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Going to market in antiquity.

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John Bintliff

Going to Market in Antiquity

1. The Normal-Polis Trajectory

At a conference organised by the Ernst Kirsten Gesellschaft, it is a particular pleasure to be able to begin my contribution with reference to the continuing importance of his seminal work on ancient urbanism (especially KIRSTEN, 1956). In fact, before broaching the topic of local and regional markets in the ancient world, I would like to cover again some of the ground I have been over in previous Stuttgart conferences (cf. BINTLIFF, 1991, 1994). In focussing on the development of ancient urbanism in the heartlands of southern Greece and North-Central Italy during the Iron Age, leading up to the Classical flourishing of Greek and Etruscan city-state societies by the 5th-4th centuries BC, Kirsten's model of the 'Dorfstaat' remains the greatest insight achieved. In my own, modified application of his 'village-state' model, there is a first stage in which the early historic landscape fills up in modular, packing, even ecological and territorial fashion, with numerous small to large nucleated communities (Figure 1) controlling countryside within cells of 2-3 kms radius through direct exploitation. Here is KIRSTEN's concept of the city-state, or polis, as the political transformation of the village, most ideally demonstrated.

Where KIRSTEN's model begins to fail is actually at the following stage - the one we normally associated with the 'classic' city-state of Greek history, that of later Archaic and Classical to Early Hellenistic times. A closer fit to the reality for this era is the model of RUSCHENBUSCH (1985), which is actually a generalisation concerning the typical empirical attributes of an average Aegean city-state for this period: population several thousand, territorial radius 5-6 kms. At least in fertile and rather crowded landscapes, this 'Normal-Polis' will usually have dependent hamlets or *komai*, and some will have former small poleis within their *chora* as well.

I have termed the first stage of many small-territory foci the 'protopolis' stage, with the 'Normal-Polis' representing small poleis or 'Kleinpoleis' which have absorbed protopoleis and also often have hamlets or *komai*. The process of absorption may occur peaceably or forcibly, and most frequently occurred in Archaic times. However, in some landscapes the process of simplification to a smaller number of political centres goes much further. My own study-region of Boeotia in Central Greece is one such: by the later Archaic era even fewer and larger cities are absorbing both protopoleis and neighbouring 'Normalpoleis' into their territorial jurisdiction (cf. Figure 2 for the 6th century BC). Thus are created what we can call 'Großpoleis', which now control 'Normal-Poleis' or 'Kleinpoleis' and lesser Protopoleis or *komai*. Finally, and here we can return to ERNST KIRSTEN's model of 1956, giant predatory cities can at times achieve regional dominance over every kind of lesser city - including even 'Great Poleis'. In Boeotia for brief periods in the Classical era, the city of Thebes was indeed what KIRSTEN dubbed a 'Megalopolis', dwarfing in its 350 hectare walled area even its nearest competitors for size amongst the 'Großpoleis' of the geographic province.

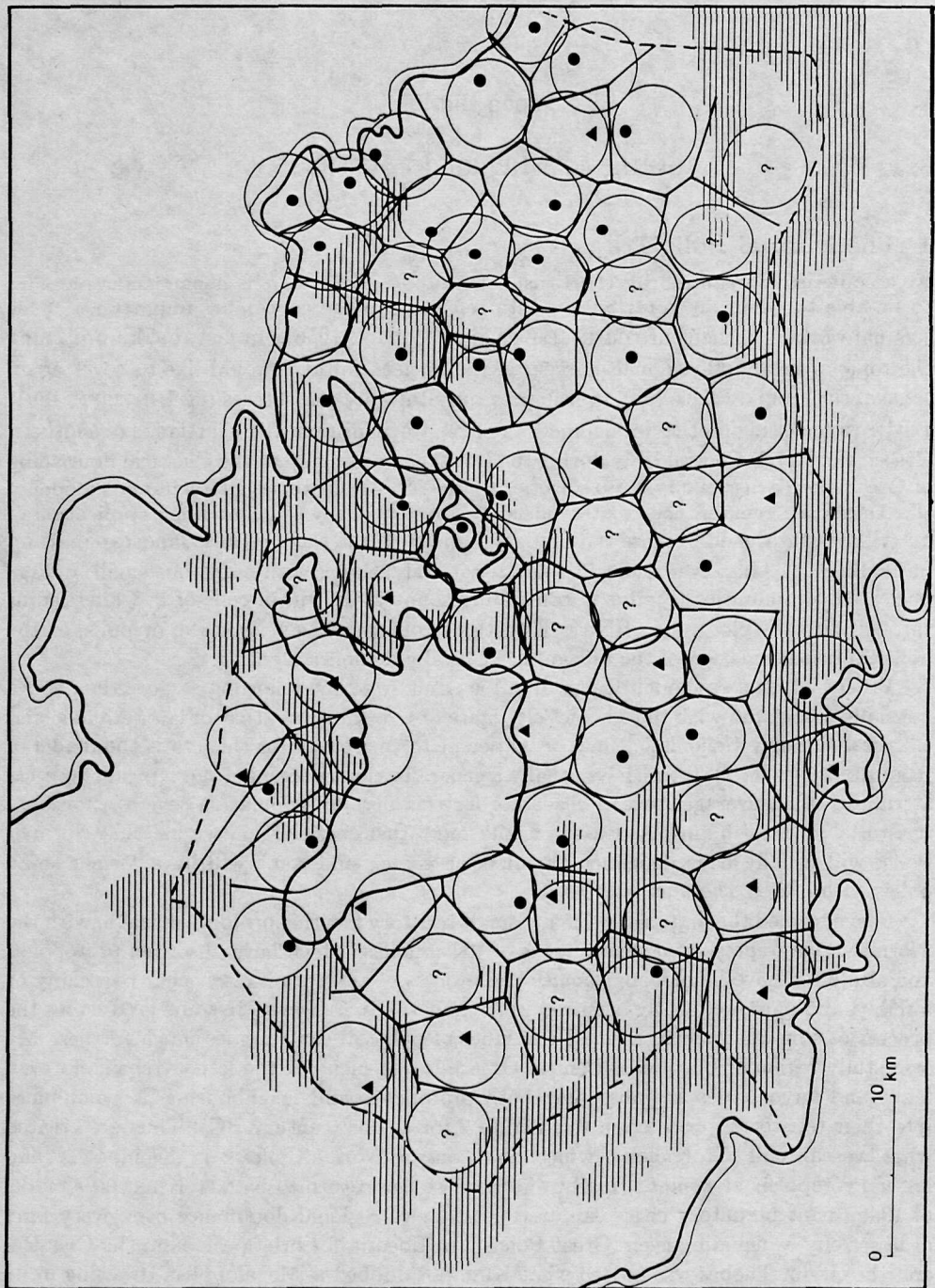


Fig. 1

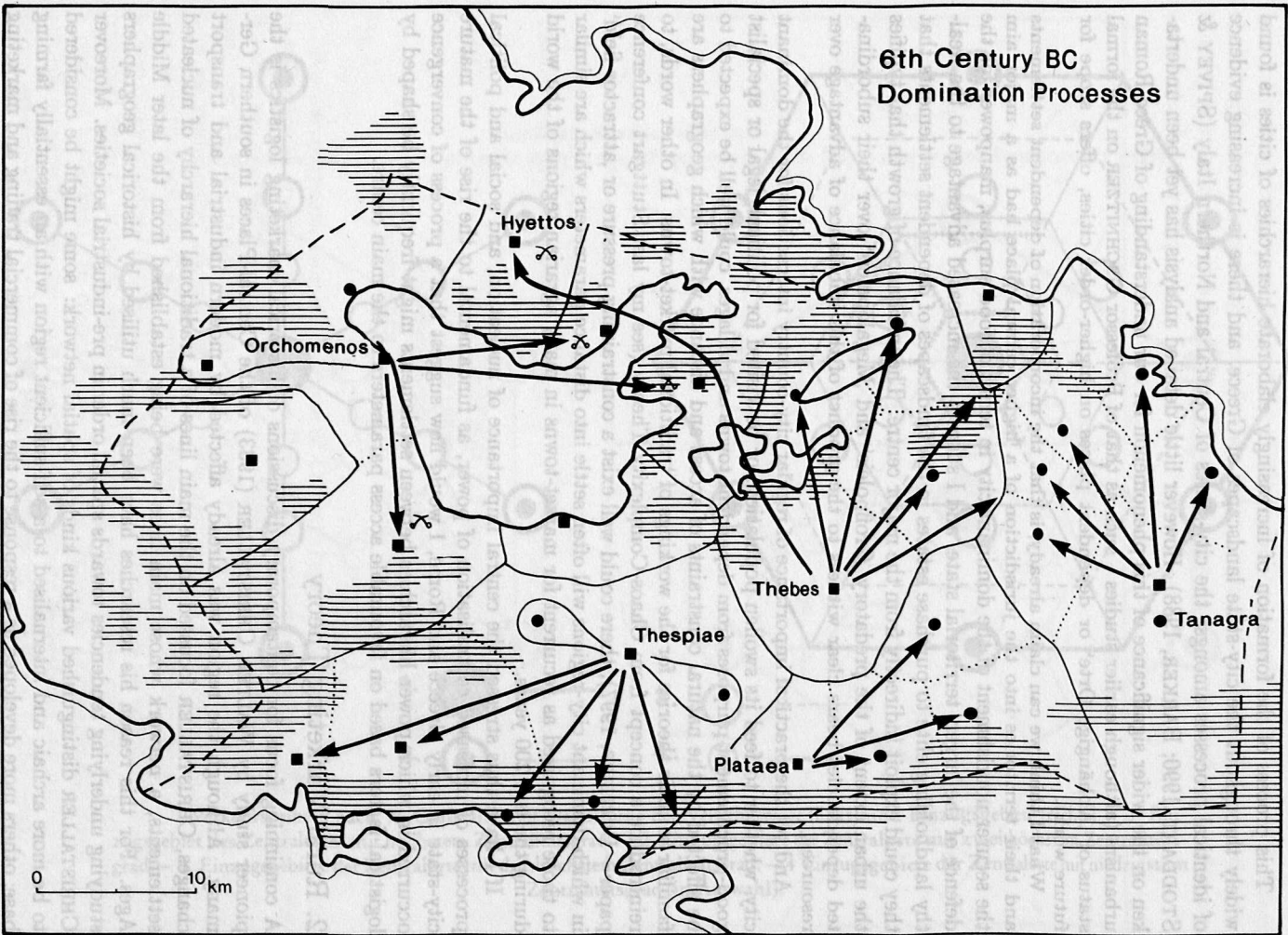


Fig. 2

This process of the formation of increasingly elaborate hierarchies of cities is found widely throughout the city-state landscapes of Greece, and there is increasing evidence of identical processes amongst the city-states of Central and Northern Italy (SPIVEY & STODDART, 1990; BARKER, 1988). However little detailed analysis has yet been undertaken on the wider significance of this phenomenon for our understanding of Greco-Roman urbanism (although earlier studies – such as that of Professor GSCHNITZER on the formal status of ‚Abhängige Orte‘ or dependent places on higher-order cities, offers scope for future work).

