURALE
LE CAS DE LA GAULE NARBONNAISE
Par
PHILIPPE LEVEAU*

Le statut de "province développée" est acquis par la Gaule Narbonnaise à partir de sa création comme province sénatoriale sous Auguste: un statut juridique consacre une évolution culturelle et un développement économique. À la fin du Ier s., Pline le dit explicitement: *agrorum cultu, virorum morumque dignatione, amplitudine opum nulli provinciarum postferanda breviterque Italia verius quam provincia* (*Naturalis Historia* 3.31). Les auteurs modernes en trouvent la confirmation dans un développement urbain qui a laissé des traces remarquables dans le paysage moderne, dans les équipements (réseau viaire et infrastructures portuaires) et dans le peuplement des campagnes. Toutes ces données font l'objet d'un consensus auprès des chercheurs. Cet état des connaissances qui avantage les villes explique l'importance prise dans les années 1980 par les études sur la ville antique, "ville de consommation". Rome, au premier chef, et, à son image, toutes les villes de l'Empire étaient le lieu de consommation de richesses sur l'origine et surtout sur le processus d'acquisition desquelles s'interrogent les historiens de l'économie antique.

Je ne reviens pas ici sur un débat qui a donné lieu à de vives discussions¹. Ses termes sont commandés par la nature des indicateurs dont on dispose. Pour faire évoluer le paradigme ou en proposer un nouveau, il faut les modifier, c'est-à-dire mieux connaître ce qui se passe entre les sites urbains. Je tenterai donc de montrer comment la recherche archéologique met en évidence l'impact de Rome sur les économies rurales, soit, l'effet d'une économie commerciale sur la production agricole, sur les produits eux-mêmes et sur leur localisation.

¹ Ph. Leveau, 'La ville antique, "ville de consommation" ? (Parasitisme social et économie antique)', *Études rurales* 89-90-91 (1983), 275-289; H. M. Parkins, *Roman urbanism. Beyond the consumer city* (London/New York 1997).

I. Le développement économique de la Narbonnaise : l'enrichissement des connaissances, l'évolution des méthodes d'étude et le changement des paradigmes

En principe, un tel projet nécessite un bilan de la recherche archéologique depuis une vingtaine d'années afin d'en souligner les avancées et l'apport à la question du développement économique. Il n'est pas possible de le mener à bien ici. Je me contente donc de rappeler pour mémoire le développement des recherches sur un certain nombre de sites majeurs, dont le mieux étudié est incontestablement Nîmes². Mais on dispose également de remarquables synthèses sur les villes d'Aix-en-Provence³ et de Fréjus⁴. À l'inverse, d'autres villes souffrent d'un défaut de publications comme en particulier Marseille ou d'un défaut de recherches comme Narbonne. Les études sur le commerce sont évidemment essentielles. Leur développement a été favorisé par l'étude des céramiques, surtout par celle des conteneurs de produits agricoles, amphores et *dolia*, trouvés sur les sites de consommation ou provenant d'épaves. Il faut y ajouter les recherches en cours sur les ports antiques.

Dans le domaine rural, la nouvelle série des *Cartes Archéologiques de la Gaule* dirigée par M. Provost rend accessible pour certains secteurs géographiques une documentation archéologique d'une grande richesse. Le récent colloque sur les *Campagnes de la fin de l'Antiquité* apporte de riches bilans régionaux⁵. S'agissant de l'espace rural, la nouveauté est cette "archéologie du champ" que les archéologues développent depuis les années 1990, grâce aux moyens mis à leur disposition par les aménageurs et en réponse à un souhait anciennement formulé. Initiée en France du Nord, cette approche a été appliquée au T.G.V. Sud-Est, sur les tracés autoroutiers⁶.

² On en trouvera une bibliographie dans le plus récent des volumes consacrés à ce site : P. Garmy & M. Monteil, *Le quartier des Bénédictins à Nîmes (Gard). Découvertes anciennes et fouilles 1966-1992* (Paris 2000).

³ J. Guyon, N. Nin, L. Rivet, S. Saulnier, *Aix-en-Provence* (Montpellier 1998).

⁴ L. Rivet, D. Brentchaloff, S. Roucole, S. Saulnier, *Fréjus* (Montpellier 2001).

⁵ P. Ouzoulias, C. Pellecuer, C. Raynaud, P. van Ossel, P. Garmy, eds., *Les campagnes de la Gaule à la fin de l'Antiquité. Actes du colloque de Montpellier* (Antibes 2001).

⁶ Ph. Boissinot & J.-E. Brochier, 'Pour une archéologie du champ', dans G. Chouquer, *Les formes du paysage 3 : L'analyse des systèmes spatiaux* (Paris 1997), 35-56.

et en archéologie urbaine⁷. Aux fouilles d'exploitations agricoles et de résidences rurales et aux fouilles de champs a été associé un remarquable développement de prospections archéologiques dont l'apport renouvelle les connaissances de l'occupation des campagnes en Gaule Narbonnaise.



Province de Narbonnaise

Il faut accorder une mention particulière aux travaux qui ont été coordonnés par le programme européen *Archaeomedes* dans le Bas et le Moyen Rhône. Ce projet a fédéré un nombre important de chercheurs en particulier un groupe d'archéologues et de géographes qui a publié une première synthèse des résultats obtenus⁸. À partir de prospections portant sur plusieurs régions

⁷ M. Monteil, S. Barberan, M. Piskorz, L. Vidal, 'Culture de la vigne et traces de plantation des IIe-Ier s. av. J.-C. dans la proche campagne de Nîmes (Gard)', *Revue Archéologique de Narbonnaise* 32 (1999), 67-123.

⁸ F. Durand-Dastès, F. Favory, J.-L. Fiches, H. Mathian, D. Pumain, C. Raynaud, L. Sanders, S. van der Leeuw, *Des oppida aux métropoles* (Paris 1998).

présentées comme des tests, ils ont élaboré des courbes quantifiées qui mettent en évidence les phases du développement de l'habitat antique sur le territoire de la cité romaine de Nîmes, en Languedoc oriental et dans la Vallée du Rhône. Pour cela, aux matériaux archéologiques de prospections, ils ont adapté des méthodes statistiques utilisées par les géographes en modélisation. Ces quantifications ouvrent la voie à des comparaisons interrégionales. Elles ont fait certes l'objet de critiques qui dénoncent l'irréalisme d'extrapolations fondées sur les seules observations de surface. Cependant, pour la Narbonnaise, on manque encore d'une réflexion de la qualité des remarques qu'ont présentées P. Ouzoulias et P. van Ossel pour l'Île-de-France⁹. Le progrès conceptuel n'en est pas moins incontestable par rapport aux approches anciennes qui accordaient une priorité à la répartition topographique et à la classification typologique. Perché à l'époque protohistorique, l'habitat serait descendu dans la plaine, puis il serait remonté sur les hauteurs à la fin de l'Antiquité. Son évolution aurait été caractérisée par un phénomène de dispersion se traduisant par la multiplication des habitats du type de la *villa*. Dans sa généralité, ce schéma d'évolution est juste. Mais il ne rend pas compte des différences de rythmes dans les dynamiques régionales du peuplement.

L'ensemble de ces méthodes a ouvert la voie à un renouvellement des études du développement rural en Gaule Narbonnaise. Jusqu'à ces dernières années, une place essentielle était accordée à la romanisation du paysage par la mise en place de vastes centuriations. Le schéma proposé était simple. À la rationalité planimétrique de la ville coloniale correspondait une organisation tout aussi rationnelle et régulière de l'espace rural assurée par la centuriation. Ainsi, pour reprendre une expression de G. Duby, Rome aurait jeté sur la Gaule du Sud, un vaste filet, la centuriation, division rationnelle et géométrique de l'espace. Enregistrée par l'autorité romaine sur des cadastres, —dont celui d'Orange apporte un témoignage unique et capital—, elle était réputée avoir offert un cadre à l'appropriation du sol provincial par de riches propriétaires fonciers issus de l'émigration civile et militaire romaine et italienne ou par des indigènes ralliés à Rome. Fondateurs des villes, ils en contrôlaient les campagnes et en orientaient la production vers une économie de profit. Dans ce cadre, une relation simple était établie entre la centurie, division romaine de l'espace, et la *villa*, centre d'exploitation

⁹ P. Ouzoulias & P. van Ossel, 'Dynamiques du peuplement et formes de l'habitat tardif : le cas de l'Île-de-France' 147-172, dans Ouzoulias et alii 2001, op. cit. (n.5), 225-246.

domaniale et lieu de résidence de l'aristocratie urbaine. La majorité des archéologues adhéraient à ce qui était devenu un paradigme.

Dans les années 1990, ce "paradigme cadastral" a été remis en question ; l'on assiste maintenant à sa "déconstruction". G. Chouquer, l'un des principaux chercheurs français travaillant sur ce thème, vient de publier un ouvrage qui marque un renoncement à la tentative de décrire l'appropriation du sol par Rome à partir de l'étude des parcellaires fossiles¹⁰. Il refuse désormais d'associer une forme du paysage à une période précise et dénonce une confusion entre organisation des surfaces et polarisation des réseaux de communication par un lieu central : cette dernière, qui n'est pas spécifiquement médiévale, explique la forme étoilée prise par les terroirs. Cette position s'appuie sur des considérations théoriques, en particulier une reconnaissance de l'autonomie des systèmes spatiaux (les formes du paysage) par rapport aux systèmes sociaux (Rome, la société médiévale, ...) et aux causalités historiques (la conquête militaire entraînant une réorganisation massive des surfaces pour laquelle le processus le plus simple est la division géométrique). Il reconnaît que Rome n'avait ni opéré sur un espace vide ni sous-estimé la résistance des modes antérieurs d'occupation du sol.

L'ensemble de ces données est maintenant complété par l'apport d'une archéologie écologique qui bénéficie de l'essor des sciences de l'environnement : les disciplines liées à l'écologie proprement dite et celles qui ont pour objet l'étude du sédiment. En Gaule du Sud, leur utilisation par les archéologues travaillant sur les périodes historiques ne remonte pas à plus d'une quinzaine d'années. Longtemps, les géomorphologues n'ont collaboré qu'avec les pré et proto historiens. La prise en compte de leurs études pour la période antique est liée à l'élargissement de la notion de site archéologique et au développement de la prospection. Considéré d'abord comme un masque du site archéologique, le sédiment a maintenant acquis un statut d'objet archéologique, utilisé pour l'identification de la mise en culture des sols.

Les études portant sur la pollution des écosystèmes par les métaux lourds permettent la caractérisation d'activités artisanales et industrielles. Actuellement le meilleur exemple est fourni par la pollution par le plomb identifiée dans les glaces du Groenland. Enregistrant la variation des rejets de plomb dans l'atmosphère, elles apportent un témoignage sur les activités

¹⁰ Cf Ph. Leveau, Critique de G. Chouquer, L'étude des Paysages. Essai sur leurs formes et leur histoire (Paris 1999), dans *Histoire et Sociétés rurales* 15 (2001), 238-243.

minières et métallurgiques liées à ce métal et à l'extraction de l'argent qui lui est associé. Pendant une période s'étendant entre 500 avant J.-C. et 200 environ, la concentration en plomb augmente de 5 fois par rapport à la concentration naturelle. Un retour à des niveaux presque naturels se produit vers 500. L'origine anthropique de ce plomb est démontrée par le rapport isotopique $^{206}\text{Pb}/^{207}\text{Pb}$ et une relation avec l'essor de la métallurgie antique apparaît évidente. Ces enregistrements témoignent d'un phénomène mondial et ne nous renseignent pas sur la part du monde méditerranéen. Mais, bien entendu, l'analyse de prélèvements effectués dans des dépôts permet de passer du global au local, de mettre en évidence la production minière ou des activités de plomberies sur un site précis¹¹.

II. Les indicateurs du développement économique dans les paléo-environnements : le cas de la Vallée du Rhône

L'apport de ces approches à l'évaluation de l'impact de l'économie romaine en Gaule du Sud peut être montré à partir de travaux qui ont été réalisés en Vallée du Rhône où les conditions d'observations sont particulièrement favorables¹². La vallée compte en effet un nombre important de villes romaines importantes qui la jalonnent entre Arles et Lyon. La majorité ont accédé au statut de colonies de droit romain. Certaines ont une origine militaire : Arles, Orange, Valence et Lyon. Mais pas toutes : Vienne et Avignon doivent à leur importance leur promotion à ce titre envié. Dans le cas de Vienne, il s'agit d'une capitale de cité dont les recherches archéologiques restituent l'importance. Celui d'Avignon est différent : la ville est ancienne, mais ce n'était pas une capitale. Dans tous les cas, le rôle du fleuve et de sa vallée, axe majeur du commerce de l'Occident romain, est fondamental. L'étude de l'organisation de l'espace rural bénéficie de l'apport d'un document exceptionnel, les marbres d'Orange.

Longtemps l'exploitation de cette documentation a été limitée par un milieu difficilement appréhendé par les archéologues, la vallée fluviale. Les spécificités de son évolution rendent un tel milieu peu propice à la recherche archéologique. Dans la plaine, l'alluvionnement a été parfois considérable, masquant les vestiges de l'habitat et des activités agricoles. Sur le fleuve, les

¹¹ F.B. Pyatt, 'An imperial legacy ? An exploration of the environmental impact of ancient metal mining and smelting in southern Jordan', *Journal of Archaeological Science* 27 (2000), 771-778; K.A. Hudson-Edwards & M.G. Macklin, 'Medieval lead pollution in the River Ouse at York, England', *Journal of Archaeological Science* 26 (1999), 809-819.

¹² Ph. Leveau, 'Le Rhône romain. Dynamiques fluviales, dynamiques sociales', *Gallia* 56 (1999), 1-175.

variations latérales du chenal entraînent l'érosion et la destruction des aménagements de berge, donc des traces d'aménagement portuaire. Les quelques découvertes archéologiques effectuées dans le lit fluvial datent plutôt du siècle dernier. En revanche, nous savons très peu de choses de celles auxquelles ont nécessairement donné lieu les travaux considérables qui, entre 1950 et 1980, ont été réalisés pour la maîtrise du fleuve ou de l'aménagement autoroutier de sa vallée. À cela s'ajoutent des problèmes liés à l'organisation de l'archéologie française : le Rhône est une limite administrative, ce qui gêne le développement d'une archéologie du fleuve. Cependant cette situation ne présente pas que des désavantages. L'alluvionnement auquel sont soumis les fonds de vallée assure la conservation des travaux d'aménagement d'un milieu qui présente d'intéressantes potentialités agricoles. L'inondation y apporte des alluvions qui, mêlées aux sols par les labours, en assurent la fertilité. Ces terres sont donc riches à condition d'en contrôler l'hydrologie, ce qui peut être réalisé par l'implantation de réseaux de drainage. En principe en effet, sous les niveaux d'abandon qui les scellent, les fossés que l'on retrouve sont plutôt des fossés de drainage que d'irrigation.

Le progrès récent des connaissances relatives à l'exploitation agricole de la vallée¹³ est lié à deux opérations de nature différente menées l'une, dans la plaine d'Arles¹⁴, dans le cadre de l'archéologie programmée, l'autre, dans la moyenne Vallée du Rhône dans celui de l'archéologie préventive la construction de la ligne nouvelle du TGV. Dans ce cas, les archéologues ont pu disposer des moyens matériels d'étude permettant la réalisation de sondages profonds. Dans le cas de la Vallée du Rhône, les archéologues attendaient du paléo-environnement deux types de réponses. La question de l'extension et des caractéristiques des terres agricoles (avaient-elles besoin d'aménagements et lesquels ?) était plutôt posée au géomorphologue. L'importance de l'érosion est fonction de caractéristiques climatiques et de l'activité agricole. Cette dernière est susceptible de libérer les particules des sols que transportent ensuite le vent et les eaux. La seconde question portait sur les productions agricoles et la place de ces activités dans le paysage ; elle s'adressait au paléobotaniste auquel il était demandé d'évaluer l'importance

¹³ B. Ode & T. Odio, 'L'habitat rural de la moyenne vallée du Rhône aux IV^e et V^e siècles', dans Ouzoulias et alii 2001, op.cit. (n.5), 225-246.

¹⁴ Ph. Leveau, 'Dynamiques environnementales et dynamiques sociales sur le territoire d'Arles antique', dans F. Vermeulen & M. de Dapper, eds., *Géoarchéologie des paysages de l'antiquité classique. Colloque International. Gand, 23-24 octobre 1998. Bulletin van de Vereniging Antieke Beschaving (BABESCH)*, supplement 5 (Leiden 2000), 105-118.

et des caractéristiques du couvert forestier à partir de la proportion des pollens d'arbres dans les diagrammes polliniques et des données de l'anthracologie.

II.1. L'apport des travaux géoarchéologiques dans le Tricastin et dans la plaine d'Orange

L'apport du paléo-environnement a été remarquablement bien montré par le géoarchéologue J.-F. Berger, dans une série d'articles où il présente l'apport des travaux qu'il a conduits dans la plaine alluviale du Rhône Moyen, le Tricastin au nord, la plaine d'Orange au sud. Des fouilles pratiquées sur 132 sections de fossés permettent de suivre l'histoire des réseaux drainants, des curages auxquels a donné lieu leur entretien et, pour la fin de l'Antiquité, celle de leur ennoiement sous les dépôts de crues répétées. Ce travail a pour objectif final une modélisation paléoclimatique et, de ce fait, ne présente pas pour eux-mêmes les cas étudiés. Mais J.-F. Berger a accordé un intérêt particulier aux enregistrements de l'impact de l'agriculture d'époque romaine¹⁵. Il montre d'abord l'inégale lisibilité des surfaces. Elle est évidemment en relation avec des recouvrements d'épaisseur inégale selon le secteur. Ils sont faibles parfois. Mais, dans la plaine d'Orange, leur importance est de l'ordre de 2,5 m. Une étude pluridisciplinaire des sites de références montre la complexité de l'interprétation. Celle-ci doit tenir compte de ce que les phases les mieux conservées sont évidemment les phases d'abandon durant lesquelles les fossés ne sont pas curés.

Nous retiendrons l'apport de ces travaux pour deux faits essentiels pour notre propos. Le premier est l'identification d'un réseau d'irrigation par l'analyse de son comblement sédimentaire. Celui-ci prouve la continuité de l'écoulement et permet d'identifier l'origine du captage des eaux. Dans le cas d'un drainage, le sédiment du comblement proviendrait des roches locales. Aux Bartras¹⁶, la présence de gravillons de molasse tertiaire indique que le captage se trouvait à l'amont dans un contexte lithologique différent. On est donc en présence d'un réseau attribuable à la grande irrigation. Ceci constitue une nouveauté complète pour la Gaule du Sud. L'irrigation y est attestée depuis les périodes les plus anciennes de l'agriculture. Mais il s'agit de ce que l'on qualifie de petite irrigation : l'eau est captée dans une source proche ou dans un petit cours d'eau pour assurer des cultures saisonnières

¹⁵ J.-F. Berger, 'Les fossés bordiers historiques et l'histoire agraire rhodanienne', *Etudes rurales* 153-154 (2000), 59-90.

¹⁶ Berger 2000, op. cit. (n.15), 71.

dans des jardins le plus souvent proches d'un lieu d'habitat. Cette forme d'irrigation doit être distinguée de la grande irrigation qui nécessite la construction d'installations permettant de recueillir, de conserver et de répartir l'eau pour les cultures à l'échelle d'une vallée ou d'une plaine, soit le franchissement d'un seuil. En Méditerranée pour l'époque antique¹⁷, celle-ci n'est attestée de manière certaine que dans les régions les plus sèches de l'Empire, là où les conditions écologiques l'imposaient : les marges désertiques, en Égypte en particulier, mais ailleurs également, ainsi dans le sud de la péninsule Ibérique où l'on connaît une série de barrages. Elle a aussi été pratiquée probablement en Italie ou en France du Sud, là où les conditions économiques le justifiaient. Les savoirs techniques étaient possédés en effet comme en attestent les grands aqueducs urbains romains. Des ouvrages célèbres comme ceux de Nîmes et d'Arles ont été construits pour satisfaire les besoins en eau d'une agglomération et non pour irriguer les campagnes. Dans le cas des aqueducs d'Arles, on observe qu'un ouvrage d'abord conçu pour une ville a subi une modification afin d'utiliser une partie des eaux pour les moulins ; cependant un usage principal de l'eau pour la force motrice n'en excluait évidemment pas l'utilisation secondaire pour l'irrigation du fond de la vallée à Barbegal¹⁸. Dans le cas de régions où une agriculture sèche était praticable, leur mise en œuvre pour l'agriculture doit être prouvée. Ainsi, en Provence et en Languedoc oriental, on considérait que la grande irrigation s'est développée seulement à l'époque moderne : en basse Provence, au XVI^e s., l'objectif premier des constructeurs du canal de Craponne était encore la force motrice et non l'irrigation qui fut réalisée seulement par suite.

Le second fait mis en évidence porte sur l'évolution du paysage agricole. J.-F. Berger en a présenté les principes dans une étude conduite en Vallée du Rhône dans le Tricastin et la plaine d'Orange pour un secteur concerné par le cadastre romain. À cette occasion, il a clairement montré l'apport de l'analyse des remplissages sédimentaires de fossés pour l'archéologie agraire. Un arrêt de mise en culture entraîne une modification observable sur les coupes géomorphologiques. Les sédiments de crues ne sont plus mélangés aux labours. Un litage est alors visible. Les fossés qui ne remplissent plus leur fonction sont comblés. Une prairie protectrice s'installe

¹⁷ P.-L. Viollet, *L'hydraulique dans les civilisations anciennes, 5000 ans d'histoire* (Paris 2000).

¹⁸ Ph. Leveau, 'Les moulins romains de Barbegal, les ponts-aqueducs du vallon des Arcs et l'histoire naturelle de la vallée des Baux (Bilan de six ans de fouilles programmées)', *Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres* (1995), 115-144.

et bloque ou ralentit les apports de sédiments. Le remplissage des fossés est en outre caractérisé par une malachofaune hydro et hygrophile particulièrement abondante¹⁹.

À proximité de Lapalud où l'on situe le *locus gromae* du cadastre B d'Orange, aux Girardes, les archéologues ont eu l'occasion de fouiller un site rural —une *villa*?— et les champs situés à proximité et d'étudier une zone humide proche. Les études naturalistes qui ont porté sur celle-ci ont montré qu'à la charnière des I^{er} et II^e s., le drainage avait connu une période d'arrêt suivie d'un développement des friches. Opérée sur près de 20 ha, la fouille des champs avait montré que, durant la période précédente, les parcelles étaient cultivées en vigne²⁰. Cette spécialisation agricole s'explique par le très fort développement de la viticulture mis en évidence dans l'ensemble de la Narbonnaise depuis quelques années. D'une manière générale, pour la même période, les prospections archéologiques démontrent un développement considérable du peuplement: les créations de sites sont nombreuses. Au tournant des I^{er} et II^e s., intervient un changement qui est caractérisé par l'arrêt des créations de site et par celui de la viticulture. L'archéologie du champ a permis une observation analogue un peu partout où cela était possible, c'est-à-dire en zone basse.

La diminution du nombre des sites occupés qui s'affirme à partir du milieu du II^e s. a été interprétée en terme de "crise". Cette notion mérite d'être précisée en distinguant bien crise des milieux et crises des sociétés — pour ces dernières, le pluriel est de rigueur. En effet, en réaction contre les généralisations précédentes, les archéologues adoptent une attitude plus prudente et tentent de confronter documentation archéologique et documentation épigraphique. Dans le cas du Rhône Moyen, bien documenté par le cadastre d'Orange, et par les travaux archéologiques dont il vient d'être question, la relation entre les deux crises n'est pas simple. Le cadastre est un document fiscal qui indique des limites que l'on croyait systématiquement matérialisées par des fossés. La réalité révélée par l'archéologie est complexe. Ph. Boissinot précise qu'il "n'a pas systématiquement servi d'appui aux parcelles romaines qui traversent certains axes majeurs"²¹. Mais l'archéologie du champ n'est évidemment que l'une des approches de l'exploitation de terroirs. Toute généralisation

¹⁹ Berger 2000, op.cit. (n.15), 75.

²⁰ Ph. Boissinot, 'La trace des paysages agraires. L'archéologie des façons culturelles en France', *Etudes rurales* 27-29 (2000), 23-38.

²¹ Boissinot 2000, op.cit. (n.20), 26.

doit être précédée d'une réflexion sur la conservation des faits archéologiques: les fosses de plantation sont conservées en secteur de plaine à la suite de recouvrement alluviaux alors que la vigne est considérée habituellement comme une culture de colline. À proximité de Lattes, les naturalistes qui en avaient mis en évidence la culture situaient les vignobles sur les pentes de collines proches; les fouilles de Port Ariane ont montré que la vigne était cultivée dans un secteur actuellement occupé par un marais. Les faits ne sont pas contradictoires. À Nîmes, les traces d'un vignoble avaient été préservées par des constructions d'époque augustéenne²². En fait l'archéologie rurale révèle la diversité de situations individuelles que l'on doit se garder de généraliser à l'ensemble d'un espace. Le développement de la prairie n'est pas nécessairement lié à une déprise agricole.

II. 2. La paléobotanique

On manque encore de données polliniques susceptibles de montrer l'impact de la romanisation en moyenne Vallée du Rhône. Mais l'intérêt de cette approche a été démontré à l'aval dans le Bas-Rhône et la zone deltaïque pour lesquels on dispose d'une documentation écrite et archéologique importante du fait de l'existence de la colonie romaine d'Arles. À la lumière des états les plus "anciens" (fin du Moyen Âge et Temps Modernes) connus par des textes ou par des documents cartographiques, les historiens avaient imaginé que les paysages du Bas-Rhône dans l'Antiquité étaient dominés par l'eau. En fonction de cet état du milieu, on imaginait un développement urbain fondé essentiellement sur le commerce par le Rhône. Pour compenser le manque de terres dans la proche campagne, le pouvoir romain aurait attribué à la colonie des terres situées très à l'est. Une telle situation ne cadrait pas avec le schéma habituel d'une colonisation dont l'objectif principal était d'établir des vétérans. Arles était donc atypique²³.

Les études conduites sur la partie orientale de la plaine et dans la vallée des Baux en collaboration avec les géomorphologues et les palynologues ont montré que les anciennes restitutions du paysage étaient erronées. Durant la période antique, le milieu se prêtait à la conquête agricole. Au prix de travaux dont on peut trouver des preuves régionales, les terres humides des basses plaines arlésiennes ont pu être drainées et rendues utilisables pour

²² Monteil et alii 1999, op. cit. (n.7).

²³ Ph. Leveau, 'Colonne romaine et milieu naturel : Arles et les plaines du Bas-Rhône', dans *L'homme et la dégradation de l'environnement. XVes Rencontres Internationales d'Archéologie et d'Histoire d'Antibes*, 20-21-22 oct. 1994 (Juan-les-Pins 1995), 245-262.

l'agriculture. On constate donc une cohérence entre le paysage antique restitué par les géomorphologues et l'image que se fait l'historien d'une terre où les Romains installent une colonie. Dans cette opération, les études de paléobotaniques confirment des hypothèses faites sur la mise en culture de ces terres et des précisions pour l'identification des productions agricoles et leur "spatialisation". Les deux secteurs économiques concernés sont la céréaliculture et l'élevage. La place majeure occupée par les céréales dans la production agricole est difficilement documentée par l'archéologie. Les sources écrites sont peu nombreuses et d'interprétation ambiguë. Actuellement quelques analyses polliniques justifient déjà l'hypothèse de terres à blé dans la région d'Arles et en Camargue²⁴ et autorisent à supposer que la production de céréales ait connu une forte extension et qu'elle a constitué une des bases de la prospérité de la colonie romaine d'Arles. Si aucune date précise n'a pu être obtenue dans la vallée des Baux, à quelques kilomètres de là, en bordure de la plaine du Rhône, le profil de La Calade montre, pour le second âge du Fer et l'époque romaine, une courbe continue de *Cerealia*. *Cerealia sp.* domine ; mais le seigle est présent et les plantes adventices (*Centaurea solstitialis* et *Polygonum aviculare*) sont irrégulièrement attestées.

Au début des années 1990, des bergeries antiques (bâtiments de grande taille allongés pointe orientée vers le mistral) ont été découvertes en prospection dans la plaine de Crau²⁵. Dans cette remarquable découverte, la véritable nouveauté consiste non dans la présence du bétail en Crau, — connue par Strabon (*Géographie* 4.1.7) et par Pline (*Naturalis Historia* 21.57) — mais dans la forme d'un élevage nécessitant la construction de bergeries. Des éleveurs romains (on pense aux nouveaux colons italiens) auraient entrepris d'élever des bêtes plus fragiles qui séjournaient dans la Crau en une période où il était nécessaire de les abriter dans des bergeries. Les auteurs ont envisagé que ces troupeaux aient été envoyés l'été dans les Alpes, comme ce fut le cas au Moyen Âge. Mais compte tenu de l'incertitude des dénombrements et des objections techniques au déplacement des troupeaux sur de longues distances, il est plus vraisemblable que ceux qui séjournaient en Crau durant l'hiver trouvaient,

²⁴ V. Andrieu-Ponel, Ph. Ponel, H. Bruneton, Ph. Leveau, 'Palaeoenvironments and cultural landscape of the last 2000 years reconstructed from pollen and coleopteran record in the Lower Rhône Valley, southern France' *The Holocene* 10.3 (2000), 341-355.

²⁵ O. Badan, J.-P. Brun, G. Congès, 'Les bergeries romaines de la Crau d'Arles. Les origines de la transhumance en Provence', *Gallia* 52 (1995), 263-310.

l'été, de quoi subsister dans les zones humides de la plaine du Rhône, en Camargue et dans celles de la plaine d'Arles et de ses annexes comme la vallée des Baux. Le profil pollinique de la Calade en a apporté une confirmation. Dans ce cas, les études paléo-écologiques (palynologie, entomologie) mettent en évidence l'impact local de l'élevage dans les zones humides²⁶. L'hypothèse d'une origine antique de la transhumance n'est non plus validée par les études en cours sur l'occupation pastorale dans les Alpes: dans les diagrammes polliniques, la rupture apparaît médiévale et non antique²⁷.

II. 3. Les aménagements du chenal fluvial

Le cas de la plaine d'Orange avait permis d'évoquer l'origine agricole de la richesse consommée dans la ville. La récente découverte de l'épitaphe d'un *sevir augustalis* vient à point nommé pour nous rappeler qu'Orange était aussi en relation avec l'artère commerciale du Rhône. Elle entre dans une série jusqu'ici documentée pour les seules villes de Lyon et Arles que Strabon qualifie d'*emporia*. Le séviroc occupé par ce personnage à Orange et à Lyon s'explique vraisemblablement par des activités commerciales dans les deux colonies que lie le Rhône. L'importance de son mausolée permet de lui reconnaître une place importante dans des milieux d'affaires que l'on rencontre pour la première fois à Orange. Son patron Titus Pompeius Reginus devait appartenir à une puissante famille notable dont on imagine mal qu'elle n'ait pas eu un rapport avec le commerce régional²⁸.

Strabon (4.1.14) souligne l'importance prise par le fleuve et sa vallée, comme axes de circulation, en relation avec l'ouverture de la Gaule au commerce méditerranéen que favorise la conquête; la découverte de matériel amphorique dans la vallée de la Saône en est la traduction au plan archéologique. Ce rôle est vérifié par les sources écrites dont les plus anciennes concernent la construction d'un canal d'accès au fleuve par Marius en 102 av. J.-C. La mise en vente par Caligula du mobilier de ses palais, à Lyon, en 40 suppose que l'on avait pu l'acheminer rapidement²⁹. Le développement de l'axe fluvial a des conséquences sur l'organisation de la

²⁶ Andrieu-Ponel et alii 2000, op.cit. (n.24).

²⁷ Thèse de palynologie de M. Court-Picon en cours.

²⁸ V. Faure, J. Gascou, J.-M. Mignon, J. Planchon, S. Zugmeyer, 'Un sévir augustal d'Orange et de Lyon', *Revue Archéologique de Narbonnaise* 32 (1999), 21-30.

²⁹ D. van Berchem, *Les routes et l'histoire. Études sur les Helvètes et leurs voisins dans l'Empire romain* (Genève 1982), 108.

Vallée du Rhône. Dans le couloir rhodanien, Rome favorise l'émergence de cités aux territoires de taille réduite sans doute aux dépens des grandes confédérations tribales Arécomiques à l'ouest, Salyens au sud-est et Voconces à l'est dont, au III^e s. av. J.-C., les territoires incluaient des sections de la vallée.

La conquête romaine a entraîné un essor de la navigation fluviale sur un fleuve dont la dangerosité est un fait établi. Dans les premières années de leur occupation de la Gaule du Sud, les Romains ont aménagé l'accès au Rhône par le creusement d'un canal à l'est du delta, les fosses mariennes. Cette opération qui répondait d'abord à un problème stratégique (faciliter l'entrée du fleuve aux bateaux ravitailleurs de l'armée de Marius), prit une dimension économique : les Romains en firent don à leurs alliés marseillais qui "en retirèrent un grand profit par les taxes perçues sur les transports remontant et descendant le fleuve" (Strabon, *ibid.*). Les marbres d'Orange fournissent un exemple des aménagements du chenal réalisés par les ingénieurs romains. Dans ses travaux sur le moins bien conservé d'entre eux, le cadastre C, F. Salviat avait mis en évidence l'existence d'une *fossa augusta*, un canal de navigation d'une largeur d'une trentaine de mètres (fragment 351) que l'on situe maintenant dans la plaine d'Orange, comme le pensait déjà A. Piganiol. Les recherches géoarchéologiques de J.-L. Ballais et de J.-Cl. Meffre ont permis d'en préciser la fonction : permettre à la navigation de contourner une zone où le cours du Rhône était encombré d'îles rendant difficile la circulation sur le fleuve. En ce secteur du fleuve, caractérisé par l'existence d'un seuil et l'apport sédimentaire d'affluents, des îles se font et se défont. Recouvrant les galets d'une nappe würmienne, le fleuve dépose des limons et crée un terroir riche pour qui en maîtrise l'hydraulique³⁰.

III. Anthropisation du milieu et développement économique : "méditerranéisation" du climat et "front pionnier"

Mises en série, les informations qu'apporte l'analyse archéologique des sites (approche "stationnelle") permettent d'accéder à des situations générales qui, dans le cas qui nous occupe, caractérisent le développement économique induit par l'intégration de la Gaule du Sud dans l'Empire. L'impact de ce développement dans les paléo-environnements correspond à ce que les environnementalistes qualifient d'anthropisation ; ils y reconnaissent précisément des degrés séparés par des seuils : le seuil néolithique, le seuil

³⁰ Leveau 1999, op.cit. (n.12).

gréco-romain, le seuil de la société industrielle. Durant les périodes antiques, l'environnement a incontestablement subi les effets d'activités de type industriel ; évoquée plus haut, la plomberie en donne un bon exemple. Mais, pour la période antique, le principal agent de l'anthropisation est encore l'activité agricole. L'impact de celle-ci sur le milieu n'est pas fondamentalement différent de celui d'un phénomène climatique. Ainsi les défrichements et le développement d'espaces pâturés sont susceptibles d'avoir sur les environnements des effets analogues à ceux d'une aridification du climat. L'interprétation de l'ambiguïté observée au niveau des impacts nécessite la collaboration de naturaliste et de l'archéologue.

Ce fait est au cœur d'une discussion qui divise les paléobotanistes, celle qui porte sur l'installation du climat méditerranéen, celui qui intéresse pratiquement l'ensemble de la Narbonnaise. Climat de transition, il est caractérisé par la sécheresse estivale, l'irrégularité et éventuellement la violence des précipitations automnales, ce qui fragilise le rapport entre ce milieu et les sociétés. Le palynologue français G. Jalut et des palynologues espagnols³¹ ont proposé une reconstruction des processus qui ont accompagné cette mise en place. Ils prennent pour point de départ la constatation suivante : avant la période néolithique (6000 BP), dans le nord de la Méditerranée, la végétation arbustive est caractérisée par la chênaie sempervirente et les forêts d'arbres à feuilles caduques. À partir de ce moment se développe une végétation sclérophylle et xérophile. Cette modification serait produite selon un gradient latitudinal sud-nord. Selon eux, entre 40° et 44° de latitude nord, soit dans la région qui nous intéresse, une modification dans la répartition annuelle des précipitations aurait conduit à l'installation de la sécheresse estivale caractéristique du climat méditerranéen entre 3300 et 1000 B.P., soit donc entre l'âge du Bronze et la période carolingienne. Plus précoce en Espagne du Sud, la mise en place de la sécheresse estivale aurait débuté vers 2600-1900 B.P. (2850-1630 cal. B.P.) dans le Golfe du Lion. Selon les auteurs d'une série d'analyses polliniques portant sur les sites du Nord-Est de la Péninsule Ibérique, malgré l'essor de l'urbanisation en Catalogne à l'époque romaine à la fin du second

³¹ G. Jalut, A. Esteban Armat, S. Riera y Mora, M. Fontugne, R. Mook, L. Bonnet et T. Gauquelin, 'Holocene climatic changes in the western Mediterranean: installations of the Mediterranean climate', *Comptes Rendus de l'Académie des Sciences. Sciences de la terre et des planètes* 325 série IIa (Paris 1997), 327-334.