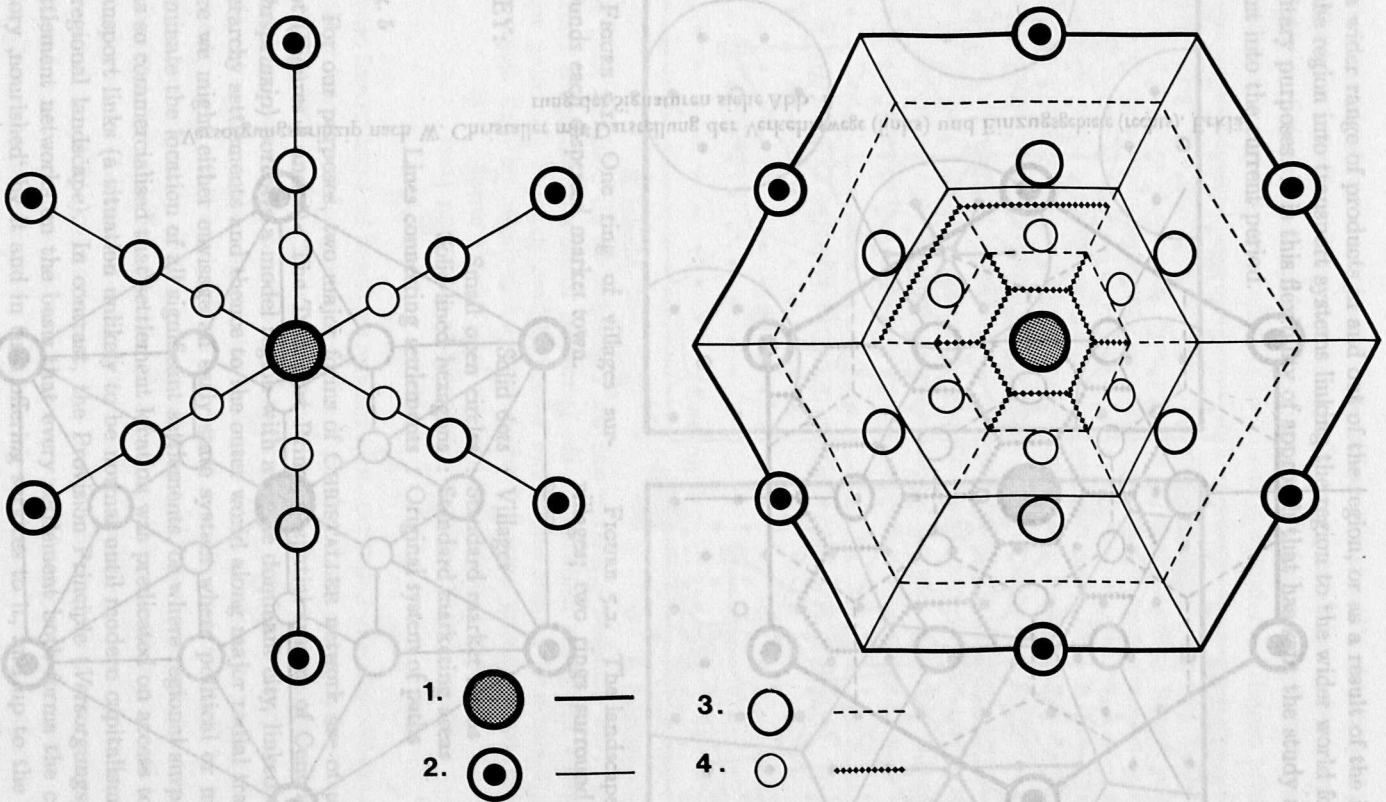
What I think we can claim already, is that the incorporation of dependent settlements and their territories into the jurisdiction of a higher central place had as a major aim the securer nourishment of the dominant city in terms of food surplus, manpower for the defence of the larger, territorial state, and I suspect the increased advantage to the wealthy landholding elite to purchase estates in the landscapes of dependent settlements that they could exploit indirectly from the major centre. The imbalance of growth that typifies the urban extent of the predatory ‚Großpoleis‘ and ‚Megalopoleis‘ over their subordinated dependencies bears clear witness to the product of this imbalance of advantage over resources.

And yet the practical importance of regular city-country interactions for the dominant city, whether to feed its swollen population, or be visited for political, legal or specialist good-procurement purposes from dependent towns and villages, could well be expected to be affected by the natural constraints of access and distance with which geographers are familiar in their theories for the workings of traditional market-towns. In other words, to reintroduce a concept from Chaos-Complexity Theory (see my last Stuttgart conference paper – BINTLIFF, 1997), there could well exist a constraining pressure or ‚attractor field‘ in which dominant city-regions will often settle into distance parameters which are similar to those recognized as recurrent for market-towns in many agrarian regions of the world during the last 200 years.

If I have thus stressed the central importance of nucleation, and social and political processes of increased centralisation of power, as fundamental to the rise of the mature city-state in early Greece and Rome, I would now suggest that a process of convergence occurred in which power hierarchies between settlements might frequently be shaped by logistical factors based on favourable access parameters to the main centre.

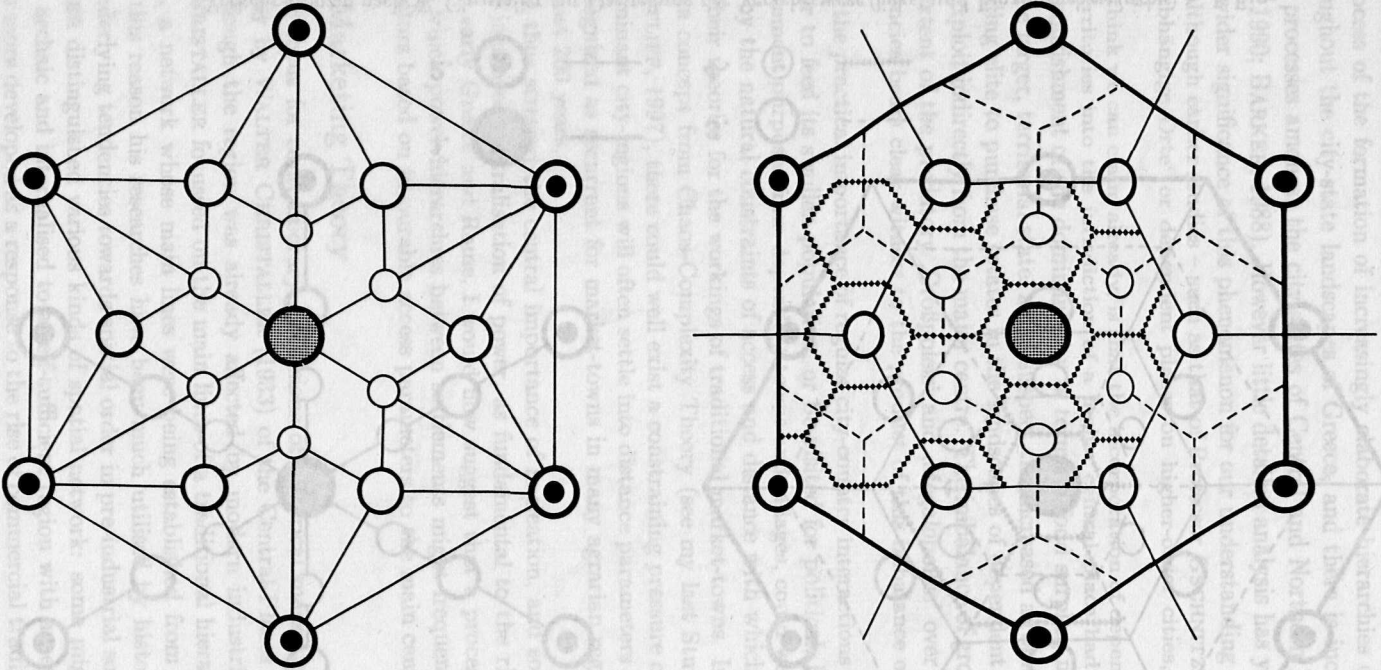
2. Rural Marketing Theory

A continuing focus for contemporary discussions of historical marketing logistics is the pioneer study by WALTER CHRISTALLER (1933) of the Central-Places in southern Germany. Although the region was already affected by modern industrial and transport changes, CHRISTALLER focussed on the main lines of a traditional hierarchy of nucleated settlements, a network whose main lines were being established from the later Middle Ages. For this reason his researches have been much utilised by historical geographers studying underlying tendencies towards spatial order in pre-industrial societies. Moreover CHRISTALLER distinguished various kinds of spatial network: some might be considered to be more archaic and internalised to a self-sufficient region with an essentially farming base; others more developed as a response to the rise of commercial trading and marketing



Verkehrsprinzip nach W. Christaller mit Darstellung der Verkehrswege (links) und Einzugsgebiete (rechts). – 1 Einzugsgebiet des Zentralortes mit höchstem Zentralitätsgrad. – 2 Einzugsgebiete der Zentralorte mit zweithöchstem Zentralitätsgrad. – 3 Einzugsgebiete der Zentralorte mit dritthöchstem Zentralitätsgrad. – 4 Einzugsgebiete der Zentralorte mit niedrigstem Zentralitätsgrad (in Auswahl).

Fig. 3 order centres to act in the fashion as natural providers of resources and services



Versorgungsprinzip nach W. Christaller mit Darstellung der Verkehrswege (links) und Einzugsgebiete (rechts). Erklärung der Signaturen siehe Abb. 1.

Fig. 4

in a wider range of products in and out of the region, or as a result of the incorporation of the region into transport systems linking the region to the wider world for political or military purposes. It is this flexibility of approach that has kept the study as a reference point into the current period.

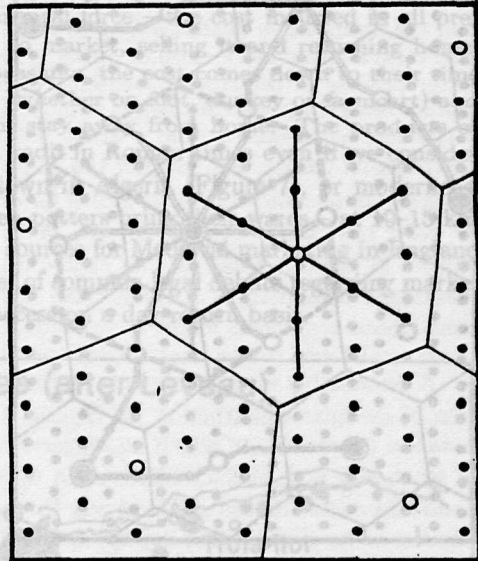
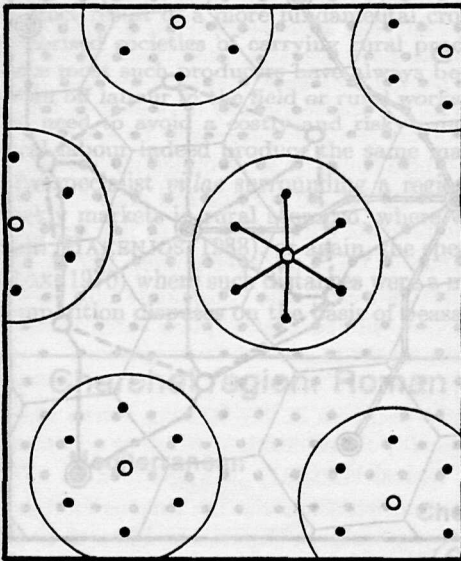


FIGURE 5.1. One ring of villages surrounds each dispersed market town.

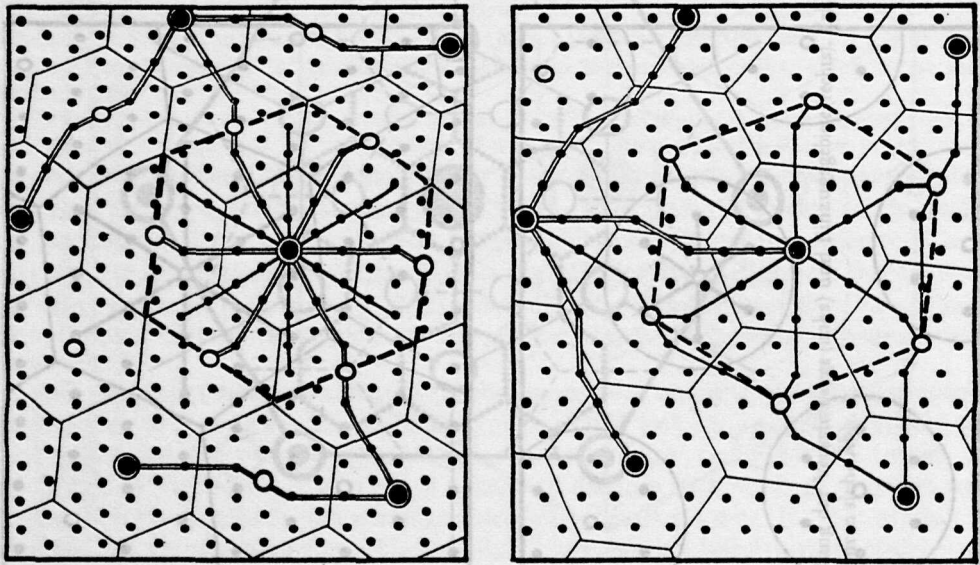
FIGURE 5.2. The landscape fills out with villages; two rings surround each market town.

- KEY:
- Solid dots : Villages
 - Small open circles : Standard market towns
 - Solid-lined hexagons : Standard marketing areas
 - Lines connecting settlements : Original system of paths

Fig. 5

For our purposes, two major forms of CHRISTALLER network are of particular interest (Figures 3 and 4). The Transport Principle spatial system of Central Places (*Verkehrsprinzip*) portrays a model region with a single dominant city, linked to all its lower hierarchy settlements and thence to the outer world along major radial transport routes; here we might either envisage an early state system where political or military control dominate the location of all significant settlements, or where regional surplus production was so commercialised that settlement location was predicated on access to long-distance transport links (a situation unlikely to be normal until modern capitalism had reformed a regional landscape). In contrast, the Provision Principle (*Versorgungsprinzip*) erects settlement networks on the basis that every settlement both forms the centre of a territory 'nourished' by it and in turn offering services to it, and up to the single regional city all other lower-order settlements and their territories form cellular clusters around higher-order centres to act in like fashion as mutual providers of resources and services

to each other, respectively. This latter model might be suggested as the idealised form taken by the mature regional development of a primarily agricultural society, with little outside interference and yet a well-developed segregation of servicing into at least 4 levels of central-place.



Model A

Model B

FIGURE 5.6. New standard market towns are established at all potential sites, and villages completely fill in the landscape on the intensified module. The original market towns become higher-level market towns, and what had been standard marketing areas become intermediate marketing areas (of which only one is shown on each diagram).

KEY:

Heavy encircled dots : Higher-level market towns

Heavy dashed hexagons : Intermediate marketing areas

Fig. 6

Apart from modifications to CHRISTALLER's theories produced by LOESCH and others, another important influence on market-theory has been the applied theoretical work of Skinner on the historical evolution of rural and urban marketing in China (1964, 1965 a-b). Skinner's main argument was that population pressure drove an ever-increasing density and hierarchical layering of markets, whose empirical pattern was comparable to the 'Provision Principle' of CHRISTALLER (Figures 5 and 6). At the same time, geographers in the West were showing surprising similarities in the spatial pattern of market and service foci across quite different regions in terms of population density and historical depth; thus BRUSH and BRACEY's classic comparison of market-regions for rural Wisconsin in the U.S.A. and several counties of southern England (BRUSH & BRACEY, 1955) produced clear evidence that there were strong tendencies for regularities of spacing to emerge between different levels of the settlement hierarchy - the result of travel constraints operating on both land-use and rural access to market-centres. Of especial note is the recurrence of a radius of 15-20 kms (or better, a radius of 2-3 hours travel) as a catchment for a regio-

nal market-town, traditionally associated with a day-return in the days of pre-motorised transport for farmers wishing to sell surplus and/or conduct other business and purchase manufactured items. In his presentation to this colloquium ULRICH FELLMETH has suggested that the market-town radius of 15-20 kms is a product of Roman price differentials for cereal crops being borne overland. While there may be a connection, it is surely an indirect result of a more fundamental cross-cultural force – the cost incurred in all pre-motorised societies of carrying rural produce to market, selling it and returning home; since most such producers have always been peasants, the cost comes down to their time taken off labour in the field or rural workshop (whether on foot, donkey or farmcart) and the need to avoid a costly and risky overnight stay away from home. The products of rural labour indeed produce the same market radii in Roman times even if we consider olive-specialist *villae* surrounding a regional town in Algeria (Figure 7), or modern-day weekly markets in rural Morocco, where women potters bring their wares – at 10-15 km radii (HAKENJOS, 1988), or again, the specific sources for Medieval marketing in England (FOX, 1970) where such distances were a matter of common legal debate regarding market competition disputes on the basis of peasant access on a day-return basis.

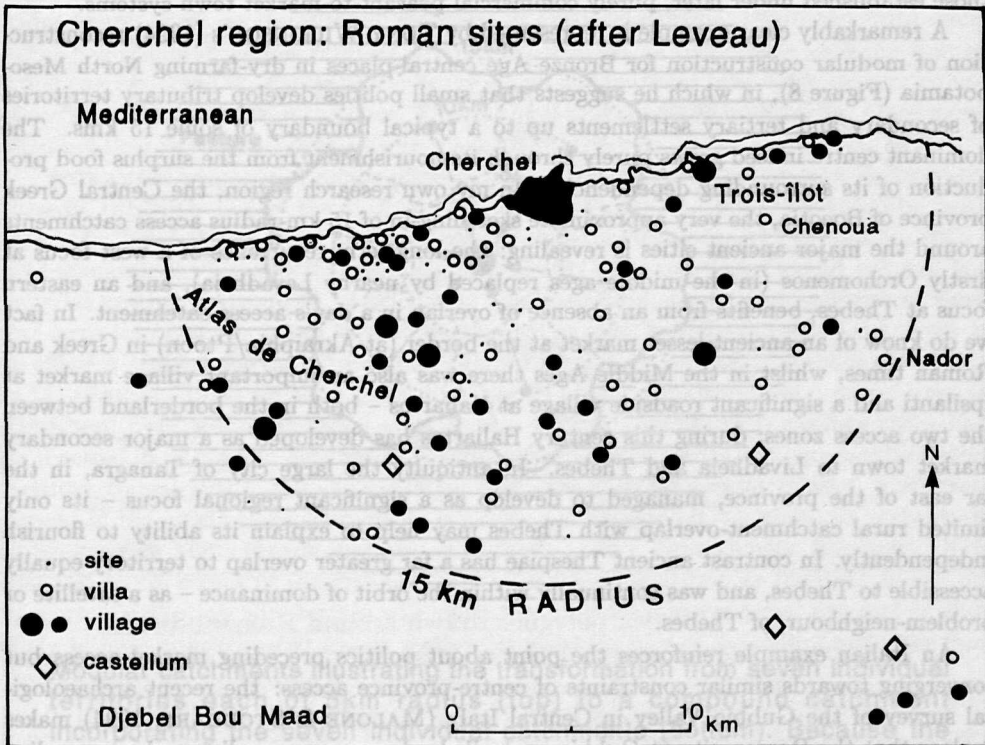


Fig. 7

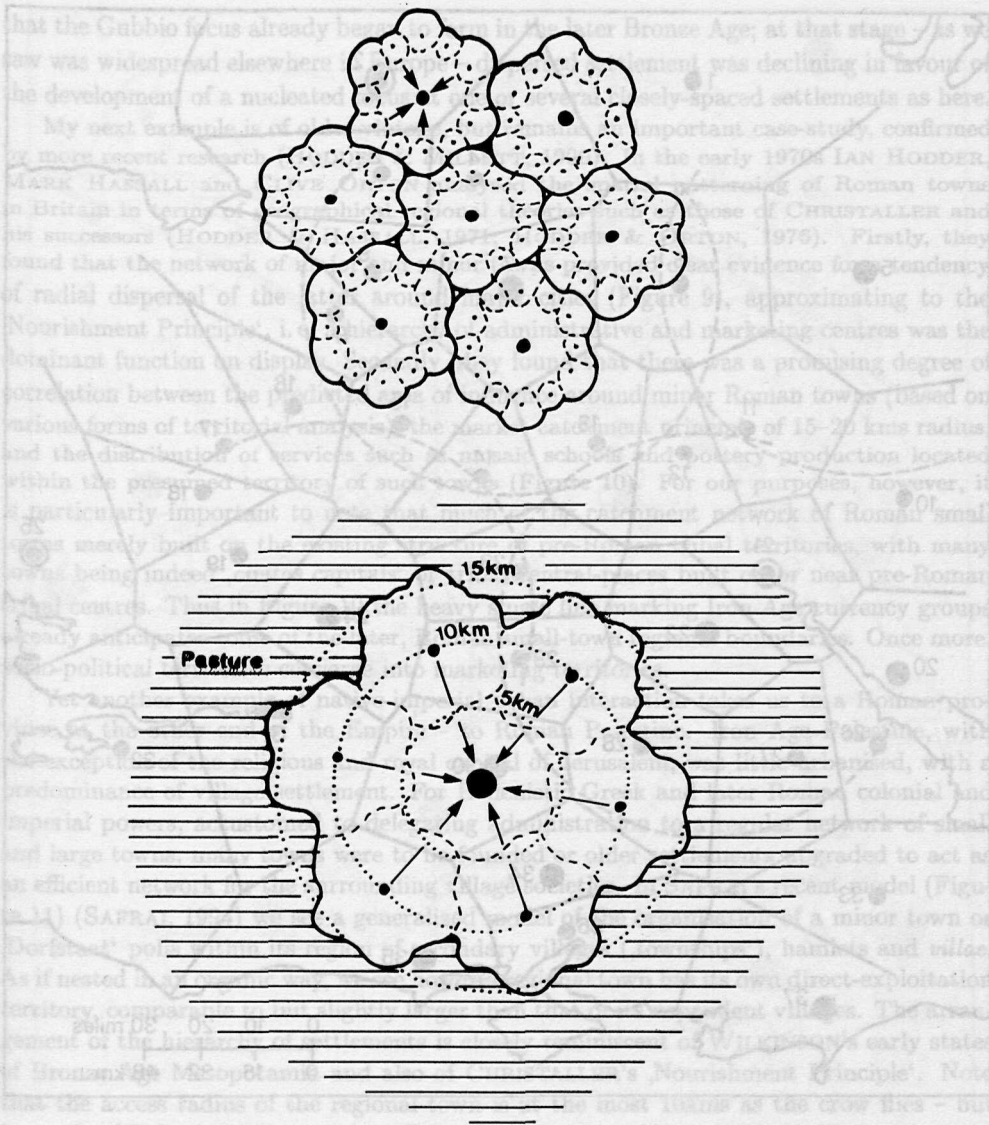
Fig. 8

3. The Convergence of Political Territory and Market Region

We have so far argued that early settlement hierarchies were primarily driven by the widespread trend to settlement nucleation, which now seems to be a generalised feature of the later prehistoric farming societies of Europe (Greece – BINTLIFF, 1999; Italy – SPIVEY & STODDART, 1990; England – BARRETT, 1994; Denmark – KRISTIANSEN, 1998), and the competitive swallowing up by dominant centres of lesser settlements around them into central-place hierarchies of power. However we have also suggested that during this latter process of centripetal focussing of rural populations onto higher-order and more distant central-places, constraints of mobility across the landscape may have moulded early settlement hierarchies so that a strong influence of day-return logistics may be apparent in their spatial parameters. Even if the dominant centre could by force oblige its dependent settlements to nourish it or its stores for outside trade in food surplus and craft products or other raw materials – as tribute, or at least bind its rural subjects to market their surplus in the first place at that centre rather than to those of other powers, the above-mentioned combination of the friction of distance and economic constraints on peasant time-labour economics might be expected to produce similar central-place catchments to those established under later, purely commercial peasant-to-market town systems.