âge du Fer, le climat reste le principal facteur des changements observés dans les environnements³². Il en irait de même en Languedoc occidental.

Mais l'augmentation des capacités d'intervention et la complexité croissante des sociétés rendent délicate l'interprétation des données environnementales en termes d'histoire du milieu. Un consensus existe à propos des faits eux-mêmes: à partir de l'âge des métaux, une tendance climatique, —la progression de la sécheresse—, accompagne le développement de foyers culturels remontant du sud de la Péninsule ibérique vers les côtes méditerranéennes françaises. Mais, ce que G. Jalut interprète comme l'effet d'une aridification liée à la mise en place du climat méditerranéen est attribué par d'autres à l'anthropisation³³. Pour A. Pons et P. Quezel, la "méditerranéisation" du climat observable à partir de la fin de l'âge du Fer a donc une composante culturelle essentielle. Le développement du chêne vert au détriment du chêne à feuilles caduques n'est pas l'indicateur d'un changement climatique ; il résulte de l'anthropisation du couvert végétal.

Les différences que les études paléoenvironnementales font apparaître en Languedoc traduisent les inégalités régionales du développement économique. Les palynologues ont fait deux observations: dans le bassin de l'Aude, la diminution des taux d'essences mésophiles est plus accentuée et plus précoce tandis que, d'une manière générale, le démarrage des déboisements est plus rapide que sur le littoral du Languedoc oriental où les marqueurs botaniques de milieux ouverts n'atteignent leurs maxima qu'après le Haut Moyen Âge. Ainsi, à l'ouest de l'Hérault, la fin de la Protohistoire et le début de la romanisation sont marqués par une chute des pollens arboréens caractérisant un très fort déboisement. Le phénomène n'a certainement pas une origine climatique. Il est probablement lié à la proximité de Narbonne, capitale de la Province, et à une urbanisation régionale beaucoup plus forte que sur le littoral du Languedoc oriental où Nîmes, le principal centre romain, est situé à l'intérieur. Dans les zones littorales catalane et française, la différence entre les territoires de *Barcino* et de *Tarragona*, entre la région de Lattes et celle de Narbonne, a, dans les deux cas, pour origine la présence

³² F. Burjachs, M. Blech, D. Marzoli, R. Julià, 'Evolución del paisaje vegetal en relación con el uso del territorio en la edad del Hierro en el NE de la Península Ibérica', dans *Els productes alimentaris d'origen vegetal a l'edat del ferro de l'Europa occidental: de la producció al consum. XXIIe colloque international pour l'étude de l'Age du Fer*, Monografies del Museu d'Arqueologia de Catalunya-Girona 18 (2000), 31-42.

³³ A. Pons & P. Quezel, 'À propos de la mise en place du climat méditerranéen', *Comptes Rendus de l'Académie des Sciences* 327 série IIa (Paris 1998), 755-760.

de deux capitales provinciales romaines. Plus qu'aucun facteur climatique, le développement économique régional explique la précocité relative et l'importance des agressions observées sur le milieu naturel aux abords de celles-ci.

Ce n'est donc pas un hasard si des archéologues travaillant dans la longue durée ont appliqué à la romanisation de la Gaule Narbonnaise un concept qui offre un remarquable parallèle avec celui de la "méditerranéisation", le concept de "front pionnier". Les données archéologiques recueillies en prospection ont fait l'objet de traitements statistiques autorisant à définir des gradients de développement dans l'occupation du sol. Ce concept a servi à caractériser l'évolution de l'occupation des campagnes en Vallée du Rhône à l'époque romaine³⁴. Pour un géographe, le front pionnier est la limite atteinte par des colons défrichant des terres faiblement peuplées. Pour un historien, il évoque la conquête agricole des grandes plaines de l'Amérique du Nord. Les préhistoriens ont utilisé cette expression pour caractériser les processus de néolithisation; elle évoque alors un développement économique associé à un changement culturel. S'agissant de la Vallée du Rhône où l'occupation pré-romaine est ancienne et importante, l'emploi de cette expression peut être admis à condition de bien en préciser les conditions d'emploi. S'agissant de la Vallée du Rhône et de l'époque romaine, les échelles de temps d'un tel front pionnier diffèrent de celles de la néolithisation de l'Ancien Monde et les échelles d'espaces de celles de la conquête des grandes plaines de l'Ouest du Nouveau Monde. La plus importante différence est l'existence de poches où subsistent les formes économiques anciennes. En Gaule Narbonnaise en général et en Vallée du Rhône en particulier, la colonisation romaine entraîne l'implantation de pôles urbains dont l'isolement relatif au milieu des tribus ou confédérations tribales gauloises justifie au Ier s. encore l'emploi d'une autre image soulignant l'hétérogénéité des situations, celle d'une "peau de léopard".

Pour la Gaule Narbonnaise, l'intérêt d'une échelle d'observation micro régionale et le changement de perspective qu'elle introduit dans l'évaluation de l'impact économique de la romanisation sont illustrés par le cas des moulins de Barbegal. Il y a une cinquantaine d'années, pour interpréter cette usine, F. Benoit se plaçait à l'échelle de l'économie de la province. Selon lui, les cryptoportiques du *forum* d'Arles auraient été des *horrea* recevant les blés amenés par la route et la voie fluviale. Ces blés auraient été amenés de

³⁴ Durand-Dastès et alii 1998 (n.8), 104-106.

ces entrepôts à Barbegal pour être moulus et distribués à la troupe et à la population de la région. Il s'appuyait sur les travaux de Rostovtzeff³⁵. Dans cette reconstruction qui reste largement admise, la question de l'approvisionnement était appréhendée à l'échelle de l'Empire. Depuis, on a montré que ces moulins étaient bien incapables de jouer le rôle qui leur était attribué: leur production n'excédait pas les besoins en farine de la ville d'Arles. Le point de vue adopté est celui qui a été présenté plus haut: démontrer par une étude micro régionale que les sols alluviaux de la plaine d'Arles produisaient des céréales qui étaient commercialisées hors du territoire de la ville ou utilisées pour l'approvisionnement de la ville.

Conclusion

Ce qui a été montré est inspiré par une idée centrale: l'amélioration des connaissances permet de modifier ou de préciser les paradigmes. Elle-même est étroitement liée aux méthodes et techniques d'approches. Dans le cas présent, la paléo-écologie me paraît porteuse de l'espoir d'une documentation nouvelle sur les économies antiques. Appliquée à une micro région, elle permet de voir si le vide de la documentation écrite et de la documentation archéologique correspond à une réalité de l'occupation humaine ou bien la masque. C'est un moyen d'identifier les forts contrastes existant entre des espaces plus développés et plus performants au plan économique et d'autres restés en marge.

Il faut abandonner un schéma évolutionniste simple conçu comme un progrès conduisant de la "protohistoire" à la "période romaine". Grâce au développement interne et aux influences hellénistiques, en Gaule du Sud, les bases de l'économie agricole sont acquises durant la protohistoire: plantes cultivées, animaux élevés, outils, techniques de culture, maîtrise des sols (drainage, irrigation, construction de terrasses). La nouveauté principale apportée par Rome réside dans l'intégration de la région à l'économie commerciale de l'Empire. Mais le progrès général dissimule de fortes disparités et, à l'échelle micro régionale, deux économies agricoles coexistent, une économie paysanne poursuivant la tradition protohistorique et une économie organisée en fonction du profit ("capitalistique"). Pas plus qu'une autre, la Gaule du Sud n'est une province homogène. Le recours au concept d'hétérogénéité spatiale permet d'intégrer l'opposition entre monde indigène et monde romain. L'intégration administrative d'une zone

³⁵ F. Benoit 'L'usine de meunerie hydraulique de Barbegal (Arles)', *Revue Archéologique* 15,1 (1940), 71 n.l.

géographique dans la Provence ne se traduit pas nécessairement par une utilisation des modes de gestion de l'espace que l'on rencontre dans les secteurs les plus développés —les territoires des fondations coloniales romaines par exemple—. La Gaule Narbonnaise est bien comme le dit Pline *Italia verius quam provincia*, mais comme dans les autres provinces, s'y juxtaposent des formes économiques irréductibles.

Aix-en-Provence, novembre 2001

COIN USE IN AND AROUND MILITARY CAMPS ON THE
LOWER-RHINE:
NIJMEGEN - KOPS PLATEAU
By
JOS P.A. VAN DER VIN

Introduction

“The northern countries of Europe scarcely deserved the expense of labour and conquest. The forests and morasses of Germany were filled with a hardy race of barbarians, who despised life when it was separated from freedom; and though, on the first attack, they seemed to yield to the weight of the Roman power, they soon, by a signal act of despair, regained their independence, and reminded Augustus of the vicissitude of fortune”. In these sentences the historian Edward Gibbon expressed his very negative opinion about the northwestern region of Europe¹. The emperor Augustus, however, had quite different ideas about the same region. After protracted wars in Spain and in the Alpine regions in about 15 B.C. he decided to occupy permanently the area south and west of the Rhine and Meuse. Some years later, about 12 B.C., his stepson, the famous general Drusus, marched with several legions to the Rhine-estuary, near Katwijk, some miles west of Leiden. On the steep river bank, east of the later city of Nijmegen, a first, temporary camp of fortress size was erected, the first Roman settlement in the territory of the Netherlands (circa 15 B.C.). This fortification on the Hunerberg was built on the same spot where eighty years later the fortress (*castra*) of the tenth legion was to be constructed². In addition, in the very early years of the Roman conquest, a more permanent military base was erected some hundred metres to the east of the Hunerberg, on the Kops Plateau, in the vicinity of the temporary camp (circa 12-10 B.C.).

Between 1986 and 1996 the National Archaeological Service of The Netherlands (R.O.B.) carried out large-scale excavations in the Kops Plateau area. Five successive military bases from the Augustan and Julio-Claudian periods have been the object of intensive research. Although the date of the foundation of the first base is not exactly known - it seems to have been about 12 B.C. in connection with Drusus' expedition - it is certain that the abandonment of the fifth and last base was the result of the Batavian Revolt

¹ E. Gibbon, *Decline and Fall of the Roman Empire*, chapter 1.

² J.K. Haalebos, *Castra und Canabae: Ausgrabungen auf dem Hunerberg in Nijmegen, 1987-1994* (Nijmegen 1995). Also J.K. Haalebos, *Centuriae onder Centuriae Hof* (Nijmegen 1998).

of 69 A.D.³. An area of ca. 4-5 hectares is too small to house a complete legion; for this at least 20 hectares would have been necessary. Because many traces of cavalry equipment have been discovered, both inside and outside the base, it seems probable that during most of the first century Roman auxiliaries were encamped on the Kops Plateau. Perhaps it was built to house the famous Batavian horsemen, mentioned with respect in Roman literature. In the middle of the site a spacious and luxurious *praetorium* and the remains of many officers' houses were found; an exciting and important discovery. The size of the *praetorium* - about 2000 square metres - is equal to that of the large *praetoria* in the Roman *castra* along the Rhine in Germany. The excavators consequently supposed that this extraordinarily luxurious building found in the *castellum* on the Kops Plateau must have had a special purpose. At first it could have been the headquarters of Drusus during his campaigns along the Rhine; later on it was apparently the centre of a successive series of cavalry forts until the final destruction in 69 A.D.⁴

To give an idea of the enormous amount of finds made as a result of ten years of excavation, I shall only mention some of the most important categories. The archaeological material consists of more than 375,000 sherds of pots, *amphorae* and other ceramics; 35,000 fragments of stone; 30,000 bones and seeds, and thousands of metal objects.

As regards coin finds, about 4500 Roman and Celtic coins were discovered as strays in various places, both inside and outside the camp. In addition, 174 ancient Roman and Celtic coins were found in 6 small hoards of different size and origin: for instance a small pot with 86 silver *denarii* may be regarded as a savings hoard, a group of 19 small Celtic copper coins as an example of a lost purse⁵.

The coin complex

A coin complex of 4482 Roman and Celtic coins from a single Roman military site, the beginning and end of which are exactly dated (ca. 12 B.C. - 69 A.D.), provides a unique opportunity to make important inferences about the beginning of the Roman occupation of The Netherlands, the process of romanization of the local German-Celtic population that started shortly after

³ H. van Enckevort & K. Zee, *Het Kops plateau, Prehistorische grafheuvels en een Romeinse legerplaats in Nijmegen* (Abcoude 1996), 31.

⁴ *Ibidem*, 32-35.

⁵ Publication of the coin hoards and the excavation complex in J.P.A. van der Vin, ed., 'Nijmegen, Kops Plateau', in *FMRN* III 1 (Berlin 2002).

the occupation, and the introduction of Roman coin use in a Germanic society that was not yet accustomed to such a method of payment.

The coin list⁶ clearly shows that the Augustan period was the most important in the history of the site (Figure 1). Nearly 80% of the coins date from the Roman Republic and the age of Augustus (before 14 A.D.); most of them may be connected with the military operations in Germany under the command of Drusus (ca. 15-9 B.C.) and his brother Tiberius (from 8-7 B.C. onwards), the unfortunate Varus (*i.e.* the commander of the Roman army at the battle in the Teutoburgerwald, A.D. 9) and Germanicus (ca. A.D. 16). The later occupation period of this *castellum*, the years from the reign of Tiberius till the Civil War of 69, is represented by another 10-15%. But after the abandonment of the site in 69 a good many Flavian coins were lost on the site as well; the reason is that during this period the fortress (*castra*) of the 10th legion was situated on the Hunerberg in the vicinity of the Kops Plateau. Some roads undoubtedly led through the remains of the old *castellum* to the new fortress (*castra*), and travellers may have dropped some coins there. The coins may also have been lost or buried, however, in a small civilian settlement that had come into being outside the fortress. The impact of the existence of the fortress was undoubtedly very strong: in 104 the 10th legion was ordered to march to Aquincum (Budapest) and the coin list directly reflects its departure. From the time of Trajan 14 coins have been discovered. Only one is dated after 103, all other coins are of the earliest emissions of this emperor. After 103 perhaps all activity on the Kops Plateau area came to an end, for between 103 and 235 (Severus Alexander) only 8 coins were lost on this site. During the late 3rd century (after 270) or in the beginning of the 4th century under Constantine I there must have been a renewed occupation on a very limited scale; 45 coins of this period (1% of the total amount) are an indication of some activity, either in a military or in a civilian context.

The command of Drusus: occupation

The temporary camp on the Hunerberg (about 15 B.C.) and the *castellum* on the Kops Plateau (from 12 B.C. onwards) are the earliest military settlements in the Dutch section of the Lower Rhine region. Therefore the coin finds of these sites can provide an idea of what coins the soldiers possessed upon their arrival in this area. In addition these coins can give an indication of the region from which the legions were moved to the Lower Rhine. We can have

⁶ Van der Vin 2002, *op cit.* (n.5), *passim*.

a fair impression of what the fortress (*castra*) on the Hunerberg was like (Figure 2). It existed during a short period (between ca. 15 and ca. 10 B.C.) and the site was only reoccupied after 69 A.D. by the fortress of the 10th legion. So the remains were not heavily mixed up and disturbed. The *castellum* on the Kops Plateau started very early as well, but in this case the coinage of the earliest phase has been mixed up with coins of later periods. In a recent study of the "Versorgung augusteischer Truppen mit Münzgeld", Johannes Heinrichs (University of Cologne) pointed out that in the earliest phase of the Roman occupation of the Lower Rhine region the coinage inside the fortresses and *castella* consisted mainly of silver and copper coins from Republican times and the transitional period between Republic and Empire⁷. In addition a limited number of early Augustan *denarii* and *quinarii* might be expected to be found, coins that had been minted in Rome, by Spanish mints (Emerita/Merida - Caesaraugusta/Zaragoza and Patricia/Cordoba) or at Lyon, where a production of *aurei* and *denarii* started about 15 B.C. Gold coins are very rare in these military settlements; they have only been found in greater quantities at the site of the battle of Varus at Kalkriese near Osnabrück⁸. A limited number of copper denominations was available. Copper *asses* with the head of Janus on the obverse had not been minted in Rome from about 80 B.C., but a small part of those important Republican emissions was still in circulation. In addition the large and heavy copper coins from Copia-Lyon and Vienna, struck by Octavian and Agrippa about 36 B.C. in the transitional period, were used in rather great quantities, either with the value of a *dupondius* (=2 *asses*) or the value of an *as*⁹. Their weight is different from later Augustan copper *asses*, though. Because the standard coin of the Romans was the *as* and most of these coins found in the camps are halved, I prefer to call them *dupondii*; the halved coins could be used as *asses*. Predominant in these military settlements, however, is the great number of copper coins from Nemausus. At this place Augustus organized a relatively large-scale production of such coins. The originally local mint of Nemausus/Nîmes produced large amounts of copper coins bearing the heads of Augustus and Agrippa on the obverse and a crocodile chained to a palm-tree on the reverse. The production started, according to a recently revised

⁷ J. Heinrichs, 'Überlegungen zur Versorgung augusteischer Truppen mit Münzgeld', in: *Politics, administration and society in the Hellenistic and Roman world. Proceedings of the International Colloquium, Bertinoro 19-24 July 1997* (Leuven 2000), 155-214.

⁸ Heinrichs 2000, op.cit. (n.7), 163-164.

⁹ A. Burnett, et al., eds., *The Roman Provincial Coinage 1* (London 1996), nrs. 514, 515 (Copia) and 517 (Vienna).

dating, in 16 B.C. and was continued till 7 B.C. on an enormous scale¹⁰. Many millions of coins must have been struck in the local mint of Nemausus, in auxiliary mints in the same town and perhaps also in mobile, travelling mints near the location of the legions. The main aim of this production was the supply of the Roman army with copper coins, both in Raetia (Switzerland) and on the Lower Rhine. In Nijmegen - Kops Plateau 699 pieces have been discovered, either genuine coins from Nemausus, or local imitations of the type. In the other early fortresses along the Rhine we also find many hundreds of these coins. After 7 B.C. the coin production at Nemausus was transferred to the mint of Lyon, where the striking of gold and silver was temporarily replaced by a quantitatively important production of *asses* showing the altar of Roma and Augustus situated at Lyon¹¹. Between 7 and 3 B.C. an enormous amount of coins of this Lyon-I type was struck, particularly for the legions on the Rhine, so that after 7 B.C. for many years the circulation in the camps was dominated completely by this coin type alone (Figure 3). That the date of transition was about 7 B.C. is proved by the coin finds of the fortress in Oberaden on the Lippe. This was a bridgehead of the Roman army in Germanic territory, built in 12-11 B.C. After a few years, during the winter of 8-7 B.C., as dendrochronological data indicate¹², the fortress was abandoned. Coins struck at Nemausus dominate almost exclusively the finds in Oberaden, and the altar series of Lyon is still lacking at this early site, because the production of this type started later in 7 B.C., some months after Oberaden had been abandoned.

After comparing the coin lists of the military sites at Neuss, Oberaden on the Lippe, Vetera-I (Xanthen) and Nijmegen-Kops Plateau, Heinrichs points out that the coin list of Neuss presents a different pattern from the others¹³. At Neuss local copper coins from the originally Celtiberian and Iberian, romanized cities in the Ebro valley are completely lacking; more coins here come from Rome or northern Italy. He consequently suggests that the Neuss camp was a little bit earlier than the other military settlements - an idea supported by *terra sigillata* sherds - and that the soldiers encamped there came directly from Italy. I think his suggestion is correct, for at the

¹⁰ Heinrichs 2000, op.cit. (n.7), 171-173. In The *Roman Imperial coinage* (RIC) I (2nd edition from 1984) this series is still dated as: circa 20-10 B.C.

¹¹ J. van Heesch, 'Proposition d'une nouvelle datation des monnaies en bronze à l'autel de Lyon frappées sous Auguste', in *Bulletin de la Société Française de Numismatique* 48 (1993), 535-538.

¹² Heinrichs 2000, op.cit. (n.7), 183-184; J.S. Kühlborn, 'Das Römerlager Oberaden', in J.S. Kühlborn, ed., *Germaniam pacavi. Archäologische Stätten augusteischer Okkupation* (Münster 1995), 103-124.

¹³ Heinrichs 2000, op.cit. (n.7), 184-187.

other three sites we find a fair amount of local Spanish coins from cities like Bilbilis, Turiaso, Calagurris, Lepida-Celsa or Caesaraugusta, all situated in the Ebro valley in north-eastern Spain¹⁴. They are a clear indication that after the Cantabrian wars, which had been fought during the twenties B.C., Roman troops were withdrawn from north-western Spain and, marching through southern Gaul, where they picked up the *dupondii* of Vienna and Copia, which were circulating in great numbers in that area, they arrived on the Lower Rhine in order to settle the diffuse political situation in north-eastern Gaul according to the new strategy of the emperor.

The *castellum* on the Kops Plateau is at the most five years later than the temporary base on the Hunerberg. Although coin finds there differ greatly in quantity, I think the different proportions between the *dupondii* of Vienna and Copia are not completely fortuitous. At the Hunerberg site coins from Copia (2 complete and 5 halves) and Divus Iulius (3 halves) are much more frequent than coins from the Vienna mint (only 2 halves). In the Kops Plateau *castellum* the numbers are completely different: Divus Iulius: 1 coin, Copia 5 coins (2 complete and 3 halves) and Vienna 80 coins of which 73 pieces were halved. It is clear that during these years the composition of the coinage was constantly changing and that the circulation time of quite a few emissions was not very long. Wear and tear, hoarding and loss created a considerable reduction of the coinage available for the soldiers in the camps; a frequent influx of new-minted coins - primarily from Nemausus - to keep the total quantity of coin at least at the same level, was necessary in order to prevent unrest and mutiny. At first the production of Nemausus was large enough to keep up the economic activities in the camps. Later, however, the expanding economy, combined with an increasing use of Roman coins by local residents outside the camps, caused a serious logistical problem which Roman authorities had to solve. The mint of Nemausus, the auxiliary mints and local mints included, could not supply the growing demand for coins any more. For that reason the production of the Lyon mint was changed from the striking of gold and silver coins to the most voluminous copper coinage Rome ever produced. The altar-I series started about 7 B.C. and during at least five years many millions of these coins were transported mainly to the Lower Rhine region.

The command of Tiberius: monetization of Germania Inferior

¹⁴ See Van der Vin 2002, op.cit. (n.5), nos. 3140-3162 for the Spanish coins in Nijmegen. Further, Heinrichs 2000, op.cit. (n.7), note 73.

The coin list of Nijmegen - Kops Plateau presents a total of 1130 coins from Lyon (25% of the total amount!). Of this number 704 pieces can be attributed with certainty to the first altar-series, 145 coins to the later, second altar-series, struck with slightly revised types by Augustus and Tiberius Caesar between 9 and 14 A.D., and 281 pieces are heavily worn and cannot be attributed with certainty to the first or second emission, but - looking at the proportions between the two series - most of them should be considered as altar-I pieces as well. Not only the number of the Lyon coins is much larger than the Nemausus issues, but there is a more important difference between these two Roman standard coins for the troops on the Rhine border. The Nemausus issues are usually found inside the camps, the Lyon altar series can be found either inside or outside them. In the coin finds from the provinces of Gelderland and Brabant issues of Nemausus are relatively scarce; in other provinces of the Netherlands they are very rare or even completely missing. In Gelderland only 15 coins of Nemausus have been found outside Nijmegen; most of them come from Rossum or the Betuwe region. The number of Lyon coins, however, in the same province is 30 pieces, all of them found outside Nijmegen in a great number of places round that city. In Brabant only 6 coins of Nemausus have been reported, most of them coming from the river area; the number of Lyon coins is 26 pieces, partly found in Cuijk, partly on various sites in the river area as well¹⁵. I think that this different proportion between the coins of Nemausus and Lyon reflects the change that Tiberius made at the time he took over the command on the Rhine. Heinrichs' thesis is that Tiberius realized that the Roman presence on the Rhine would not be of short duration and that, for that reason, he changed the Roman economic policy and started a process of forced romanization of the local German population. This thesis finds confirmation in the coin finds of the region around Nijmegen¹⁶. The Nemausus issues were primarily of a military and Roman character; they were mainly used inside the camp, in the marketplace before the gates and, of course, by way of trade and traffic, eventually they could spread over the countryside. The Lyon series, however, was issued, not only for military use inside the camps, but for civilian use by the local population as well. These coins are also found in western-Brabant, far away from the military sphere of the *castellum* in Nijmegen.

¹⁵ Coin finds in the Netherlands: Archives of the National Museum of Coins and Medals (Rijksmuseum Het Koninklijk Penningkabinet), Leiden.

¹⁶ Heinrichs 2000, op.cit. (n.7), caput VI: 'Neue Kleingeldserien als Indikatoren eines konzeptionellen Wandels in Germanienkrieg', 187-195.

A second argument in favour of a change in the economic policy is the large-scale creation of small change, that also started about the year 7 B.C.¹⁷. With the production of the smallest denomination of the Roman coin series, the *quadrans* or quarter of an *as*, it became possible to pay not only for very expensive acquisitions, but also for small everyday purchases. It is interesting to observe how Tiberius delegated the production of this small change mainly to the local population. In Lyon a small production of Roman *quadrantes* had started after 15 B.C., but only a small part of these coins found its way to the Rhine. Most of the coins of the smallest denomination in the camp on the Kops Plateau are Celtic copper coins of the AVAVCIA-type. This local Celtic-Germanic coinage started after 7 B.C. in the region between Rhine and Meuse. Large amounts of coins were minted, in large-scale production, and many hundreds of these small copper coins, in most cases of bad quality, have been found in the Augustan military bases. In Nijmegen about 550 pieces have been discovered during the excavations, all dating from the period between 7 B.C. and A.D. 14. The presence of so many low value coins both inside the camp and before its gates, outside the Kops Plateau *castellum*, is an indication of many everyday commercial activities, in which small change played an important role. In the Lower-Rhine area, during the later Augustan period, it was possible to pay not only with high value coins of gold and silver, especially for luxurious imports, but also with a number of small copper denominations for daily expenses.

Trade contacts within the Empire

Pottery fragments, in particular, are evidence for intensive trade relations between the *castellum* on the Kops Plateau and many regions of the Roman empire, both distant and nearby¹⁸. It is certain that for the commander and his officers luxurious food was available in the camp; as far as possible the same dishes were served at their table as in Mediterranean regions. Dates were imported from Libya, wines from Greece, Italy, Spain and southern Gaul. *Garum*, the famous fish sauce which in antiquity made every dish palatable, was imported from southern Spain or the Costa Brava region. Olive oil was transported from Spain and central Italy. Cattle, on the other hand, were raised in the vicinity and grain for the daily bread ration was also cultivated nearby. However, small and valuable objects could be imported

¹⁷ Heinrichs 2000, op.cit. (n.7), 187-190.

¹⁸ Van Enckevort and Zee 1996, op.cit. (n. 3), 'Wat aten de militairen?', 48-53 and illustrations on p. 49.

from far away regions. The Roman road system and the intensive Mediterranean shipping facilitated transport of luxury goods over great distances.

During the excavations there was a curious discovery: a preserving-jar containing the breasts of about 30 thrushes, imported from the Ardennes forest region. On opening the contents had turned out to be tainted and therefore the pot with its contents was thrown away into a pit. The same happened with a pot of tainted Spanish mackerels, discovered in a ditch. All these remains of pottery - either with or without their contents - can now provide us with an idea about trade relations of a first-century military Roman settlement in a frontier region in the north-western part of the Roman empire, far away from the Mediterranean. The Romans tried to maintain their life-style as far as possible, and, judging from the material found in their camp, we may conclude that they were rather successful in their attempts.

Conclusion

The coin finds inside and outside the camps show that the reorganisation of the economy and the introduction of a coin system with local as well as Roman coins, were both successful. The profit for the Romans was great: they could purchase food, grain and meat, at reasonable prices in the vicinity of their camps. Long distance transport of large quantities of the grain and meat, which the Romans needed every day would have cost too much and would also have created insurmountable logistical problems. For the Germanic population it was also attractive to buy Roman products with the Roman coins they had earned at the markets round the fortresses: glass, *terra sigillata* and luxury products provided by the Roman merchants of the long-distance trade. In that way a process of mutual understanding and romanization of the local population started; it would take a long time before the integration was completed and a new civilisation built up in the Lower Rhine area. Tiberius apparently realized that in order to monetize the economy of the countryside in a short period, an expensive operation was the only way to create stability in this swampy and forested region. He undertook this large-scale operation and was in the end successful. The coins of the Kops Plateau are a testimony to his activities in the Lower Rhine region.

Leiden, March 2002

Figure 1

NIJMEGEN KOPS PLATEAU
excavations 1986-1996

Republic	309	6,89 %
Augustus	2356	52,56 %
(Celt)Iberic / Roman Spain	23	0,51 %
Celtic (including AVAVCIA-type)	618	13,79 %
Late 1st c. B.C. / 1st c. A.D.	469	10,46 %
<hr/>		
Tiberius	106	2,37 %
Caligula	150	3,35 %
Claudius I	192	4,28 %
Nero	29	0,65 %
Varia (before 69)	3	0,07 %
<hr/>		
Civil War	3	0,07 %
Flavian period	67	1,49 %
Nerva - Severus Alexander	25	0,56 %
Late 3rd century (from 270 A.D.)	14	0,31 %
4th century	31	0,69 %
unknown Roman coin	87	1,94 %
<hr/>		
	4482	

Figure 2

NIJMEGEN

Augustan castra on the Hunerberg
ca. 15-12 B.C.

	Silver	Bronze
Celtic	2	13
Roman Republic	4	7/2
Transitional period (44-27 B.C.)	7	2 + 16/2
a. Divus Julius	-	3/2
b. Vienna	-	2/2
c. Copia	-	2 + 5/2
d. other coins	-	6/2
Augustus		2 + 4/2
Nemausus - I	-	2 + 2/2
Nemausus - I/II	-	1/2
Lyon - I (doubtful / later intrusion ?)		1/2 (?)
.....		
Vespasianus (later intrusion)		1
	<u>13</u> Silver coins	<u>18</u> + 27/2 Bronzes

This figure after Haalebos, *Castra und Canabae* (see note 2).

[2/2 = 2 halved coins]

FIGURE 3

AUGUSTAN - TIBERIAN CASTELLA
in The Netherlands (Rhine-region) / Germany (Lippe-region)

	Nemausus	Rome	Lyon-I	Lyon-I/II	Lyon-II
Oberaden ca. 11-9 B.C.	99%	1%			
Kops Plateau ca. 10 B.C.	31%	16%	32%	13%	8%
Halterm ca. 9 B.C.	7,5%	12,5%	80%		
Vechten ca. 5 A.D.	3,5%	31%	32,5%	13%	21%
Velsen-I ca. 14-16 A.D.	2%	55,5%	20%	13,5%	9%

THE ECONOMIC FRINGE: THE REACH OF THE ROMAN EMPIRE IN ROUGH CILICIA

By
HUGH W. ELTON

Many discussions of the Roman economy are rather vague about what they mean by 'Roman'. Phrases such as 'Roman Europe' or 'the Roman Empire' often blur two different concepts, that of the cultures of Iron Age Europe and the political institution of the Roman Empire. Cultures in Iron Age Europe varied widely. The Welsh uplands or the Atlas mountains, for example, had an aceramic culture with few public buildings, though were ruled directly by Rome for several centuries. Other regions, not under Roman control, like the regions across the middle Danube, showed higher concentrations of Mediterranean consumer goods and coins than some of these aceramic areas.¹ In Mesopotamia, many societies were urban and literate, not differing in this respect from those in Italy or Greece. Thus, determining what was imperial Roman territory by archaeological criteria alone is very difficult.² But these archaeological criteria are important for two reasons. First, they allow us to analyse the cultural and economic changes that occurred in Iron Age Europe between 100 B.C. and A.D. 250. Second, they allow for the possibility of change within Europe that was not caused by the Roman state.³

Unlike cultures within Iron Age Europe, the Roman Empire was a political structure, imposed by force and dedicated to extracting benefits for the ruling elite of the city of Rome.⁴ As the empire developed and matured, its form changed, but it was never about the ruled, only the rulers. If we accept that the Empire was a political, not an archaeological, structure, it follows that an examination of 'Impact of Empire: Transformation of Economic Life', has to mean an examination of the impact of the Roman imperial state. This paper has a regional focus, so does not deal with larger

¹ L. Pitts, 'Roman Style Buildings in Barbaricum (Moravia and SW Slovakia)', *Oxford Journal of Archaeology* 6 (1987), 219-236; cf. H.W. Elton, 'Defining Romans, Barbarians and the Roman Frontier', in R.W. Mathisen & H.S. Sivan, eds., *Shifting Frontiers in Late Antiquity* (Aldershot 1996), 126-135. See the article of D.J. Mattingly in this volume.

² D.J. Mattingly, ed., *Dialogues in Roman Imperialism* (Portsmouth, RI 1997); F. Millar, 'Introduction', in S. Macready & F.H. Thompson, eds., *Roman Architecture in the Greek World* (London 1987), ix-xv at xi.

³ R. Hingley, 'Resistance and Domination: social change in Roman Britain', in D.J. Mattingly, ed., *Dialogues in Roman Imperialism* (Portsmouth, RI 1997), 81-100 at 85 n.18.

⁴ G. Woolf, 'Imperialism, Empire and the Integration of the Roman Economy', *World Archaeology* 23 (1992), 283-293.

elements of the Roman impact. Being in the Roman Empire did have an impact on regional economies. Roman control of the Mediterranean created a common market that allowed large-scale import and export of goods, especially low-cost commodities such as pottery, within a predictable framework of language, law and currency. But this common market was an unintended byproduct, and had more to do with being in an empire than being in the Roman Empire.⁵

The cultural and political impact of Rome can be measured by comparing a pre-Roman region to the region under Roman rule. Most scholarly literature, which discusses the changes between pre-Roman and Roman periods (a process of usually known as Romanization), has focused on the west, especially Gaul and Britain.⁶ Since this approach relies heavily on archaeological (including epigraphic) evidence, it tends to be more informative about Roman cultural than political impact. Many of these conclusions are valid only where Rome was the first empire in a region. This is often true in the west, but far less so in the east, where many other areas already had widespread exchange systems.⁷ Work on Romanization in the east is mostly recent. Much of this work is based on literary texts, especially those of the Second Sophistic, so tends to be cultural rather than political.⁸ In both east and west, some recent work has minimised the Roman impact on a region, but does so without discussing the political changes brought about by Rome.⁹

This paper applies a politically focussed analysis of the economic changes brought about by Roman imperial rule to one region of Asia Minor, Rough Cilicia.¹⁰ This region, approximately bounded by the river Melas in the west and the Lamus in the east, runs from the Mediterranean in the south to Lake Trogitis in the north. It was a region dominated by the Taurus mountains, with few aristocrats taking part in the imperial system and no major garrison.

⁵ P.W.M. Freeman, 'Romanisation and Roman material culture', *Journal of Roman Archaeology* 6 (1993), 438-444.

⁶ E.g. M. Millett, *The Romanization of Britain* (Cambridge 1990); G. Woolf, *Becoming Roman: the origins of provincial civilisation in Gaul* (Cambridge 1998).

⁷ Z.H. Archibald, ed., *Hellenistic Economies* (London, 2000).

⁸ G. Woolf, 'Becoming Roman, staying Greek: culture, identity and the civilising process in the Roman East', *Proceedings of the Cambridge Philological Society* 40 (1994), 116-143; S. Swain, *Hellenism and Empire* (Oxford 1996); S. Alcock, ed., *The Early Roman Empire in the East* (Oxford 1997); N. Pollard, *Soldiers, Citizens and Civilians in Roman Syria* (Ann Arbor 2000).

⁹ W. Ball, *Rome in the East* (London 2000); J. Webster, 'Creolising the Roman provinces', *American Journal of Archaeology* 105 (2001), 209-225.

¹⁰ T.B. Mitford, 'Roman Rough Cilicia', *ANRW* II 7.2 (Berlin 1980), 1230-1261.

Rough Cilicia in the Early Roman Empire



Imperial power in the eastern Taurus mountains was nothing new when Rome arrived. During the first millennium B.C., the region had been controlled by Assyrians and Achaemenid Persians, then the Greeks arrived, in several varieties - Alexander, the Seleucids and the Ptolemies, as well as a brief Armenian interlude. The imposition of Roman imperial authority by Pompey in 63 B.C. was simply the replacement of one imperial layer with another.¹¹

This Roman imperial layer, however, was not simple.¹² Although Pompey created a single province of Cilicia in 63 B.C., this was split into two parts in the mid-40s B.C. Lowland Cilicia was incorporated into the province of Syria, a situation which lasted until A.D. 72, while Rough Cilicia was left in the hands of allied kings. Strabo explained it as 'the Romans thought it was better for the region to be under kings rather than subject to

¹¹ P.W.M. Freeman, 'The Province of Cilicia and its Origins', in P.W.M. Freeman & D.L. Kennedy, *The Defence of the Roman and Byzantine East* (Oxford 1986), 253-275.

¹² For primary references for the political changes in the region, D. Magic, *Roman Rule in Asia Minor* (Princeton 1950) and Mitford 1980, op. cit. (n.10).