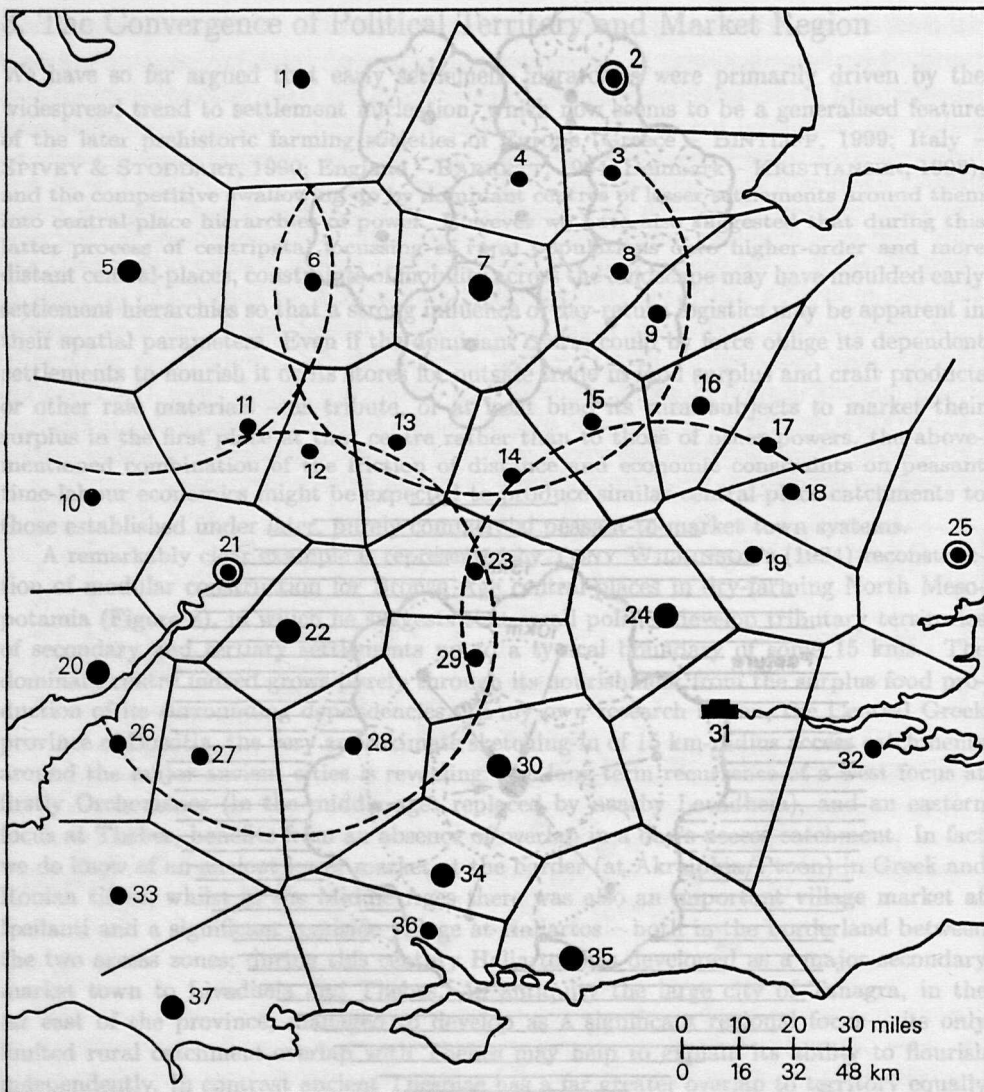
A remarkably clear example is represented by TONY WILKINSON's (1994) reconstruction of modular construction for Bronze Age central-places in dry-farming North Mesopotamia (Figure 8), in which he suggests that small polities develop tributary territories of secondary and tertiary settlements up to a typical boundary of some 15 kms. The dominant centre indeed grows purely through its nourishment from the surplus food production of its surrounding dependencies. In my own research region, the Central Greek province of Boeotia, the very approximate sketching-in of 15 km-radius access catchments around the major ancient cities is revealing: the long-term recurrence of a west focus at firstly Orchomenos (in the middle ages replaced by nearby Livadheia), and an eastern focus at Thebes, benefits from an absence of overlap in a day's access catchment. In fact we do know of an ancient lesser market at the border (at Akraiphia/Ptoon) in Greek and Roman times, whilst in the Middle Ages there was also an important village market at Ipsilanti and a significant roadside village at Haliartos – both in the borderland between the two access zones; during this century Haliartos has developed as a major secondary market town to Livadheia and Thebes. In antiquity the large city of Tanagra, in the far east of the province, managed to develop as a significant regional focus – its only limited rural catchment-overlap with Thebes may help to explain its ability to flourish independently. In contrast ancient Thespieae has a far greater overlap to territory equally accessible to Thebes, and was continually within the orbit of dominance – as a satellite or problem-neighbour, of Thebes.

An Italian example reinforces the point about politics preceding market-access but converging towards similar constraints of centre-province access: the recent archaeological survey of the Gubbio Valley in Central Italy (MALONE & STODDART, 1994) makes it clear that the Roman city at Gubbio controlled a long, narrow valley and surrounding hills as its territory. A 15 km-radius from the town neatly ends at the southern end of the valley and easily encloses the northern end – thus the Roman centre formed a natural market focus for its rural villages, *villae* and farms. And yet STODDART and MALONE show us



Modular catchments illustrating the transformation from seven individual territories each of 5km radius (top) to a compound catchment incorporating the seven individual catchments (bottom). Because the lowest-order satellites may be temporary features of the landscape, they have been omitted from the lower diagram. Modified circles have been used to facilitate packing: production figures used in the text have been calculated from circular catchments. Shaded area, pasture.

Fig. 8



Thiessen polygons drawn around Romano-British walled towns. Arcs of circles (dashed lines) have also been drawn around some of the major centres (cantonal capitals) to show the regular placing of the lesser walled towns (smaller filled circles) in relation to the cantonal capitals (larger filled circles). ⊙ = Colonia. For number references see Hodder and Hassall 1971. Source: Hodder and Hassall 1971.

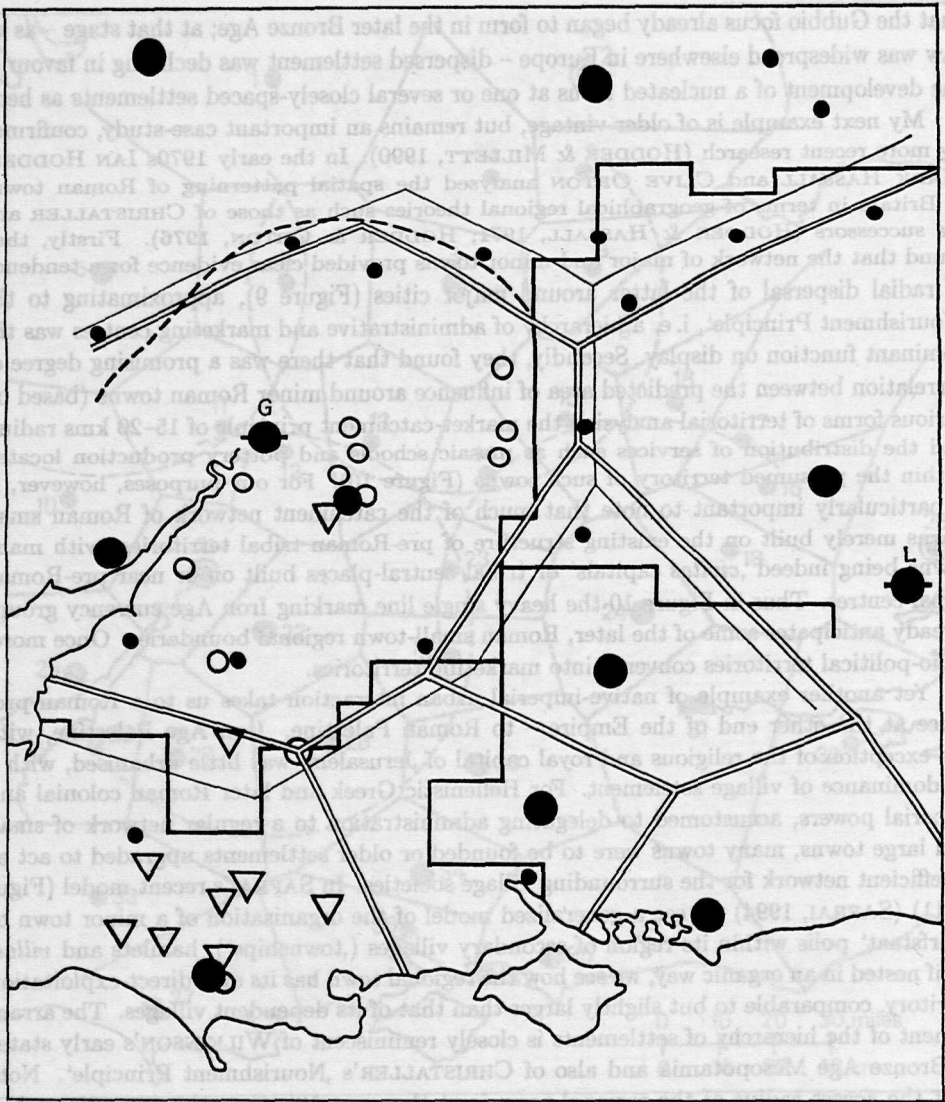
Fig. 9.

that the Gubbio focus already began to form in the later Bronze Age; at that stage – as we saw was widespread elsewhere in Europe – dispersed settlement was declining in favour of the development of a nucleated focus at one or several closely-spaced settlements as here.

My next example is of older vintage, but remains an important case-study, confirmed by more recent research (HODDER & MILLETT, 1990). In the early 1970s IAN HODDER, MARK HASSALL and CLIVE ORTON analysed the spatial patterning of Roman towns in Britain in terms of geographical regional theories such as those of CHRISTALLER and his successors (HODDER & HASSALL, 1971; HODDER & ORTON, 1976). Firstly, they found that the network of major and minor towns provided clear evidence for a tendency of radial dispersal of the latter around major cities (Figure 9), approximating to the 'Nourishment Principle', i.e. a hierarchy of administrative and marketing centres was the dominant function on display. Secondly, they found that there was a promising degree of correlation between the predicted area of influence around minor Roman towns (based on various forms of territorial analysis), the market-catchment principle of 15–20 kms radius, and the distribution of services such as mosaic schools and pottery production located within the presumed territory of such towns (Figure 10). For our purposes, however, it is particularly important to note that much of the catchment network of Roman small towns merely built on the existing structure of pre-Roman tribal territories, with many towns being indeed 'civitas capitals' or tribal central-places built on or near pre-Roman tribal centres. Thus in Figure 10 the heavy single line marking Iron Age currency groups already anticipates some of the later, Roman small-town regional boundaries. Once more, socio-political territories converge into marketing territories.

Yet another example of native-imperial urban interaction takes us to a Roman province at the other end of the Empire – to Roman Palestine. Iron Age Palestine, with the exception of the religious and royal capital of Jerusalem, was little urbanised, with a predominance of village settlement. For Hellenistic Greek and later Roman colonial and imperial powers, accustomed to delegating administration to a regular network of small and large towns, many towns were to be founded or older settlements upgraded to act as an efficient network for the surrounding village societies. In SAFRAI's recent model (Figure 11) (SAFRAI, 1994) we see a generalized model of the organisation of a minor town or 'Dorfstaat' polis within its region of secondary villages ('townships'), hamlets and *villae*. As if nested in an organic way, we see how the regional town has its own direct-exploitation territory, comparable to but slightly larger than that of its dependent villages. The arrangement of the hierarchy of settlements is closely reminiscent of WILKINSON's early states of Bronze Age Mesopotamia and also of CHRISTALLER's 'Nourishment Principle'. Note that the access radius of the regional town is at the most 10kms as the crow flies – but in much of Palestine hilly terrain will mean that in travel-time the real distance is more likely to have approximated to our market-favoured journey of 2–3 hours each way from the more remote settlements to the centre.

A final example of urban 'imposition' brings us back to a reconsideration of PHILIPPE LEVEAU's case-study (LEVEAU, 1984) of the city and territory of Iol Caesarea in modern Algeria (Figure 7): here LEVEAU argues that the development of the regional capital and port created its own 'natural' reorganisation of a previously unstructured rural hinterland of native communities. The influence of the town radiated for some 15 kms into the



The growth of Romano-British lesser walled towns.

○, Corinthian school of mosaics; ▽, Durotrigian school of mosaics; ●, cantonal capitals - major centres; ●-L, London (L) and the 'colonia' at Gloucester (G); ●, lesser walled towns. Double lines = Thiessen polygons around major centres; single line = service area around major centres as predicted by gravity models; single heavy line = boundary between Iron Age coin distributions.

Fig. 10.