Roman governors who were sent out to administer justice, who were not going to be everywhere at once, nor with an armed force.¹³ There was no single ruler in the early days. In 39 B.C., Antony gave an inland Cilician kingdom (which included Iconium) to Polemo, and the coastal regions (including Coracesium and Hamaxia) to Cleopatra. In 37/6 Polemo was removed from his principality which was then added to the Galatian kingdom of Amyntas. The temple-state at Olba (whose territory included Elaeussa and Corycus) remained under native rulers. Seleucia on Calycadnus was probably a free city.¹⁴ After the battle of Actium (31 B.C.), Cleopatra's possessions along the coast were handed over to king Amyntas of Galatia who then ruled all of the region except Olba and Seleucia.

On Amyntas' death in 25 B.C., his Rough Cilician territories were divided into two parts. The western parts, from the Melas to Syedra, were included in the new province of Galatia, as was the Augustan colony of Ninica on the Calycadnus.¹⁵ The eastern parts were given to Archelaus I, king of Cappadocia (25 B.C. – A.D. 17).¹⁶ In 20 B.C. Augustus also gave Archelaus the cities of Elaeussa and Corycus (which had been either independent or part of the Olban principality). When Archelaus died in A.D. 17, his Cappadocian kingdom was annexed by Rome, but his son Archelaus II succeeded him in Rough Cilicia (17-38). On Archelaus II's death in 38, his kingdom was given to Antiochus IV of Commagene (38-72). In 41 Olba was given to Polemo II.¹⁷

Antiochus' kingdom of Commagene was taken over by the Romans in 72. A new province of Cilicia with its own governor was created. It combined lowland Cilicia, now detached from Syria, and the parts of Rough Cilicia that had been controlled by Antiochus. At this point, Polemo's Olba was perhaps transferred by Vespasian to Alexander, Antiochus' son-in-law.¹⁸

Although the detailed history is confusing, it shows that phrases such as 'the arrival of the Romans', 'the annexation of a province' or 'the imposition

¹³ Strabo 14.5.6.

¹⁴ Mitford 1980, op. cit. (n.10), 1241 + n.45.

¹⁵ Seleucia, in Galatia?, S. Mitchell, *Anatolia I* (Oxford 1993), 152.

¹⁶ H.W. Elton, 'Geography, Romans, Labels and Cilicia', in H.W. Elton & G. Reger, eds., *Regionalism in Hellenistic and Roman Asia Minor* (Ann Arbor, forthcoming).

¹⁷ R.D. Sullivan, 'King Marcus Antonius Polemo', *Numismatic Chronicle* 19 (1979), 6-20 summarises a complex situation.

¹⁸ Josephus, *Antiquitates Judaicae* 18.5.4; emending νησιόδος to Κητίδος, A.H.M. Jones, *Cities of the Eastern Roman Provinces* (Oxford 1971, 2nd ed.), 195 f., 208 + n.30; against, Mitford 1980, op. cit. (n.10), 1245; the precise location of Cetis is uncertain.

of Roman authority' do not reflect the realities of this region. Before 72, Rough Cilician territories had been part of the Roman empire for over a century. They were ruled indirectly, but the rulers were appointed by Rome. The region was surrounded on all sides by directly ruled Roman territory, lowland Cilicia to the east, Cappadocia and Lycaonia to the north, Pisidia and Pamphylia to the west. This gave access to many of the benefits of the Roman common market, i.e. protection from enemies and access to goods sold by Roman traders. Thus they were Romanized though not imperial Roman citizens.

All rulers of the region, whether Hellenistic monarchs, Roman governors or allied kings, had the same concerns, collecting taxes and maintaining law and order. Power was exerted through cities. The more heavily Hellenized cities were in the western part of the region around Syedra and Iotape, extending along the coast as far as Antiochia ad Cragum. Inland, there are fewer traces of urban life and in the Calycadnus valley, Germanicopolis has left only five inscriptions, Claudiopolis 32. The modern cities of Ermenek and Mut, which overlie Germanicopolis and Claudiopolis, have perhaps destroyed most ancient traces, but when compared with the meagre traces of other sites, like Irenopolis, Philadelphia or Adrassus where there is no modern development, both appear typical of inland Rough Cilician cities. Whether this means they were less developed, or were simply less prone to set up inscriptions is difficult to say. Nonetheless, it is critical, since most of our knowledge of communities in the region come from inscriptions. The epigraphic habit was primarily an urban response to the arrival of the Romans and there are far more Cilician inscriptions from the first two centuries of the Roman empire than there are from the Hellenistic period. There are very few Latin inscriptions in Rough Cilicia - a recent collection from the region lists 1977 inscriptions in Greek and only 32 in Latin.¹⁹

When the province of Cilicia was created in 72, there were only three cities of any size (perhaps 5,000+) in Rough Cilicia, Seleucia, Claudiopolis and Germanicopolis. But over the preceding century, the urban landscape had changed with the creation of numerous cities. In the 30s B.C., the cities of Domitiopolis and Titiopolis were named after Lucius Domitius Ahenobarbus and Marcus Titius, supporters of Antony in the early 30s who

¹⁹ S. Hagel & K. Tomaschitz, *Repertorium der westkilianischen Inschriften* (Vienna 1998), 9.

deserted to Octavian before 31 B.C.²⁰ Soon after, an Augustan colony was founded at Ninica in the Calycadnus valley.²¹ The sanctuary of Zeus near Olba was turned into the city of Diocaesarea around this time.²² During the reign of Claudius, a number of south Galatian cities took Claudius' name; Ninica was one of these, and was known afterwards as Claudiopolis.²³ The most prolific founder of cities in the regions, however, was Antiochus IV. He founded the coastal cities of Antiochia ad Cragum, named after himself, and Iotape, after his wife. He also founded the inland cities of Irenopolis, Philadelphia and Germanicopolis.²⁴ This urban landscape was typical of the Greek east; cities had their own councils with gymnasarchs, demigods and eirearchs. But the cities, especially the inland cities, were small and poor. However, we know of no equestrians or senators from Rough Cilicia. Since other upland areas along the southern coast, such as Lycia or Pisidia did produce senators and equestrians, this suggests that Rough Cilicia was exceptionally poor.²⁵

The reason for the cities' small size and poverty was the lack of agricultural land throughout the region except in small coastal pockets and in the upper Calycadnus valley. These regions grew vines, olives and wheat, but the uplands were restricted to lesser crops, timber, saffron (particularly from Corycus), storax (for incense), and goat-hair, which was synonymous with the region.²⁶ Given the limited carrying capacity of much of the land, many of the population had to find alternative means of subsistence. In the

²⁰ R. Syme, 'Isauria in Pliny', *Anatolian Studies* 36 (1986), 159-164 = *Roman Papers* 5, edited by A.R. Birley (Oxford 1988), 661-667 at 663 f.

²¹ S. Mitchell, 'Iconium and Ninica', *Historia* 28 (1979), 409-438 superseding B. Levick, *Roman Colonies in Southern Asia Minor* (Oxford 1967), 198-199.

²² R. Heberdey & A. Wilhelm, *Reisen in Kilikien, 1891 und 1892*. Österreichische Akademie der Wissenschaften, Denkschriften 44 (Vienna 1896), #160; E. Kirsten, 'Diokaisarea und Sebaste, Zwei Städtegründungen der frühen Kaiserzeit im kilikischen Arbeitsgebiet der Akademie', *Anzeiger der Österreichischen Akademie der Wissenschaften in Wien* 110 (1973), 347-363.

²³ Mitchell 1979, op. cit. (n.21), Augustan date at 430, n.138.

²⁴ Jones 1971, op. cit. (n.18), 211 and n.36. Iuliosebaste may also be a new foundation, if it is not identified with Nephelis. See I. Karanfil & J. Russell, 'Nephelis: a recently discovered town of coastal Rough Cilicia', *Journal of Roman Archaeology* 12 (1999), 353-371 at 366-367.

²⁵ H. Devijver, 'Equestrian Officers from the East', in P.W.M. Freeman & D.L. Kennedy, eds., *Defence of the Roman and Byzantine East* (Oxford 1986), 109-225; H. Halfmann, 'Die Senatoren aus den kleinasiatischen Provinzen des römischen Reiches vom 1. bis 3. Jahrhundert (Asia, Pontus-Bithynia, Lycia-Pamphylia, Galatia, Cappadocia, Cilicia)', *Tituli* 5 (1982), 603-650; H. Devijver, 'Local Elite, Equestrians and Senators. A Social History of Roman Sagalassos', *Ancient Society* 27 (1996), 105-162.

²⁶ T.R.S. Broughton, 'Roman Asia Minor', in T. Frank, ed., *An Economic Survey of Ancient Rome* 4 (New York 1938), 499-918; F. Hild & H. Hellenkemper, *Kilikien und Isaurien, Tabula Imperii Byzantini* 5 (Vienna 1990) 1, 104-127.

Hellenistic period, many Cilicians became soldiers, a practice continued in the Roman period.²⁷ Another response was to turn to banditry, either on land or sea.²⁸ These pressures also account for the frequent outbreaks of violence in the region. When Archelaus II wanted to carry out a census of the Cetae in 36, they took to the hills in revolt and had to be pacified by Roman forces sent from Syria.²⁹ Other Roman interventions occurred in 4-3 B.C., A.D. 43-48 and in 52.³⁰

Despite these insecurities, there were no Roman garrisons in Rough Cilicia, either before or after 72.³¹ The economic impact of Roman garrisons is well-known; they required supplies of wheat, leather, olive oil, wine, alcohol, etc. Beyond the supplies themselves, there was also a need for carters, barrels and sacks, amphorae, plates and cups, etc. Around military bases, accommodation for merchants and suppliers led to the establishment of *vici* with taverns and brothels, which then brought their own demands. These impacts, well-understood in Gaul or Britain, were lacking in Rough Cilicia.³²

So, soldiers were recruited, taxes collected, cities were founded, governors administered, and occasionally built or repaired buildings. But all these things had happened before under Hellenistic rulers and in this respect, Roman direct rule meant little.

Nonetheless, there were some changes, which reflected actions of the Roman imperial power, in particular the imperial cult and communications. The foundation of the province of Cilicia in 72 was followed very quickly by

²⁷ J. Russell, 'Cilicia - *nutrix virorum*: Cilicians abroad in peace and war during Hellenistic and Roman Times', *De Anatolia Antiqua* 1 (Paris 1991), 283-297; J. Russell, 'A Roman Military Diploma from Eastern Pamphylia', *American Journal of Archaeology* 95 (1991), 469-488; J. Russell, 'A Roman Military Diploma from Rough Cilicia', *Bönnner Jahrbücher* 195 (1995), 67-133; G. Laminger-Pescher, 'Römische Soldaten in Isaurien', *Festschrift für Artur Betz* (Vienna 1985), 381-392.

²⁸ B.D. Shaw, 'Bandit Highlands and Lowland Peace: the Mountains of Cilicia-Isauria', *Journal of the Economic and Social History of the Orient* 33 (1990), 199-233; 237-270.

²⁹ Tacitus, *Annales* 6.41.

³⁰ 4-3 B.C.: Levick 1967, op. cit. (n.21), 203-214; 43-48: *Année Epigraphique* 1953, 251 = A.E. Gordon, *Q. Veranius, Consul A.D. 49* (Berkeley 1952); Dio 60.8.2; 52: Tacitus, *Annales* 12.55.

³¹ Contra Mitchell 1993, op. cit. (n.15), 1, 122-123 and M. Waelkens, 'The Adoption of Roman Building Techniques in the Architecture of Asia Minor', in Macready & Thompson 1987, op. cit. (n.2), 94-105 at 99 and 102.

³² P. Middleton, 'Army Supply in Roman Gaul', in B.C. Burnham & H.B. Johnson, eds., *Invasion and Response* (Oxford 1979), 81-98; Idem, 'The Roman Army and Long Distance Trade', in P. Garnsey & C.R. Whittaker, eds., *Trade and Famine in Classical Antiquity* (Cambridge 1983), 75-83; Millett 1990, op. cit. (n.6).

the arrival of the Roman imperial cult.³³ At Cestrus, a temple of the imperial cult was dedicated to Vespasian in 76, which included statues of Vespasian, Titus and probably Domitian.³⁴ This is also true of Lamus (modern Adanda), where the temple was dedicated to Vespasian and Titus by the governor Lucius Octavius Memor in 77.³⁵ Both Cestrus and Lamus were small, poor and obscure cities. The speed of dedication in both cities suggest that the organisation of their cults and construction of their temples began very soon after 72. Besides Cestrus and Lamus, other temples of the imperial cult are known from Iotape, Laertes, Claudiopolis and Selinus, as well as a possible example from Antiochia ad Cragum.³⁶

Erecting a temple for the imperial cult was a political act, one that would not have taken place without Roman imperial control.³⁷ The economic consequences of this political act are considerable. Building a temple required stone and timber, workmen and an architect. The skills required for cutting stone into blocks and building simple structures were available everywhere in the region. Architects were needed for design and specialists for any detailed carving, as well as for statuary and for mosaics.³⁸ A number of inscriptions from the region mention the work of professional craftsmen (*technitai*). Their work is usually ornate; if a tomb, then it is often decorated with busts or wreaths, as at Direvli, a village c. 5 km to the north-east of Lamus, where Kendeas and Kallimachus, craftsmen from Selge, built four tombs, three decorated with busts.³⁹ Selge lies c.150 km to the north-west and may have had a minor school of sculpture. Two brothers, Attalus and Mene[as], sons of Attalus, built a tomb at Lamus. They came from Σελ..., but the presence of other Selgiens doing high quality work at Direvli suggests it was Selge, not the closer Selinus.⁴⁰ Some of these men travelled

³³ S.R.F. Price, *Rituals and Power* (Cambridge 1984); T.B. Mitford, 'The Cults of Roman Rough Cilicia', *ANRW* II 18,3 (Berlin 1990), 2131-2160 at 2152-2155; cf. IGRR 3, 137 for rapid arrival in Galatia.

³⁴ G.E. Bean & T.B. Mitford, *Journeys in Rough Cilicia, 1964-1968*. Österreichische Akademie der Wissenschaften, Denkschriften 102 (Vienna 1970), 155-160.

³⁵ B. Söglüt, 'Lamos'da bulunan bir tapınak', *Olba* 2 (1999), 399-409; L. Robert, *Documents de l'Asie Mineure méridionale* (Paris 1966), 72 n.4.

³⁶ Mitford 1990, op. cit. (n.33), 272-273.

³⁷ Price 1984, op. cit. (n.33), 69-71; but cf. the possible case of Vologesias, R. Mouterde, 'La voie antique des caravanes', *Syria* 12 (1931), 105-115 = SEG 7, 135; the reading does depend on a restoration

³⁸ Cf. further north, M. Şahin, 'Grabdenkmäler aus Isaurien und ihre Künstler', *Epigraphica Anatolica* 29 (1987), 75-82; J.-P. Adam, *Roman Building Techniques* (London 1994).

³⁹ Bean and Mitford 1970, op. cit. (n.34), #196, 197a, 198, 200.

⁴⁰ On Attalus and Meneas, see G.E. Bean & T.B. Mitford, *Journeys in Rough Cilicia in 1962 and 1963*. Österreichische Akademie der Wissenschaften, Denkschriften 95 (Vienna 1965), #34; photos, R.

in the region. The Selgian Rodōn, son of Kudimasos, built at least one tomb at Direvli where he was also head of a burial club. Since the name is very rare (only one other example is attested in Cilicia and two in eastern Pamphylia), he is probably the same Rodōn who carried out stone work for a certain Apollophanes at Selinus, less than 25 km from Direvli; this was a statue base of white marble, i.e. an expensive commission.⁴¹ These are the sort of men who probably worked on temples.

Temple construction had to be paid for in some fashion, whether directly in cash or indirectly by gifts, services, or favours. Construction at some regional temples was boasted about by the patrons and was presumably similar to the process at temples of the imperial cult. About three km south of Cestrus, at a small coastal temple of Zeus, Neon son of Ingeis recorded his donation of four fluted columns, an iron door, a statue, three craters and a sprinkler.⁴² Further east, in the reign of Antoninus Pius, Dionysodorus of Seleucia bought a priesthood in the village of Tagae. He then paid for the gilding, a marble statue of Athene overlaid with gold, as well as the doors and a rock-cut staircase to the temple.⁴³ Once built, maintenance was required, and most temples had estates attached to provide revenues. Temples also required priests who were often commemorated in lists inscribed on the exterior wall of the temple sanctuary, as at Hamaxia, Corycus and Diocaesarea.⁴⁴

The priests of the imperial cult carried out many activities involving considerable expenditure, especially on vestments and crowns.⁴⁵ Most common were sacrifices. It is hard to be certain about the frequency of celebrations, but they probably occurred several times a month.⁴⁶ The wine, incense and animals used for these were available locally, but a recurring demand was created for these consumable items, which had not existed

Paribeni & P. Romanelli, 'Studi e ricerche archeologiche nell' Anatolia meridionale', *Monumenti Antichi* 23 (1915), 5-277, figs. 35-37 at 156-158.

⁴¹ Direvli, Bean and Mitford 1970, op. cit. (n.34), #199, 201; Selinus, #156 and p. 154.

⁴² G.E Bean & T.B. Mitford, 'Sites Old and New in Rough Cilicia', *Anatolian Studies* 12 (1962), 185-217, #35; Paribeni and Romanelli 1915, op. cit. (n.40), 150.

⁴³ L. Robert, *Hellenica* 3 (1946), 163-167; J. Keil & A. Wilhelm, 'Vorläufiger Bericht über eine Reise in Kilikien', *Jahrbuch des Österreichischen archäologischen Instituts in Wien* 18 (1915), 6-60 at 23-32.

⁴⁴ E.L. Hicks, 'Inscriptions from Western Cilicia', *Journal of Hellenic Studies* 12 (1891), 225-273, #27-#28, list of priests; Heberdey & Wilhelm 1896, op. cit. (n.22), 71-79, and possibly also #156.

⁴⁵ Price 1984, op. cit. (n.33), 170-171; cf. Britain: Tacitus, *Annales* 14.31 and C.J. Simpson, 'Once Again Claudius and the Temple at Colchester', *Britannia* 24 (1993), 1-6.

⁴⁶ D. Fishwick, 'Dated inscriptions and the *Feriale Duranum*', *Syria* 65 (1988), 349-361; cf. J. Rives, *Religion and Authority in Roman Carthage* (Oxford 1995), 59-60.

before. Other celebrations paid for by imperial priests included feasts, athletic competitions, gladiatorial events and animal hunts. Although athletic competitions and feasts were traditional, animal hunts and gladiatorial events were only celebrated as part of the imperial cult.⁴⁷ After 72, an additional venue for competition came with the establishment of an independent Koinon of the Cilicians whose quadrennial games were usually held at Tarsus. Previously, Cilician cities had competed in Antioch with Syrians and Phoenicians.⁴⁸

The second area where the imposition of direct Roman rule had a major economic impact was in the communication network, i.e. the construction and maintenance of roads and support for the *cursus publicus* (map). Because of the mountains, there were no major communication routes in Rough Cilicia; the major pass through the Taurus was at the Cilician Gates, some distance to the east. Within Rough Cilicia itself, there was a route between Iconium and Seleucia, a minor coastal road linking the coastal cities and some roads between inland cities and the coast. Work on the main route started very soon after the imposition of Roman direct rule. A road from Diocaesarea to Olba was worked on in 75-76, a bridge over the Calycadnus at Seleucia was completed in 77 by Lucius Octavius Memor, while work on the road from Seleucia to Claudiopolis is recorded in 80.⁴⁹ The coastal road was worked on in Hadrian's reign.⁵⁰ Work is also known on some of the roads which ran inland from the coast, e.g. from Anemurium to Germanicopolis.⁵¹

All of these routes existed before, but as muddy tracks rather than state maintained roads. Looking after the roads was a major task. Local temperatures varied enormously, from below freezing in winter to over 40° C in summer. Torrential rain and rockslides in the mountains added to the difficulties. Building and maintaining these roads fell, for the most part, on local communities. With the state co-opting labour, draft animals and raw

⁴⁷ Price 1984, op. cit. (n.33), 89, 101-132; L. Robert, *Les gladiateurs dans l'Orient grec* (Paris 1940), 240; 267-275; cf. Motas, a gladiator buried at Antiochia-ad-Cragum, IGRR 3, 837.

⁴⁸ R. Ziegler, *Städtisches Prestige und kaiserliche Politik: Studien zum Festwesen in Ostkilikien im 2. und 3. Jahrhundert n. Chr.* (Düsseldorf 1985), 58-66; Mitchell 1993, op. cit. (n.15), I, 217-225; R. Ziegler, 'Studien zum antiken Kleinasiens 3', *Asia Minor Studien* 16 (1995), 183-186.

⁴⁹ T.S. Mackay & P.A. Mackay, 'Inscriptions from rough Cilicia east of the Calycadnus', *Anatolian Studies* 19 (1969), 139-142; IGRR 3, 840; M.H. Sayar, 'Strassenbau in Kilikien unter den Flavieren nach einem neugefundenen Meilenstein', *Epigraphica Anatolica* 20 (1992), 57-62.

⁵⁰ Bean & Mitford 1962, op. cit. (n.42), #46 at Charadrus.

⁵¹ Bean & Mitford 1965, op. cit. (n.40), #210

materials easily available from the mountains, there were few other costs.⁵² This process of road construction and maintenance would have been enormously expensive if paid for in cash. But it was paid for in political capital. The ramifications were felt in every town and village on the way.

Along with the roads came the *cursus publicus* and its requirement to provide draft animals and wagons. The requirements were related to state needs, so in Rough Cilicia would probably have been on the same scale (if not smaller) as the Pisidian mountain city of Sagalassus, where the requirement was to have 10 carts and mules available. The requirements were tied to a city's territory, but could be drawn from every community within it, so could have affected every village.⁵³

The imperial cult and communications were the major areas of Roman impact in Rough Cilicia. Although there were other possible impacts, these did not occur in Rough Cilicia. Thus, in other areas of Asia Minor, some types of construction have been particularly associated with the arrival of Roman rule, e.g. bath-buildings, aqueducts, amphitheatres and monumental arches.⁵⁴ In many cases, the empire sponsored their construction.⁵⁵ But in Rough Cilicia, though these structures existed, there is no evidence of imperial grants for their building, so they are better thought of as evidence for cultural rather than political impact. Nor did the coinage used in the region change much with the imposition of direct rule. Under Antiochus IV, coins were minted at Selinus, Cietis, Anemurium, Celenderis, Corycus and Elaeussa, while Olba also issued its own coinage.⁵⁶ After 72, coinage acknowledging the new rulers was only introduced slowly. Olba issued coins acknowledging Vespasian, and Anemurium struck for Titus, but it was not until Domitian that coins were issued by other cities, Titiopolis, Celenderis, Coropissus and Diocaesarea.⁵⁷ Economically, the region had always depended on coins minted elsewhere and continued to do so.

The methodological stance taken here starts from the Roman state itself, a complex network of political relationships built up incrementally over

⁵² Mitchell 1993, op. cit. (n.15), 1, 124-132, esp. 126-7.

⁵³ See the article by A. Kolb, in this volume; see S. Mitchell, 'Requisitioned Transport in the Roman Empire: a new inscription from Pisidia', *Journal of Roman Studies* 66 (1976), 106-131.

⁵⁴ J.J. Coulton, 'Roman Aqueducts in Asia Minor', in Macready & Thompson 1987, op. cit. (n.2), 72-84; A. Farrington, *The Roman Baths of Lycia* (London 1995), 117-144.

⁵⁵ S. Mitchell, 'Imperial Building in the Eastern Roman Provinces', in Macready & Thompson 1987, op. cit. (n.2), 18-25; Farrington 1995, op. cit. (n.54), 128.

⁵⁶ A. Burnett, et al., *Roman Provincial Coinage* 1 (London 1992), 560-566

⁵⁷ A. Burnett, et al., *Roman Provincial Coinage* 2 (London 1999), 247-260

time, overlying pre-existing cultures and political units. However, culture and politics cannot be separated. Some of the cultural change in Iron Age Europe was directly driven by the Empire, while some of the imperial activities resulted in economic gain. But in neither case did the empire's impact take a peculiarly economic form. The source material may not tell us everything that we wish to know, but it would look very different if the motives for imperial expansion were primarily or even partially economic, or if the state was concerned about developing the economy (as opposed to collecting taxes). The evidence from Rough Cilicia suggests that, without the army, the changes brought about by the Roman state were small, even if the changes brought about by being culturally Roman were immense.

Ankara, December 2001

IMPACTS BEYOND EMPIRE:
ROME AND THE GARAMANTES OF THE SAHARA
By
DAVID J. MATTINGLY

Introduction

If there are numerous uncertainties about the scale, structures, motivations and aspirations that underlay economic behaviour within the empire, the problems are even more acute outside its frontiers. This paper will examine some aspects of the economic impact of the Roman empire beyond its frontiers, using the Garamantes of the Libyan Sahara as a case study. A major obstacle to advancing our understanding of the ancient economy concerns the extent to which our reading of the evidence is coloured by simplistic assumptions (or an over eager acceptance of a 'Roman' perspective as though that was an objective viewpoint). European scholarship on the ancient world has in addition its own set of imperial reference points, derived from a shared history of global economics, and as such we need to examine closely certain aspects of our approach to the ancient world.¹ In this regard, John Drinkwater's paper in this volume stands out as an attempt to model the impact of Rome in Gaul as something less one-dimensional. I shall pick up on his use of the term 'convergence' in bringing out what I think are a number of parallels between the two very different pre-Roman worlds he and I are describing.

This paper is in three sections, each providing a different perspective on the Garamantes of southern Libya. The first is a highly subjective one (in this case derived from Mortimer Wheeler, but similar assumptions are pervasive in many more recent books);² the second is based on the ancient sources and the third on modern archaeological work. Clearly the most nuanced view will combine the second and third categories, whilst using awareness of the drawbacks of the first. Subsequent to Wheeler's overview, the late Charles Daniels in the 1960s and 1970s made an important study of

¹ On the modern historical approach to economic imperialism, see D.S. Landes, *The Wealth and Poverty of Nations* (London 1998). On post-colonial approaches to Roman imperialism, see D. Mattingly, ed., *Dialogues in Roman Imperialism* (Portsmouth RI 1997); J. Webster & N. Cooper, eds., *Roman Imperialism: Post colonial perspectives* (Leicester 1996).

² M. Wheeler, *Beyond the Imperial Frontiers* (London 1955), 119 ff. For further mythologising of the Garamantes, see *inter alia* H. Lhote, *Les chars rupestres Sahariennes* (Toulouse 1982); B. Toy, *The Way of the Chariots* (London 1964), 67. The Garamantes also suffer from scholarly neglect – for instance, they are virtually ignored by the *OCD*³ and entirely so by D.W. Phillipson, *African Archaeology* (Cambridge 1992).

the Garamantian heartlands, though unfortunately this was never fully published at the time (for the location, see Fig. 1, inset).³ In recent years I have been able to return to the region for a new series of campaigns, and, as a result, we are now in a far better position to reassess the economic relations of this important Saharan civilisation with Rome.⁴

Mortimer Wheeler's view of the Garamantes

But let me start with Mortimer Wheeler. In his seminal book, *Rome beyond the Imperial Frontiers*, he characterised the relationship between Rome and her troublesome southern neighbours in the Libyan desert as "the age-old struggle between the settled civilisation of the Mediterranean littoral and the nomads or semi-nomads of the mountain and desert".⁵ He went on to outline how the wily Romans dealt with the "Fezzani nomads" by "turning them into food-producers, by teaching them to till their own deserts".⁶ Desert irrigation systems that had been recorded by Italian archaeologists in the 1930s were thus interpreted by Wheeler as the result of Roman technical instruction and Romanised monuments as structures built by or for the use of Roman technical advisers and merchants present in Fezzan.⁷

The interesting point here is that Wheeler's account goes a good deal beyond the ancient sources in identifying an active role for Romans in the economic transformation of her desert neighbours – in his view, farming depended on Roman know-how, there were technical advisers and foreign residents to help bring about this great triumph of paternalistic humanity. The post-imperial age was just dawning when Wheeler wrote this book, but 50 years on this model of Rome's economic interaction with people beyond its frontiers is plainly in need of review. Yet far too commonly, Rome's economic dealings with people beyond her frontiers are still presented in largely unilateral terms – Rome set the terms, created commodities and

³ C.M. Daniels, *The Garamantes of Southern Libya* (London 1970); Idem, 'Excavation and fieldwork amongst the Garamantes', *Libyan Studies* 20 (1989), 45–61.

⁴ D.J. Mattingly, *et al.*, interim reports in *Libyan Studies* 28 (1997) – 32 (2001). With support from the British Academy and the Leverhulme Trust, Daniels' work has been prepared for publication alongside the new fieldwork, D.J. Mattingly *et al.*, *The Archaeology of Fazzan, volume 1 Synthesis; volume 2. Gazetteer and finds from the survey; volume 3. Excavations of the Late C.M. Daniels* (London forthcoming).

⁵ Wheeler 1955, op. cit. (n.2), 129.

⁶ Wheeler 1955, op. cit. (n.2), 131.

⁷ B. Pace, S. Sergi & G. Caputo, 'Scavi Sahariani', *Monumenti Antichi* 41 (1951), 150ff. (213-218 for the irrigation systems, 252-270 for the mausoleum); C.M. Daniels, 'The Garamantes of Fezzan', in F.F. Gadallah, ed., *Libya in History. Proceedings of a conference held at the Faculty of Arts, University of Libya 1968* (Benghazi 1971), 267 f.

markets, encouraged interest when it suited, cut off contact at will.⁸ Unfortunately, the neighbours of the Roman empire are generally mute witnesses to their transactions. It is my contention here that we need to look more closely at the archaeological evidence from these external regions to understand both sides of the economic equation and to identify signs of convergence.

The existence of an economic link between Rome and the Garamantes has been abundantly clear for many years from the archaeological evidence. Wheeler was struck by the quantity and quality of Roman trade goods from burials excavated by the Italians during the 1930s in Garamantian territory and interpreted them as evidence of Rome's attempt to control a thriving trans-Saharan trade, in which the Garamantes had hitherto played the role of middlemen.⁹ In a recent and illuminating study, Fontana has observed that the range of imports included in the tombs exhibit a marked uniformity in key respects. Although the richness of the grave assemblages varies considerably, the chief components commonly included wine amphorae and the panoply of drinking utensils – jugs, cups and glass beakers. Oil amphorae and oil lamps are another distinctive element.¹⁰ In this emphasis on commodities of consumption and the social panoply associated with consumption, the Garamantes resemble the Gallic and Celtic peoples of N Europe. These are classic signs of societies on course for convergence with the Roman empire.¹¹

The key issue with the adoption of elements of Roman material culture outside the empire was the extent to which this was driven by the State or by those tied in to the economic or political structures of the State, as opposed to the individual recipients and consumers of Roman goods beyond the frontier. Generally Wheeler was in no doubt about who was in charge of

⁸ See for example the work of M. Erdrich, *Rom und die Barbaren*. Römisch-Germanische Forschungen 58 (Mainz 2000).

⁹ Pace *et al.* 1951, op. cit. (n. 7), 279-320 on grave goods; Wheeler 1955, op. cit. (n.2), 123-128; Daniels 1970, op.cit. (n.3), 42-44; R.A. Dart, 'The Garamantes of Central Sahara', *African Studies* 11 (1952), 28 ff.; R.M. Haywood, 'Roman Africa' in T. Frank, ed., *An Economic Survey of the Roman Empire* (Paterson NJ 1959) 4, 62-69.

¹⁰ S. Fontana, 'I manufatti Romani nei corredi funerari del Fezzan. Testimonianza dei commerci e della cultura dei Garamanti (I-III sec. d. C.)', in *Productions et exportations africaines. Actualités archéologiques. VIe colloque international sur l'histoire et l'archéologie de l'Afrique du nord* (Paris 1995), 405 ff.

¹¹ On the impact of Italian wine on the Celtic World, see B. Cunliffe, *Greeks, Romans and Barbarians. Spheres of interaction* (London 1988); A. Tchernia, 'Italian wine in Gaul at the end of the Republic', in P. Garnsey, K. Hopkins & C.R. Whittaker, eds., *Trade in the Ancient Economy* (Cambridge 1983), 87 ff.

economic contact across frontiers or of the intrinsic desirability of Roman goods – the barbarian adoption of them was seen as an entirely natural response.¹² Those certainties have for the most part gone now, to be replaced by an uneasiness about the patterning in the data and a growing recognition that Rome's neighbours were not simply passive recipients, but could also be active agents.¹³

Notwithstanding this fact, the term "impact" still seems to be appropriate in this context, because for the most part it seems to me that the economic intersection of the Roman world and her neighbours did result in accelerated and profound changes. Keith Hopkins once observed that Roman period archaeology in many parts of the Old World, both inside and outside the Empire, stands out as the apogee of material culture consumption for range and quantity of manufactured goods.¹⁴ My own experience in diachronic archaeological survey and excavation has generally supported this axiom. We can argue about the semantics, of course, but I believe that this betokens economic growth and change on a very broad front (though the starting point was not always very high).¹⁵

Returning to the assemblages in Fezzan, my excavations at the Garamantian capital (modern Jarma) have shown that the material culture of the Roman period levels surpassed by an order of magnitude that of the preceding and succeeding millennia.¹⁶ Part of the pattern is due to imported material from the Mediterranean world. Abundant pottery, glassware, wine and oil was carried 1000 km across the desert, but questions remain about

¹² An alternative hypothesis that these goods were extorted by peripheral peoples as gifts and bribes again seems to limit the real economic impact of the exchange, see Daniels 1970, op.cit. (n.3), 42-44.

¹³ On the distribution patterns of Roman goods beyond the frontiers of the empire, see, *inter alia*, Erdtch 2000, op. cit. (n. 8); L. Hedeager, 'A quantitative analysis of Roman imports in Europe north of the limes (1-400 AD) and the question of Roman-Germanic exchange,' in K. Kristiansen & C. Paludan-Müller, eds., *New Directions in Scandinavian Archaeology* (Copenhagen 1978), 191 ff.; F. Hunter, 'Roman and native in Scotland: new approaches,' *Journal of Roman Archaeology* 14 (2001), 289ff.

¹⁴ K. Hopkins, 'Taxes and trade in the Roman empire', *Journal of Roman Studies* 70 (1980), 104, n. 13 (though the statement perhaps rings truer for the western provinces than for the eastern ones).

¹⁵ R.B. Hitchner, 'The advantages of wealth and luxury. The case for economic growth in the Roman empire,' in J. Manning & I. Morris, eds., *The Ancient Economy: evidence and models* (Stanford forthcoming); P. Millett, 'Productive to some purpose? The problem of ancient economic growth', in D. Mattingly & J. Salmon, eds., *Economies beyond Agriculture in the Roman World* (London 2000), 17 ff.

¹⁶ D. Mattingly *et al.*, 'The Fezzan Project 2001: Preliminary report on the fifth season of work', *Libyan Studies* 32 (2001), 133 ff. (the total amount of small finds from Garamantian levels was more than double those from all succeeding levels and many of the small finds from upper levels of the site were residual Garamantian finds).

the nature of the goods exchanged for these commodities. Wheeler's answer for once was uncharacteristically cautious: "Gold-dust, ostrich eggs and feathers, ivory, precious stones and woods, animals, slaves have been lightly mentioned, but it must be admitted that specific historical evidence is of the slightest".¹⁷

To summarise thus far. Wheeler characterised the Garamantes as 'nomads', though in fairness he had adopted the common perspective of our Graeco-Roman sources that their southern desert neighbours were uncivilised pastoralists and troublemakers. He does not recognise the possibility of local manufacturing of goods or of the potential value of local resources. Another blind spot concerns the assumption that the economic relationship was something unilaterally entered into by the Roman state, with the barbarians grateful for what they could get of a higher culture's material goods, and with the Roman state supplying technical expertise for the betterment of the desert society. The archaeological evidence now available reveals a rather different picture. It suggests a more complex set of economic relations between Rome and her neighbours.

Since Wheeler, most commentators on the trade between the Garamantes and Rome have followed a cautious line, playing down the economic scale and importance of the links and specifically differentiating between the Roman period and later Islamic trans-Saharan trade.¹⁸ At one time I shared this view, and expressed doubts about the economic significance of Roman trans-Saharan trade. I am less convinced of this now that I have seen the evidence of the trade first hand, and this view is echoed by Mario Liverani, director of an Italian team also investigating the Garamantes.¹⁹ In a brilliant analysis of the famous Herodotean account of the Sahara, Liverani has pointed out that the 10 day interval that recurs throughout that section is in fact the canonical distance between major wells in all periods of Saharan trade – in other words it represents the maximum distance that an animal borne caravan can safely travel between major wells and oases. The logic is that the places mentioned by Herodotus had been

¹⁷ Wheeler 1955, op. cit. (n.2), 132.

¹⁸ R. Carpenter, 'A trans-Saharan trade route in Herodotus', *American Journal of Archaeology* 60 (1956), 231 ff.; R.C.C. Law, 'The Garamantes and Trans-Saharan enterprise in classical times', *Journal of African History* 8.2 (1967), 181 ff.; E.W. Bovill, *The Golden Trade of the Moors* (Oxford 1968, 2nd ed.), 6-40.

¹⁹ D. Mattingly, *Tripolitania* (London 1995), 155-157. Cf. now M. Liverani, 'The Garamantes: a fresh approach', *Libyan Studies* 31 (2000), 17 ff.

specifically developed in the early first millennium B.C. as a trade route.²⁰ I find this remarkably persuasive and it ties in with current thinking about the introduction of the horse (followed by the camel as well before the end of the first millennium B.C.). It also demonstrates the role of Libyan communities in creating their own trade routes, following a pattern that was to a large extent outside the control of Mediterranean powers (in this example, it is a route from the Western Desert of Egypt, passing via the major central Saharan nexus of oases and ultimately reaching the Niger).

The Greco-Roman view of the Garamantes

It is time now to introduce the perspective of the ancient sources on the Garamantes and their economic orientation. The ancient sources, some of which are summarised in Table 1, generally characterised the Garamantes as a populous, but wayward desert people, with a propensity for lawlessness and raiding.²¹ Their economy is alluded to only in a very general way, but associations with pastoralism are prominent (the famous backward grazing cattle). This stereotype was probably already out of date in Herodotus' time, and bore little relationship to the reality of life. The account of Herodotus was remarkably durable and was still being regularly dusted off even in late antiquity. But the military expeditions against the Garamantes that are mentioned by Pliny and Tacitus, and hinted at by Ptolemy, as well as contact between Garamantes and traders over many centuries ought to have meant there was accurate and up-to-date information about the Garamantes. Only the vaguest hints of this emerge in the sources. There are of course various *topoi* at work here and we must be cautious about accepting at face value uncorroborated statements.

²⁰ M. Liverani, 'The Libyan caravan road in Herodotus IV.181-184', *Journal of the Economic and Social History of the Orient* 43.4 (2000), 496 ff; the same 10 day interval is well established in the medieval accounts of trans-Saharan trade, see J. Thiry, *Le Sahara libyen dans l'Afrique du Nord médiévale* (Leuven 1995), 399 ff.

²¹ Mattingly 1995, op.cit. (n.19), 155 ff.; J. Desanges, *Catalogue des tribus africaines de l'antiquité classique à l'ouest du Nil* (Dakar 1962), 93-96; Idem, *Pline l'ancien, Histoire naturelle Livre V.1-46 (L'Afrique du Nord)* (Paris 1980); *Encyclopédie Berbère* s.v. Garamantes (Aix en Provence), 2969-2971.

Source	Date of source	Description
Herodotus 4.183-185	5 th c. B.C.	Describes chain of oasis stretching from Nile to Atlantic. Ammon (Siwa) is 10 days from Augila and the next oasis beyond Augila (10 days journey) is in land of Garamantes. The Garamantes described as an exceedingly numerous people. Herodotus notes that they cultivated salty ground by spreading humic material over it. He also records that they herd cattle, noting the peculiarity of the cattle to graze backward. Garamantes situated a 30 day journey from the coast – most direct route is to land of Lotophages (Gerba). Reference to their hunting Troglodyte Ethiopians in 4-horse chariots. West of the Garamantes (after 10 days) come the Atarantes, then after another 10 days a mountain called the Atlas and a people called the Atlantes, then after a further 10 days a salt mine.
Strabo 17. 3.19	1 st c. B.C.	Above the Gaetuli is the country of the Garamantes from which comes the Carchedones (semi-precious stones known as Carthaginian stones). Garamantes live 9-10 days from Ethiopians and 15 days from oasis of Ammon. Notes horse-rearing as very important (among Garamantes and Gaetuli?)
Pliny 5. 35-38	1 st c. A.D.	Reference to campaign of Cornelius Balbus in 20 B.C. against Cidamus and the Garamantes. Mentions subjugation of Garamantian capital (<i>clarissimum oppidum Garama caput Garamantum</i>) by Balbus Mount Gyri indicated as location from which precious stones (<i>gemmae</i>) come. Reference to Garamantian brigands (<i>latrones</i>) covering over well heads to impede pursuit to desert heartlands.
Pliny 13.111	1 st c. A.D.	Describes large date palms with fine fruit from deserts of interior Africa, including lands of the Garamantes. Most famous dates from Ammon (Siwa)
Pliny 37.92	1 st c. A.D.	Carthaginian stones/carbuncles from desert
Seneca <i>HercO.</i> 1106-10; <i>Phaedrus</i> 68	1 st c. A.D.	Reference to the scattered Garamantes (<i>sparsus Garamans</i>) and the miserable Garamantes (<i>inops ... Garamans</i>)
Tacitus, <i>Ann</i> 4.23-26	2 nd c. A.D.	King of Garamantes named as an ally of Tacfarinas in raids and as 'receiver of booty', but notes that light armed troops sent by him, not a proper army. After death of Tacfarinas (AD 24), the Garamantes sent a deputation to Rome to sue for peace
Tacitus, <i>Hist</i> 4.50	2 nd c. A.D.	Account of Garamantian intervention in dispute between Oea and Lepcis and attack on lands and city of Lepcis. Devastate lands and lay siege to city, before arrival of Roman units puts them to flight. Garamantes described as indomitable people who given to brigandage (<i>gentem indomitam et inter accolas latrociniis secundam</i>) Roman army recovers most booty apart from that portion dispersed to inaccessible hut villages
Marichal, <i>Ostraca</i> 28.2, 71.2, 72.1-2	3 rd c. A.D.	Roman soldiers from fort at Bu Njem (Gholia) sent with Garamantes (to Fezzan?). Garamantes leading donkeys reported approaching fort at Bu Njem, with consignment of barley
Claudian, <i>Minor Poems</i> 28.20.23	4 th c. A.D.	Reference to unmastered Garamantes and Gyrae who live in rocky caves, collect ebony and steal ivory tusks from elephants

Table 1. Some key source references to the Garamantes and their economic activity

From the tabulated data, we might reconstruct a society at a fairly low level of development, with an economy based mainly around pastoralism and brigandage (somewhat akin to the nomadic Tuareg of popular imagination in the 19th and 20th C). There are passing references to cultivation (even as early as Herodotus) and to date palms, and other allusions to salt, semi-precious gemstones, hunting of people and animals. But all this does not raise our expectations any higher than Wheeler's – when Roman material culture appears in the centre of the Sahara, it seems a casual product of the contact between a great empire and an impoverished and culturally dependent tribe.

An archaeological view of the Garamantes

Archaeology demonstrates that the period of the Garamantes (between 900 B.C. and A.D. 500) brought about a series of dramatic changes, though some of these were well in train before contact with the Roman world. Here we cannot review more than a few instances.

Were the Garamantes nomadic pastoralists?

The question is not about absolutes but one of primacy of alternative forms of exploitation. The Tuareg of the modern period are the modern epitome of Saharan nomads, though in fact they comprise both pastoral and agricultural groups within their confederation. It is no surprise that many people have identified the Garamantes as proto-Tuareg, since the Tuareg fit the assumed model derived from the ancient sources (the reputation for bellicosity not the least).²² However, the reality is that the Garamantes were fundamentally sedentary agriculturalists, with pastoralism consistently declining from about 1000 B.C. The remains of the great irrigation schemes constructed during the Garamantian heyday are an extraordinary testimony to this. The *foggaras* are underground channels, formed by connecting chains of vertical shafts at the base. The technology is from the near Eastern rather than the Mediterranean world and seems to have reached Fezzan via the Egyptian desert at some point in the 1st millennium B.C. Wheeler's assertion that they were a Roman 'import' must be rejected.²³ The *foggaras*, were a major landscape feature, with more than 650 now recorded (involving the digging of more than

²² L.C. Briggs, *Tribes of the Sahara* (Oxford 1960), 124-166 (esp. 165-166); J. Keenan, *The Tuareg People of Ahaggar* (London 1977).

²³ Mattingly *et al.*, op.cit. (n.4), forthcoming, vol. 1; D.J. Mattingly, 'Twelve thousand years of human adaptation in Fezzan (Libyan Sahara)', in G. Barker & D. Gilbertson, eds., *The Archaeology of Drylands. Living at the margin* (London 2000), 160 ff.

100,000 shafts up to 40m deep and with the total combined length of the underground channels extending to several 1,000 km). Although such features are notoriously difficult to date, we are certain that they relate primarily to the Garamantian and early Islamic periods. They clearly facilitated large-scale and extensive cultivation of the valley floor oasis area. The picture is confirmed by botanical samples from Garamantian sites showing cultivation of wheat, barley, the grape vine and the date palm in irrigated conditions, from as early as the first half of the 1st millennium B.C.²⁴

Did the Garamantes live in tents, huts and caves?

The earliest archaeological researches on the Garamantes had identified 10,000s of burials spread all along the southern side of the 150km long depression that formed their heartlands. The settlement sites were much less clearcut, though the capital (ancient Garama) was identified at Jarma, where some Roman style stone buildings were known. This general lack of permanent settlements seemed rather to tie in with the idea of a tribe of nomadic pastoralists and does not seem to have disquieted the first researchers.²⁵

It is apparent that Garamantian society and culture did not suddenly appear fully formed in the Central Sahara. Rather it was the result of a long process of evolution across c.1500 years, which can be broken down into three broad phases of c.500 years. Settlements can be seen to evolve over time, but are essentially elaborate and permanently occupied from an early date.

The period from c. 1000-500 B.C. is the Early Garamantian phase, with its cultural roots in part in the Late Pastoral traditions of the 3rd-2nd millennia B.C. Settlements of this phase were sited on defensible bluffs of the escarpment edge of the Wadi al-Ajal, with the type site represented by Zinkekra.²⁶ At least 13 examples of hillforts or escarpment edge sites are now known in the Wadi al-Ajal area.

The first phase of occupation at Zinkekra ended around 500-400 B.C. at

²⁴ M. Van der Veen, 'Garamantian agriculture: the plant remains from Zinchebra, Fezzan', *Libyan Studies* 23 (1992), 7 ff.

²⁵ Pace *et al.* 1951, op cit. (n. 7), 190-198; C.M. Daniels, in *Libyan Studies* 20 (1989), 48-56 hinted at more widespread settlements; D. Mattingly, 'Garama', in R. Talbert, ed., *Barrington Atlas of the Greek and Roman World* (Princeton 2000), map 36 and Map-by-Map Directory 543-551 illustrates the bias towards funerary complexes in the archaeological record hitherto.

²⁶ C.M. Daniels, 'Garamantian excavations: Zinchebra 1965-1967', *Libya Antiqua* 5 (1968), 113 ff.; Idem, in *Libyan Studies* 20 (1989), 48-51.

which point it appears that an urban site originated in the valley centre at Jarma (ancient Garama), though Zinkekra also continued to be partly occupied and also took on a more 'urban' aspect. This period 500-1 B.C. may be characterised as the Garamantian proto-urban phase. Other nucleated valley sites also appeared.

Over time, Garama emerged as the Garamantian capital and in the Roman period, what we refer to as the Classic Garamantian phase A.D. 1-500, it was adorned with substantial public buildings and temples utilising stone on a scale and quality of dressing not previously witnessed (Fig. 2). Since there is no evidence to suggest a Roman occupation of Fezzan, these must be the result of contact, diplomacy and trade between the Roman empire and the Garamantian kingdom.²⁷

The evolved settlement pattern reflects the increasing localisation of farming activity in the oases along the base of the depression. In addition to the large urban centre at Garama, there were clearly a number of major settlements whose size and internal organisation would suggest an interpretation as towns. Qasr Ben Dourgba in the eastern Wadi al-Ajal is one clear example, as is Qasr ash-Sharaba in the Wadi Barjuij/'Utba area. It is now clear that the characteristic Garamantian settlement was a nucleated community located in the centre of the depressions where agriculture was practised. In addition to urban settlements, there were densely packed villages and hamlets all along the valley of the al-Ajal, to match the extensive evidence of cemeteries along the foot of the escarpment. The immediate hinterland of Jarma alone contains over 20 villages and the total for the al-Ajal in Garamantian times will almost certainly have exceeded 50.²⁸ It is almost certain that a similar pattern of settlements of Garamantian date existed in the other oasis areas of Fezzan (Fig. 3). Although much of Garamantian territory was waterless desert wastelands, the geographical reach of the kingdom extended along chains of oases across an area of c.250,000 sq km.

The origins of the characteristic nucleated sedentary settlements lie in the pre-Roman period, but there is no doubt that the precise form of architecture of the Classic Garamantian phase was influenced by the Mediterranean world.

²⁷ Excavations of these buildings, see M.S. Ayoub, *Excavations in Germa between 1962 and 1966* (Tripoli 1967), 23 ff.; Daniels 1971, op. cit. (n. 7), 264 f.

²⁸ Compare c.30 villages and hamlets of early modern date listed for the same area by J. Despois, *Mission scientifique du Fezzan (1944-1945) III: Géographie humaine* (Algiers 1946), 245-248.

Were the Garamantes a tribe?

'Tribe' seems an inadequate term to describe the evolutionary state of the Garamantes and the archaeological evidence strongly suggests that the Garamantes were a polity, with a distinctive material culture. They can be seen as a Saharan civilisation. For instance, a written script for the Libyan language was introduced in this period. Their society was hierarchical, with kings at the apex, and probably slave-using. Trade and political relations extended over long distances. The funerary evidence suggests that there was a massive demographic expansion to a level that was probably not equalled again until the last 40 years.²⁹ No reliable figures can be suggested for the total number of villages and towns, though the total seems certain to have by far exceeded the c.100 villages and hamlets of early modern times. Similarly, it is not unreasonable to suggest that at its peak the population of Garamantian Fezzan greatly exceeded the 33,500 recorded in the Italian 1936 census. A maximum figure in the range 50,000-100,000 is not implausible. All these factors indicate a society on a convergent course with a Mediterranean empire.

What was the nature of the Garamantian economy?

The economy of the ancient Fezzan was undoubtedly founded above all on agriculture and the foggaras indicate that this was a period of peak regional production. However, there is also ample evidence to show that the Garamantes were engaged in much more wide-ranging economic activity. Several of the surveyed settlement sites, in addition to excavations at Jarma and Saniat Jebril, have yielded evidence of metallurgy, both ferrous and copper alloy. As yet there is no evidence of where the Garamantes carried out their primary smelting of iron, though that is likely to have been close to the major regional ore source in the Wadi ash-Shatti, an area as yet very poorly explored for its Garamantian remains. The copper source may well have been in West Africa, and, though there is some evidence of casting of small copper ingots at Jarma itself (ingot moulds were found in the 2001 excavations), this could simply be the result of resmelting of imported copper. Saniat Jebril has been identified as a major centre of manufacturing activity, though similar processes were evidently carried out at many other sites. A large number of hearths have been identified from surface traces,

²⁹ C.M. Daniels, 'An ancient people of the Libyan Sahara', in J. & T. Bynon, eds., *Hamito-Semiticica*. (The Hague 1975), 249 ff.; E.M. Ruprechtsberger, *Die Garamanten. Geschichte und Kultur eines libyschen Volkes in der Sahara* (Mainz 1997).

along with a crucible fragment and numerous off-cuts of copper alloy.³⁰ Preliminary analysis shows that both iron smithing and copper alloy working were being carried out in the same hearths. This conclusion is supported by analysis of finds of hearth bottoms and other metallurgical debris from my excavations at Jarma.

There is a mass of evidence for the working of semi-precious stones at Garamantian sites (again small quantities recovered by survey are put in perspective by huge numbers of fragments from excavations at Saniat Jebril and Jarma). The stones involved are the translucent red carnelian (known in the Roman sources as ‘Garamantian carbuncles’ or ‘Carthaginian stones’ – the latter reference suggests the trade route by which they first reached a Roman market!) and an opaque turquoise material commonly known as Amazonite (Fig. 4). The sources of these stones are still uncertain, though in view of the presence of abundant waste material at our excavated sites, they probably lay within Garamantian territory in the Fezzan region, rather than further afield. There was a well-established Saharan and sub-Saharan tradition of carnelian beadmaking from the latter millennia B.C., especially focused on the Western Sahara and the Niger area, but the evidence from Jarma appears to be separate from that. The most common local use appears to have been for bead production, though export of red carnelian for use as ring stones in the Roman world is a possibility. Flawed and broken half-finished beads in these stones attest to local production, as do the grooved stones, which were used to shape and polish both the semi-precious beads and ostrich eggshell beads. These ‘bead polishers’ have been recorded in very large numbers at Saniat Jebril, but are also attested at Jarma itself and several other settlements.

Glass beads are also frequent finds on Garamantian sites and there are hints at Saniat Jebril that glass working, at least for bead production, also took place there. There are major local sources of key materials used in glass production, such as the natron deposits of the lakes of the Edeyen Ubari, just to the north east of Jarma.³¹ There is abundant evidence for the local production of pottery, some of rather crude quality, but some wheel-made and/or finely decorated – once again demonstrating the relative sophistication of Garamantian control of pyrotechnic processes (Fig. 5).

Salt was another key commodity of the Sahara and several areas of Fezzan have notable areas of salt flats (sabkha). There is a particularly large

³⁰ Mattingly *et al.* 2001, op. cit. (n. 16), 143 f.

³¹ Despois 1946, op. cit. (n. 28), 180.

salt flat to the north and north east of Jarma itself and this area has produced vestigial traces of large embankments on the sabkha, perhaps created to enhance salt formation. Numerous ashy features identified as salt-making hearths have been located along the embankments and these are associated with abundant Garamantian period pottery. Non-metallic industrial residues, believed to relate to salt production, are common finds on Garamantian settlements near to areas of salt flat and are suggestive of large-scale and well-organised salt production.

There are hints in the ancient sources of the Garamantes trading in wild beasts (for the arenas of the Roman world) and in ivory.³² Articles made in ivory have been recovered at Jarma, notably bracelet fragments, confirming the local availability of the material and (probably) Garamantian working of it into artefacts. Similarly, several notable finds of gold artefacts by Ayoub in his Jarma excavations would seem to confirm the long-held suspicion that the Garamantes were also involved in trading gold across the Sahara.³³ The classical sources speak of the Garamantes hunting the *trogloodytae* and 'Ethiopians', a strong hint of slave raiding against neighbouring peoples.³⁴ Although the selling-on of such captives northwards across the Sahara is unlikely to have been on a significant scale, it is evident from the large-scale nature of the intensive irrigated cultivation (and the dangerous task of foggara construction) that their own territory in Fezzan could have absorbed an almost unlimited numbers of slaves.

The precise nature of trans-Saharan trade at this date remains controversial, but the large quantities of Roman trade goods found at Garamantian sites and in their burials are unlikely to have arrived simply as gifts (Fig. 6). As I have outlined it is possible that the Garamantes traded in surplus agricultural produce, dates, salt, gold, semi-precious stones, manufactured jewellery and natron, with exotic wild beasts, ivory, ebony, and perhaps even slaves as other possibilities.³⁵ The creation of trans-Saharan trade pre-dated Rome's interventions (remember the 'Carthaginian stones' of the Garamantes), but there appears to have been a significant expansion in scale and a redirection of trade towards the cities of the

³² Ptolemy, *Geography* 1.8; Claudian, *Minor Poems*, 28.20.23; J. Desanges, *Recherches sur l'activité des Méditerranéens aux confins de l'Afrique*. CEFR. no 38 (Rome 1978), 197 ff.

³³ Ayoub 1967, op. cit. (n. 27), 28-38.

³⁴ Herodotus, *History*, 4.183; cf. Tacitus *Histories*, 4.50.

³⁵ On possible Garamantian commodities of trade, see Bovill op. cit. (n. 18), 40-42; Law, op. cit. (n. 18), 195-96. See also, R. Marichal, *Les ostraca du Bu Njem*. Libya Antiqua Suppl. 7 (Tripoli 1992), 109-111 on references to Garamantes trading and in contact with Roman frontier outposts to north of Fezzan.

Tripolitanian coast at the northern end of the shortest trans-Saharan routes.³⁶ The Garamantes appear to have been more active participants than sometimes given credit in the evolution of a manufacturing, trading and agricultural economy. That is not to claim that the Garamantian economy was outstandingly advanced for antiquity, simply that it fits in with a pattern of state formation and social evolution that was unlike anything seen hitherto in the Central Sahara. Whilst I hope to have demonstrated that these processes originated in pre-Roman times, I think it equally apparent that the existence of the Roman empire and its economic possibilities had a substantial impact in accelerating these processes.

In terms of its territorial extent, its settlement and population density and its socio-political organisation, the Garamantian kingdom was quite obviously a major force to be reckoned with in the Central Sahara. The settlement density, the number and scale of the cemeteries and the *foggara* systems all combine to highlight the Garamantian period as one of peak population and oasis cultivation. With these sort of demographic and economic resources it is easy to appreciate how the Garamantes could have dominated their neighbours. It is equally apparent, given the huge desert territory involved, why the Roman empire appears to have decided, after several forays into the Sahara, that it was better to deal with the Garamantian kingdom by diplomacy and trade contact than by attempted conquest and occupation. Trade was a bilateral relationship for two societies that were already on a course of convergence.³⁷ From the Garamantian perspective one may speculate that the economic attraction of the Roman empire accelerated the economic changes already in train in the central Sahara.

Leicester, November 2001

³⁶ A. di Vita, 'Gli Emporia di Tripolitania dall' età di Massinissa a Diocleziano: un profile storico-istituzionale', *ANRW* II 10, 2 (Berlin/ New York 1982), 588-594 for a maximalist view of the importance of trans-Saharan trade in the Roman period. On the trade routes, see Thiry 195, op. cit. (n. 20), 399-448.

³⁷ Similar observations could also be made about Meroe and Aksum in East Africa, see Phillipson 1992, op. cit. (n. 2), 164-173.

Figure 1. Map of the Garamantian heartlands in the Wadi al-Ajal, showing location of modern oasis villages. Inset: location of Fezzan within the Libyan Sahara.

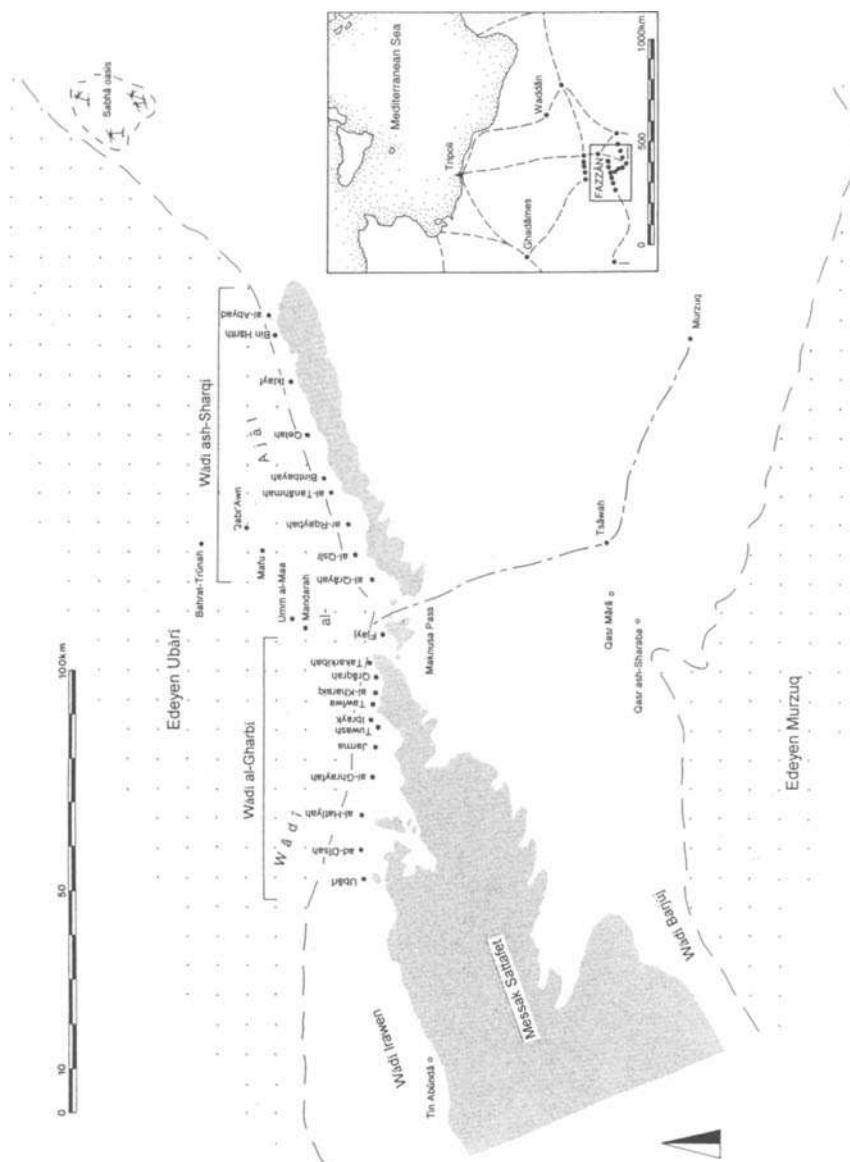


Figure 2. Garamantian buildings at Jarma. The stone footed buildings appear to be public in character (Building 3 was almost certainly a temple), whilst to the west lay an area of mudbrick domestic structures, many associated with manufacturing activity.



Figure 3. Map of Fezzan, showing the three main bands of oases: in the north the Wadi ash-Shatti, in the centre the Wadi al-Ajal and in the south the Barjuj/Murzuq/Hufra depression. The outlying oases of Ghat and al-Qatrūn/Tijirhi were probably also within the Garamantian territory.

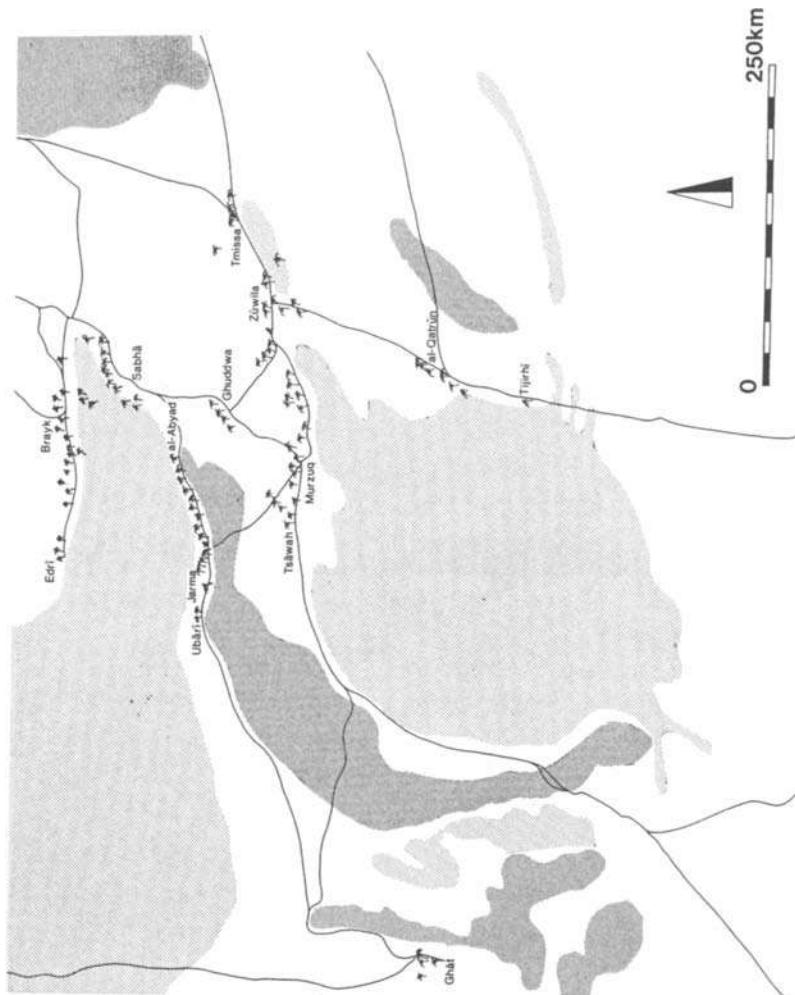


Figure 4. Evidence of stone bead-making from Saniat Jibril, near Jarma. The amazonite beads (top right) have fractured during the drilling process, which is incomplete. The darker beads are of red carnelian.

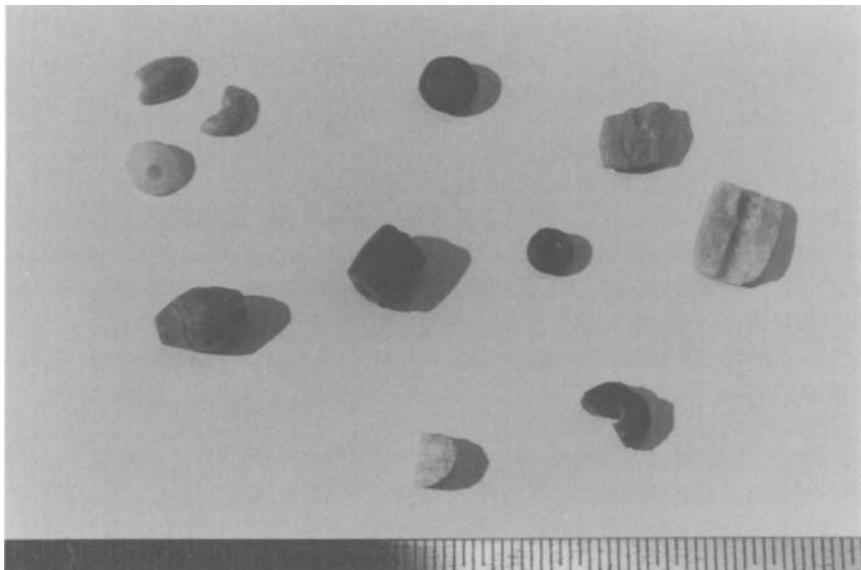
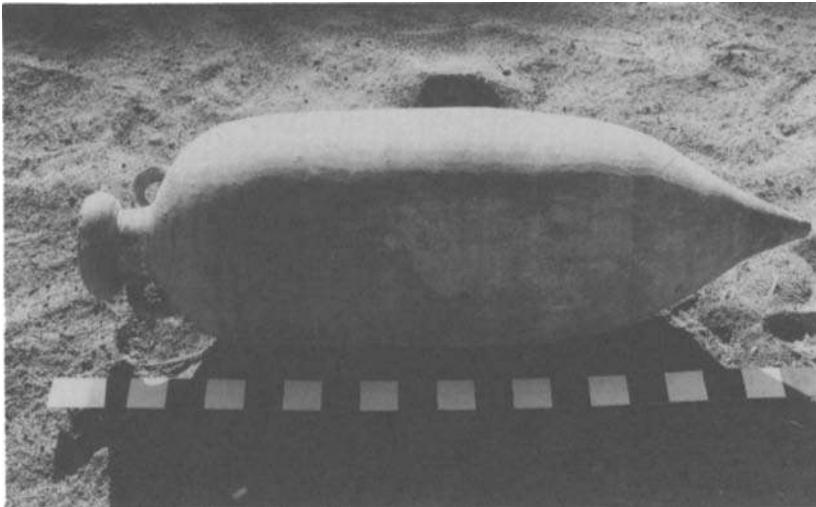


Figure 5. Garamantian painted pottery (red on white/cream ground).



Figure 6. Imported Tunisian oil amphora from tomb in Jarma area.



THE CRISIS OF THE THIRD CENTURY A.D. IN THE ROMAN
EMPIRE: A MODERN MYTH?

By
LUKAS DE BLOIS

Until well into the seventies of the last century the third century A.D. was perceived as a period of crisis, a crisis which was already announced under the emperor Marcus Aurelius A.D. 161-180), whose reign was characterised by warfare and epidemics.

Many observers saw the third century crisis as a decisive period of transition to Medieval History. In a highly rhetorical and suggestive passage in his *Birth of the Western Economy*, Robert Latouche describes the second and third quarters of the third century A.D. as "... a sinister age, the least known of the whole history of Rome..." and he tells us: "After the reign of the Severi we seem to plunge into a long tunnel, to emerge only at the beginning of the Late Empire under Diocletian, and when we step out again into daylight unfamiliar country lies all about us".¹

In later decades the third century crisis was seen as a complex historical process, brought about by the interaction of many different factors. Geza Alföldy summarises the various aspects of the crisis that dominated the history of the Roman empire from 249 to 284 in nine points: the switching from the rule of an emperor to that of a military despot, the general instability, the growing power of the armies, the increasing influence of the military provinces such as those along the Danube, social shifts, economic problems, the decrease in and unequal distribution of the population, a religious and moral crisis and invasions of foreign peoples in practically all border regions and even beyond, into the heartlands of the empire.² He could have added the collapse of the existing monetary system, problems about the legitimacy and the ideological basis of imperial power, the decay of small and medium-size towns and the decay of local *euergetia* and public services.

One of Alföldy's factors, the invasions, were emphasised by Ramsay MacMullen. On the first two pages of his *Roman Government's Response to Crisis* MacMullen says:

¹ R. Latouche, *The Birth of the Western Economy* (London 1961), 6.

² G. Alföldy, 'The Crisis of the Third Century as Seen by Contemporaries', *Greek, Roman, and Byzantine Studies* 15 (1974), 98-103 (= Idem, *Die Krise des römischen Reiches. Geschichte, Geschichtsschreibung und Geschichtsbetrachtung. Ausgewählte Beiträge* [Stuttgart 1989], 328-333).

"If the half century after 235 is approached in the manner of its contemporary historians and through the most salient and accessible facts, its chief features can be arranged in a comprehensible line. First foreign wars. Alexander Severus' unsuccessful handling of these prepared his death. These too prevented his successors from gaining a firm seat in the throne they scrambled up to. Such recurrent failure to restore political stability generated civil strife as much as it attracted invasions. Augusti had therefore to arm themselves on two fronts. They needed money in unprecedented quantities, and laws and men somehow to produce it. Armies, bureaucracies, and taxes all grew suddenly, simultaneously. At the same time, the economy in the areas closest to the scenes of wars became less able to meet the demands placed on it, because it was pillaged and fought over; and that combined mint master and paymaster, the desperate emperor of whatever reign, accordingly stretched his supplies of silver over a larger and larger bulk of more and worse coinage. Inflation set in, to a degree unprecedented. With this (as with a super-added plague, divinely appropriate to cap the whole structure of catastrophe), even folk inside the least disturbed areas like Campania or Southern Gaul had to reckon, and adapt their lives to it".³

In recent years this gloomy picture has become a matter of doubt. Klaus-Peter Johne and his fellow authors believe that the third century crisis really existed, but was not an all-encompassing cataclysm in all regions of the empire alike. They maintain that agriculture and urbanism came into trouble in the Rhineland and the Middle Danube region, but not in the Balkans, let alone in regions that were not affected by warfare. They observe that at the end of the third century still many cities existed, a good deal of which came into a new phase of relative prosperity, although *curiales* lost ground to military men, bureaucrats, and rich landowners who belonged to the top layers in society, but owned land within the borders of communities. The *curiales* did not have enough power to have them pay their dues. Nonetheless the senatorial order was one of the great losers of third century

³ R. MacMullen, *Roman Government's Response to Crisis A.D. 235-284* (New Haven/London 1976), 1 f.

changes. Senators were ousted from the armies and from provincial government, which was taken over by military men from the *ordo equester*.⁴

Other scholars ascribe the myth of the third century crisis to biased stories made up by historiographers like Cassius Dio and Herodian, who were anxious at the prospect of losing their class privileges to the rising power of the military, or by contemporary Christian authors, who thought that the age of the Prince of Darkness, which should precede the Second Coming of the Lord, was at hand.⁵ One may ask oneself, however, how these authors could have made up stories that were simply not true. Their readers knew third century circumstances and would have rejected their works if these authors had done so.

Some specialists of third century history accentuate the manifold continuity that characterised this Roman age. And indeed continuity reigned in military strategy and tactics, in the administration of justice, in public religion, and in the presentation of imperial power, *i.e.* in the continuous practicability of traditional imperial coin legends and images and of *paradigmata* like Augustus, Trajan and Marcus Aurelius. Furthermore until 260 emperors tenaciously tried to maintain Antonine traditions in their appointment policies, particularly in the appointment of senators to posts to which they were traditionally entitled.⁶ In the East Greek *paideia* maintained

⁴ See K.-P. Johne, ed., *Gesellschaft und Wirtschaft des Römischen Reiches im 3. Jahrhundert. Studien zu ausgewählten Problemen von Gerda von Bülow, Hagen Fischer, Klaus-Peter Johne, Detlef Rössler und Volker Weber* (Berlin 1993), 7-317; J.-M. Carrié & A. Roussel, *L'empire romain en mutation des Sévères à Constantin*, 192-337 (Paris 1999), 9-14.

⁵ See for example Cyprian, *Ad Demetrianum* 3-10. See Alföldy 1989, op.cit. (n.2), 295-318; D.S. Potter, *Prophecy and History in the Crisis of the Roman Empire. A Historical Commentary on the Thirteenth Sibylline Oracle* (Oxford 1990), 95-103; K. Strobel, *Das Imperium Romanum im '3. Jahrhundert'. Modell einer historischen Krise?* (Stuttgart 1993), 49-138.