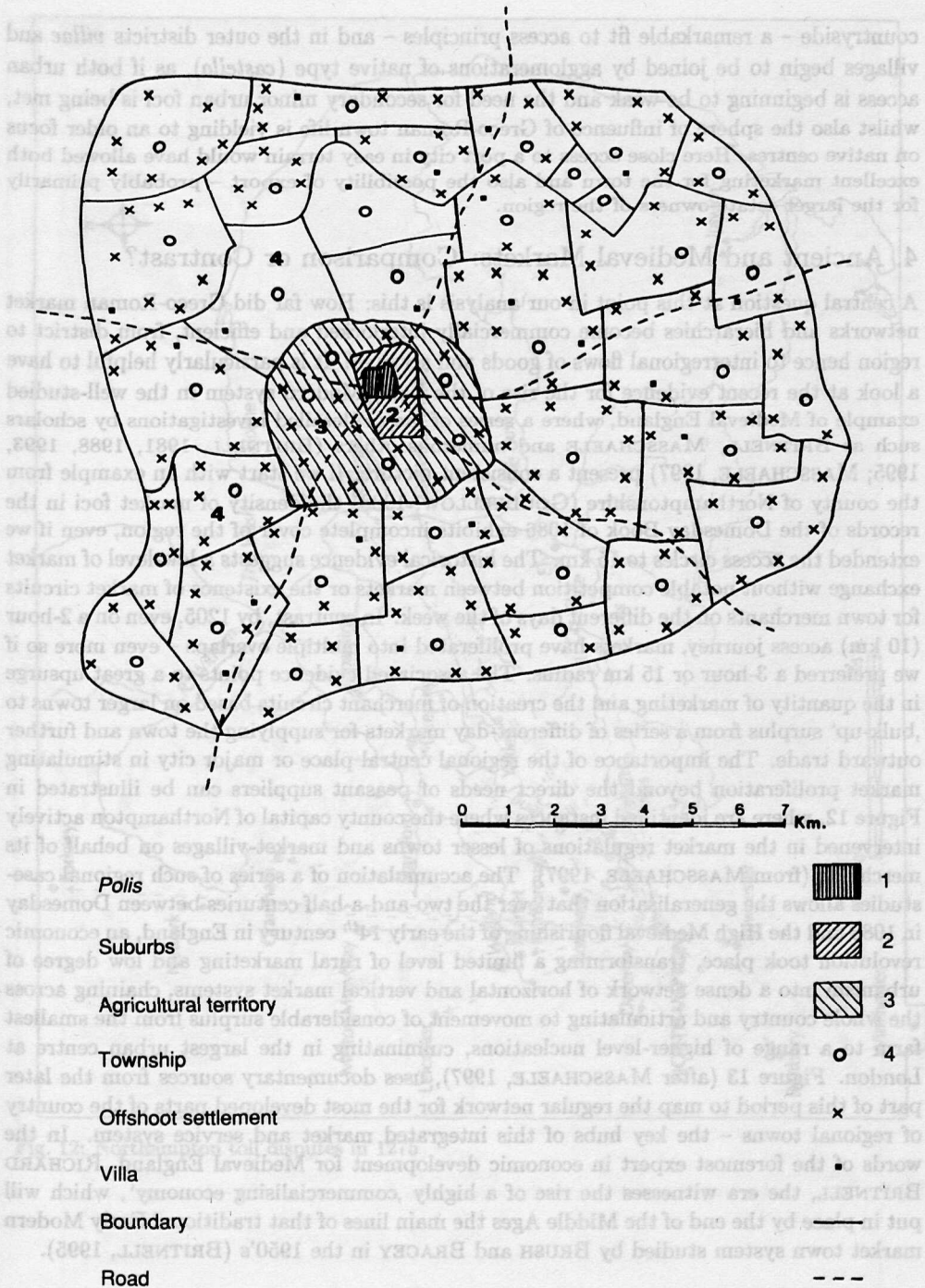


Fig. 11: Regional structure in the village sphere: descriptive model

countryside – a remarkable fit to access principles – and in the outer districts *villae* and villages begin to be joined by agglomerations of native type (*castella*), as if both urban access is beginning to be weak and the need for secondary minor urban foci is being met, whilst also the sphere of influence of Greco-Roman town life is yielding to an older focus on native centres. Here close access to a port city in easy terrain would have allowed both excellent marketing for the town and also the possibility of export – probably primarily for the larger estate-owners of the region.

4. Ancient and Medieval Markets: Comparison or Contrast?

A central question at this point in our analysis is this: How far did Greco-Roman market networks and hierarchies become commercially interlocked and efficient, from district to region hence to interregional flows of goods and services? It is particularly helpful to have a look at the recent evidence for the rise of the Early Modern system in the well-studied example of Medieval England, where a series of major detailed investigations by scholars such as BRITNELL, MASSCHAELE and numerous others (BRITNELL, 1981, 1988, 1993, 1995; MASSCHAELE, 1997) present a consistent picture. If we start with an example from the county of Northamptonshire (GOODFELLOW, 1988) the density of market foci in the records of the Domesday Book of 1086 exhibits incomplete cover of the region, even if we extended the access circles to 15 km. The historical evidence suggests a low-level of market exchange without notable competition between markets or the existence of market circuits for town merchants on the different days of the week. In contrast, by 1205, even on a 2-hour (10 km) access journey, markets have proliferated into multiple overlaps – even more so if we preferred a 3-hour or 15 km radius. The associated evidence points to a great upsurge in the quantity of marketing and the creation of merchant circuits based on larger towns to 'bulk-up' surplus from a series of different-day markets for supplying the town and further outward trade. The importance of the regional central place or major city in stimulating market proliferation beyond the direct needs of peasant suppliers can be illustrated in Figure 12, where are identified instances where the county capital of Northampton actively intervened in the market regulations of lesser towns and market-villages on behalf of its merchants (from MASSCHAELE, 1997). The accumulation of a series of such regional case-studies allows the generalisation that over the two-and-a-half centuries between Domesday in 1086 and the High Medieval flourishing of the early 14th century in England, an economic revolution took place, transforming a limited level of rural marketing and low degree of urbanism into a dense network of horizontal and vertical market systems, chaining across the whole country and articulating to movement of considerable surplus from the smallest farm to a range of higher-level nucleations, culminating in the largest urban centre at London. Figure 13 (after MASSCHAELE, 1997), uses documentary sources from the later part of this period to map the regular network for the most developed parts of the country of regional towns – the key hubs of this integrated market and service system. In the words of the foremost expert in economic development for Medieval England, RICHARD BRITNELL, the era witnesses the rise of a highly 'commercialising economy', which will put in place by the end of the Middle Ages the main lines of that traditional Early Modern market town system studied by BRUSH and BRACEY in the 1950's (BRITNELL, 1995).

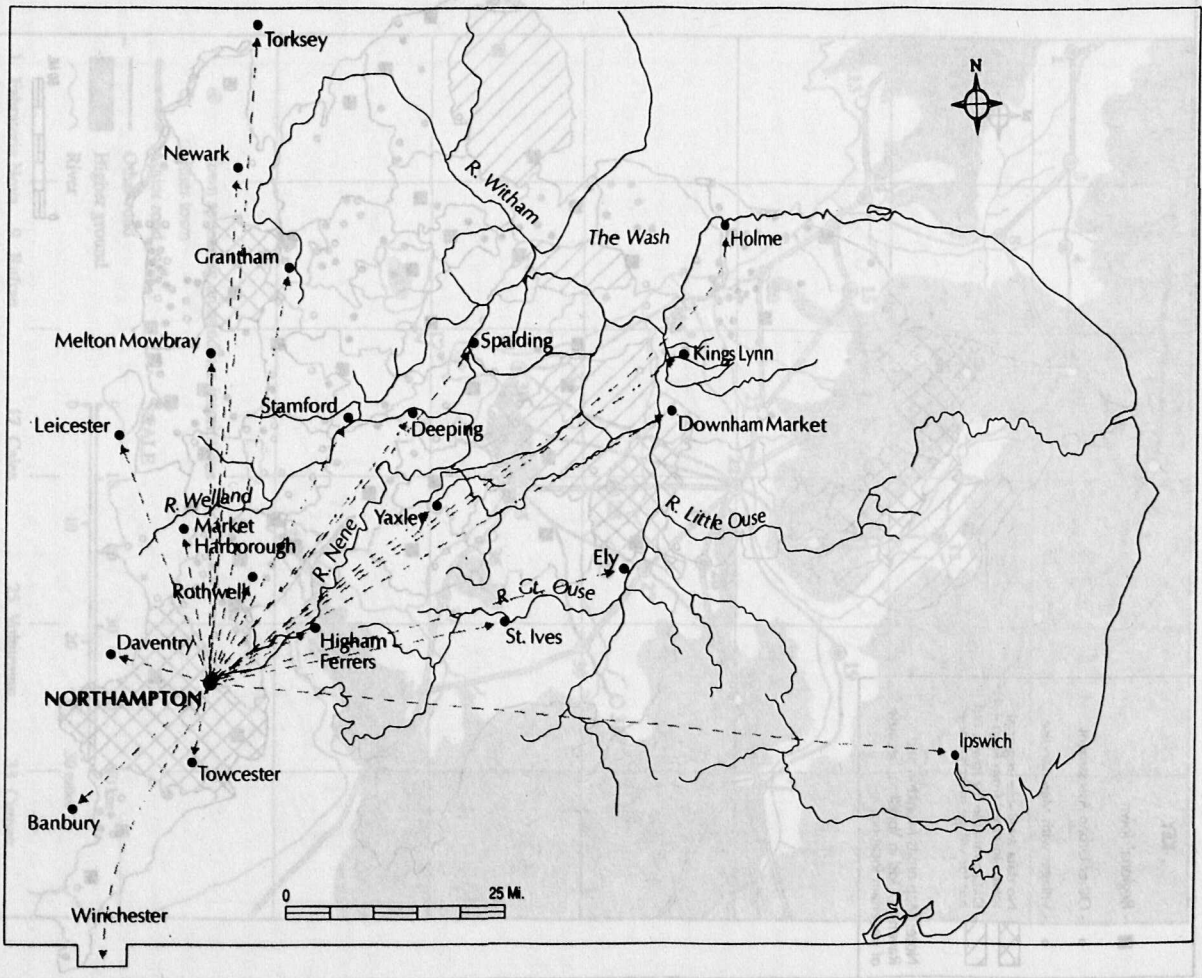


Fig. 12. Northampton toll disputes in 1275

Fig. 14. Towns and markets in Cambridgeshire

- 1. Northampton
- 2. Banbury
- 3. Towcester
- 4. Daventry
- 5. Rothwell
- 6. Market Harborough
- 7. Higham Ferrers
- 8. Leicester
- 9. Stamford
- 10. Melton Mowbray
- 11. Grantham
- 12. Newark
- 13. York
- 14. Spalding
- 15. Deeping
- 16. Kings Lynn
- 17. Downham Market
- 18. Ely
- 19. St. Ives
- 20. Ipswich
- 21. Winchester
- 22. Banbury
- 23. Towcester
- 24. Daventry
- 25. Rothwell
- 26. Market Harborough
- 27. Higham Ferrers
- 28. Leicester
- 29. Stamford
- 30. Melton Mowbray
- 31. Grantham
- 32. Newark
- 33. York
- 34. Spalding
- 35. Deeping
- 36. Kings Lynn
- 37. Downham Market
- 38. Ely
- 39. St. Ives
- 40. Ipswich
- 41. Winchester