⁶ On continuity in many aspects of Roman politics and administration, until A.D. 260, and in some respects even after, see M. Christol, *L'empire romain du IIIe siècle. Histoire politique 192-325 après J.-C.* (Paris 1997), 11-232. See P.M.M. Leunissen, *Konsuln und Konsulare in der Zeit von Commodus bis Severus Alexander (180-235 n.Chr.)* (Amsterdam 1989), 102-105 and M. Christol, *Essai sur l'évolution des carrières sénatoriales dans la deuxième moitié du IIIe siècle ap. J.-C.* (Paris 1986), 17-34 (continuity in appointment policies); A.M. Honoré, 'Imperial Rescripts A.D. 193-305. Authorship and Authenticity', *Journal of Roman Studies* 69 (1979), 62 (continuity in the style of imperial rescripts); R.A.G. Carson, *Coins of the Roman Empire* (London/New York 1990), 53-85 (on continuous imperial monetary policies); R. Lane Fox, *Pagans and Christians in the Mediterranean World from the Second Century A.D. to the Conversion of Constantine* (London 1986), 80 ff. and Alföldy 1989, op.cit. (n.2), 349-387, esp. 364 ff. (on continuous religious phenomena). On continuity in imperial titulature see also ILS 1 413-521, a fairly representative sample of imperial titulature in those times, and M. Peachin, *Roman Imperial Titulature and Chronology A.D. 235-284* (Amsterdam 1990), *passim*.

the traditions of the Second Sophistic.⁷ In all parts of the empire Greek and Roman upper classes kept sharing the Greek classical past as a common frame of reference.⁸

Continuity also dominated the social and economic structures of many regions, which were not directly hit by invasions or internal strife. In 1999 Witschel demonstrated that until the third quarter of the third century regions like Italy, Gaul, Britain, Spain, and Northern Africa maintained their traditional infrastructures, their density of population and their prosperity.⁹ To prove his thesis Witschel leans heavily on archaeological evidence. Material remains do not tell us, however, anything about indebtedness and diminishing carrying - capacities that threatened the continuity of *euergesia*, social tensions which undermined local patriotism, decreasing resources in a period of apparent continuous prosperity, and the relative weight of taxation and requisition. About these issues there is not enough evidence to come to any suppositions, let alone conclusions. Material remains tell us that people went on living in an area, at more or less the same levels of material culture, and in more or less the same built environment. They do not even tell us anything about demographic movements. Even Witschel, who tries to explain away the third century crisis on almost every page of his book, has to admit that there is archaeological evidence that, in times of prolonged warfare, like the periods 165-180 and 250-284, people started to leave their homesteads in war-ridden areas like the Danube provinces and the Agri Decumates.¹⁰

The continuities I mentioned can have existed in societies that were already under heavy and increasing tensions, which did not yet destroy traditional culture and life style. There are indeed some signs that this may have happened. A problem that runs through Greek literary works of the first half of the third century A.D. is the exceedingly heavy burden of taxation. In a recurring commonplace bad emperors are accused of feasting on money

⁷ See Th. Schmitz, *Bildung und Macht. Zur sozialen und politischen Funktion der zweiten Sophistik in der griechischen Welt der Kaiserzeit* (München 1997), 33.

⁸ To give only one example: in A.D. 242 Gordian III started his military campaign against the Persians by opening the gate of Janus and by instituting new games in Rome for Athena Promachos, the goddess who had helped the Greeks against the Persian king Xerxes, many ages before. See Eutropius, *Breviarium* 9.2.2; Zosimus 1.18.2. See L. Robert, 'Deux concours grecques à Rome: Antonia Pythia sous Elagabal et concours d'Athena Promachos depuis Gordien III', in Idem, *Opera Minora Selecta V* (Amsterdam 1989), 647-668 (= *Comptes Rendues de l' Académie des Inscriptions* 1970, 6-27); Christol 1997, op.cit. (n.6), 96.

⁹ Chr. Witschel, *Krise-Rezession-Stagnation? Der Westen des Römischen Reiches im 3. Jahrhundert n.Chr.* (Frankfurt a.M. 1999).

¹⁰ Witschel 1999, op.cit. (n.9), 178 ff. and esp. 207 ff.

wronged from the poor and of robbing the rich to satisfy the soldiers.¹¹ In a mutilated papyrus text which contains a copy of an imperial letter which Oliver convincingly ascribes to the emperor Severus Alexander, we read that the emperor, who has sent this letter, will not compel cities to contribute more golden crowns or sums due in place of them, than they are able to give. He would have liked to offer, he says, a more conspicuous proof of his magnanimity and to remit arrears, but the poverty of the government prevents him to do so. He has, however, not failed to observe, that the amounts he has received are all that the cities can afford to pay. So he remits the last contribution, due on the occasion of his accession to the imperial throne.¹² In his *Opera Minora Selecta V* (Amsterdam 1989) Louis Robert mentions a priest from Asia Minor who could no longer make ends meet and wished to escape the obligations of *euergesia*. He demonstrates that such problems were a common feature of those times, the third century A.D.¹³ Papyrus texts from Egypt show us that in that province financial problems rose, although they did not lead to structural changes in culture and society. Petitions from villages like Skaptopare, Aragoë and Takina show that villagers brought forward their complaints. Apparently their communities were on the verge of collapse.¹⁴ Herodian (7.3) tells us that harsh tax raising in the days of Maximinus Thrax raised an unprecedented uproar and ultimately led to the rebellions of 238. People could take no more. A bad sign is the growing frequency of *curatela* in career inscriptions of senators. *Curatores* had to see to it that local magistrates did not spend their money on prestigious projects and consequently ran into debts, but set aside supplies

¹¹ See Cassius Dio 52. 28-29; 72.3.3 f.; 73.16.2 f.; 75.8.4 f.; 77.9 and 13-16; 78.9-14; Herodian 3.8 f.; 6.1.8 f.; 7.3.1 ff.; Philostratus, *Vita Apollonii* 5.36; Ps.-Aelius Aristides, *Eis basilea* 16 and 30 ff.; P. Lond. inv. 2565; P. Fay. 20. See Christol 1997, op.cit. (n.6), 48 f.; 85; 103; P. Cosme, *L'état romain entre éclatement et continuité* (Paris 1998), 86-95.

¹² See P. Fay. 20 = A.S. Hunt & C.C. Edgar, *Select Papyri II* (London/ Cambridge, Mass. 1956), nr. 216. See J.H. Oliver, 'On the Edict of Severus Alexander', *American Journal of Philology* 99 (1978), 474-485.

¹³ L. Robert, 'Trois oracles de la théosophie et un prophète d' Apollon', in *Opera Minora Selecta V* (Amsterdam 1989), 584-604 (= *Comptes Rendues de l' Académie des Inscriptions* 1968, 568-599), esp. 596-602.

¹⁴ See L. Robert, 'Sur un papyrus de Bruxelles', *Revue de Philologie* 17 (1943), 115 ff.; S. Mitchell, 'Requisitioned Transport in the Roman Empire. A New Inscription from Pisidia', *Journal of Roman Studies* 66 (1976), 114 f.; P. Herrmann, *Hilferufe aus den römischen Provinzen. Ein Aspekt der Krise des römischen Reiches im 3. Jh. n.Chr.* (Hamburg/Göttingen 1990), nrs. 4, 6 and 8 (4 = CIL suppl. 12336 = IGR I 674 = Sylloge 888, from Skaptopare; 6 = OGIS 519 = IGR IV 598, from Aragoë); F. Millar, *The Emperor in the Roman World* (London 1992, 2nd ed.), 646 (= SEG 37 [1987], 1186).

and money, for example for passing armies.¹⁵ The surprising frequency of *curatores* in Italy for example may have something to do with devastations in the direct hinterlands of the Danube armies, which made Italy into one of their main sources of supplies. A passage in Herodian's work is very interesting in this respect. In 8.2.3 he tells us that many goods found their way to the Danubian provinces through Aquileia.

So, was there a crisis after all? Or is it a modern myth, made up by authors who liked to place the beginning of the decline and fall of the empire into the third century? Political crises, which manifested themselves in civil wars and usurpations, destabilised the Roman Empire in A.D. 192-197, 217-218, 238, 249, 253, and above all in A.D. 258-274.¹⁶ But did existing problems grow into a deeper, more complex, many-sided, and more serious crisis, which could result in changes in life styles and social structures, and could threaten the continuity of the Roman system?

First, what harm may have been wrought by military misbehaviour, which ranks first in gloomy passages written by Cassius Dio and Herodian, and has a special place in most modern explanations of third century problems? In all his eighty books Cassius Dio is virtually obsessed with the risks of military misconduct. Dio regarded armies as the main source of power and he branded soldiers as a naturally rebellious species that is to be classed with robbers and that is difficult to control. And yet controlled it must be, for otherwise a legitimate monarchy or a republican government will degenerate into a military tyranny and the whole social structure will be turned upside down. In his view there is a great risk of this taking place when the government loses its dignity, when the community is weakened by discord or when a despotic or uneducated ruler regards the armies as his personal retinue and spoils them, at the expense of the rest of the population.¹⁷ Dio probably wrote his work in those decades, between 211

¹⁵ See W. Eck, *Die staatliche Organisation Italiens in der Hohen Kaiserzeit* (Munich 1979), 190-226; G.P. Burton, 'The *curator rei publicae*: Towards a Reappraisal', *Chiron* 9 (1979), 465-487, esp. 482 f. A prosopography of *curatores rei publicae* has been published by F. Jacques, *Les curateurs des cités dans l'occident romain* (Paris 1983). On the basis of Burton's investigations one may conclude that in Asia Minor regional aristocrats, in local status comparable with status set senators in Italy, were selected to be city curators. Like those senators they had the ascendancy to impress local notables. They had to see to it that local councils set aside money and supplies for the armies. On local finance see also L. Migeotte, *L'emprunt public dans les cités grecques* (Paris/ Québec 1984), 359 ff.

¹⁶ See Christol 1997, op.cit. (n.6), 11-22; 35 f.; 45-59; 85-89; 119-165.

¹⁷ On Cassius Dio's view of the soldiery see L. de Blois, 'Volk und Soldaten bei Cassius Dio', in H. Temporini & W. Haase, eds., *Aufstieg und Niedergang der Römischen Welt* II 34,3 (Berlin/ New York 1997), 2650-2676; Idem, *Emperor and Empire in the Works of Greek-speaking Authors of the Third*

and 235. Herodian, regarded the greed and lack of discipline of the soldiers as the root of much evil and in his opinion these vices were growing stronger. In a passage on the murder of the emperor Pertinax in 193 and the ‘sale’ of the emperorship to Didius Julianus in the camp of the praetorian guard he writes: “This was the first time that the soldiers’ characters gradually began to be corrupted. They learned to have an evil and insatiable lust for money and to ignore any feeling of respect for their emperors. The fact that there was nobody to take revenge on the perpetrators of this savage murder of an emperor, and nobody to prevent the shameful auction and sale of the empire, was a prime cause in the development of a shameful state of indiscipline that had permanent consequences for the future. The ever-increasing avarice of the soldiers and their contempt for authority had developed to the extent of murder” (Herodian 2.6.14). According to Geza Alföldy Herodian died after A.D. 250. So he may have seen the first phase of third century troubles.¹⁸

From 230 and indeed from 249 dangerous wars arose in the East and North. Until 253 the most dangerous wars did not yet coincide, but from 253 simultaneous wars at several frontiers became a common feature of Roman history, which forced the emperors to move frequently *vexillationes* from the legions, auxiliary units and detachments from the fleets from one border region to another, to concentrate armies which would be big enough to beat the enemies.¹⁹ What about the consequences? There are no elaborate, detailed third century reports about such military movements, but in the Histories of Tacitus there is a story, which may be used as an eye-opener, a parallel which can give us a clue. In Histories 1.63-66 Tacitus tells us how the army of Valens, one of the commanders of Vitellius in the civil wars of A.D. 69, travelled from the Rhine frontier through Gaul to Italy. Valens’ troops had no trouble with the Treveri, whom they knew as trustworthy allies. But without any obvious reason they murdered 4000 people - the

Century A.D.’, in H. Temporini & W. Haase, eds., *Aufstieg und Niedergang der Römischen Welt* II 34,4 (Berlin/ New York 1998), 3411 f.; Idem, ‘The Perception of Emperor and Empire in Cassius Dio’s Roman History’, *Ancient Society* 29 (1998-1999), 275 ff.

¹⁸ On Dio’s life and career see De Blois 1998, op.cit. (n. 17), 3405 f. On Herodian see Alföldy 1989, op.cit. (n.2), 240 ff.; De Blois 1998, op.cit. (n.17), 3415 ff. On Herodian’s work see M. Zimmermann, ‘Herodians Konstruktion der Geschichte und sein Blick auf das stadtromische Volk’, in Idem, ed., *Geschichtsschreibung und politischer Wandel im 3. Jh.n.Chr.* (Stuttgart 1999), 119-143; Th. Hidber, ‘Zeit und Erzählperspektive in Herodians Geschichtswerk’, in the same volume, 145-167. Zimmermann seems to think that Herodian was a ‘Stubengelehrter’, though not on good grounds. See Alföldy 1989, op.cit., 240 ff.

¹⁹ On the history of the tumultuous years 249-271 see Christol 1997, op.cit. (n.6), 121-158.

number is given by Tacitus - in Divodurum. From that moment onwards city magistrates and town councils of communities through which the soldiers passed were eager to offer anything that the army of Valens needed. His soldiery sought a pretext to plunder the Aedui, one of the next tribes they met, but they could not find any. The Aedui handed over weapons and money and provided food free of charge. Lugdunum welcomed the soldiers whole-heartedly. Of course it did. In a recent article Rudolf Haensch demonstrates that many veterans of the Rhine armies retired to this place.²⁰ The citizens of Lugdunum tried to persuade Valens and his army to punish Vienna, their fiercest competitor, but the Viennenses forestalled disaster by handing over their arms and procuring goods taken from the fortunes of rich fellow-citizens. Suddenly Valens was a very rich man. Traversing the territories of the Allobroges and the Vocontii this general earned some more handsome profits through forced transactions with landed proprietors and local magistrates who had to procure food, goods and facilities. The other Vitellian army, commanded by Caecina, devastated the land of the Helvetians, who had risen in rebellion and were badly beaten. The conflict had started after soldiers of Caecina's army, of the twenty-first legion, had stolen the money with which an Helvetian border garrison that was paid by the Helvetians themselves should be paid (Tacitus, Historiae 1.67-69).

All this is highly rhetorical, but it gives us a clue. Passing armies demanded goods, food and facilities and could easily turn into looting mobs. So local magistrates gave them what they asked and could not resist. Local notables changed into subservient slaves of passing armies and must have lost face in the eyes of their fellow citizens. They must have lost a lot of money and supplies too. The generals of passing armies could become rich and do business on a large scale, demanding food and goods free of charge or at a low price. Complaints and petitions about military misconduct were recurring phenomena in Roman imperial history. There are examples from the reigns of Augustus, Tiberius, and Hadrian, to mention only some good rulers, who reputedly were able to discipline the soldiers.²¹ In a papyrus text from the days of the emperor Hadrian we read:

²⁰ R. Haensch, 'Milites legionis im Umfeld ihrer Provinz. Zur Rekrutierungspraxis, sozialen Position und zur 'Romanisierung' der Soldaten der niedergermanischen Legionen im 2. und 3. Jahrhundert', in L. de Blois, ed., *Administration, Prosopography, and Appointment Policies in the Roman Empire. Proceedings of the First Workshop of the International Network Impact of Empire (Roman Empire, 27 B.C. - A.D. 406), Leiden, June 28 - July 1, 2000* (Amsterdam 2001), 84-108.

²¹ See Suetonius, *Augustus* 24.2; Tacitus, *Annales* 1.16-30 and 31-52 (on the mutinies in the Rhine and Danube armies in A.D. 14); PSI 446 = Hunt & Edgar 1956, op.cit. (n.12), II nr 221.

"I (i.e. the *praefectus Aegypti*) am informed that without having a warrant many of the soldiers when travelling through the country requisition boats and animals and persons improperly, in some cases seizing them by force, in other obtaining them from the *strategi* through favour or obsequiousness, the result of which is that private persons are subjected to insults and abuses and the army is reproached for greed and injustice". The prefect commands never to furnish to any person without a warrant any contribution for the journey (PSI 446).

So Tacitus' report about the Vitellian armies may not be an exaggerated horror story about an isolated event.

There are just enough indications which suggest that similar things happened in the third century, especially along the great military transit routes. Under Caracalla, Gordian III and Philip the Arabian, already well before the intense military activity of the period 249-284, villagers from Takina, Skaptopare and Aragoe, places in the Balkans and Asia Minor, complained to the emperors telling them that military avarice and misbehaviour had brought them into misery and bankruptcy, which would ultimately lead to less tax returns from their regions. Looting bands of soldiers had left the highways and had visited villages which were situated relatively far from the military transit routes.²² One may surmise that places that were situated nearer to those routes had already been bled white. This kind of misbehaviour became proverbial. In the *Vita Alexandri Severi* in the Historia Augusta, an utopian treatise full of commonplaces which belongs to the genre of mirrors-of-princes, one of the things a good emperor has to prevent, and which Severus Alexander according to this author did prevent indeed, is precisely this roving away from highways by groups of soldiers (SHA, *Alexander Severus* 51.6). We should not forget that this type of wild foraging came on top of regular demands. In the same *Vita Alexandri Severi* the emperor is praised because he, before marching to the East against the Persians in A.D. 230, made such careful provision for the soldiers that they were furnished with supplies at each halting place and were never compelled to carry food for the usual period of 17 days, except in the enemy's country

²² Herrmann 1990, op.cit. (n.14), nrs. 4, 6 and 8 (4 = CIL suppl. 12336 = IGR I 674 = Sylloge 888, from Skaptopare; 6 = OGIS 519 = IGR IV 598, from Aragoe); Millar 1992, op.cit. (n. 14), 646 (= SEG 37, 1987, 1186).

(SHA, *Alexander Severus* 17.1). So the inhabitants of the regions through which the army was to travel had to bring food to the halting places beforehand, either free of charge or as *frumentum emptum*, paid at price levels that the emperor and his commanders ordained. Exceptions confirm rules. Herodian tells us that the soldiers of Maximinus Thrax, who in A.D. 238 wished to annihilate his senatorial opponents in Italy before they could unite with the Gordians in Northern Africa, had to carry many supplies, because they marched quickly, without the usual preceding planning and distribution of supplies among *mansiones* and storehouses along the highway they had to take (Herodian 7.8.11).

In areas where prolonged warfare had become a recurrent phenomenon worse things happened. Again, there is no detailed contemporary third century report. And again a parallel may help us out. In his stories about the exploits of Julian in Gaul, in the middle of the fourth century A.D., Ammianus Marcellinus describes the miserable situation in border provinces which - year after year - were plundered by roving bands of Franks or Alamans. In book 17, chapter 8, of his work Ammianus tells us that in 358, one year after the great battle at Strasbourg and after several years of continuous warfare and plunder in the Northeast of Gaul, Julian preferred to wait for supplies coming in from Aquitania before starting a new campaign. Northern Gaul and the Rhineland had obviously come into dire straits and could no longer provide enough.²³ Above I have ventured the hypothesis that - after periods of prolonged warfare- in a similar way Italy became the main supply base for the army of the Middle Danube in the times of Marcus Aurelius and in the middle of the third century. In repeatedly devastated regions people would start to move away. In his book on warfare and food supply in Roman republican wars Paul Erdkamp has demonstrated that short raids and limited periods of warfare did not cause mass migrations, because farmers could apply other survival strategies, like the production of rapidly growing alternative crops and borrowing from relatives, friends and patrons. Prolonged warfare, however, resulted in the destruction of stores, livestock and tools and would trigger widespread migration to safer regions.²⁴ This is

²³ On looting barbarians in the Northeast of Gaul in the middle of the fourth century and the consequences of their actions see 15.8.1; 15.8.19; 16.2.2; 16.2.5 ff.; 16.2.9 ff.; 16.3-4; 16.5.14; 16.11.3 ff.; 17.3-6. On Aquitania as his supply base see Ammianus Marcellinus 17.8.1.

²⁴ P.P.M. Erdkamp, *Hunger and the Sword. Warfare and Food Supply in Roman Republican Wars, 264-30 B.C.* (Amsterdam 1998), 208-269. On p. 240 he observes: "The crucial point is that the catastrophies of war hit the rural population very unevenly. A part of the peasantry was pushed below the minimum requirement for subsistence. Confronted not only with empty stores, destroyed fields, and stolen livestock, but also with the continued threat of hostile armies, many of the peasants that

what happened in some Danube provinces and the Agri Decumates, already under Marcus Aurelius and again in the decades from 250 to 284. Witschel, not a firm believer in the existence of the third century crisis, has to admit, on the basis of sound archaeological evidence, that in those times people must have left their homesteads in those regions.²⁵ From 238 this may also have happened in some parts of the Balkans.

In war-ridden areas problems caused by prolonged warfare were aggravated by banditry. To give one example: after 180 Danubian regions and the area of the Upper Rhine were infested by roving bands of robbers, deserters and barbarians who had stayed behind after the Marcomannic Wars of Marcus Aurelius. Their leader, Maternus, even besieged the *legio VIII Augusta* in its camp at Strasbourg and then invaded and plundered Italy.²⁶

Secondly, the plague. There is no certainty about the demographic consequences of the epidemics that raged over the empire from A.D. 166 and again in the decades from 250 to 280. Some regions may have been afflicted more than other ones, but the overall effect must have been an - at least temporary - decline in population and tax-payers, in a period in which the costs of the military forces did not decrease, as Duncan-Jones demonstrates for the Antonine plague.²⁷ A decrease in population in war-ridden areas, aggravated by the consequences of epidemics meant less production, smaller food surpluses, less tax income, a weakened logistical basis in the hinterland of important armies, and more pressure on the remaining farmers to hand over to the military an ever bigger percentage of their harvests. In such regions the decline in non-military population undoubtedly led to a more uneven distribution of people: relatively more soldiers, fewer farmers. Admittedly the military constituted at best only 1 % of the population of the

were affected will have left their farms in search of more secure conditions of survival. Whether they stayed on the land depended on the seriousness of the problems they faced, but also on the alternative subsistence strategies to be found elsewhere and on the stake they had in their surroundings, in the form of ownership of land or livestock, and the social relations with kin and patrons".

²⁵ Witschel 1999, op.cit. (n. 9), 178 ff.; 207 ff. Cf. G. von Bülow, 'Zu den Verhältnissen in der Landwirtschaft: II 1, Die archäologischen Quellen zur Entwicklung der Villenwirtschaft', in Jöhne 1993, op.cit. (n. 4), 32-36.

²⁶ On Maternus and his army of bandits see Herodian 1.10; SHA, *Commodus* 16.2; *Niger* 3.4; AE 1956, 90. See F. Grossi, *La lotta politica al tempo di Commodo* (Turin 1964), 437 ff.; C.R. Whittaker, *Herodian* 1 (London/ Cambridge, MA, 1969), 62 f. n.1; G. Alföldy, 'Bellum desertorum', in Alföldy 1989, op.cit. (n.2), 69-80 (= *Bonner Jahrbücher* 171 [1971], 367-376).

²⁷ R.P. Duncan-Jones, 'The Impact of the Antonine Plague', *Journal of Roman Archaeology* 9 (1996), 108-136. On both periods of plague, about A.D. 166-190 and c. 250-280, see E. Lo Cascio, 'La dissoluzione dell' impero Romano d' Occidente: la spiegazione demografica', in G. Cacciatore, et al., eds., *Filosofia e storia della cultura. Studi in onore di Fulvio Tessitore* (Naples 1997), 168 ff. and Carrié & Rousselle 1999, op.cit. (n.4), 521 ff.

empire, but this problem did not affect the empire as a whole, but relatively thinly populated areas where a lot of soldiers were garrisoned and which had been infested by the cumulative effects of prolonged warfare, banditry and the plague. In such regions the second and particularly the third quarter of the third century were periods of crisis.

Thirdly, the decline of the epigraphical habit. Another phenomenon that has often been interpreted as a sign of a deeper crisis is the decrease in building activities, accompanied by a steep decline in the numbers of inscriptions, in many, if not practically all, cities of the empire. This decline set in under Severus Alexander, perhaps even earlier, and progressively continued during the next decades of the third century.²⁸ This may be a sign of the tensions I mentioned above: local culture continuously lived on, but its most expensive aspects, like building, already stopped short. Local notables who progressively came under control of military foragers and *curatores*, and had to share their entitlement to local surpluses and facilities with them, undoubtedly lost status, started to consider *euergetia* an obligation more than a privilege, and had no longer sufficient means to pay for buildings, monuments, the upkeep of existing local infrastructures, games and other manifestations of public culture and religion. And why boasting about unavoidable, ruinous obligations, in inscriptions on monuments, in times during which local notables were no longer masters in their own communities?

A fourth symptom of a deeper, more complex crisis is the debasement of the imperial coinage, accompanied by the disappearance of all other kinds of coinage from 260. As Harl, Bland and Carrié have splendidly summarised, the debasement of the imperial coinage set in under Commodus and the Severi and speeded up from 238, particularly from 249. The *antoninianus* went down from 47.7 % silver in the years 238-244 to 40.24 % under Philip the Arabian and Decius, to 21.86 % in the years 253-255, to an average of 11, 44 % in 260 to 263, and to 2.7 % under Claudius II, to recover a little bit in the period 274-282. The production of *denarii* slowed down from 240 and stopped after 250. Weights and qualities of gold coins, the *aurei*, were also reduced. Roger Bland demonstrates that by 253 *aurei* generally weighed less than a third of what they had done in 193. By the middle of the third century gold pieces were no longer issued to a consistent standard and shortly after 253 the mint of Rome was to debase the gold coinage for the first time in

²⁸ See R. MacMullen, 'The Epigraphical Habit in the Roman Empire', *American Journal of Philology* 103 (1982), 233-246.

Roman imperial history. *Aurei* ceased to be proper coins. Increasingly the gold coins that have come down to us today from those times are either pierced or mounted in jewellery. The gold coinage of Severus Alexander set in a trend which is very significant in this respect, which is that the range of weights of individual *aurei* widens greatly. The overall mean weight remains the same as it had done for Elagabalus (6.49 g), but the coefficient of deviation is now twice as high. Having become individual lumps of gold, in the third quarter of the third century *aurei* no longer constituted a coin denomination.²⁹

The debasement of the coinage may have been caused by a lack of plate, decreasing tax returns and - particularly from 253 - the decentralisation of coin production.

Debasement of the coinage should have been followed by a rise in prices. An awkward problem is, however, that there are no traces of an immediately ensuing running inflation. On the basis of mainly papyrological evidence Lo Cascio argues that there was no direct connection between the debasement of the coinage and a rise of the prices. He maintains that average nominal prices ("prezzi in unità di conto") did not rise to about 270.³⁰ Real prices in war-stricken areas, however, must have fluctuated heavily, and were undoubtedly often very high indeed. Besides Egypt had an economic life of its own, and had until 260 its own coinage, which more or less kept its intrinsic value. In other parts of the empire, particularly in war-ridden areas, inflation may have come earlier. World - prices or empire - wide prices did not exist. Prices of grain and other commodities could differ from one valley or island to another. Like prices, coin - circulation was a regional matter, as Duncan - Jones has convincingly argued.³¹ Admittedly soldiers took coins from one region to another and mints were sometimes transferred to other places, particularly in the second half of the third century, but apparently those phenomena did not disturb regional coin-circulation permanently.

²⁹ On the debasement of the coinage in the third century A.D. see Carson 1990, op.cit. (n.6), 61 ff.; R.F. Bland, The Development of Gold and Silver Coin Denominations, A.D. 193-253, in C.E. King & D.G. Wigg, *Coin Finds and Coin Use in the Roman World. The Thirteenth Oxford Symposium on Coinage and Monetary History, 25.-27.3.1993* (Berlin 1996), 63-100; K.W. Harl, *Coinage in the Roman Economy, 300 B.C. to A.D. 700* (Baltimore/ London 1996), 126-148; Carrié & Roussel 1999, op.cit. (n.4), 127 ff.; L. de Blois, 'Monetary Policies, the Soldiers' Pay, and the Onset of Crisis in the First Half of the Third Century A.D.', in P.P.M. Erdkamp, ed., *The Roman Army and the Economy* (Amsterdam 2002), 90-107.

³⁰ E. Lo Cascio, 'Prezzi in oro e prezzi in unità di conto tra il III e il IV secolo d.C.', in J. Andreau, et al., eds., *Prix et formation des prix dans les économies antiques. Entretiens d' archéologie et d' histoire* (Saint Bertrand de Comminges 1997), 161-182, esp. 164.

³¹ R.P. Duncan-Jones, *Money and Government in the Roman Empire* (Cambridge 1994).

Nominal, official prices, which the imperial government paid to farmers and landed proprietors who delivered supplies to the armies and the provincial governors, may have been kept stable in an artificial way. On the basis of some evidence and a lot of good reasoning Michel Christol thinks that Roman commanders used debased coins to pay for food, goods and transport facilities³², like *frumentum emptum*. If he is right, the victims of the debasement of the coinage were not the soldiers, who received lots of bad coins instead of a few good *denarii*, and were compensated by donatives and gifts in kind, but landed proprietors and farmers, who saw the coins they received deteriorate fast, without any adjustment of the official prices for the food and goods they had to deliver. On regional and local markets, however, prices may have gone up rapidly. They could not profit by this rise in prices, because their surplus was taken away from them by the military and other Roman officials, many of whom must have become rich, like Valens in 69, by taking more than their due, paying with debased coins, and selling their own part of the booty at much higher prices on market-places. Added to other problems which existed in war-ridden areas, this must have brought many farmers and local landed proprietors on the verge of ruin. Again, in such areas and the further hinterlands of big armies, there was a crisis indeed in the third century, especially in the period 249-284.

In conclusion: the crisis of the third century in the Roman empire was harsh reality indeed in war-ridden areas and the adjacent hinterlands, especially in the period 249-284. In these territories a deep, many-sided crisis threatened traditional structures and started to bring about profound changes. In other regions there was continuity of existing social, economic, cultural, and religious structures, but in an ever more tense situation in which local elites could not make ends meet and had to give up building activities and the concomitant epigraphic habit. Everywhere the status of local notables declined, to the advantage of military foragers and controlling bureaucrats and *curatores*.

Nijmegen, The Netherlands, November 2001.

³² A good summary of Christol's theory is given by Carrié & Roussel 1999, op.cit. (n.4), 130.

COSTO DEL LAVORO E POTERE D'ACQUISTO NELL'EDITTO DEI
PREZZI
By
ANTONIO POLICHETTI

L' Editto dei prezzi, emanato tra il 20 novembre e il 9 dicembre del 301¹, edito dal Mommsen nel 1893², fin dal suo apparire non ha smesso di suscitare interrogativi sulla sua reale funzione nell'ambito dell'economia tardoantica, il cui inizio potrebbe essere segnato proprio dall'Editto dei prezzi e da una serie di fenomeni indicativi della "trasformazione" che distingue l'età da Diocleziano in poi, come la riforma fiscale e la nuova forma di tassazione agraria, la *iugatio-capitatio*; la riforma monetaria del 1 settembre del 301 e la nascita del colonato. L'Editto dei prezzi costituisce l'*incipit*, il discriminante di questo processo, caratterizzato dall'inizio del controllo del potere imperiale sulla società e l'economia³. L'Editto si collega

¹ Cfr. M. Giacchero, *Edictum Diocletiani et collegarum de pretiis rerum venalium in integrum fere restitutum e Latinis Graecisque fragmentis I* (Genova 1974), 4 n.1. L'Edizione della Giacchero, con testo critico e traduzione delle tabelle merceologiche, è stata da me utilizzata nel presente studio. Sull'Editto dei prezzi in generale si veda anche A. Polichetti, *Figure sociali, merci e scambi nell'Edictum Diocletiani et collegarum de pretiis rerum venalium* (Napoli 2001).

² Th. Mommsen & H. Blümner, *Der Maximaltarif des Diocletian*, ed. Th. Mommsen, erläutert von H. Blümner (Berlin 1893, rist. anastatica 1958). L'*Edictum de pretiis* fu edito dal Mommsen, a Berlino nel 1893, utilizzando i 35 frammenti noti fino ad allora e fu definito, in base a quanto riferito nella *praefatio* dell'Editto, *der Maximaltarif des Diocletian*. Il Mommsen è il primo dei moderni a considerare l' Editto di Diocleziano come editto sui massimi prezzi e quindi editto-calmiere. Nel 1940, E. R. Graser pubblica una nuova edizione del *The Edict of Diocletian on Maximum Prices*, che ripete nel titolo la definizione del Mommsen. Questa dizione scompare nell' edizione di S. Lauffer, *Diakletians Preisedikt*, pubblicata a Berlino nel 1971, sulla base di 126 frammenti. L'ultima edizione, di Giacchero 1974, op.cit. (n.1), offre una ricostruzione fondata su 132 frammenti latini e greci.

³ Sull'opera accentratrice di Diocleziano, che pone le basi dell'assolutismo bizantino, cfr. G. Ostrogorsky, *Storia dell'Impero bizantino* (Torino 1968), 25-73. In part. pp. 27-29, dove collega i suddetti fenomeni economici con la nascita dell'assolutismo in Bisanzio: "Il principato romano fu travolto dalla crisi del III secolo e fu sciolto sotto il dominio assoluto di Diocleziano, punto di partenza dell'autocrazia bizantina" (28). J. Le Goff, *La società dell'Occidente medievale* (Torino 1981), 16-48, vede nella fuga dal fisco e nella crisi economica il rafforzarsi delle aristocrazie tardoantiche e l'inizio della ruralizzazione: "La necessità di nutrirsi spiega prima di ogni altra cosa la fuga del ricco nelle sue terre, l'esodo dei poveri nei poderi dei ricchi" ... "I cittadini avrebbero evitato in campagna le imposte degli esattori e, cadendo nella padella nella brace, i poveri urbani sarebbero passati sotto il controllo dei grandi proprietari diventando schiavi rurali" (35). Sulle grandi proprietà nell'Alto Medio Evo e sulla nascita dell'economia curtense P. Toubert, 'Le strutture produttive nell'Alto Medioevo: le grandi proprietà e l'economia curtense', in *La Storia I* (Torino 1988), 52-89, rileva l'uso medievale dell'argento e la diffusione del denaro d'argento carolingio, pari a 1,7 grammi. Il mondo franco si basava, quindi, su un monometallismo argenteo (82). Secondo Toubert i secoli VIII-X non furono dominati da un'economia naturale, in quanto col tempo andò crescendo la quantità dei canoni in

direttamente alle riforme economiche di Diocleziano: la riforma fiscale e la riforma monetaria. Alla riforma fiscale si affiancò il riordino della monetazione e così tutte le zecche dell'Impero, accresciute di numero, emisero monete di tipo uniforme, eliminando "gli ultimi residui del sistema locale, provvedendo in tal modo a ovviare alle difficoltà del cambio della moneta"⁴. La distribuzione delle zecche era determinata in base ad esigenze locali di scambio e di approvvigionamento dell'esercito⁵. Inoltre venne ridefinito il sistema monetario e Diocleziano, dopo aver introdotto un nuovo valore per l'aureo, pari a 1/60 di libbra, diede vita a due nuovi nominali, il neroniano *argenteus* da 1/96 di libbra e il "Laureato Grande". Il 1 settembre del 301 egli attuò una riforma monetaria, che è testimoniata dai frammenti rinvenuti ad Afrodisia nel 1970⁶, raddoppiando sia il valore dell' "Argenteo" che passa da 50 a 100 *denarii*, che quello del "Grande Bronzo Laureato": "In uno dei nuovi frammenti compare, per l'appunto, la cifra vigintiquinque. È accertato dunque che il laureato grande ha potentia di venticinque *denarii* dopo il 1 settembre del 301 e che, poiché si tratta di *potentia geminata*, prima di questa data il suo valore è di 12 *denarii* e mezzo (ovverosia, proprio negli anni che registrano il passaggio dal sesterzio al denario come unità di conto, di cinquanta sesterzi)".⁷ Quindi "col 1 settembre del 301 il sistema monetario viene ulteriormente modificato e, ancora una volta, in direzione inflazionistica"⁸. Si può quindi ipotizzare che l'Editto dei prezzi non sia soltanto l'effetto della riforma monetaria, come è stato a lungo creduto (i tetrarchi nel proemio sono fin dall'inizio consapevoli delle conseguenze che la riforma monetaria avrebbe provocato), ma piuttosto la sua logica continuazione, secondo un preciso progetto politico per far fronte alle necessità dell'Impero e, soprattutto, rendere stabile il sistema economico, dal momento che una caratteristica del "libero mercato" fondato sulla legge della domanda e dell'offerta è l'instabilità.

denaro su quelli in natura (84). Il denaro d'argento durò fino all'XI sec. come mezzo di scambio e di accumulazione (85).

⁴ Cfr. W. Ensslin, 'Le riforme di Diocleziano', in CAH, Ed. italiana Garzanti (Milano 1982), 684-708.

⁵ Sulla possibilità di una correlazione tra zecche e diocesi, cfr. M. Hendy, 'Mint and Fiscal Administration under Diocletian, his Colleagues, and his Successors A.D. 305-324', *Journal of Roman Studies* 62 (1972), 82.

⁶ Cfr. K. Erim, J. Reynolds and M. Crawford, 'Diocletian's Currency Reform; a new Inscription', *Journal of Roman Studies* 66 (1971), 176-177.

⁷ Cfr. E. Lo Cascio, 'Aspetti della politica monetaria del IV secolo', *Atti dell'Accademia Romanistica Costantiniana* 10 (1995), 484-485.

⁸ Cfr. E. Lo Cascio, 'Dall'*Antoninianus* al *Laureato Grande*: l'evoluzione monetaria del III secolo alla luce della nuova documentazione di età diocleziana', *Opus* 3 (1984), 182.

Scopo di questo articolo è evidenziare dall' analisi interna dell' Editto, svolta sul costo del lavoro, il funzionamento dell'Editto in relazione alla riforma monetaria e agli intenti politici dei tetrarchi sottolineando le conseguenze sociali come l'erosione dei salari dei lavoratori e la difesa delle classi alte dinanzi agli effetti della riforma monetaria.

Numerose sono le figure sociali che offrono un quadro delle attività presenti nell'Impero. I salariati possono dividersi in alcune categorie legate al mondo della produzione agricola, al piccolo artigianato, ad alcune "professioni" (è da notare che mancano i medici) e all'artigianato di beni di lusso, come i ricamatori di seta e di broccati d'oro. L' Editto presenta alcune figure sociali appartenenti al mondo agricolo, le cui paghe, non potendo superare i 25 *denarii* al giorno con vitto, erano le più basse. Per quanto, come ha dimostrato il Frézouls, la paga massima da 25 *denarii* non era sufficiente al mantenimento della famiglia dell'operaio - per cui il F. suppone l'esistenza di un'integrazione del reddito familiare⁹ - il dato importante che si può dedurre è che, al tempo dell' Editto, anche il salario agricolo era pagato – o almeno calcolato – in denaro e solo in parte in natura mediante il vitto. Due sono le figure tipicamente legate alla terra: il bracciante agricolo (*Ed. 7.1.1a*) e il pastore (*Ed. 7.18*). Il bracciante agricolo non va oltre i 25 *denarii* al giorno, con vitto, mentre il pastore si ferma addirittura a 20 *denarii* al giorno con vitto. Questi dati dimostrano che nelle campagne dell' Impero ancora non si era giunti ad una regressione verso l'economia naturale. L' Editto inoltre offre un elenco di oltre 70 figure professionali (*Ed. 7.1-76*) che rappresentano le principali attività economiche dell'Impero. Sono compresi operai, artigiani ed alcune figure di professionisti. Mancano invece, inspiegabilmente, i medici. Maggiore è il numero delle categorie degli artigiani, con un salario giornaliero doppio, rispetto ai braccianti agricoli, fino a raggiungere i 150 *denarii* al giorno con vitto per il pittore di rappresentazioni figurate¹⁰. Queste sono le categorie

⁹ A. Frézouls, 'Prix, salaires et niveau de vie: quelques enseignements de l'Edit du Maximum', *Ktema* 2 (1977), 253-268. Stabilisce, in base al salario minimo giornaliero di 25 *denarii*, la quantità di beni fruibili (262). L'insieme dei beni è appena sufficiente per il mantenimento di una sola persona, ma non di un'intera famiglia (264). Frézouls ipotizza allora altre entrate: "...des ressources complémentaires étaient nécessaires: activité subsidiaire de l'homme, travail salarié de la femme, voire des enfants, production de biens de consommation dans le cadre d'activités domestique, agricoles et horticoles ou artisanales" (265). In ogni caso il salario aveva con il suo reddito ben poche possibilità di passare a piccolo proprietario agricolo: "le minimum requis pour une exploitation agricole autonome - une paire de bêtes et des outils - excédait de toute façon, les capacités d'un salarié moyen, et non plus seulement payé au tarif minimal" (267).

sociali che nell' Editto venivano retribuite a giornata, per le quali possiamo dedurre delle possibili classi di reddito annuo (Vd. p.224). Molte altre invece erano retribuite per prestazione d'opera¹⁰. Esse comprendono sia artigiani,

¹⁰ A 150 denarii, con vitto:

Pittore di rappresentazioni figurate

A 75 denarii, con vitto:

Tinteggiatore di pareti

Modellatore di opere figurative

A 50 denarii al giorno, con vitto:

Muratore in pietra

Falegname intarsiatore

Carpentiere

Fornaio di calce

Mosaicista

Falegname che fabbrica carri

Fabbro ferraio che costruisce carri

Fornaio

Maestro d'ascia per costruzione di nave fluviale

Modellatore in gesso

¹¹ Barbiere:

2 den. per cliente

Tosatore di pecore:

2 den. per pecora

Guardarobiere:

2 den. per bagnante

Bagnino di bagno privato:

2 den. per bagnante

Operaio che fabbrica mattoni crudi, pronti per la cottura: per ogni 4 mattoni di 2 piedi, compresa la preparazione dell'argilla, con vitto:

2 den.

Operaio che fabbrica mattoni d'argilla da cuocere al sole: per ogni 8 mattoni, compresa la preparazione dell'argilla, col vitto:

2 den.

Operaio che lavora l'oricalco per 1 libbra:

8 den.

Operaio che lavora il rame per 1 libbra:

6 den.

Sarto, per taglio e guarnizione, per mantello con cappuccio di prima qualità:

60 den.

di seconda qualità:

40 den.

di misura maggiore:

25 den.

di misura minore:

20 den.

per calzoni corti:

20 den.

per ghette di feltro:

4 den.

per piegatura dell'orlo di una bella veste:

6 den.

per scavo (al collo e alle braccia) con orlatura

di una veste tutta di seta:

di una veste di mezza seta:

50 den.

per scavo (al collo e alle braccia) con orlatura di

una veste di mezza seta:

per scavo (al collo e alle braccia) con orlatura di

una veste più grossolana:

di una veste comune da donna, nuova:

4 den.

Al tintore, per tunica comune da donna, usata:

16 den.

Al tintore, per tunica comune da donna, usata:

10 den.

Al tintore, per camicia da uomo, fatta al telaio:

10 den.

usata:

6 den.

che professionisti. È ovviamente impossibile quantificare con esattezza il loro probabile salario giornaliero, anche se, come vedremo, alcuni dati potranno essere utilizzati nel corso dell'analisi. Abbiamo poi tutta una serie di "professionisti" (*Ed. 7.64-74*), le cui differenze di retribuzione sono evidenti ed indicative del livello di istruzione possibile nell'Impero.¹² Infatti se si compara la retribuzione di queste figure professionali, legate all'insegnamento, con il salario giornaliero degli artigiani da 50 *denarii* al giorno, si vede come poteva essere possibile, anche per quelle classi, una diffusa istruzione primaria, mentre molto più costosa doveva essere l'istruzione superiore, l'insegnamento del latino, del greco o dell'eloquenza. Alto, se non altissimo, quando si trattava di patrocinare (1000 *denarii*) il costo della giustizia, tale da escludere buona parte delle classi inferiori dal ricorso alle spese giudiziarie¹³.

L'Editto riporta i salari degli addetti alla tessitura, che, dati i numerosi prodotti tessili presenti nell'elenco merceologico, doveva essere la forma più diffusa di manifattura nell'Impero. I lavoratori erano divisi in: Ricamatori e tessitori di seta (*Ed. 20*); Tessitori di lana (*Ed. 21*); Follatori (*Ed. 22*). I prezzi dei salari vengono espressi sia per oncia, sia a giornata e differenziati a seconda della qualità del lavoro. Così i prezzi dei salari dei ricamatori sono espressi *per oncia*, fortemente differenziati, a seconda della superficie su cui

Al tintore, per camicia da bambino, nuova:	6 <i>den.</i>
usata:	2 <i>den.</i>
per mantello corto o coperta, nuovo:	16 <i>den.</i>
usato:	6 <i>den.</i>
per coperta nuova:	24 <i>den.</i>
per coperta usata:	10 <i>den.</i>

¹² Maestro di oratoria o al maestro di eloquenza, per ogni allievo: 250 *denarii* al mese
 Maestro di lingua Greca o Latina e al maestro geometria, per ogni allievo: 200 *denarii* al mese
 Maestro di architettura, per ogni fanciullo: 100 *denarii* al mese
 Maestro di aritmetica, per ogni allievo: 75 *denarii* al mese
 Maestro di tachigrafia, per ogni allievo: 75 *denarii* al mese
 Maestro di ginnastica massaggiatore, per ogni allievo: 50 *denarii* al mese
 Pedagogo, per ogni allievo: 50 *denarii* al mese
 Maestro elementare per leggere e scrivere, per ogni allievo: 50 *denarii* al mese
 Maestro che insegna a copiare libri o a trascrivere manoscritti antichi, per ogni allievo: 50 *denarii* al mese.

¹³ Avvocato patrocinatore o al giurista, onorario per il patrocinio: 1000 *denarii*
 Avvocato patrocinatore o al giurista, onorario per l'istanza giudiziaria: 250 *denarii*

ricamare¹⁴, mentre i tessitori di seta¹⁵.e i tessitori di lino vengono retribuiti a giornata¹⁶.

Il capitolo dedicato ai salari per follariori è di estrema importanza, in quanto permette di valutare l'incidenza della manodopera nella determinazione del prezzo delle vesti. I follariori infatti erano pagati *a pezzo*, il che facilita la nostra indagine. I salari più costosi erano concessi per le dalmatiche. Si evidenziano, a seconda del tipo di manufatto, sette classi di retribuzione (A - G) per pezzo¹⁷.

¹⁴ Al tessitore ricamatore di broccato, che lavora in oro puro, per lavoro di prima qualità: per 1 oncia *den.* 1.000

Al tessitore ricamatore di broccato, che lavora in oro puro, per lavoro di seconda qualità: per 1 oncia *den.* 750

Al tessitore ricamatore in oro di broccato, tutto di seta, per lavoro di prima qualità: per 1 oncia *den.* 500

Al tessitore ricamatore in oro di broccato, tutto di seta, per lavoro di seconda qualità: per 1 oncia *den.* 400

Al ricamatore su camicia tutta di seta: per 1 oncia *den.* 300

Al ricamatore su camicia di mezza seta: per 1 oncia *den.* 200

Su mantello di lana da Mutina: per 1 oncia *den.* 25

Su mantello di lana da Laodicea: per 1 oncia *den.* 25

¹⁵ Al tessitore di seta che lavora in mezza seta, col vitto: al giorno 25 *den.*

Al <tessitore> in tutta seta, senza ornamenti, col vitto: al giorno 25 *den.*

Alla tessitrice di tunica pettinata, come è prescritta nella *indictio*, con vitto: al giorno *den.* 12

Alla <tessitrice> di tuniche da Mutina o da altri luoghi, col vitto: al giorno *den.* 16

¹⁶ Al tessitore di lino, per lavoro di prima qualità, col vitto: al giorno *den.* 40

Al tessitore di lino, per lavoro di seconda qualità, col vitto: al giorno *den.* 20

¹⁷ A) Per dalmatica con cappuccio, tutta di seta,

nuova: *den.* 600

Per mantello con cappuccio, di lana dei Nervii, nuovo: *den.* 600

B) Per mantello di lana da Mutina, doppio, nuovo: *den.* 500

Per dalmatica, tutta di seta, da uomo, nuova: *den.* 400

C) Per mantello con cappuccio, di lana dalla Dacia Ripense

o dal Taurogastrico, nuovo: *den.* 300

Per camicia, tutta di seta, nuova: *den.* 250

D) Per dalmatica, di mezza seta, da uomo, nuova: *den.* 200

Per mantello con fibbia, di lana da Mutina, nuovo: *den.* 200

Per mantello con fibbia, di lana da Laodicea, nuovo: *den.* 200

Per mantello di lana da Laodicea, nuovo: *den.* 200

Per mantello con cappuccio, di lana dal Norico, nuovo: *den.* 200

E) Per camicia, di mezza seta, nuova: *den.* 175

Per mantello con cappuccio, di lana da Laodicea, nuovo: *den.* 175

Per dalmatica senza ornamenti, di mezza seta, nuova: *den.* 125

Per dalmatica con cappuccio, di lana pettinata più fine,
nuova: *den.* 100

Per gli altri mantelli con cappuccio: *den.* 100

F) Per mantelli con cappuccio, Africani o Achei: *den.* 50

Per mantello, come è prescritto nella *indictio*, nuovo: *den.* 50

Esaminiamo adesso la formazione dei prezzi. L'Editto riporta al par. 7 i salari di varie classi di lavoratori. Ai paragrafi 20-24 si riportano invece i salari dei lavoratori addetti alla tessitura. Dividiamo quindi la nostra analisi in due parti, una dedicata all'esame del probabile potere di acquisto dei salariati, pagati a giornata, gli unici per i quali è possibile un'analisi del genere. L'altra a verificare, tramite i salari dei lavoratori addetti alla tessitura, la formazione del prezzo dei prodotti tessili. Nel paragrafo 7 dell'Editto si riportano i salari dei lavoratori, retribuiti a giornata, che abbiamo già esaminato. Da questi dati possiamo dedurre delle possibili classi di reddito annuo:

- I. 25 *den.* al giorno x 365 = 9.125 *den.* / anno
 - II. 50 *den.* al giorno x 365 = 18.250 *den.* / anno
 - III. 75 *den.* al giorno x 365 = 27.375 *den.* / anno
 - IV. 150 *den.* al giorno x 365 = 54.750 *den.* / anno
- (solo al pittore di rappresentazioni figurate)

Queste, ottimisticamente, dovevano essere le classi di reddito dei salariati, per i quali si conosce la retribuzione giornaliera. Ovviamente queste classi di reddito sono state dedotte presupponendo la piena occupazione nel corso dell'anno. E niente è sostratto per giorni festivi. Ma nella realtà il reddito doveva essere sicuramente inferiore. Tralascio, per il momento, ipotesi sul possibile reddito dei "professionisti", in quanto è difficile da definire. Più importante è invece il confronto tra le classi di reddito dei salariati e il costo dei beni. Mi limito, nell'analisi, ai prezzi dei tessili, che occupano lo spazio maggiore nell'Editto e che dovevano sicuramente costituire la maggiore manifattura dell'Impero. Se si esamina il prezzo delle vesti (*Ed.* 19) si vede che nella serie di vesti più economiche la quantità di beni accessibili per le classi basse era davvero molto limitata:

Camicia Numidica	<i>den.</i> 600
Camicia Frigia o Bessica	<i>den.</i> 600
Mantello corto (di lana grossolana) Africano	<i>den.</i> 500
Per dalmatica con cappuccio, di lana più grossolana, nuova:	<i>den.</i> 50
Per camicia, di lana pettinata fine, nuova:	<i>den.</i> 50
Per camicia, come è prescritta nella <i>indictio</i> , nuova:	<i>den.</i> 25
G) Per camicia senza ornamenti, di lane più grossolane:	<i>den.</i> 20

Coperta comune di 10 libbre	<i>den. 500</i>
Dalmatica con cappuccio, da donna, di lane più grossolane, ornata con strisce di porpora rosso scarlatto di 2 libbre	<i>den. 200</i>

Per chi aveva una paga giornaliera di 25 *denarii*, erano necessari 24 giorni per acquistare una camicia tra le più economiche, da 600 *denarii*. Per chi invece aveva un reddito di 75 *denarii* al giorno erano necessari 8 giorni, un tempo sicuramente più ragionevole. C'erano quindi dei beni a più basso prezzo, che potevano, sia pur con difficoltà — perché le giornate lavorative non erano assicurate tutto l'anno — soddisfare anche la richiesta delle classi inferiori. Tuttavia bisogna notare che per quanto concerne le vesti, la maggior parte non appartiene alla serie meno costosa, ma a quella più costosa i cui prezzi oscillano tra i 44.000 e gli 8.000 *denarii*. Chi erano i possibili ricchi acquirenti? Se si considera che il meglio pagato dei professionisti presenti nell' Editto, il maestro di oratoria, guadagnava 250 *denarii* al mese per allievo (*Ed. 7.71*), ben difficilmente poteva permettersi una dalmatica da 135.000 o anche da 44.000 *denarii*. L' Editto, che nelle aspirazioni dei tetrarchi doveva dirigere tutte le attività economiche all'interno dell' Impero, resta muto sui possibili acquirenti di questi prodotti. Tuttavia esisteva una produzione di beni dalla qualità differenziata, che permetteva anche alle classi inferiori di accedervi, sia pur con difficoltà, restando inserite nei meccanismi di consumo. La prevalenza dell' offerta è per le classi alte e medio alte, il che fa pensare che queste classi fossero ancora molto diffuse ai tempi dell' Editto, al punto da alimentare la maggiore produzione manifatturiera dell' Impero.

Esaminiamo adesso lo spinoso problema della formazione dei prezzi dai dati che si possono ricavare dal confronto tra costo delle materie prime, salari e prezzi. L'esame sarà svolto sui prodotti tessili, per i quali è possibile un confronto tra materie prime, salari e prezzi.

L' Editto (*Ed. 25*) riporta i prezzi dei vari tipi di lana. Per una libbra di lana da Mutina, la migliore, dal costo di 300 *denarii* (*Ed. 25.1a*), il costo della manodopera per la tessitura era di 40 *denarii*, più il vitto (*Ed. 21.1a*). Il costo della manodopera, in questo caso, incideva più del 10%. Per tutte le altre lane non "di marca", se il prezzo per libbra è 25 *denarii* (*Ed. 25.9*), il costo per la manodopera è di minimo 15 *denarii* (lana grossolana *Ed. 21.4*).

Per quanto concerne il rapporto salari-prezzi è da rilevare che:

- L'Editto tende ad uniformare i salari dei lavoratori agricoli, stabiliti a 25 *denarii* al giorno con vitto (*Ed.* 7.1.1a), ad eccezione del pastore che si fermava a 20 *denarii* al giorno con vitto (*Ed.* 7.18).

- Anche i prezzi dei prodotti agricoli, in particolare degli ortaggi, sono uniformati a 4 *denarii* per 5-10; 10-20 unità, a seconda che si tratti rispettivamente di prima o seconda scelta (*Ed.* 6.1-96).

- I salari degli artigiani sono retribuiti *a giornata*, e differenziati a seconda del tipo di lavoro e si applicano allo stesso modo in tutta l'area di influenza dell' Editto¹⁸ (*Ed.* 7.1-76).

- I salari degli operai, invece, vengono retribuiti a seconda *della quantità di lavoro* prodotta (*Ed.* 20; 21; 22) e sono uniformati anch'essi.

Tra le materie prime, le lane hanno un prezzo differente, a seconda del luogo di produzione (*Ed.* 19). Solo le lane di Mutina, Altino ed Atrebate hanno lo stesso prezzo, come pure quelle di Laodicea e di Aria (*Ed.* 25. 1-13). Il salario per la tosa è lo stesso, 2 *den.* per pecora, con vitto (*Ed.* 7). Anche i salari dei tessitori di lane, retribuiti per libbra, sono uniformati: al tessitore, che lavora lana da Taranto, o da Laodicea o da Altino, spettano per 1 libbra, *den.* 30 (*Ed.* 20). Tuttavia alla fine le lane presentano prezzi differenti (*Ed.* 25):

da Altino = 200 *den.* per 1 libbra
da Taranto = 175 *den.* per 1 libbra
da Laodicea = 150 *den.* per 1 libbra

Così alcuni prodotti dello stesso tipo come le camicie hanno un prezzo diverso, a seconda del luogo di produzione (*Ed.* 19). La stessa cosa si verifica per tutta una serie di manufatti tessili prodotti a Scitopoli, Tarso, Biblo, Laodicea ed Alessandria, che presentano prezzi diversi, a seconda del luogo

¹⁸ M. Giacchero, *Note sull'Editto-Calmiere di Diocleziano* (Genova 1962). Ritiene in base all'esame delle tariffe dei noli, presenti nella copia dell' Editto proveniente da Afrodisia, che, anche se l' Editto era stato emanato per tutto l' Impero, la prospettiva resta orientale: "Il punto di irradiazione di tutte le linee è, in senso lato, l' Oriente; e l' argomento che paesi occidentali come Gallia, Spagna, e Lusitania entrano nell' elenco delle destinazioni nulla prova se non che, stando, come già ricordato, dal punto di vista orientale, l' estensore del documento guardava al restante mondo romano in funzione degli interessi e delle necessità che caratterizzavano la vita nell' area del Mediterraneo orientale" (32). L.C. West, 'Note on Diocletian's Edict', *Classical Philology* 34 (1939), 239-245. Rileva che: "That list of articles mentioned in the tables was not one intended for the mass of population is much more strikingly shown by a comparison of wages and the cost of wearing apparel" (241). And on p. 242: "If the Edict was intended primarily for the East, one must assume that there was substantial export from western Europe to the eastern part of the Mediterranean, or else a wholesale imitation in the East of Western products. It is curious that, of a total of 19 articles of food in this list, 13 came from the Latin-speaking half of the empire, and that every named wine came from Italy. Of 69 references to named woolen products, 35 are to the Latin-speaking half of the empire".

di produzione (*Ed.* 26). Anche i mantelli con cappuccio (*Ed.* 19) hanno prezzi differenti, a seconda del luogo di produzione (Taurogastrico; Norico; Africano). Solo per le fasce per il capo di tessuto di lino (*Ed.* 26. 204), si hanno gli stessi prezzi dei prodotti da Scitopoli, Tarso, Biblo, Laodicea ed Alessandria. Si pone quindi il problema: perché di fronte al tentativo dei tetrarchi di stabilizzare ed uniformare i salari e i prezzi agricoli, alla fine i manufatti possono avere prezzi diversi, a seconda dei luoghi di produzione, con così forti differenze di prezzo fino a 1000 *denarii*, come nella classificazione dei manufatti tessili (*Ed.* 26) prodotti a Scitopoli, Tarso, Biblo, Laodicea ed Alessandria? E' possibile che i tetrarchi vogliano, come si è detto, attenuare le differenze tra i mercati, evitando gli scompensi tra aree a maggiore o minore domanda. Questi sono gli unici dati utili che si possono ricavare sul problema della formazione dei prezzi. Infatti per la maggior parte dei prodotti non ci sono dati e quantità precise alle quali riferirsi e le informazioni sono da considerarsi solamente indicative, ai fini della comprensione del problema. Per quanto concerne le lane il costo della manodopera per la tessitura incideva circa tra il 10 e il 50% a seconda che si trattasse di qualità alta o bassa. Si può pensare che l'azione calmierante incidesse di più sui beni di lusso, e che inevitabilmente, se si voleva continuare a mantenere in vita la produzione, si dovessero abbassare i costi di produzione, come i salari. E ciò era possibile in quanto l'Editto, non fissava i prezzi in maniera rigida, ma ne limitava il massimo prezzo, auspicandosi sempre un loro possibile ribasso. Ovviamente questi dati non possono essere considerati esaustivi per descrivere l'"inflazione" del IV sec.¹⁹.

¹⁹ Sull'"inflazione" del quarto secolo d.C. cfr. C. R. Wittaker, 'Inflation and the Economy in the Fourth Century A.D.', *B.A.R.*, International Series 76 (1980), 1-22. Riassume le varie posizioni moderne sull'argomento, ma in particolare rileva che le fonti attribuiscono la causa della povertà soprattutto alla tassazione, più che ai problemi monetari: "In all the cries about the destitution of the poor and the exploitation of the rich coming from the vitriolic pens of church leaders like John Chrysostom, Gregory of Nissa, Basil of Caesarea or Ambrose, I cannot find a single one who attributes the poverty to the manipulation and decline of the coinage and no more than a handful who refer even to high prices, in spite of the chronic problem of local fluctuation in rural produce. Nor are such references quoted by authors better versed in the sources than I. But the one subject on which the sources are unanimous is taxes" (13). A.H.M. Jones, 'Numismatica e storia', in: Idem, *L'Economia Romana* (Torino 1984), 81-108. Dubita dell'esistenza di rapporti fissi tra monete: "Vi sono tuttavia buone attestazioni del fatto che in realtà non vi era alcun rapporto fisso di valore tra monete d'oro, d'argento e di rame, ma che le monete avevano un tasso di cambio fluttuante in base al mercato, vale a dire in base a quanto un cambiavalue fosse disposto ad offrire in quel determinato giorno e in quel determinato luogo" (102). M. Corbier, 'Dévaluations et évolution des prix (Ier-IIIe siècles)', *Revue Numismatique* 27 (1985), 67-106, critica i criteri seguiti da S. Mrozek, nello stabilire una storia dei prezzi, a partire dal regno di Augusto. C. ridimensiona l'inflazione del III sec.: "Un doublement des

Cerchiamo a questo punto di definire il quadro sociale che deriva dai nostri dati e di rispondere alla domanda: a che cosa serviva realmente l'Editto *dei prezzi*? I prezzi altissimi di molti prodotti sono al di fuori della portata dei professionisti meglio pagati dell' Editto. Tuttavia vi sono beni a più basso costo come le carni e tutta una serie di prodotti differenziati di qualità inferiore, che permettono l'integrazione economica anche delle classi infime come i popolani e i servi. Ma la maggior parte dei prodotti restano alti per la più parte delle figure sociali presenti nell' Editto, se non addirittura proibitivi. L' Editto quindi non mirava ad abbassare i prezzi per favorire le classi basse e medie, per le quali i prezzi restano comunque alti, ma, probabilmente, proteggere le classi alte e i militari all'indomani della riforma monetaria, che avrebbe fatto raddoppiare, per motivi di mercato, anche il costo di questi prodotti di lusso dal costo altissimo. Un indizio, in tal senso, potrebbe venire dal differente aumento del prezzo dell'oro. L'oro nell' Editto risulta a 72.000 *denarii* per libbra, come attesta l'iscrizione di Aezani²⁰, ma l'oro nel 300, in un papiro di Panopoli era valutato a 60.000 *denarii* per

prix entre le Ier siècle et la fin du IIe siècle semble suggéré par les nombreux indices, et il est assez généralement accepté dans l'historiographie récente. Il répondrait exactement à la baisse d'environ 50 % de la teneur de fin du dernier engistrée dans la même période. Ce doublement des prix laisserait donc à mettre au compte du IIIe siècle la moitié de la hausse totale: soit une multiplication par 30 ou 35 et non 60 ou 70. A un rythme constant, une telle hausse aurait correspondu à un taux d'inflation annuel de l'ordre de 3,6%, et à une multiplication des prix par deux tous les vingt ans. Toutes les conclusions souvent formulées sur la dimension catastrophique de l'histoire monétaire du IIIe siècle gagneraient donc, à mes yeux, à être nuancées" (105). A. Wassink, 'Inflation and Financial Policy under the Roman Empire to the Price Edict of 301 A.D.', *Historia* 40, 4 (1991), 465-493, stabilisce un'inflazione pari al 5% nel 284. La riforma monetaria diocleziana iniziò con la ripresa della monetazione aurea, con lo scopo di reintrodurre il bimetallismo "with a new fixed exchange rate between gold and silver coins" (486). L'aumento delle spese portò ad una inflazione pari al 35% o più nel 301. "The inscription of Aphrodisias shows that the official value of the silver coins rose by 500% between 293 and 301; the general price level of 301 must therefore have been roughly five times that of 293" (489). E. Lo Cascio, 'Prezzo dell'oro e prezzi delle merci in', in: Idem, *L'inflazione del quarto secolo d.C., a cura dell'Istituto Italiano di Numismatica* (Roma 1993), ritiene che "i salti nel livello dei prezzi che si determinano dopo il 324 e dopo il 348 non si possono con sicurezza attribuire a una variazione di potenza del numerario di base. Due processi sembrano intervenire: il primo è l'abbandono (già prima del 324, come sembra) della difesa del rapporto di cambio tra oro e aes, abbandono che pare configurarsi, dopo il 324, come assenso, da parte dello stato, a che l'oro monetato pervenga a quel valore, rispetto al rame e alle altre merci, che effettivamente ha sul mercato. L'altro processo è quello della cospicua emissione di moneta aurea (oltre che bronzea) che spinge verso l'alto tutti i prezzi. La moneta di aes corre costantemente il pericolo di essere emessa in perdita. D'altro canto, la moneta di aes né è pienamente una intrinsic value money né è token money" (181).

²⁰ Cfr. M. Giacchero, 'Il valore delle monete diocleziane dopo la riforma del 301 e i nuovi frammenti di Aezani nell'*Edictum de Pretiis*', *Rivista Italiana di Numismatica* (1974), 3.

libbra²¹. Il prezzo dell'oro nell' Editto, dopo la riforma di Aezani, non era raddoppiato. Il che significa che l' Editto non era solo un necessario adeguamento agli effetti della riforma monetaria del 1 settembre del 301, che legittimamente raddoppiava il valore nominale delle monete, quanto piuttosto il suo complemento, studiato dai tetrarchi, come parte di un unico progetto, mirante a rivitalizzare l'economia dell'Impero, conseguendo un aumento del potere di acquisto dei militari, probabilmente il raddoppio della tassazione, che incrementava le entrate dello stato, evitando però, grazie all' Editto, l'automatico raddoppio dei salari e della maggior parte dei prodotti, specie di quelli costosissimi per le classi alte. La riforma monetaria senza l' Editto non avrebbe avuto senso, se non quello di raddoppiare automaticamente il livello dei prezzi. Ma allora come operava l' Editto, alla luce dei dati che abbiamo? Si doveva, ovviamente, evitare l'automatico raddoppio dei beni, conseguendo i fini dei tetrarchi. L'Editto evitava il raddoppio del prezzo dell'oro e probabilmente limitava i prezzi dei beni dai costi altissimi, per favorire le classi alte. Altri dati più sicuri potranno venire solo da un esame dei prezzi dei prodotti prima dell' Editto e stabilire così le percentuali di aumento. Uno studio del Prof. Lo Cascio²² permette di verificare l'aumento di alcuni prodotti come il grano, l'orzo e il vino prima dell' Editto e dopo l' Editto. I prezzi sono espressi sia in dracme che in oro:

I) Prezzo del grano in unità di conto (dracme = sesterzi per artaba):		
genn.-febbr. 301	768	(CPR VI 75)
nov.-dic. 301	1.309	(<i>Edictum de pretiis</i>)
II) Prezzo dell'orzo in unità di conto (dracme = sesterzi per artaba):		
260-270	24	(P. Grenf. 2,77)
301	785	(<i>Edictum de pretiis</i>)
III) Prezzo del vino in unità di conto (dracme = sesterzi per <i>keramion</i>):		
300/301	300	(CPR 6,12)
301	576	(<i>Edictum de pretiis</i>)
IV) Prezzo del grano in oro (scrupoli per artaba) e numero indice (301 = 100):		
301 genn.-febbr.	0,9216	70,4
301 (<i>Edictum de pretiis</i>)	1,309	100

²¹ Cfr. E. Lo Cascio, 'Dall'*Antoninianus* al *Laureato Grande*: l'evoluzione monetaria del III secolo alla luce della nuova documentazione in età diocleziana', *Opus* 3 (1984), 181.

²² Cfr. E. Lo Cascio, 'Prezzi in oro e prezzi in unità di conto tra il III e il IV sec. d.C.', in *Entretiens d'Archeologie et d'Histoire. Économie antique. Prix et formation des prix dans les économies antiques* (Saint-Bertrand-de-Comminges 1997), 161-182.

V) Prezzo dell'orzo in oro (scrupoli per artaba) e numero indice (301 = 100):

301 (*Edictum de pretiis*) 0,785 100

VI) Prezzo del vino in oro (scrupoli per *keramion*) e numero indice (301 = 100):

300/301	0,36	62,5
301 (<i>Edictum de pretiis</i>)	0,576	100

Se si considerano i casi I e III, in cui l'unità di conto è espressa in dracme, l'aumento del prezzo del grano e del vino nell'anno 301, tra prima e dopo la riforma monetaria e il conseguente Editto dei prezzi, era stato rispettivamente di 1,70 e 1,92 volte, contro l'aumento del prezzo dell'oro pari a 1,2 volte. Se si confrontano questi valori con i casi IV e VI, dove il prezzo del grano e del vino è espresso in oro, l'aumento del prezzo del grano e del vino è stato rispettivamente di 1,42 e 1,6 volte. L'Editto, quindi, calmierando i prezzi dei prodotti ne avrebbe evitato l'automatico raddoppio, limitando invece i salari che non potevano spingersi oltre un certo limite, fissava questi rapporti in tutto l'Impero, evitando il raddoppio del prezzo dell'oro²³ e probabilmente abbassando i prezzi dei prodotti di lusso dal costo altissimo. Era così inevitabile che venisse eroso il potere di acquisto dei salariati e che la gente venisse ridotta in miseria, sancendo il fallimento dell'Editto. L'Editto quindi fallì non perché i prezzi erano stati comunque aumentati, che anche entro i limiti dell'Editto restavano alti²⁴, ma perché i salari, limitati dall'Editto, si erano erosi, soprattutto se la tassazione posteriore alla riforma monetaria era stata adeguata ai nuovi valori della moneta²⁵. Infatti i prezzi restano alti, sia per i salariati che per i

²³ L'oro, nei frammenti di Aezani, aveva lo stesso prezzo, sia che fosse "in regulis sive in solidis" o in filii "aurineti". Cfr. Giacchero 1974, op.cit. (n.19), 115.

²⁴ Si è anche ipotizzato che i prezzi presenti nell'Editto rispecchino la realtà economica dell'area orientale dell'Impero. Cfr. R. Duncan-Jones, *The Economy of the Roman Empire* (Cambridge 1974). In part, *Diocletian's price Edict and the cost of Transport*, pp. 366-369: "If the figures are realistic in any way, they are probably closest to the price-levels of the large Eastern town from which Edict emanated, perhaps Nicomedia; prices in the country and in small town might have been substantially less" (367).

²⁵ Sull'aumento dei prezzi, dopo la pubblicazione dell'Editto, fino alla metà del IV sec. cfr. J. M. Carrié, 'L'economia e le finanze', in *Storia di Roma* III 1 (Torino, 1993), 751-787, il quale sull'inflazione ritiene che "ora si può considerare, sulla base di testimonianze egiziane ormai pienamente riconosciute indicative per l'insieme dell'Impero, una moltiplicazione dei prezzi nominali per 6 tra il 330 e il 348 e per 40 o 50 tra il 348 e il 354, anche se quest'ultima impennata fosse da attribuire solo in parte all'inflazione stessa e preludesse di fatto a una stabilizzazione della moneta di rame assai più precoce di quanto si fosse supposto. Nell'insieme si è avuto modo di precisare le dimensioni dell'inflazione nominale tra il 295 e il 352 (da 1 a 1000 in 57 anni, col nummus passato da

professionisti, anche all'interno dell' Editto, che scaricava sui salariati e sulle campagne i costi dei militari e le spese dell'Impero, proteggendo le classi alte dagli effetti della riforma monetaria.

Napoli, Febbraio 2002.

Summary

This paper focuses on the connection between labour costs and prices of products mentioned in Diocletian's Price Edict. The aim is to come to a better understanding of the effect of labour costs in this Edict. From a comparison between labour costs and prices of manufactured products in Diocletian's Edict we may infer that Diocletian above all aimed at reducing labour costs and prices of relatively expensive products, the price of which was so high that it prohibited most workers mentioned in the Edict to buy them. So for the lower classes in society most of the Edict was of no consequence. Diocletian tried to protect the buying power of the higher classes. There is another indication that this was Diocletian's objective. The price of gold was not doubled after the monetary reform (which doubled the value of some coins as *Argenteus* and *Big Bronze Laureate*), which shows that the Edict was made to protect the upper classes against the inflationary effects of Diocletian's monetary reform. Gold was very important to rich people (see the article by Jongman in this volume). Avoiding the doubling of the price of gold, which, according to Edict, was paid in *denarii*, and cutting labour costs of luxury products, particularly of those products which do not appear accessible to the retributions of the Edict, Diocletian tried to help them. The link between monetary reform and the Edict led to the latter's failure, because in this way salaries were eroded.

12,5 a 12.500 denarii). Basti pensare che in Egitto il prezzo del grano, ancora espresso in migliaia di dracme dal 301 al 312-318, viene poi valutato in un numero di talenti (= 6.000 dracme) a una sola cifra tra il 318 e il 355 circa, a due cifre tra il 335 e il 352, a tre cifre tra il 352 e il 358, quattro cifre dopo questa data" (752-753).

UNSUSTAINABLE DEVELOPMENT; THE ORIGIN OF RUINED
LANDSCAPES IN THE ROMAN EMPIRE

By
WOLFGANG LIEBESCHUETZ

We are to day interested in growth, in increased productivity. In the case of agriculture this means making it possible for the same piece of ground to feed more people or at least to make it possible for the same number of people to have a higher standard of living. In a word, to enable two blades of grass to grow where one grew before. How well did the Roman Empire do when judged by this criterion?