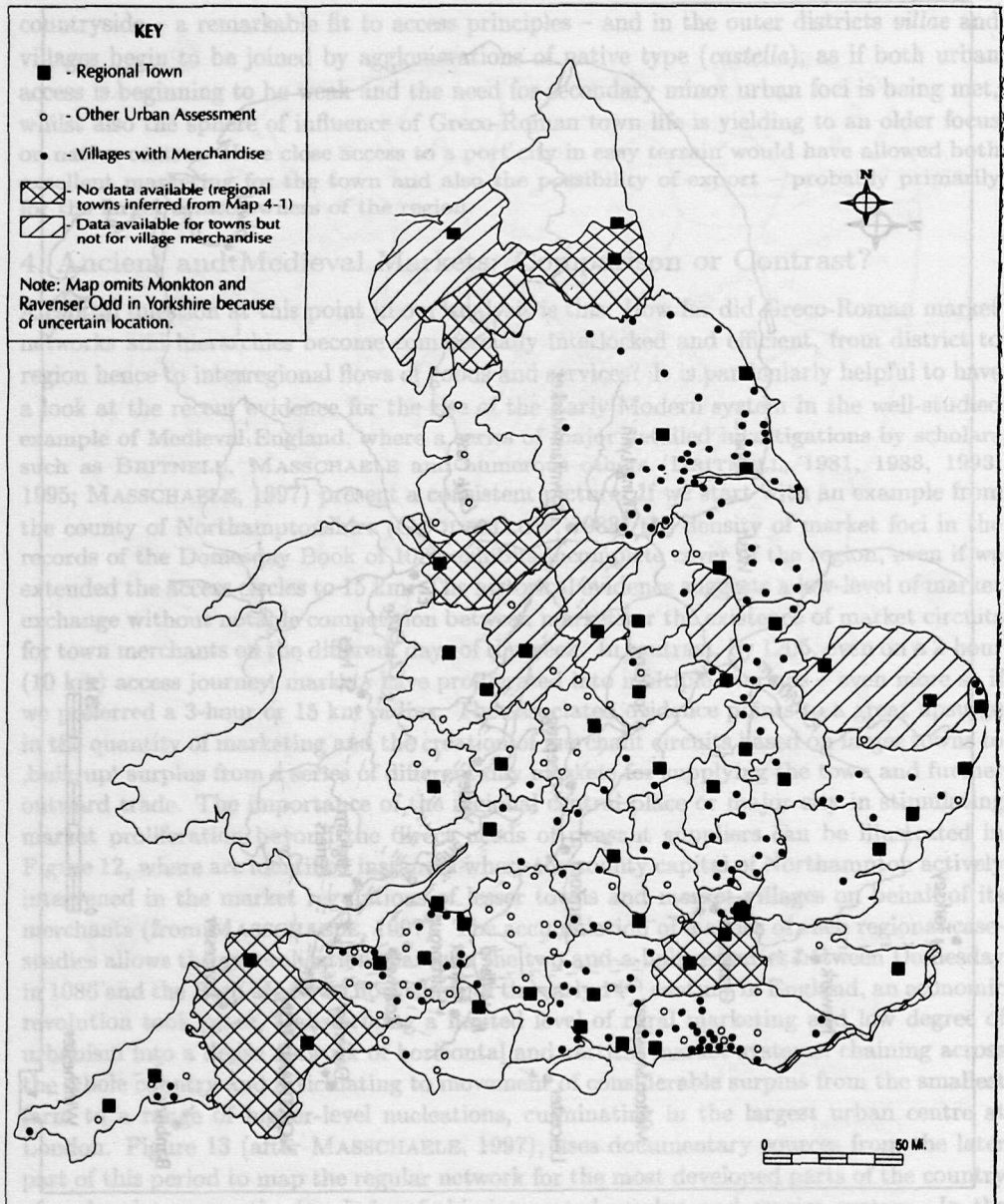


Fig. 13: Taxation boroughs and rural merchandise in the Nonae Rolls, 1340-41.

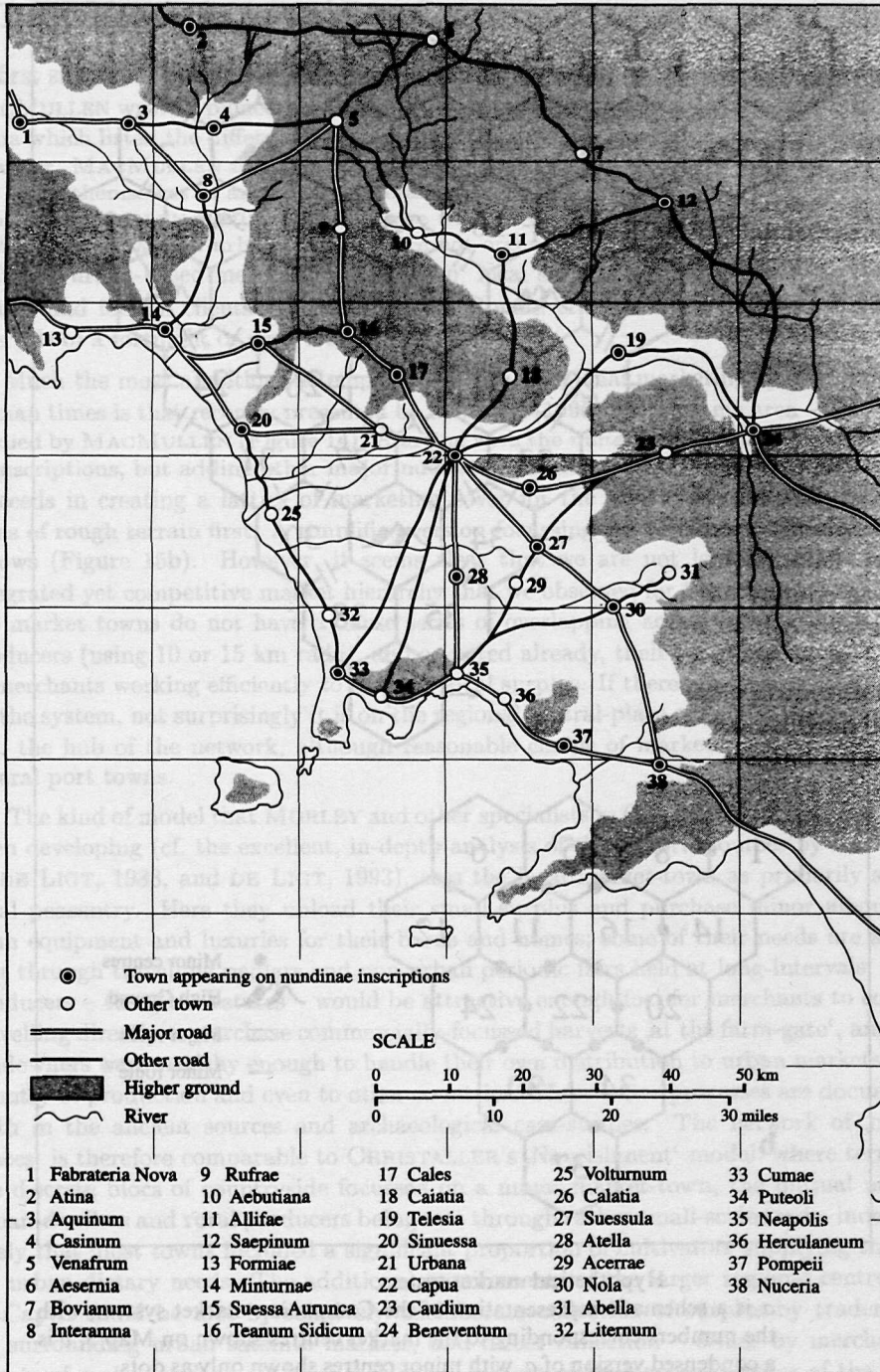
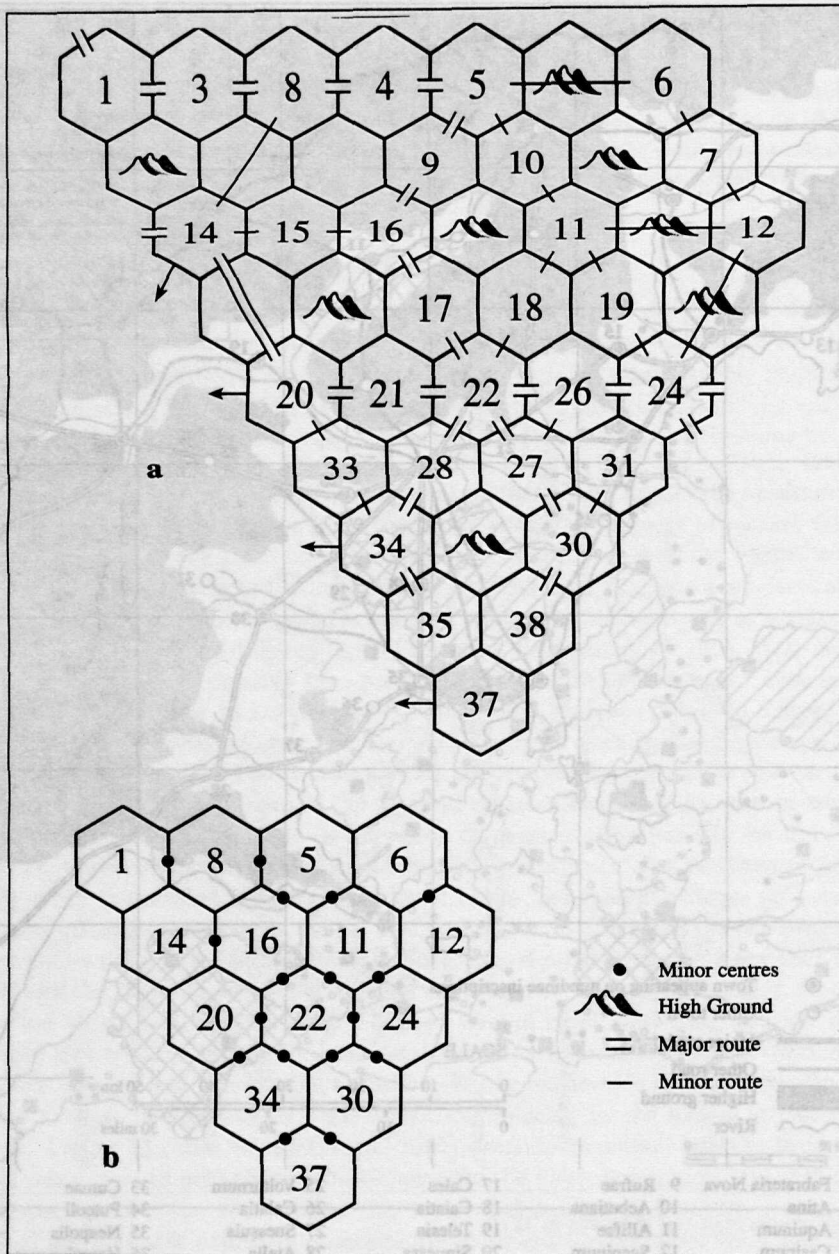


Fig. 14: Towns and markets in Campania



Hypothetical market system.

a is a schematic representation of the Campanian market system, with the numbers corresponding to the market centres shown on Map 3; *b* is a condensed version of *a*, with minor centres shown only as dots.

Fig. 15 .

Fig. 14: Towns and markets in Campania

5. The Greco-Roman World: A Comparison

At first sight the evidence for elaborate marketing in Antiquity looks promising. In 1970 MACMULLEN wrote a pioneering paper on an inscribed calendar of Roman towns in Campania which listed the different days on which their weekly-market (*nundinae*) took place. However, MACMULLEN commented: „there is no logic to the order of names. They do not order themselves in an orderly itinerary, nor do they follow a pattern of regular rotation“ (MACMULLEN, 1970, p. 340). Since then further work has increased the evidence that Roman rural and urban markets were not organized in the kind of systematic cycles to favour urban-based merchants ‚bulking-up‘ local surplus for major export to regional centres and foreign clients. In North Africa, Roman era markets were spaced at longer intervals of a fortnight or even longer (SHAW, 1981).

Much the most ambitious attempt to recreate a regional marketing system in Greco-Roman times is that recently presented by MORLEY (1996) for the same area – Campania, studied by MACMULLEN (Figure 14). Starting with the *nundinae* or regular markets noted in inscriptions, but adding other major nucleations as likely locations for trading, Morley succeeds in creating a lattice of marketing cover for the region (Figure 15a), removing areas of rough terrain first. A simplified version focussing on the major centres and ports follows (Figure 15b). However, it seems clear that we are not looking at the kind of integrated yet competitive market hierarchy that we observed for later Medieval England: the market towns do not have a dense series of overlapping access catchments for rural producers (using 10 or 15 km radii), and as noted already, their timing precludes circuits of merchants working efficiently to bulk-up local surplus. If there is any natural focussing on the system, not surprisingly it is on the regional central-place of Capua (Figure 14, site 22), the hub of the network, although reasonable chains of markets could feed into the several port towns.

The kind of model that MORLEY and other specialists in Greco-Roman marketing have been developing (cf. the excellent, in-depth analysis of the historic sources by DE NEEVE & DE LIGT, 1988, and DE LIGT, 1993), sees the local market-town as primarily serving local peasantry. Here they unload their small surplus and purchase minor amounts of farm equipment and luxuries for their barns and homes; some of their needs are already met through travelling pedlars and non-urban periodic fairs held at long-intervals. Major producers – the great estates – would be attractive enough foci for merchants to consider travelling directly to purchase commercially-focussed harvests ‚at the farm-gate‘, and some landowners were wealthy enough to handle their own distribution to urban markets in the country of production and even to other countries. These latter processes are documented both in the ancient sources and archaeological case-studies. The network of ‚central-places‘ is therefore comparable to CHRISTALLER’s ‚Nourishment‘ model, where territories are discrete blocs of countryside focussed on a minor market-town, the mutual needs of urban-dwellers and rural producers being met through rather small-scale trade; indeed it is likely that most towns included a significant proportion of cultivators supplying the basis for urban dietary needs. The additional requirements of the larger regional centres such as Capua could be met by relatively unelaborate collection of surplus by traders from its surrounding urban satellite markets, and direct collection – either by merchants or agents of major landowners from the larger, commercially-focussed estates of the region. Thus although MORLEY’s final general model (Figure 16) portrays a ‚dendritic central

place system' in which a strong supply chain rises from weekly markets through regional centres such as ports of the dominant town of Capua, and thence to Rome, the reality of his analysis is far more in tune with a system where the vast bulk of rural surplus is consumed within the region, if not in the nearest, small market town. It may also be noted that the choice of a dendritic model underlines the less-developed nature of marketing, since this type of network (SMITH, 1976) lacks overlapping competitive outlets for surplus and tends to act as a brake on greater productivity and commercialisation of the rural economy and urban growth.