Wherever the Romans established their rule they created, or stimulated, profound agricultural change, a kind of agricultural revolution¹, which is described for convenience, though with much simplification, as the introduction of the villa system.² Its effect surely was the creation of a greatly increased agricultural surplus. And it was this, which in turn nourished Roman colonies, provincial urbanisation, Roman armies and above all the population of Rome itself, which by the time of Augustus had grown to something like a million inhabitants. The question is whether the Roman 'agricultural revolution' resulted in a permanent increase in the agricultural productivity of the areas involved. The conclusion of this paper is that it did not. The 'growth' initiated or stimulated by Roman rule was real and substantial. It was sustainable too, in that the systems created under Roman rule were stable for many years. But it appears that Roman agricultural growth almost invariably was succeeded by periods of decline, which often left the land less productive than it had been at the starting point of the development. Moreover the same cycle of growth and reversal seems to have been largely independent of physical and climatic conditions. At any rate it can be observed in regions that were totally dissimilar in terms of geology or climate.

¹ K. Greene, *The archaeology of the Roman Economy* (London 1986), 98-123; G.Barker and J.Lloyd, *Roman Landscapes: Archaeological Survey in the Mediterranean Region*, Archaeological Monographs of the British School at Rome 2 (London 1991); P.Leveau, P.Silières, J.-P.Vallat, *Campagnes de la Méditerranée romaine-occident* (Paris 1993).

² The description 'villa' covers a wide range of buildings from a solidly built farm-house of a holding large enough to produce cash crops, to a palace like structure with attached farm buildings, the centre of an estate. In the early colonial settlements in Italy the farm type were in the great majority, see F.Cambi, 'Demography and Romanisation in Central Italy', in J.Bintliff and K.Sbonias, eds., *Reconstructing Past Population Trends in Mediterranean Europe. The Archaeology of Mediterranean Landscapes I* (Oxford 1999), 115-127, esp.124-126.

Reversal when it came was gradual and spread over centuries. In Europe decline began in different regions at different times, but generally still within the period of the Early Empire. In Africa the development started later, and the ultimate collapse was later too. In the Near East dramatic expansion was a feature of the Late Empire, and the reversal came correspondingly later, but it came there too. My procedure will be to start with a discussion of three areas of Italy, and then go on successively to Baetica in Spain, to Northern Gaul and the Rhineland, to Africa and finally the desert fringe of what to day are Syria and Jordan.

The transformation of the area around the colony of Cosa began in the third century B.C., with the foundation of the colony. Subsequently there was a steady increase in the number and density of solidly built farm buildings of every kind. Wine and olive oil were produced for the market on a large scale. The development reached a climax in the first century A.D.³ Then a steady and continuous reduction in the number of sites set in. The people making the survey found c. 245 sites in occupation at the end of the first century A.D., 115 at the end of the third, 84 by the end the fourth, 53 by the end of the fifth. One cause of this development was the amalgamation of properties into ever larger units. But an effect almost certainly was the emptying out of large areas of the countryside, as also of the city of Cosa itself, the market centre of the region. Thus town and country declined together.⁴

Significantly the breakdown of the system of rural settlement did not happen, or did not happen as radically, in the territory of Saturnia, away from the coast. There agricultural specialisation had not developed to the same extent, and smaller villas continued to produce a wider range of crops,

³ F.Cambi, E.Fentress, 'Villas to castles: first millennium A.D. demography in the Albegna Valley', in K.Randsborg, ed., *The Birth of Europe: Archaeology and Social Development in the first Millennium* (Rome 1989), 74-85; E.Fentress, 'Creation, transformation and failure', *Journal of Roman Archaeology, Suppl.* 38 (Ann Arbor 2000), 9-24.

⁴ S. L. Dyson, 'Settlements patterns in the Ager Cosanus: The Wesleyan University Survey 1974-76', *Journal of Field Archaeology* 5 (1978), 251-68; Idem, 'Settlement reconstruction in the *ager cosanus* and the Albegna valley', in G. Barker and R. Hodges, eds., *Archaeology and Italian society : prehistoric, Roman and medieval studies* I. BAR International Series 102. Papers in Italian Archaeology 2 (Oxford 1981), 269-274; E. Fentress, 'Cosa in the empire, the unmaking of a Roman town', *Journal of Roman Archaeology* 7 (1994), 208-22. On the revival of Cosa as a Byzantine fortress, with a *mansio*, a church, a cemetery, and a few huts, see M. G. Celuzza and E. Fentress, 'La Toscana centro-meridionale: i casi di Cosa-Ansedonia e Roselle', in R.Francovich and G.Noyé, *La storia dell' alto medioevo italiano (vi-x secolo) alla luce dell' archeologia* (Florence 1994), 601-13.

with the result that the region was less vulnerable than the area nearer the coast.⁵

Surveys in Southern Etruria show that the development was quite parallel to that in the northern survey area, although the proximity of Rome must have made a considerable difference to the economy. Here decline, that is reduction in the number of settlements registering in field surveys, began in the third Century A.D. By 500 between 50% and 80% of the sites had been deserted. As around Cosa, we can observe concentration of ownership into fewer hands, but there also is evidence that land was abandoned. Strangely enough this seems to have happened especially in the neighbourhood of roads. One might perhaps compare the abandonment of settlements on the Fosse Way in Britain. From the eighth century there is evidence of the establishment of hill settlements. In other words, a new pattern of settlement was replacing the Roman one, giving great importance to situations of natural strength.⁶

Campania was and is exceptionally fertile because of its volcanic soil. The area in the north of Campania examined by Arthur experienced dramatic development from the third century B.C. The establishment of Latin colonies was followed by the building of solid stone farms, which you can call villas, but included villas of every kind. Eventually Roman senators assembled estates and built great country-houses. The produce, that is corn, oil and especially wine, was sold in Rome and all over the West. Site density reached a maximum in the last century of the Republic and the first of the Empire. A sharp decline began before the end of the second century. Around the end of the 5th century occupation becomes almost imperceptible to field surveys. Roads, harbours and aqueducts had fallen into ruin. Great areas of marshy swamp had developed around the coast. But in the valley of the upper Liris, away from the coast where Roman rule had also resulted in the building of villas, but smaller villas which did not eliminate farms of more modest size, a system of mixed farming did not go into early decline, but survived from the republic into the sixth century.⁷

With Baetica we enter an area where dramatic development began two hundred or more years later than in the regions of Italy discussed so far. It began in the first century A.D. and was targeted at the production of olive

⁵ I. Attolini, *et al.*, 'Political geography and productive geography between the valleys of the Albegna and the Fiora', in Barker and Lloyd 1991, op.cit. (n.1), 142-152.

⁶ T.W. Potter, *The Changing Landscape of Southern Etruria* (New York 1979), 92-167.

⁷ P. Arthur, *The Romans in Northern Campania* (London 1991).

oil.⁸ Huge quantities were exported to Rome. J. Remesal Rodriguez has calculated that 5,600,000 kgs of oil were sent to Rome each year.⁹ The development of this export was surely one of the factors responsible for regression in Italy. But this boom too came to an end. Here the end came in the third century.¹⁰ The effect on the landscape does not appear to have been as devastating as in northern Etruria and northern Campania. There seems to have been a return to arable farming organised around very large villas.¹¹

But as in Italy there was a dramatic reduction in the number of occupied sites. By the seventh century 70% of the sites known from the second century appear to have been abandoned.¹²

The reduction of exports of oil from Spain is likely to have been caused by a dramatic expansion of the export of oil from North Africa, especially modern Tunisia. There arable cultivation had over centuries been spreading from the area around Carthage to the edge of the desert.¹³ But from the 2nd century A.D. there was a striking development of the growing of olive trees for the purpose of the export of olive oil which soon reached all shores of the Western Mediterranean. This export weathered the fall of the Western Empire to a surprising extent, and it continued on a significant scale perhaps to the end of the sixth century, or even later¹⁴. The physical remains of the

⁸ M. Ponsich, *L'implantation rurale antique sur le Bas-Guadalquivir*, 3 vols. (Paris 1974–1987) and vol. 4 (1991) reviewed by S. Keay in *Journal of Roman Studies* 83 (1993), 236. K.E.Carr, *Did Roman Government Matter? The Standard of Living in the Guadalquivir valley A.D. 300-700* (PhD University of Michigan 1992), has applied Heyes' pottery dates to Ponsich's finds, and so been able to estimate the number of settlements at different dates.

⁹ J.Remesal Rodriguez, 'Baetican oil and the Roman economy, *Journal of Roman Archaeology, Suppl.* 29 (1998), 183-99; Idem, 'Politik und Landwirtschaft', in: P.Herz and G.Waldherr, eds., *Landwirtschaft im Imperium Romanum*. Pharos, Studien zur griechisch-römischen Antike 14 (St. Katharinen 2001), 235-255.

¹⁰ L.H.Curchin, *Roman Spain: Conquest and Assimilation* (London 1991), 131, fig.71.

¹¹ P. Silières, 'La péninsule ibérique', in: P.Leveau and J.P. Vallat, eds., *Campagnes de la Méditerranée romaine* (Paris 1993), 201-49; A. Padilla Monge, *La provincia romana de la Bética* (Écija 1989).

¹² K.E.Carr 1992, op.cit. (n.8), 198-200.

¹³ P.Trousset, 'Limes et frontière climatique', in: Idem, *Histoire et archéologie de l'Afrique du Nord* (Paris 1986), 55-84; P. Leveau, 'L'Afrique du Nord' in: Leveau, et al. 1993, op.cit. (n.1), 155-200; J.-L. Ballais, 'Land degradation in the Eastern Maghreb', in: G.Barker and D.Gilherson, eds., *The Archaeology of the Drylands*, (London/New York 2000), 125-136, relevant 130. J.M.Lassere, *Ubique populus, peuplement et mouvements de population dans l'Afrique romaine 146 av. J.-C. – 225 ap. J.-C.* (Paris 1977), on demographic expansion from 2nd century.

¹⁴ S.Gutiérrez Lloret, 'Eastern Spain', in: R.Hodges and W.Bowden, eds., *The Sixth Century: Production Distribution and Demand* (Leiden/Boston/ Cologne 1998), 161-183, esp.164 f., 181-183; S.T.Loseby, 'Marseille and the Pirenne thesis', *ibid.* 203-229, esp.210-214; P.Reynolds, *Trade in the Western Mediterranean A.D. 400-700. the Ceramic Evidence*, BAR International Series 604 (Oxford 1995).

economic development in Africa have been traced. The story of regression is still very obscure.¹⁵ But the fact of eventual regression, indeed of dramatic regression, is evident, as photographs of Numidia to-day will confirm. When, and in what stages, regression happened is still obscure.

We now move away from the Mediterranean to northern Gaul, that is the region of the Somme and the Rhineland. Climate and economic links are entirely different. But once more the years of the Early Empire saw dramatic development. The region around the Somme in the North East of France was covered with a dense network of villas.¹⁶ Abandonment of sites began even before the third century. It was not rapid, but there is little evidence for the occupation of any of the sites after the early fifth century.¹⁷ Written sources show that the area was not depopulated. So the totally negative impression left by field surveys is misleading. But the particular kind of development stimulated by the *pax Romana* evidently did not last.¹⁸ It depended on a particular social situation. Further north in the Rhineland the trend was identical, though its rapidity in different areas depended on factors like location and geology.¹⁹ What this shows is that the basic pattern was not a consequence of specifically Mediterranean conditions, but that it was somehow rooted in the working of Roman society.

The latest case of dramatic agricultural development under Roman rule was the great extension of settlement in to the steppe bordering the desert on the eastern frontier in what now is Syria and Jordan. This process began in the fourth century A.D., and continued to the middle of the sixth century. It began in northern Syria and gradually moved south. The development of the eastern frontier is unusual in that its historian need not depend on field

¹⁵ G. Vitelli, *Islamic Carthage: The Archaeological and Ceramic Evidence* (Tunis 1981); Y. Thébert and J.-L. Biget, 'L'Afrique après la disparition de la cité classique', in: *L'Afrique dans l'occident romain 1er siècle avant J.C.-4e siècle après J.C.* Collection de l'École Française de Rome 134 (Rome 1990), 575-602.

¹⁶ R. Agache, *La Somme pré-romaine et romaine* (Amiens 1978); Idem, 'La campagne à l'époque romaine dans les grandes plaines du nord de la France d'après les photographies aériennes', in: W. Haase and H. Temporini, *Aufstieg und Niedergang der Römischen Welt II.4* (Berlin 1975), 658-713; K. Greene, *The Archaeology of the Roman Economy* (London 1986), 116-120.

¹⁷ P. v. Ossel, *Établissements ruraux de l'antiquité tardive dans le nord de la Gaule* (Paris 1992). See also the discussion in E. Wightman, *Gallia Belgica* (London 1985), 243-266.

¹⁸ Was the Romanization of land-holding in Northern Gaul a result of the need to supply corn to the legions on the Rhine, and can the decline of the villa system be linked to the development of corn farming in the Rhineland, together with a reduction of the military importance of the Rhine relative to the Danube frontier?

¹⁹ C. Bridger, 'Die römerzeitliche Besiedlung der klempenerer Lehmplatte', *Bonner Jahrbuch* 194 (1994), 1-94, esp. graph on p.86; M. Gechter and J. Kunow, 'Zur ländlichen Besiedlung des Rheinlandes in römischer Zeit', *Bonner Jahrbuch* 186 (1986), 377-86, esp. graph p.391, based on surface finds.

surveys, but can study relatively well-preserved remains of houses and churches. Furthermore many of the buildings bear an inscription giving the date of their construction. So Tate was able to state quite conclusively that growth stopped around 450 and went into reverse around 600²⁰. In Jordan growth began later and continued until later. There reversal came after 750. As in Africa, the present state of the landscape, or rather the state not many decades ago,²¹ suggests that eventually the greater part of the area reverted to the conditions of steppe.

So much for the overall picture. An important book has recently been published on the development of Mediterranean landscape, *The Corrupting Sea* by Horden and Purcell.²² In a very general but fundamental way their conclusions are quite similar to those reached in this paper. They stress the importance of geography and climate which remained generally constant,²³ and has tended to reverse the effect of energetic human efforts to change the environment. Change in the countryside is cyclical rather than linear, a phase of what they call 'intensification' is eventually followed by a phase of 'abatement'.²⁴ This is I think a fair description of many of the developments I have discussed.

The emphasis on the importance of physical conditions, and of the instability of the physical environments in the Mediterranean, is certainly illuminating, and indeed salutary. 'Intensification' followed by 'abatement' can be observed all over the Empire in the East as well as in the West, but 'intensification' clearly did more lasting damage in Mediterranean conditions than in Gaul, and even around the Mediterranean the long-term effects of Roman intensification differed from region to region. Horden and Purcell are surely also right to warn against attempts to explain rural change by changes in the natural environment alone. Change has always been produced by a combination of natural and human factors.

²⁰ G.Tate, *Les campagnes de la Syrie du Nord, IVe au VIIe siècle* I (Paris 1992); G.R.D.King and A. Cameron, eds., *The Byzantine and Early Islamic Near East* 2: *Land Use and Settlement Patterns* (Princeton 1994).

²¹ This impression is based on field surveys. For references see my *The Decline and fall of the Roman City* (Oxford 2001), 72 n.72.

²² P.Horden and N.Purcell, *The Corrupting Sea. A Study in Mediterranean History* I (Oxford 2000).

²³ Horden and Purcell 2000, op.cit. (n. 22), 340: "The major environmental conditions of the Mediterranean have not in aggregate changed to a historically significant extent over the last four millennia".

²⁴ Horden and Purcell 2000, op.cit. (n. 22), 264: Local intensification involves its reverse, the abandonment of an initiative when it is complete or when circumstances change

But when it comes to the history of intensification and abatement in particular regions whether Northern Etruria, or Campania or Baetica, or Arabia, or wherever, the book is not very helpful. The emphasis of the book is on historical geography rather than social history. Its very considerable interest lies in discussion of topics like deforestation,²⁵ alluviation,²⁶ the relationship of pastoral and arable farming, the usefulness of scrub-land. Northern and Southern Etruria, Campagna, Baetica, Northern Syria, all provide illustrations of the factors that make for change in landscape, but the history of none of these landscapes is treated systematically. So the value of the book to the historian is to pose new questions, rather than help answer old ones, to stimulate new projects of research rather than to answer questions posed by papers such as the present one. But it must be remembered that this is only the first volume.

There is another problem. Certain ideas, almost dogmas, are repeated throughout,²⁷ which to me at least appear to be distinctly unhelpful when it comes to explaining the cyclical developments with which I am concerned in this paper. For instance Horden and Purcell do not believe that population growth was a dynamic factor for change: 'We see no exogenous variable promoting really sustained population growth'.²⁸ They consider that 'demographic determinism has little place in Mediterranean history as we see it'.²⁹ They insist that land-hunger as opposed to land-greed is not normally a very helpful category. The need to raise production to feed a growing population is considered unimportant in discussions of agrarian productivity. Failure and inadequacy are caused by war and social injustice. They quote approvingly: 'Starvation is blue-blooded'³⁰.

I think that this principle makes it distinctly more difficult to understand the development of landscapes in the Roman Empire. For it seems it is very difficult to explain the rural transformation of parts of Italy as a consequence of Roman expansion without positing the existence of population wanting

²⁵ Horden and Purcell 2000, op.cit. (n. 22), 337-8, 604-5. Early deforestation with subsequent liability to erosion in Apulia: C.Delano Smith, 'Where was the wilderness in Roman Times?' in G.Shipley and J.Salmon, eds., *Human Landscapes in Classical Antiquity* (London /New York 1996), 154-179, esp.154 f.

²⁶ Horden and Purcell 2000, op.cit. (n.22), 312-328; 602 f.: the arrival of 'the Younger Fill' was not a single event.

²⁷ I think it is not unfair to say that the authors are strongly influenced by the ideology of the contemporary ecological movement.

²⁸ Horden and Purcell 2000, op.cit. (n. 22), 267.

²⁹ Horden and Purcell 2000, op.cit. (n. 22), 268.

³⁰ Horden and Purcell 2000, op.cit. (n. 22), 267.

land. The character of the civil wars that ended the republic also suggests the pressure of population demanding land.³¹ Again the extraordinary expansion of village settlement in the Late Antique Near East is very difficult to explain without the assumption of a growing population.

Horden and Purcell again and again stress the great variety of Mediterranean ecologies: 'The distinctive texture of Mediterranean land is to be found the sub-dividedness...the continuousness of discontinuities.'³² This is an important observation, and the interrelation and mutual supplementation of micro-regions, for instance in circumstances of regional crop failure,³³ could be a profitable field of research. But change of the kind discussed in this paper affected very large areas at the same time. The growth in the number and size of villages in the eastern provinces from c. 400 to c. 550, and sometime well beyond that seems to have taken place all the way on the desert fringe from Egypt to Mesopotamia and also to have had parallels in Palestine, Cilicia and Lycia and elsewhere in Anatolia. This obviously is a phenomenon overriding the discontinuities of Mediterranean landscape.

As a model of change Horden and Purcell strongly insist on gradualism. They have no place for catastrophe. The book presents: 'An environmental history without catastrophe'. Rapid and radical transformation of whole regions, they argue, 'will be rare or non-existent. However terrible and sudden the accidents that may befall each locality, the complexity of the processes of interlocking diffuses the impact of the effect on the ensemble of thousand of definite places'.³⁴ It may indeed be rare that a natural catastrophe can be isolated as the only factor responsible for a significant change in the environment, but it surely has repeatedly been the case that a great disaster marks a historical turning point. So the coming of the bubonic plague in the mid sixth century marks a turning point in many spheres of life in the Roman East,³⁵ and the same was surely true of the Black Death in the fourteenth century in the West.³⁶ Moreover if terrible and sudden change is

³¹ See E.Lo Cascio in Bintliff and Sbonias 1999, op.cit. (n.2), 161-171

³² Horden and Purcell 2000, op.cit. (n. 22), 53.

³³ W.Jongman, 'Hunger and Power', in: A.C.V.M.Bongenaar, *Independency of Institutions and Private Entrepreneurs*, MOS Studies 2 (Istanbul 2000), 259-284, esp.276 f.

³⁴ See p.339, see also *ibid*: "Relative frequent repetition makes us want to associate ourselves with those who are reluctant to use the notion of catastrophe... We see the relationship between human communities and the environment as a relatively stable symbiosis."

³⁵ Liebeschuetz 2000, op.cit. (n. 21), 53; 391 f.; 409 f.

³⁶ J.Bolton, 'The world upside down' in M.Ormrod and P.Lindley, eds., *The Black Death in England* (Stamford 1996), 17-78.

taken to include political change, then the changes that took place in parts of Italy in the later republic and in Gaul under the early empire were surely both radical and rapid. The reversal of 'growth' in the east, from 'intensification' to 'abatement' does appear to me to have proceeded not imperceptibly, but by sharply distinguished stages, the earliest of which was signaled by the calamity of the first of a recurring series of visitations of plague, and in Northern Syria also by what turned out to be a series of devastating Persian invasions.³⁷ I would argue that the calamities of the 540s had a permanent negative effect not only along the desert fringe, but over the whole of the Late Roman East.³⁸ A second and intensified phase of abatement in Northern Syria followed the Persian invasion and occupation of Syria. Paradoxically the Arab conquest seems to have made little immediate difference, but the replacement of the Syrian Umayyad by the Abbasid dynasty seems to have led to striking acceleration of abatement in town and country in the whole area³⁹.

It would appear that the Roman empire did produce growth, the equivalent of getting two blades of grass to grow where only one had grown before. One factor that helped to make this possible, or at least should be investigated as a possible factor assisting growth, is technical innovation, or at any rate the introduction by the Romans of technical innovations to areas where they had not been previously applied.⁴⁰ Several other factors that produced agricultural development have been emerged in papers at this conference.⁴¹ However considerable uncertainty remains. For instance I know no obvious explanation for the great Late Antique boom in the East.⁴² But the successive phases of abatement are more difficult to explain than those of intensification. They clearly cannot be explained in terms of

³⁷ F.R.Trombley, 'War and society in rural Syria c.502-613A.D.', *Byzantine and Modern Greek Studies* 21 (1994), 154-129.

³⁸ For slow sustained decline of population following rapid growth to subsistence limit cf. M.Kiel, 'The Ottoman imperial registers' in J. Bintliff and K.Sbonias, eds., *Reconstructing Population Trends in Mediterranean Europe* (Oxford 1999), 196-218: disaster followed by rapid growth of population to limit of capacity, followed by long decline in central Greece A.D. 1460- 1660.

³⁹ Liebeschuetz 2000, op. cit. (n. 21), 72 f., 314.

⁴⁰ Horden and Purcell 2000, op.cit. (n. 22), 232: "The study of inventions and innovations is conceptually subsequent to relations of control and subservience which have principally shaped decisions about production in the Mediterranean and elsewhere", may well be true in a very general sense, but this does not mean that the study of agricultural innovation and its propagation are irrelevant.

⁴¹ See in this volume De Blois, Pleket and Rich (p.IX-XX), Jongman (p. 28-47), De Ligt (p. 48-66), Erdkamp (p. 93-115) and Drinkwater (p. 128-140)

⁴² Horden and Purcell 2000, op.cit. (n.22), 274 f. The argument that it represents successful representation, not economic development, is not convincing.

physical causes alone, since they occurred in regions as diverse as the Rhineland and North Africa. It seems clear that agricultural decline particularly in areas specializing in the production of olive oil and wine was furthered by competition; in Italy by the competition of Baetica, in Baetica by that of North Africa. The competitive advantage of Africa was greatly assisted by the fact that very large numbers of shippers were subsidized to carry the *annonae* from Africa to Italy to feed Rome.⁴³ No doubt transfer of armies, for instance from the Rhineland to the Balkans,⁴⁴ will have had a detrimental effect on farms that had developed to meet the legions' needs in their original location. It does however look as if there was also an inherent factor of self-destruction. By this I mean the process by which what was originally a system of small farms fell into ever fewer hands, with peasants often being replaced by slaves. The early stages of this development must have made the system more productive, but the eventual outcome at least in Etruria and Campania, and perhaps also in Tarraconensis,⁴⁵ was that arable farming or arboriculture were largely abandoned. Of course there were local factors too. I have argued that the Late Antique boom in the East was reversed by the combined effect of recurring plague and of war. It is likely that changes in the sea level contributed to the degradation of land in Northern Campania.⁴⁶ I would also suggest that we must not rule out the possibility that in lands on the margin of the desert very small changes in rainfall may have made all the difference whether land continued to be cultivated or not.

The title of this paper promises a discussion of ruined landscapes in the Roman Empire. It has I believe produced evidence for a cyclical development that eventually after centuries left some landscapes less productive than they had been before. But this does not necessarily mean that the eventual regression was the result of the landscape having been ruined by more intensive exploitation, much less that it was precisely the

⁴³ Chr. Wickham, 'Marx, Sherlock Holmes and Late Roman Commerce', in his *Land and power: studies in Italian and European social history, 400-1200* (London 1994), 77-118 = *Journal of Roman Studies* 78 (1988), 183-193.

⁴⁴ See John Drinkwater in this volume, pp. 128-140.

⁴⁵ Horden and Purcell 2000, op.cit. (n.22), 281; J. M. Recassens, *La ciudad de Tarragona II* (Barcelona, 1975), 69-85; S. Riera Mora and J. M. Palet Martinez, 'Landscape dynamics from Iberian-Roman (2nd-1st centuries B.C.) to early medieval times (12th century) in the Montjuic-El Port sector (Plain of Barcelona)', *Archeologia Medieval* 21 (1994), 517-38. See also J.M. Palet Martinez, *Estudi territorial del Pla de Barcelona* (Barcelona 1997).

⁴⁶ A. Humbert, *Campagnes andalouses et colons castillans* (Madrid 1988): deforestation of slopes, and accumulation of sediments to form vast marshy areas in former lagunes is comparatively recent.

detrimental effect of the Roman period of intensification which inflicted permanent damage. It is however worth asking the question whether in some areas there was fundamental damage of the kind that could only be reversed by the application of modern resources and modern technology, if indeed it can be reversed at all. Horden and Purcell write: 'It is important to recognize that there were indeed more deltaic plains, fewer dense woodlands, more eroded badland etc in the nineteenth century than there had been in the Bronze Age. But those aggregate changes had come about in so piecemeal a way that it is not even possible to attribute them to periods, let alone to moments, and they were mostly susceptible to reversal.'⁴⁷ This is extremely pessimistic and would suggest that there is no point in a historian trying to establish the precise circumstances of the origin of the bad lands of the Roman Empire, or to answer the further question to what extent, if any, have these bad lands of imperial Rome remained bad land ever since. But that seems excessive pessimism. In some cases intensification involved serious destruction of the environment, sometimes more sometimes less irreversible.⁴⁸ But in many cases the return to a more 'primeval' form of exploitation of the landscape will have been an adaptation to changed social conditions linked to the disappearance of the Empire.⁴⁹ Some badlands that have sometimes been believed to have been degraded by Roman misuse of the landscape only become bad as a result of modern technology. The Romans must have cut many trees in connection with their building projects, for ship-building and for fuel, but they also were aware of the need to plant and conserve forests for coppicing.⁵⁰ It is well established that railways and other modern modes of transport have greatly accelerated deforestation

⁴⁷ Horden and Purcell 2000, op.cit. (n.22), 339.

⁴⁸ Agriculture caused degradation to some extent in the Maghreb (see J.-L. Ballais, 'Land degradation in the Eastern Maghreb', in G.Barker and D.Gilberson, eds., *The archaeology of the Drylands* [London/New York 2000], 125-136, relevant 130 f.), and very considerably as the result of a combination of arable-caused erosion and heavy metal mining in the Wadi Faynan (see G.Barker, 'Farmers, herders and miners in the Wadi Faynan, Southern Jordan', *ibid.* 63-85), but not in the Negev (see S.A. Rosen, 'The decline of desert agriculture: a view from the classical period Negev', *ibid.* 45-62), or in Tripolitania (see D.Gilbertson, C.Hunt and G. Gillmore, 'Romano-Lybian floodwater farming', *ibid.* 137-159).

⁴⁹ R.-B. Hitchner, 'The Kasserine archaeological survey', *Antiquités africaines* 24 (1988), 7-41; 26 (1990), 231-260: expansion following Roman control involves the becoming sedentary of nomads. At the end of the fifth and early 6th century A.D. the decline of the Roman system stimulated a retreat from corn and arboriculture. The yielding of olive to palm represents a choice of inhabitants as production of agriculture became less attractive.

⁵⁰ Roman landowners planted trees for coppicing, feeding pigs, timber and amenity: R.Meiggs, *Trees and Timber in the Ancient Mediterranean World* (Oxford 1982), 261-278. In all classical literature Meiggs has only found one complaint at over-felling: Sidonius 5.441-4.

around the Mediterranean.⁵¹ There have been episodes of reforestation as well as of deforestation since Roman times.⁵² The fact is that for much of the Roman Empire the landscape history is still very obscure. We are still at an early stage in this investigation.

Nottingham, July 2001

⁵¹ Meiggs 1982, op.cit. (n. 50), 371-403. On Spain see Humbert 1988, op.cit. (n. 46): deforestation of slopes, and accumulation of sediments to form vast marshy areas in former lagunes is comparatively recent.

⁵² Cycles of deforestation and reforestation: P. Hemphill, 'Deforestation and reforestation in a central Italian hinterland; land usage during and after the Roman occupation' in R.F.J Jones, ed., *First Millennium Papers: Western Europe in the first Millennium AD*, BAR International Series 401 (Oxford 1988), 147-158. See also the titles in Chr. Wickham, *Land and power : studies in Italian and European social history, 400-1200* (London 1994), 184 n.61.

ECONOMIC COLLAPSE IN THE COUNTRYSIDE AND THE
CONSEQUENT TRANSFORMATION OF CITY INTO FORTRESS IN
LATE ANTIQUITY

By
ANDREW G. POULTER

General evaluations of historical or archaeological evidence, such as the title of this contribution, are unlikely to apply to all parts of the Roman Empire. Not that this is in any way surprising; the various economic factors, affecting different parts of the Empire, were a response to internal opportunities or problems and external threats, more vital to local interests than changes in policy formulated in Rome. Nor was the situation ever static; fluctuating levels of economic activity could radically change over time, affecting provinces to different degrees and even in very different ways.¹ True, there were changes in government which did affect life in the provinces, but even these had both positive and negative impacts, depending upon local circumstances.² There is no alternative but to see the empire, not as a single entity, but as the sum total of its constituent parts, not a collection of provinces all benefiting or suffering equally from developments emanating from the centre; no one region can be taken to exemplify general trends, even if the variety of research methods employed could be considered of equal validity.³

¹ Roman Britain is a case in point. Overall, it has been argued that there was a down-turn in inter-provincial trade in the Late Roman period, especially in the north-western provinces, and that it can be detected in the British archaeological record; M. Fulford, 'Britain and the Roman Empire; the evidence for regional and long distance trade,' in R.F.J. Jones, ed., *Roman Britain: Recent Trends* (Sheffield 1991), 35-47. For reservations about the validity of extrapolation from a meagre database, see A. G. Poulter, *Nicopolis ad Istrum, a Roman to early Byzantine City; the Glass and the Pottery* (London 1999), 28-30. Even if economic links with other parts of the empire had declined, it is clear that Britain in the 4th century experienced its greatest period of prosperity; cities were undiminished in size, unlike the small citadels, then typical of the formerly rich provinces of Gaul. No doubt one of the major causes of disruption on the continent had been the barbarian invasions of the 3rd century, a catastrophe which had little effect on Britain, largely protected from invasion by the sea.

² See, for example, the changes in the status of towns and, consequently, changes in their economic status following the reforms of Diocletian; A.G. Poulter, 'The use and abuse of urbanism in the Danubian provinces during the Later Roman Empire', in J.Rich, ed., *The City in Late Antiquity* (London/ New York 1992), 99-135.

³ For a review of regional surveys across the Roman Empire and their results, see W. Liebeschuetz in this volume. The research strategies adopted in different parts of the former Roman Empire differ markedly in their aims and their results, a factor complicated by variations in the quality of the methodology adopted. Despite rapid development in intensive survey over the last decade, even broad issues of significance are often less clear-cut than published conclusions so often imply.

This may seem to represent an insurmountable obstacle in reconstructing the ever-changing pattern of economic conditions within the Roman Empire, but it does still allow – even encourages – the development of new ways to circumvent the problem, while still adhering to the principal aims of such an enquiry; identifying the processes at work and, if at all possible, discovering and quantifying the relative importance of human and possibly environmental factors. Self-evidently, the approach must be to construct regional strategies for archaeological research. These should provide the tools for tackling the key issues and identifying the effects of such changes on the inhabitants of the Empire. Although, of course, in archaeology, it is the effects which are recognised and from which the archaeologist backtracks to seek the most plausible cause. Simply embarking on field survey or excavation will not do. What is needed is the formulation of appropriate methods, not ones simply applied at random.⁴ All fieldwork is selective in its application, and involves making compromises for purely practical reasons: lack of time or financial support being the most common. There are other difficulties along the way. Inevitably, the execution of such an enquiry is never straightforward. Solving one problem raises another, which may have to be tackled with a different methodology. This secondary stage can confirm or undermine earlier conclusions, but, at least, shifting focus and approaching the research aims from a different direction will enrich the breadth of the enquiry, providing new archaeological data, consolidating advances already made. The following paper describes one such regional programme, its method of application, its change in direction, and its provisional, tentative conclusions.

The region under consideration is the lower Danube, and, in particular, the central part of the north Bulgaria plain which broadly extends from the Balkan mountains north to the banks of the Danube (Figure 1).

From Roman city to early Byzantine Fortress

The primary aim of the first programme of research (1985-1992) was to examine a Late Roman and early Byzantine city, to discover whether, in both its physical form and economic base, it survived as late as the 6th century A.D. Nicopolis ad Istrum proved to be an ideal type-site for study. The Roman city lies in open country, largely unaffected by post-Roman activity, except where stone-robbing in the 18th to early 19th centuries has

⁴ See D. Mattingly, 'Methods of collection, recording and quantification', in R. Francovich & H. Paterson, eds., *Extracting Meaning from ploughsoil assemblages* (Oxford 2000), 5-15, especially p.5.

systematically removed the walls of buildings, especially away from the *agora* where monumental structures, built from large masonry blocks, have survived remarkably well. Using the excavated remains and aerial photographs, which reveal the full extent of robbing, it proved possible to reconstruct the layout of the town as it existed in the Late Roman period, that is the 4th to early 5th century A.D. (Figure 2).⁵ However, the British excavations were carried out within the so-called 'annexe', a fortified enclosure of 5.6 ha, attached to the southern curtain-wall of the town and which, since it seemed to postdate the Roman city, was presumed to be the site of the Late Roman fortifications, commanding a strongly defensive position above the river Rositsa (Figure 3). As excavations proved, the Roman city was destroyed and abandoned towards the middle of the 5th century, almost certainly following its sack by the Huns of Attila.⁶ The construction of the subsequent fortifications occurred at some point during the latter half of the 5th century, possibly as early as the reign of Marcian, and continued in use until its final destruction in the late 6th century. There is no doubt but that the new fortification contained the early Byzantine city and, as anticipated, a geophysical survey of the interior, combined with selective excavation, provided a remarkably detailed reconstruction of a 'city' on the lower Danube in the age of Justinian (Figure 3). In physical appearance, the new foundation bore not the slightest resemblance to the regularly planned Roman city which it replaced. There was no regular network of paved streets. There were no public buildings surrounding a central *agora*, but there was a line of massive buildings with deep foundations of earth and stone, probably store-buildings, perhaps also serving as barracks, while the primary focus of the city was a Christian *basilica*, presumably the Episcopal *basilica*, prominently located at the highest point within the defences. There was a second, smaller church on the south-east side and some signs of buildings in the south-western quarter. Along the northern curtain, there were additional structures but no sign of intensive occupation. At the centre of the city, there was an open-ended pair of buildings, perhaps workshops, standing in isolation. Most surprising was the apparent absence of people; large areas of the interior remained

⁵ A.G. Poulter, 'Town and country in Moesia Inferior', in Idem, ed., *Ancient Bulgaria: the Proceedings of the International Conference on the Archaeology and Ancient History of Bulgaria*, University of Nottingham (Nottingham 1983), 74-118.

⁶ A.G. Poulter, *Nicopolis ad Istrum, a Roman, Late Roman and early Byzantine city* (London 1995), 34 f.

apparently unoccupied.⁷ In essence, the early Byzantine city functioned as a military and ecclesiastical stronghold. Indeed, the best evidence for civilian settlement in the 6th century comes from outside the new fortifications and from the ruins of the Roman city to the north.

The reconstruction of the early Byzantine city's physical appearance was not the only aim of the excavations. A central element in the research was the development of large-scale environmental and ceramic programmes, designed to explore the economic character of the city. The task proved the more successful because, beneath the early Byzantine levels, excavation uncovered substantial remains of buildings, dating to the earliest years after the city's foundation at the beginning of the second century, a suburban development with large town houses in the Severan period, and then an extensive extramural settlement of the 4th century.⁸ Consequently, the analysis could follow the changing economic character of the city from its origins down to the early Byzantine period. From the very earliest years, the city rapidly developed a full Roman economy, exploiting its rich agricultural hinterland; cereals, notably bread wheat, barley and rye, as well as mutton, pork and beef reached the city in quantity. Local industries, for example fine ware pottery, supplied all local needs and represented a profitable export whereas imports were few and those attested early in the second century, such as lamps, were rapidly replaced by local products. The city would seem to have remained largely reliant upon its own resources, achieving its peak of prosperity under the Severi. As late as the 4th century, Nicopolis' agricultural economy would seem to have provided for most of its needs. The picture changes, however, after the abandonment of the Roman city and the construction of the early Byzantine defences. During the 6th century there appears to have been much less reliance upon large-scale grain cultivation; the dominant crop was spring-sown millet, supplemented by pulses (bitter vetch, lentil and field bean). It seems that the city no longer relied upon the exploitation of its territory but developed 'market garden' cultivation, perhaps relying, to a significant degree, upon food grown within or immediately outside the fortifications. Imports of *amphorae* from the Aegean and North Africa increased and the limited quantities of fine ware in use were not local products, but were imported from Africa and Cyprus.

⁷ In addition to resistivity surveying, a magnetometer survey of blank areas, notably on the north-eastern part of the site, failed to discover other structures. See P. Strange in Poulter 1995, op.cit. (n.6), 259-262.

⁸ The ceramic report has been published by R.K. Falkner and the glass by J.D. Shepherd in Poulter 1999, op.cit. (n 1). This also contains a discussion of the changes in the economic character of the city.

It would be fair to suppose that the dramatic change in the economy of the city was connected with the city's new appearance and, no doubt too, with its new function. But without comparable research available from other cities across the Eastern Roman Empire, it remains uncertain whether Nicopolis represented a new kind of city, typical of the early Byzantine period, perhaps a product of imperial policy, or whether its condition in the 6th century was precipitated by an economic collapse on the Lower Danube and was a regional phenomenon, not shared by other parts of the empire.⁹ There is reason to believe that other early Byzantine cities in the region, notably Justiniana Prima (Tsarichin-Grad) and Tropaeum Traiani, shared similar features with Nicopolis and none bore more than a superficial similarity with urban centres of the early Roman Empire.¹⁰ A new starting point for attempting to understand what happened at Nicopolis is the countryside, the city's rich agricultural territory, clearly the basis of its wealth until the early 5th century and from which, in the early Byzantine period, it would seem to have been inexplicably divorced.

The second archaeological programme was created to explore the economic development of Nicopolis' hinterland from the 4th to 6th centuries, particularly examining agricultural productivity and practice, data which could be compared with the environmental evidence from the city itself. This new direction comprised two elements. One was a large-scale excavation of a fortified settlement to the west of the ancient city. The other was field-survey, directed towards establishing whether there had been a significant dislocation in the settlement pattern which could account for the collapse of the urban economy. The method was, not to examine the landscape as such, but to concentrate upon the upper levels in the settlement hierarchy, especially the villa estates. As with all cities of the Roman Empire, the support of urban government and the maintenance of urban structures were in the hands of the local elite, whose wealth was derived from the agricultural exploitation of the city's territory. In the case of Nicopolis, the urban plan suggests that, by the 4th century, this urban aristocracy included only a small group of wealthy families; away from the administrative centre of the city, outer *insulae* were occupied by large town houses, perhaps only

⁹ For a survey of our current knowledge of Late Roman cities see L. Lavan, 'The late-antique city: a bibliographical essay,' *Recent Research in Late-antique Urbanism*. Journal of Roman Archaeology Supplementary Series 42 (Portsmouth RI 2001), 9-26.

¹⁰ A. G. Poulter, 'The use and abuse of urbanism in the Danubian provinces during the Later Roman Empire', in J. Rich, ed., *The city in Late Antiquity* (London/ New York 1992), 99-135.

some twenty or so in total (Figure 2).¹¹ Any disruption to the economic position of the urban elite, reflected in an abandonment of villas in its territory, would inevitably impact upon the city of Nicopolis and would threaten its survival. If, on the contrary, survey demonstrated no disturbance to the social structure of landholding occurred even as late as the 6th century and the excavations found no evidence for radical change in the agricultural economy, the case for a regional explanation for the decline of the Late Roman city would then be an improbable explanation.

The fort of Dichin: a garrison in the countryside

The 'type site' chosen for excavation, was a fortified settlement on the south bank of the river Rositsa, close to the modern village of Dichin and 10km west of the Nicopolis.¹² Excavations commenced in 1996 and were completed with a final season in 2001. Currently, post-excavation is under way in preparation for final publication and the presentation of the combined results of the work at Dichin and Nicopolis at an international symposium will be held at the British Academy in May 2003.

Just as at Nicopolis, the walls of the buildings of this Late Roman site had been robbed during the late 18th or early 19th century and structures were visible on the surface as partly silted robber-trenches. Consequently, by carrying out a detailed survey of the hill-top it was possible to produce a general plan of the site as it must have appeared during the latest period of occupation (Figure 4). Fortunately, excavation established that the general state of preservation within buildings was excellent, even where the walls had been completely removed. The intention had been to excavate an ordinary village, dating to the 4th to 6th century A.D. Although the site

¹¹ For discussion of the urban plan, see A.G. Poulter, 'Nicopolis ad Istrum: the Anatomy of a Graeco-Roman City', in H.-J. Schalles, H. von Hesberg & P. Zanker, eds., *Die Römische Stadt im 2. Jahrhundert n. Chr. Der Funktionswandel des öffentlichen Raumes. Kolloquium in Xanten vom 2. bis 4. Mai 1990, veranstaltet durch das Archäologische Park, das Regionalmuseum Xanten, das Archäologische Institut der Universität zu Köln und die Bayerische Akademie der Wissenschaften - Kommission zur Erforschung des antiken Städtesens* (Köln/Bonn 1992), 69-86. Of course, it is quite possible that some members of the elite lived on their estates and did not own houses in the town. Even so, it is notable that hypocausts in the surrounding villas are rarely found in the main residence. This suggests, given the harsh cold winters in Bulgaria, that many of the villa owners in the winter moved to the city, where hypocaust heating was provided for public as well as private buildings.

¹² A.G. Poulter, 'The transition to Late Antiquity on the lower Danube: an interim report', *The Antiquaries Journal* 79 (1999), 145-185. See also A.G. Poulter, 'The Roman to Byzantine transition in the Balkans: preliminary results on Nicopolis and its hinterland,' *Journal of Roman Archaeology* 13 (1999), 347-358.

proved to be of the right date, it was soon clear that this was no ordinary civilian settlement. Its finely built defences included massive, rectangular and circular towers along the main curtain-wall, strengthened by a secondary outwork (*proteichisma*), an unusual provision normally restricted to large and important urban centres. Moreover, the regular arrangement of the buildings and then the discovery of weapons and shields proved that Dichin had been a fort, containing a military garrison, at least during its first period of occupation which commenced soon after A.D. 400 and which ended in destruction during the third quarter of the 5th century. There followed a short period of abandonment during which dogs scavenged amongst the ruins and gnawed at the bones of corpses. Following an extensive levelling of the period 1 buildings, the fort was reoccupied and remained in use until a second destruction, towards the end of the 6th century, after which the site was never reoccupied. The first of these two periods is of particular relevance to the theme of this paper. Although military finds prove that the fortification had been occupied by soldiers, the period 1 destruction level also contained more than 30 scythes, a plough and other agricultural tools which suggests that the occupants were also engaged in agriculture. The identity of these soldier/farmers is of singular interest. In the case of the fort of Iatrus (Krivina) on the Danube (Figure 1), it has been argued that, by the late 4th century, it was occupied by an irregular garrison of Gothic troops.¹³ At the time Dichin was destroyed, in the reign of Leo (457-474) or shortly thereafter, the lower Danube was only nominally under Byzantine control and a Gothic garrison of *foederati*, owing allegiance to a Gothic overlord, is more likely to have been based there than regular Roman troops.¹⁴ Whether there was already a Gothic garrison there from the outset, that is c. 400, is an intriguing question. At Iatrus, the Roman military character of the fort had existed during the first half of the 4th century and was only abandoned after 350. At Dichin the layout of the fort's internal buildings, with only a passing concession to some regularity in planning, and their crude construction is evident from the start. There were changes in detail, but no major reorganisation of the internal plan, at least until after the end of period 1.¹⁵

¹³ G von Bulow in *Iatrus-Krivina, spätantike Befestung und fruhmittelalterliche Siedlung an der unteren Donau* (Berlin 1995), 29-53. Notable, is the appearance of store-buildings and 'granaries' of an unusual construction but exactly paralleled in finds from Dichin; see following, note 16.

¹⁴ For Gothic suzerainty over the Lower Danube, see below, p.257-259.

¹⁵ A large, imposing building, partly built from mortared masonry, occupies a prominent position at the end of the main internal road, leading west from the main gate at Dichin. Its location corresponds well with the site of the *principia* at Iatrus. However, whatever the original function envisaged for this partly mortar bonded building, its east end was completed with stone bonded with earth, and it was

With no obvious break in the character of occupation, it seems likely that the fort contained an irregular force from the beginning.

Another important problem is to discover what role the fort performed and how its presence affected the countryside in which it lay. The existence of such a fort on the south bank of the river is totally unexpected; Dichin does not seem to have occupied a strategic position: the closest Roman road passes beyond the river to the north as it heads west from the city of Nicopolis. The fort does, however, command a broad sweep of land along the middle reaches of the Rositsa, amongst the most fertile parts of Nicopolis' extensive territory. In each of the excavation areas, the destruction deposits, which marked the end of period 1, contained substantial quantities of cereals in granaries with raised floors. These were intended for the storage of substantial amounts of grain and some imported goods, including *amphorae* and small quantities of fine ware pottery (Figure 5). As a stores-base, acting as a collection point for agricultural supplies, food could have been shipped down the Rositsa and then north to the Danube where the fort of Iatrus was equipped with similar storage facilities.¹⁶ This fort could have performed a similar role to Dichin, acting as a supply base, collecting produce from the lower Yantra valley. From here, agricultural goods could have been transferred to larger vessels for delivery to military garrisons along the Danubian frontier. Preliminary analysis of the carbonized grain from the period 1 destruction level included a wide variety of produce; emmer wheat, oats and barley as well as millet, rye, Celtic beans, bitter vetch, lentils and pea. Mutton and pork were eaten and, as at Nicopolis, wild animals were hunted (including deer, boar, hare and wild bovines), but apparently not in sufficient quantities to suggest that they formed a significant element in the inhabitants' diet.¹⁷ As yet, from the wide range of no doubt locally grown foodstuffs identified, there is no sign at Dichin that there had been a major change in the types of agricultural produce being grown since the 4th century. Until further analysis of the finds from the second destruction level can be carried out, it is not yet possible to say

used from the beginning as a granary. There is no reason to believe that Dichin ever possessed a late Roman headquarters building, nor separate residence for the commander of the garrison.

¹⁶ For a reinterpretation of some buildings at Iatrus as granaries, of identical build to those at Dichin, see A.G. Poulter, 'Gradishte near Dichin: a new Late Roman fortress on the lower Danube', in G. von Bülow & A. Milcheva, eds., *Der Limes an der unteren Donau von Diokletian bis Heraklius* (Sofia 1999), 207 – 227.

¹⁷ On the archaeobotanical results see P. Grinter and A. Avery on the archaeozoological analysis; Poulter 1999, op.cit. (n.1), 176 f.

whether there was any difference between agricultural production in the late 5th and the late 6th century.

The rural landscape; villas and villages

Since the 1980's, as part of a national Bulgarian initiative for mapping all archaeological sites in the country, systematic survey has been conducted within Veliko Turnovo county, an area of c. 2000 square kilometres (Figure 1). To date, 268 Roman and Late Roman sites have been registered.¹⁸ Impressive though the total is, because the work was not carried out by extensive survey, it is probable that most of the sites identified belong to the upper levels in the settlement hierarchy, that is villas or villages, whereas the humbler hamlets or isolated farmsteads are likely to have escaped detection. Our research, over the first three field seasons (1999 - 2001), on 16 of these sites suggests that this is indeed the case.¹⁹ However, as described above, the survey concentrates on villa sites, with the aim of discovering whether the wealthy land-owning class survived into the early Byzantine period. So it has proved acceptable to limit our attention to the catalogue of identified sites. That is not to say that an intensive survey, identifying all types of settlement, would not be worthwhile. Such a programme would provide a fuller understanding of all settlement types and may identify broad changes over time, but that would have required a very different programme. The site-specific surveys, directed towards the villas, was sufficient for our more restricted purpose.²⁰ In practice, the survey included two distinct aspects. Clearly, it would be impossible to attempt examining all, or even a large proportion, of the registered settlements. The number that can be surveyed over a five-year cycle, the limit of our programme, is unlikely to exceed 30 in total.²¹ Consequently, the method adopted was to select one group of sites from as widely separate parts of the region as possible, with the hope that this might reveal any variations in the character of settlement and, on the other hand, to concentrate on one restricted area, to provide more complete

¹⁸ The research has been carried out primarily by Mr Ivan Tsurov of the Historical Museum, Veliko Turnovo.

¹⁹ All but one of the sites so far surveyed can be safely identified as villas. The exception is probably an industrial centre, close to the banks of the Yantra river.

²⁰ Using existing sites also had the advantage that the invaluable knowledge of Mr Ivan Tsurov, the regional field officer who had identified them, ensured that these major settlements could be located immediately. For further comment on the limitations of the approach we adopted see the conclusion.

²¹ A complication is agricultural land-use. Even for the smaller sites, not all fields are available for survey in the same season. This regularly involved returning to sites in subsequent years in order to complete the survey.

coverage. The Rositsa valley was the obvious choice for intensive treatment, partly because it had proved unusually productive in sites, but also because the results could be directly compared with the excavations underway at Dichin.

A new method was developed to undertake this programme of site-specific survey. The objectives were ambitious; to discover what kind of site was being investigated (whether temple, villa or village), to date its period of occupation, and to define its full extent within the immediate landscape, including the distribution and number of other associated buildings within a 1km radius of the primary centre. For a rich agricultural region which has been intensively farmed, this might seem an unrealistic expectation. However, during a survey, combining intensive pickup and geophysics in an equally rich agricultural region in north-eastern Greece (the Pieria), it had proved possible to discover, explore and date a previously unknown, major early Byzantine fortification.²² Although the method adopted in Greece relied heavily upon total pickup within transects, it was clear that building materials and even pottery had moved hardly at all since Antiquity and had not been dispersed, despite recent deep ploughing and intensive cultivation over the last two thousand years. It was also a surprise to discover that 'click-surveys', recording the spread of surface material, were remarkably successful in identifying quite subtle changes in the density of surface finds.

In Bulgaria, the major improvement in methodology involved the adaptation of the standard 'click survey,' using units of 5 x 25m, to quantify the density of all surface finds (building stone, brick/tile and pottery) across the landscape, plotting out the results using a GIS programme. This proved remarkably successful in surveying extensive tracts of land around sites, regularly across fields up to one kilometre in length, isolating 'hot spots', where surface debris of Roman date was found.²³. Resistivity surveys established that the concentrations of finds directly overlay buildings. Occasionally, the outline of buildings and associated courtyards were still visible on the freshly ploughed fields. From the pottery, the 'hot spots' could be confidently identified as Roman and the examination of the material on the surface can be used to differentiate between structures of different construction and status, as in the use of mortared or dry-stone walls, the use or absence of brick and tile. Only when all buildings have been identified,

²² Poulter, A G., 'Field survey at Louloudies: a new late Roman fortification in Pieria', *Annual of the British School at Athens* 9 (1998), 463-511.

²³ The detailed description of the methodology is currently being written up for publication. It will be offered to *The Journal of Field Archaeology*.

was pottery picked up, never at random from the site as a whole, but always from individual buildings or complexes of associated structures, located by the click survey. This allows each building to be treated as a distinct element in the landscape; its building type ascertained and estimates made as to function and date. The close study and quantification of pottery was possible because the region's ceramic sequence of local fine and coarse wares has been established by the excavations at Nicopolis.²⁴

One unexpected result of the surveys carried out so far is that none of the settlements have proved to be villages: all but one of the sites (a small industrial centre on the banks of the Yanta) were villas. This is surprising since villages are quite commonly attested in Roman inscriptions in Lower Moesia and Thrace, three of which are known to have existed within Nicopolis' territory.²⁵

Of particular interest is the evidence for the social organisation of the villa estates. For villas in the northern half of the city's territory, estates were much more than simply isolated farmsteads with ancillary agricultural buildings. At Mramora, near the village of Gorna Lipnitsa, 20km north-west of Nicopolis, a resistivity survey, carried out over the greatest surface concentration of fine-ware pottery and building materials, located the clear outline of a Roman villa, a peristyle court, surrounded by rooms on all four sides, with an ancillary range of buildings running west/east either side of a large central courtyard (Figures 6 and 7). A very large, circular anomaly, 30m in diameter, to the south-east, may well have been a funerary monument. However, the high concentrations of brick, stone and pottery in the large field to the west of the main villa indicated the presence of other buildings, one of which can be confidently identified as the building complex, seen as a surface feature, 25 years ago. (Figure 7) The outline of another compound was still visible during survey in 2000. All the buildings produced fine and course ware in similar proportions to that recovered during pick-up over the site of the main villa, suggesting that each of these newly identified structures were houses, not outbuildings. Like the main villa, all produced examples of the earliest pottery found at Nicopolis, which must mean that they were in use from the very early 2nd century. Moreover, a line of Roman *tumuli*, almost obliterated by ploughing, was noted just

²⁴ Poulter 1999, op. cit (n.1).

²⁵ A.G. Poulter, 'Rural communities (*vici* and *komai*) and their role in the organization of the limes of Moesia Inferior,' in W.S. Hanson & L.J.F. Keppie, eds., *Roman Frontier Studies 1979: papers presented to the 12th international congress of Roman frontier studies*. B.A.R. International Series 71 (Oxford 1980) Part III, 729-744.

beyond the most southerly extent of this settlement. No doubt it was the cemetery used by the community which lived there in the 2nd to perhaps early 4th century A.D. To the east of the villa and to the south, further buildings were identified. Here, for the first time in 2001, brick, stone and pottery were recorded separately and not together (as had been the case in the western half of the site, surveying in 2000). This meant that it was possible to pick out, apart from the villa site itself, two more 'high status' buildings, using tile/brick, possibly one of which was a bath-building, as well as simple outbuildings made of limestone and earth walls, and probably thatched, with virtually no associated pottery.

Mramora would seem to have not just been a villa but to have had an extensive settlement of houses, at least two of which had south-facing courtyards, no doubt for private stock and gardens, presumably representing the homes of estate workers. Although 180 kg. of pottery from this site has been recorded and quantified, the full analysis has still to be carried out. Even so, it is already apparent that neither the villa, nor the associated settlement, survived beyond the end of the 4th century.

Not all villas had associated communities. Along the middle reaches of the Rositsa, in the sub-region where an attempt has been made to survey as many sites as possible, villas have been found on either side of the river valley, regularly spaced, about 2.5km apart. Four have proved to be villas but, in each case, survey has found very few outbuildings, none of which appear to have been used for domestic accommodation. Lesicheri I is a good example. Here, a well-known landmark is a standing Roman column and a very large *tumulus*, associated with a temple of the Thracian horseman. Although, before survey, it seemed that this may have been a shrine and associated village, this proved not to be the case. The main villa, visible as a surface concentration, was examined by geophysics. It turned out to have been a particularly clear example of the peristyle type with a small courtyard which contained an ancillary building. But the only other structures in the vicinity were three outbuildings, built of limestone blocks and bonded with earth, none of which produced much pottery.

The landscape, even at the upper levels within the settlement hierarchy, would seem to differ in character from one part of the city's territory to another. The Rositsa valley appears to be an ordered landscape, with its regularly spaced villas, consisting of single villa farmsteads, each with similar sized parcels of land running from the watershed at the top of the valley down to the river. So regular would seem to be the pattern that it

suggests that it was imposed, perhaps by a redistribution of land when the city was first founded.²⁶ Further north, as at Mramora, the pattern is different and the more widely spaced, large estates with dependant villages, which may prove to be the norm, points to a very different economic and social origin. Although Roman and Greek names dominate in the inscriptions in the central and western part of the city's territory, further away, towards the periphery of Nicopolis' lands, native names are in the majority.²⁷ Just possibly, the larger, more remote farms were occupied by native Thracians and the associated communities are, not just estate workers, but communities which had been dependant upon the local landowners in the pre-Roman period and who maintained their loyalty – or their dependence – into the 2nd century A.D.

The absence, so far, of any villages (*vici* and *komai*), known to have existed around Nicopolis, is still puzzling, unless the nucleus of houses, such as that around the villa at Mramora, is the kind of settlement to which the inscriptions refer. Villages on villa estates are attested epigraphically in North Africa and, on the Lower Danube, some *vici* are named after individuals, perhaps the owners of the land upon which the villages were established.²⁸ What is certainly a consistent feature of all the sites so far surveyed is that none have produced pottery later than the 4th century; and none were therefore occupied when the fort at Dichin was built.²⁹

The disappearance of the villa economy and its impact on the city

Much more needs to be learnt about the settlement pattern and the changes it underwent in the Late Roman period. What happened to the smaller communities and isolated native farmsteads remains unknown and the site-specific survey programme, though useful for the purpose it was designed for, can provide no answer to this important question. During the course of the 5th and 6th centuries, numerous hill-top sites, defended by primitive but

²⁶ The early population of the city is dominated by immigrants, primarily Greeks from Asia Minor. Also, the remarkably rapid development of a full Roman agricultural and industrial economy within the first few years after the city was created, along with the almost total absence of native Thracian pottery, suggests that Nicopolis was largely occupied by new settlers, perhaps attracted by the offer of free land; Poulter 1995, op.cit. (n.6), 22-25.

²⁷ Poulter 1992, op.cit. (n.11), 81 and fig. 53.

²⁸ For example, the vicus Celeris, vicus Secundini, vicus Quintionis, vicus Narcissiani, all in the central Dobrogea, close to the Black Sea coast. See above, Poulter 1980, op.cit (n.25) and A.G. Poulter, 'Townships and villages,' in J. Wacher, ed., *The Roman World* (London 1987), 388-411.

²⁹ The distinctive grey wares, dominate the assemblage from Dichin. The fine red wares were no longer available. On the implications for the economy and further discussion on the date of Dichin's foundation, see following, p.258-259.

stout defences, were in use, no doubt to protect the native population, perhaps also newcomers.³⁰ Some, like Golemanovo Kale, to the west of Nicopolis, appear to have been permanent settlements and the neighbouring site of Sardovsko Kale, from its regular arrangement of identical 'houses', might have contained a garrison.³¹ Others may have been temporary refuges for agricultural workers who continued to live on lowland sites. Until intensive survey has proved whether or not there was a total abandonment of lowland settlements, the wider picture remains incomplete.

What is, however, becoming increasingly clear, not just for the lands around Nicopolis but for the whole of the north Bulgarian Plain, is that there was a general abandonment of Roman villas during the Late Roman Period. Quite precisely when remains to be determined but a date in the last quarter of the century would fit with the available evidence.³² The period provides an obvious context. The arrival of the Gothic Tervingi, settled in Thrace by Valens in 376, may not have involved an immediate and general change in the character of land-holding. But the subsequent rebellion and the turmoil which followed the destruction of the Roman army and the emperor's death in the Battle of Adrianople, must have resulted in widespread disruption. Still more seriously, in the long term, the treaty, forced on Theodosius in 382, involved the granting of Roman land to the Goths and left them in effective control over their own affairs.³³ Horrified by the consequences of the Gothic Revolt, the citizens of Nicopolis probably resisted, taking up arms against Goths settled in their territory, incurring thereby Theodosius' anger.³⁴ Resistance proved futile and the villas were abandoned. No doubt those who could do so migrated south, leaving those who did not impoverished, without the financial means to sustain the city's administration or maintain civic amenities. With the demise of the land-owning class, the city could not survive for long. The final catastrophe came with the arrival of the Huns. After the restoration of imperial authority, which was not fully realised until late in the 5th century, there was no attempt to revive the villa system. Deprived of its agricultural base, the city, in its traditional form, was dead. Consequently, the '*polis*' of the 6th century had to

³⁰ Poulter 1983, op.cit. (n.5), 97-100.

³¹ See S. Uenzl, *Die spätantiken Befestigungen von Sadovec (Bulgarien)* (Munich 1992).

³² Coin finds from excavated villa sites in the north Bulgarian plain suggest that villas do not continue into the 5th but did survive into the later 4th century; V. Dinchev, *Rimskite vili vuv dneshnata bulgarska teritoriya*, (Sofia 1997).

³³ P.J. Heather, *Goths and Romans 332-489* (Oxford 1991), 158-165.

³⁴ Poulter 1995, op.cit. (n.6), 16.

be maintained by imperial authority and was no longer dependant upon its former territory.

As argued above, the fort of Dichin was established c. 400, possibly from the outset garrisoned by irregular troops, perhaps Goths, who farmed the surrounding lands. It acted as a collection point for agricultural produce, at least down to its first destruction in the late 5th century. Very soon after the disappearance of the villas, the valley of the Rositsa had come under direct military control. The situation elsewhere on the lower Danube is less clear but other forts existed in the interior and may well have played a similar role. To the west, at Montana (Mihailovgrad), a strongly fortified hill-top site continued to be used during the 5th and 6th centuries, after the abandonment of large villas which existed in the vicinity down to the end of the 4th century. Like Dichin, it had a *proteichisma* to protect its single gate and granaries, as well as barracks.³⁵ To the east, there is another fort at Madara, notable for its associated cave, used to store grain in massive *dolia*.³⁶ The city, for three hundred years, had played its role as a market and distribution centre for agricultural products, supplying in kind or in coin the frontier garrisons. It would seem likely that the collapse of the villa economy - and with it the demise of the city - precipitated the militarisation of the countryside and the new role for forts like Dichin, ensuring the supply of the Danubian frontier. The change is also reflected clearly in the pottery. At Dichin none of the fine, high quality red wares, so popular in the 2nd to 3rd centuries at Nicopolis and on villa sites, has been found. There is no reason to suppose that the occupants of the fort would not have appreciated such tableware if it was still available. Production must have ceased because the market for such luxury items no longer existed. Instead, the functional grey wares dominate the fort's assemblage, the only exception being rare fine ware imports from abroad.

No explanation is more than an association of contemporary, or near contemporary events, and the reasonable, if improvable, presumption that the one leads inevitably to the other. New evidence may revise this sequence of events or suggest other interpretations. But, for the moment, a link between the collapse of the villa system, the radical new role of the city as an

³⁵ L. Ognenova-Marinova, *et al.*, *Montana* (Sofia 1987). The regularly spaced bases, recorded by the excavator, G. Aleksandrov, in several of the rooms, represent the supports for raised wooden floors of granaries as described above for Dichin.

³⁶ I. Velkov, 'Razkopki v Madara (1924-1928)', *Sbornik Madara, Razkopki I proouchvaniya*, Sofia 1934, 123-127; Ts. Dremsizova and V. Antonova, 'Sklad na hrani v Madara,' *Arheologiya* V!4, (1964), 30-36.

imperial, ecclesiastical and military centre, and the take-over of the countryside by military garrisons, involved in agriculture themselves, as well, no doubt, as requisitioning supplies, seems credible. The fact that, as late as the last quarter of the 5th century, the countryside was still capable of producing substantial quantities of grain does not suggest that there had been any environmental deterioration which could have played a part in the collapse of the city. Given that this dramatic change would seem to have occurred at the end of the 4th century, the arrival of Gothic settlers from 376 and the subsequent collapse of Roman military control seems a plausible reason why this train of events was set in motion.³⁷ If so, the fate of the lower Danube was very much the outcome of its own economic circumstances when combined with exceptional historical events, peculiar to the region and not shared by other parts of the Roman Empire. Although the title of this paper provides (at the moment) a plausible explanation for the economic disaster which befell the Lower Danube c. 400, it does not follow that other provinces followed a similar course.

The search must continue to reconstruct the economic situation in other provinces before we can adequately assess the results and consider what general deductions can be made. Even if sufficient information is obtained, this could prove a difficult task. No overriding conclusions may adequately describe the complexity of regional trends which account for the rise and decline of very different economies co-existing within the Roman Empire.

Nottingham, January 2002

³⁷ More Gothic immigrants may well have arrived on the Lower Danube after Theodosius' death as early as the 420's; Heather 1991, *op.cit.* (n.33), 261 f.

Figure 1. The survey region

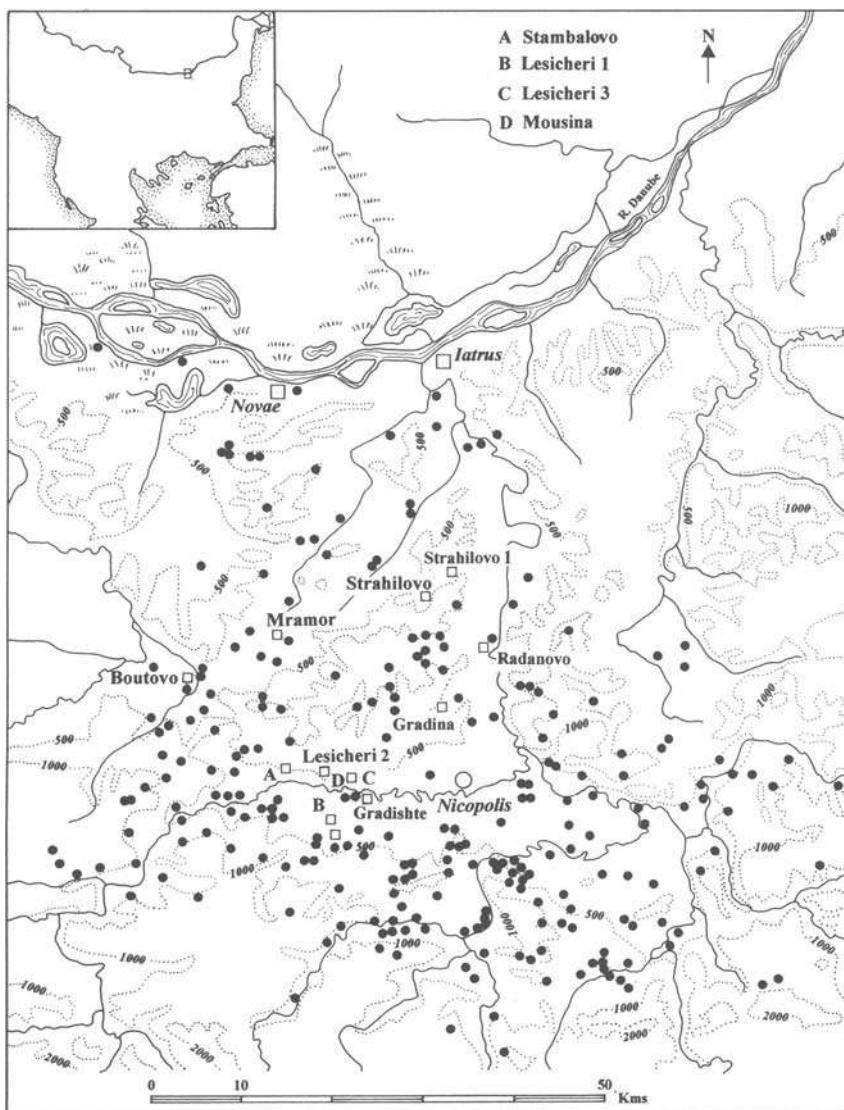


Figure 2. The Roman city of Nicopolis



Figure 3. The early Byzantine city, c. 500

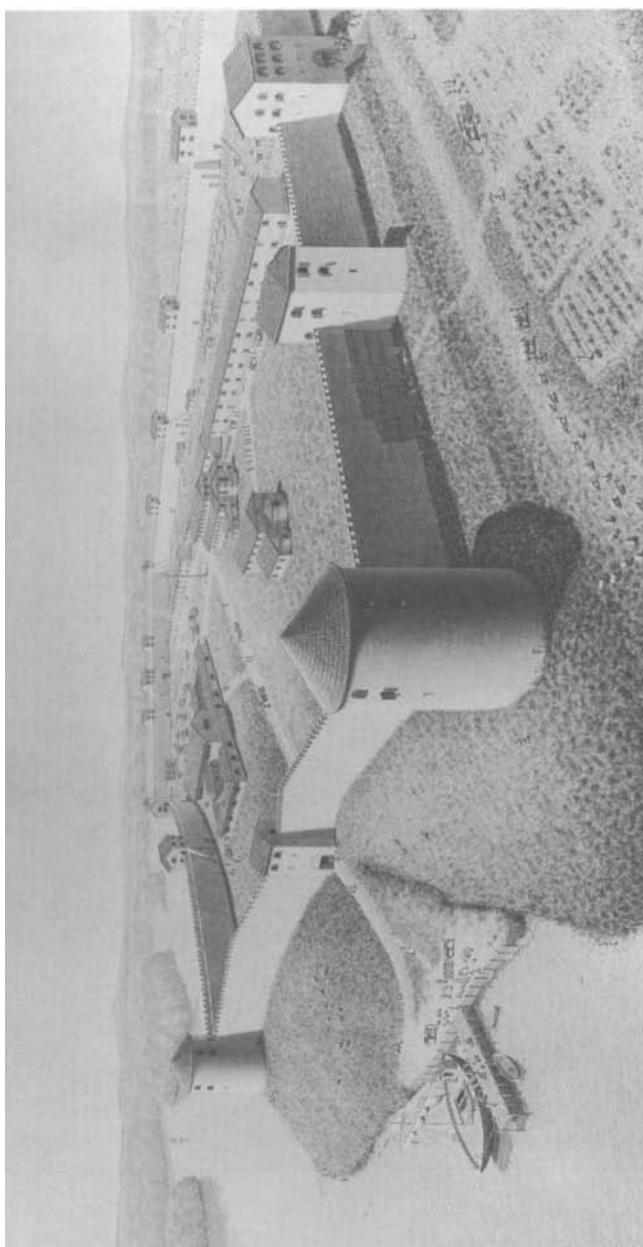


Figure 4. The fort of Dichin



Figure 5. Reconstruction of a granary c. 475, Dichin

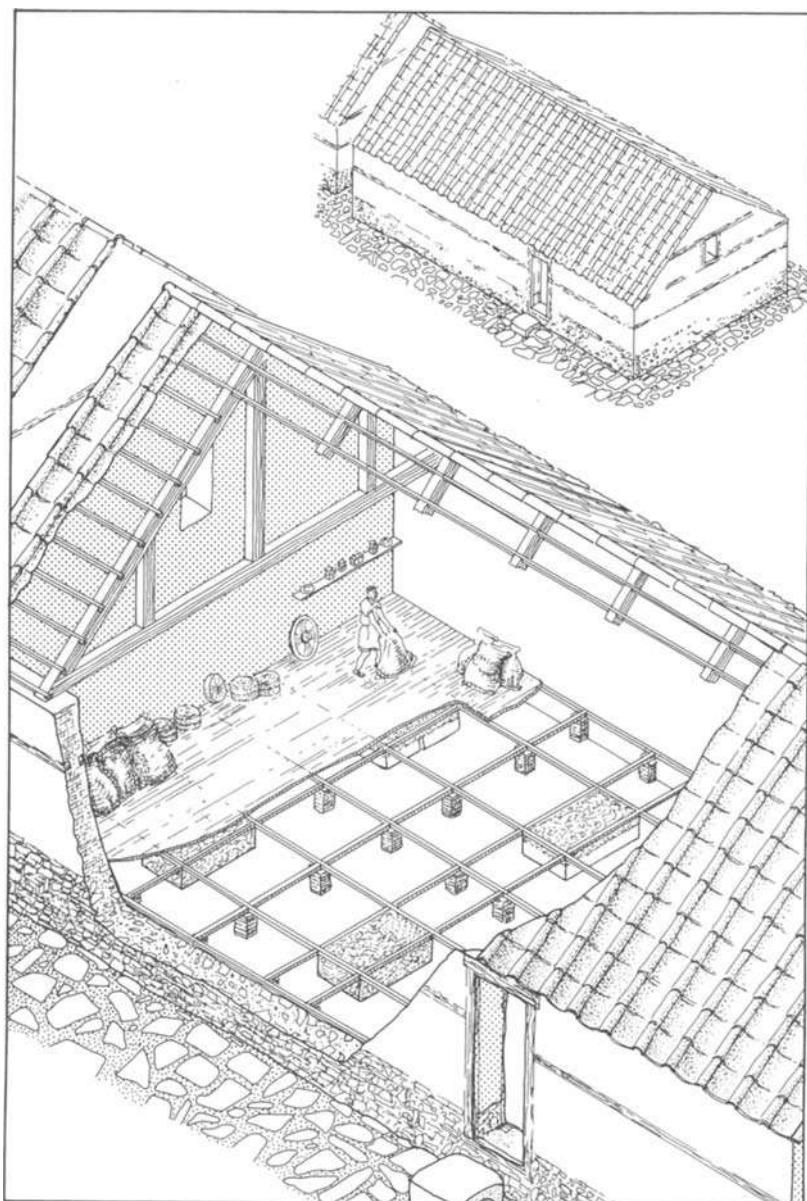


Figure 6. The field-survey at Mramora



Figure 7. Interpretation of the survey and geophysical results