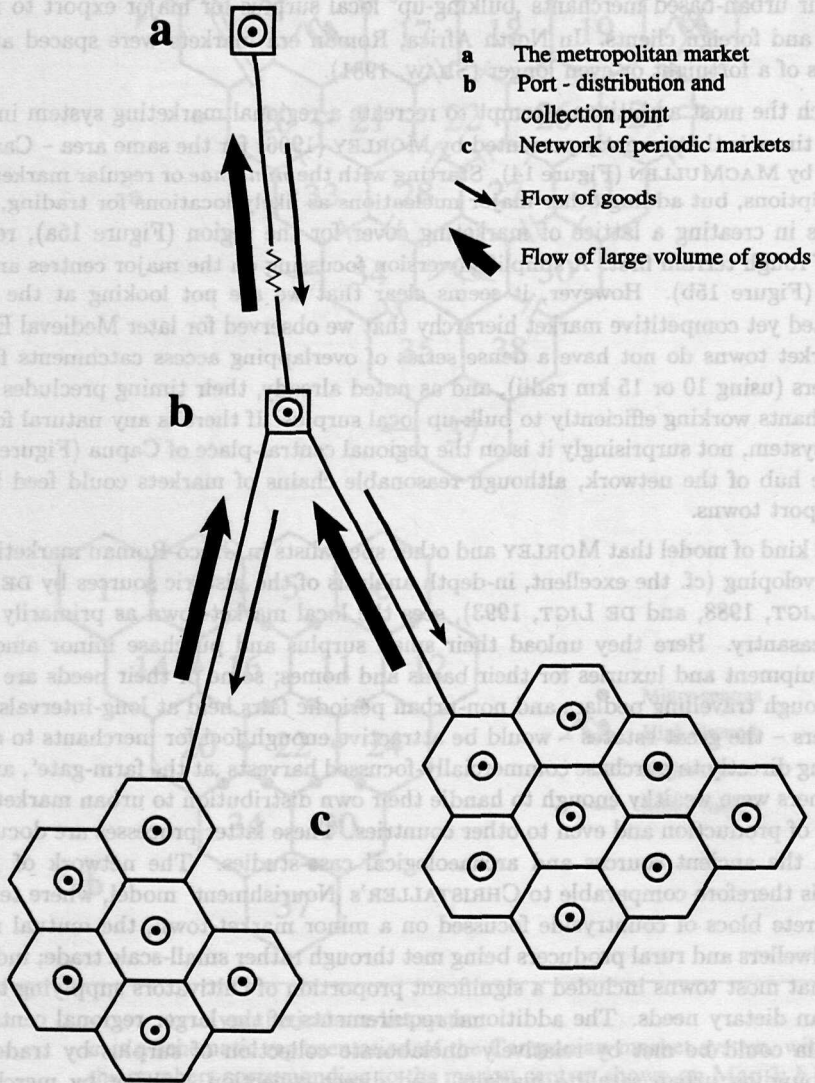


Fig. 16: Dendritic central place system

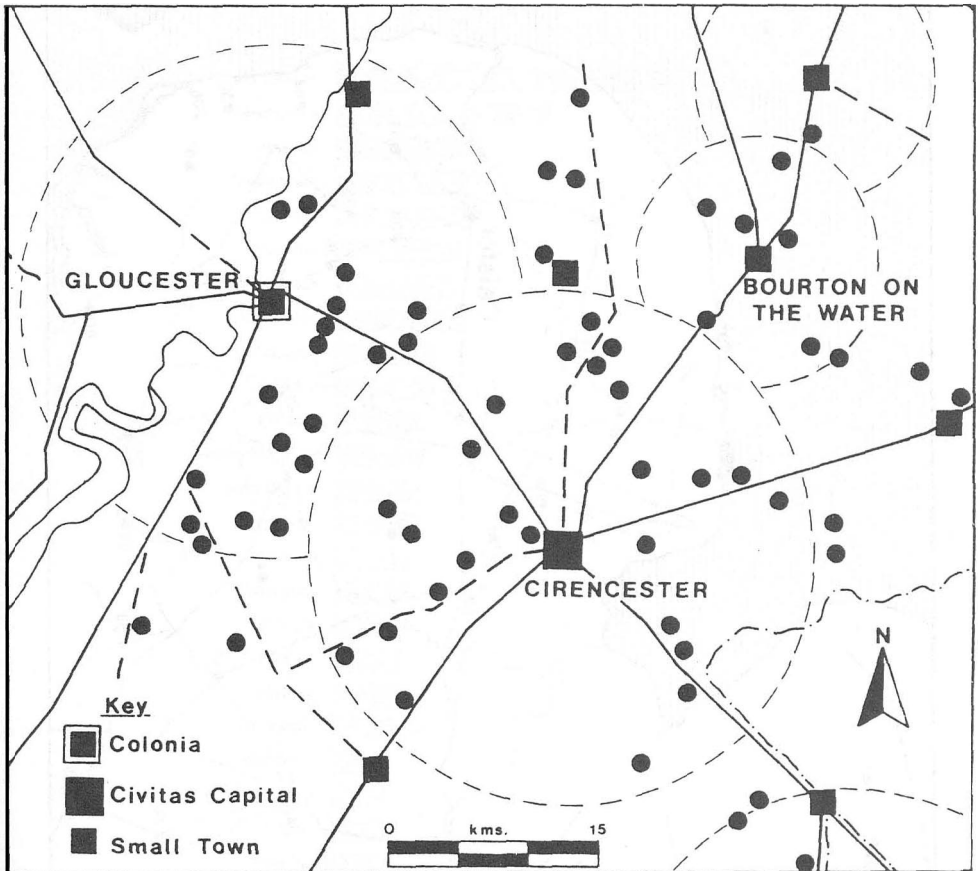


Fig. 17: Villas around Cirencester

Another important component in the debate, relevant at this stage of our investigation, is the role of *villae*. Since the pioneering study by HODDER and MILLETT (1980) (cf. also the discussions of TODD, 1970, 1989), attention has rightly been drawn to the existence of haloes of substantial rural estate-centres around Roman towns in most parts of the Empire (Figure 17 for the recorded distribution so far in a part of S.W. Roman Britain). Significantly this phenomenon is associated with the more fertile agricultural zones and is weak or even lacking in poorer terrain (oft-quoted comparisons are the south versus the north of Roman Britain, and the same contrast in Germania Inferior). Although it is likely, particularly in the light of 'guesstimates' made for surplus production in Medieval England for different categories of landowners (MASSCHAELE, 1997), that the wealthier landowners were the main source of commercial surplus in the Roman Empire (excepting the *annona* of tax in kind paid by all producers in some provinces), recent studies suggest that the prime consumption of rural surplus was in local towns rather than distant

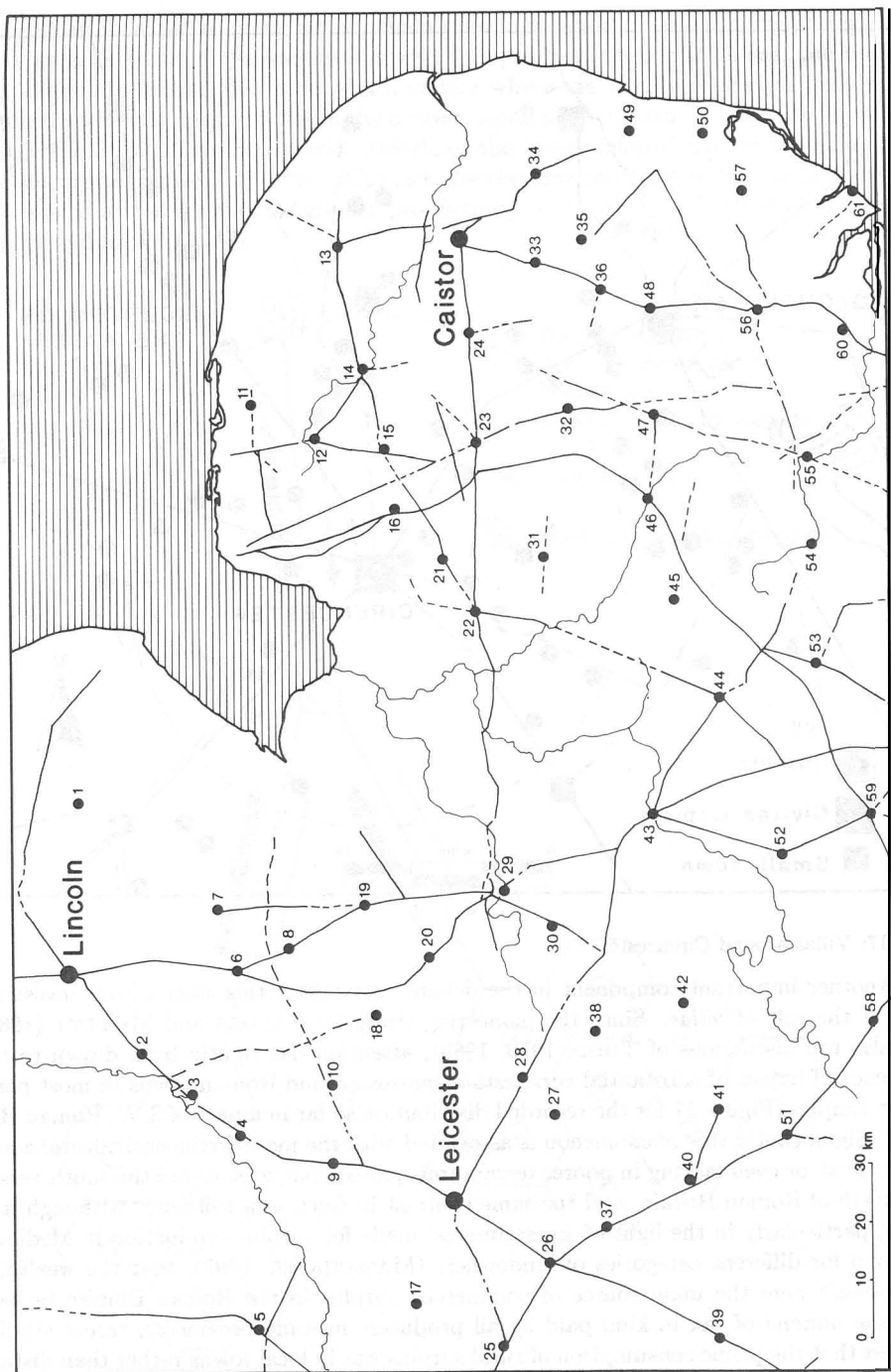


Fig. 18: Distribution of Small Towns in parts of the East Midlands and East Anglia

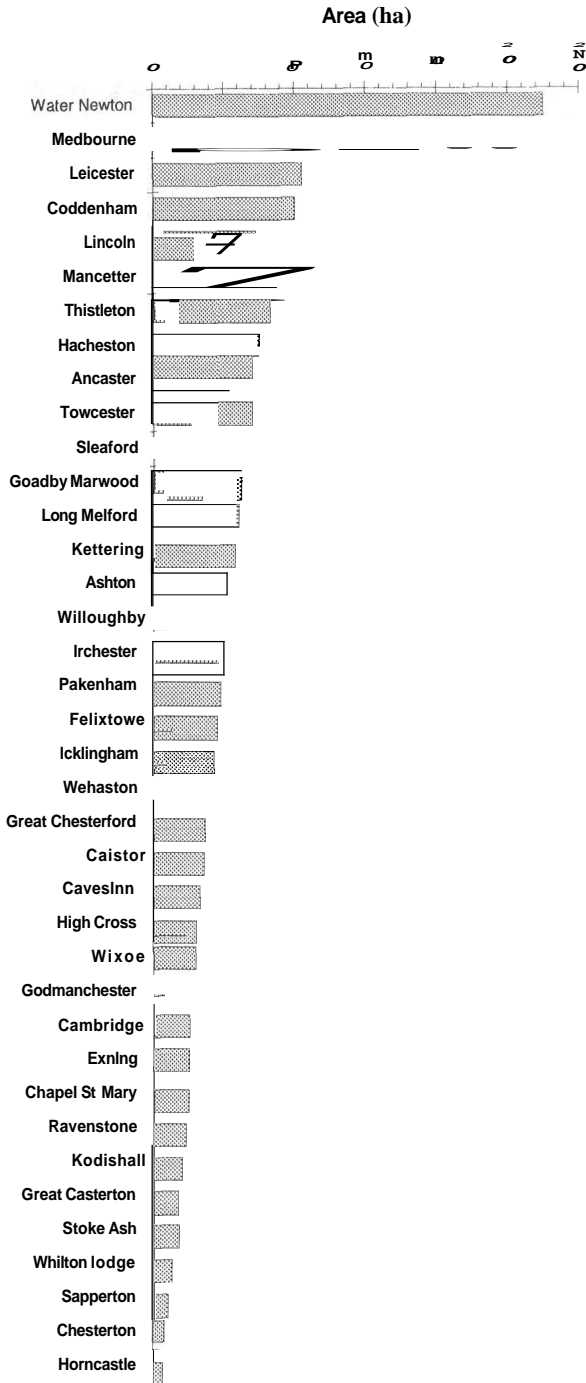


Fig. 19: Estimated size of Small Towns and Public Towns

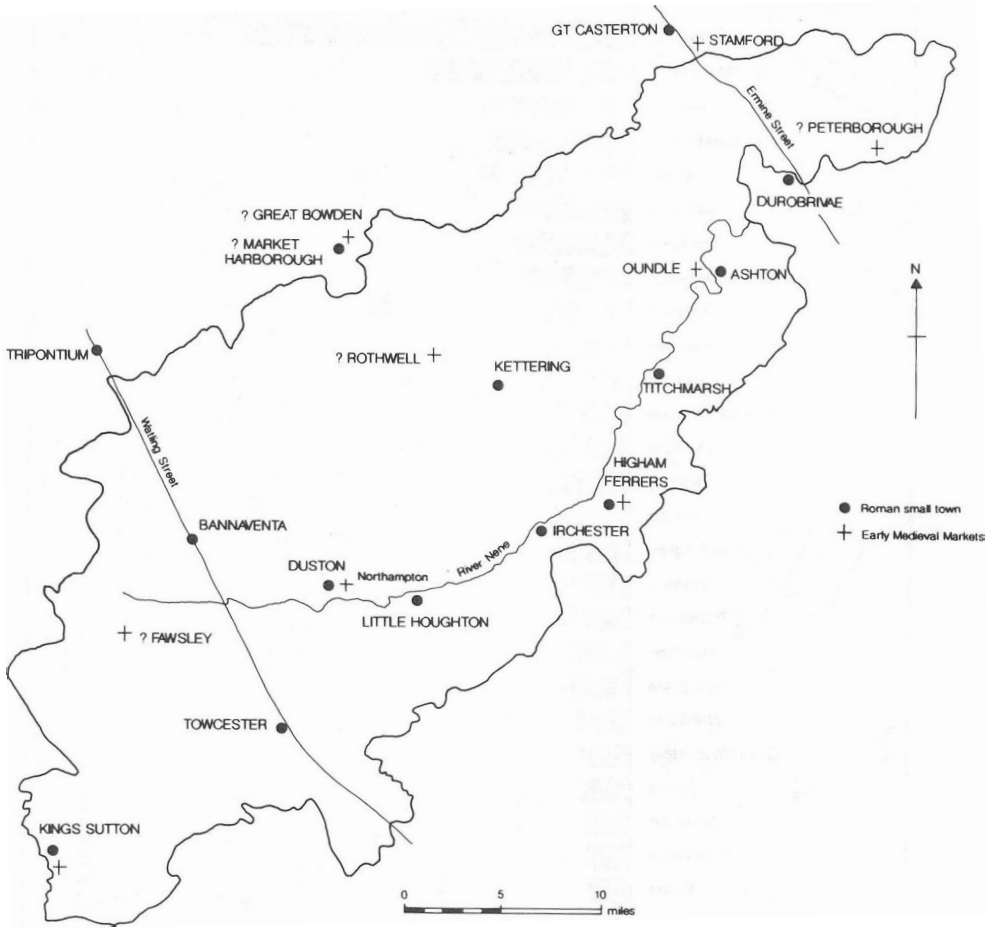


Fig. 20: Roman Small Towns and early medieval markets in Northamptonshire

markets (MORLEY, 1996; DE LIGT, 1993). Hence the development around such towns of *villae* – generally seen as commercial estates of the wealthier landowners for the most part – with a minority perhaps acting as rustic retreats without a dominant agricultural component.

These considerations are underlined by MARTIN MILLETT's recent study (MILLETT, 1995) of Roman small towns in the East Anglian region of England (Figure 18). It is very striking that with one or two exceptions, this numerous category of nucleation shows little signs of hierarchical ranking in terms of size (Figure 19), suiting a network of local centres of consumption and servicing rather than a network articulated around a vertical stacking

of hierarchical market foci serving to bulk-up surplus for export out of the region, or even the district of each small town. Equally consistent with this view of a market network well-below the complexity of Late Medieval times is the direct comparison carried out by **BROWN** (1995) in the same county, Northamptonshire, where we earlier examined Early Medieval marketing. **BROWN** maps the market network of 1086 and that of Late Medieval times alongside the Roman small towns for the same region (Figure 20). The Roman distribution is far closer in cover to that of 1086 – already seen as a rather basic market system – than that of later centuries.

6. Greco-Roman Urbanism Revisited

We have been led to suggest that ancient urbanism primarily derives from a later pre-historic combination of increasing settlement nucleation and the emergence, amongst small groups of such settlements, of 'central-places' with an essentially socio-political function. Originally the economic 'catchment' supplying these district foci would usually have been 'command economy' surplus rather than free-choice commercial market forces. Yet the same geographic gravity-field would have been influential in favouring central-place catchment radii that did not exceed some 15–20 kms' or 2–3 hours' travel, as operated in the genuinely commercial development of competitive market foci in the High Middle Ages in Northwest Europe. Nonetheless our comparisons appear to indicate that ancient district foci functioned in a far more limited way as nodes in the marketing of rural surplus than those of the late medieval era, being at a similar level to the simpler marketing systems identified in the earlier Middle Ages in England, for example.

On the other hand, even if the origins and early development of Greco-Roman urbanism fit this developmental scenario, changes may be expected when that Mediterranean-based civilisation expands its power into other regions of Europe, in the form of the Roman Empire. As a result of the prevalence of long-established city-states in North-Central Italy and most of the Eastern Mediterranean, Rome's concept of governance was based on delegation to towns. But in acquiring Gaul, parts of Germany and Britain, and the Iberian peninsula, Rome found itself with very extensive territories which had only limited preexisting forms of urbanism (Greek colonies in southern Gaul, Greek and Phoenician in limited coastal areas of Spain and the Maghreb; and indigenous oppida and hillforts in temperate N.W. Europe which really cannot be considered to be 'urban' in any Mediterranean sense).

Recently scholars have been studying the Roman reaction to this problem of provincial management, as a way both of gaining deeper insight into questions of urban theory and economic theory, and also to shed light on the nature of 'Romanisation'. One example will open our discussion, as it reveals intriguing results. **Kunow** (1988) has examined the relevance of **CHRISTALLER'S** Central Place theories for understanding the urban network of the province of Germania Inferior. He notes that the provision of major centres in the north of the region is incomplete to act as nested foci for a sizeable land area, and suggests that the key organizing concept here for the Romans was not to set up an efficient network of economic and socio-political centres at accessible intervals, but rather to provide nodes in a network of defence and transport links, with particular reference to the Limes borders to north and east (Figure 21). The northern sector therefore approximates to **CHRISTALLER'S** 'Transport Principle'. In contrast, the southern sector has a

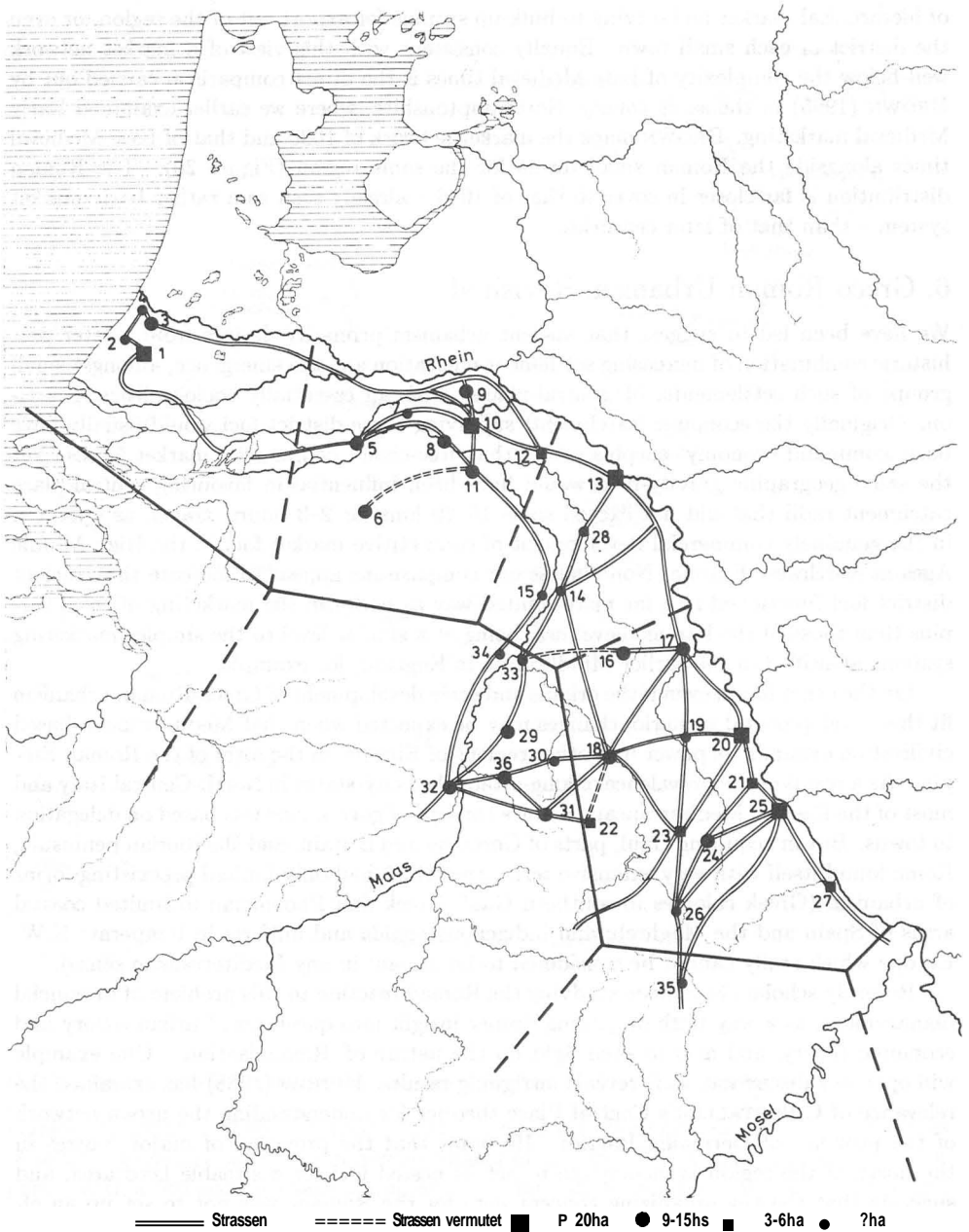


Fig. 21: Wichtigste Strassenverbindungen in der Germania inferior (nach Kunow 1988)

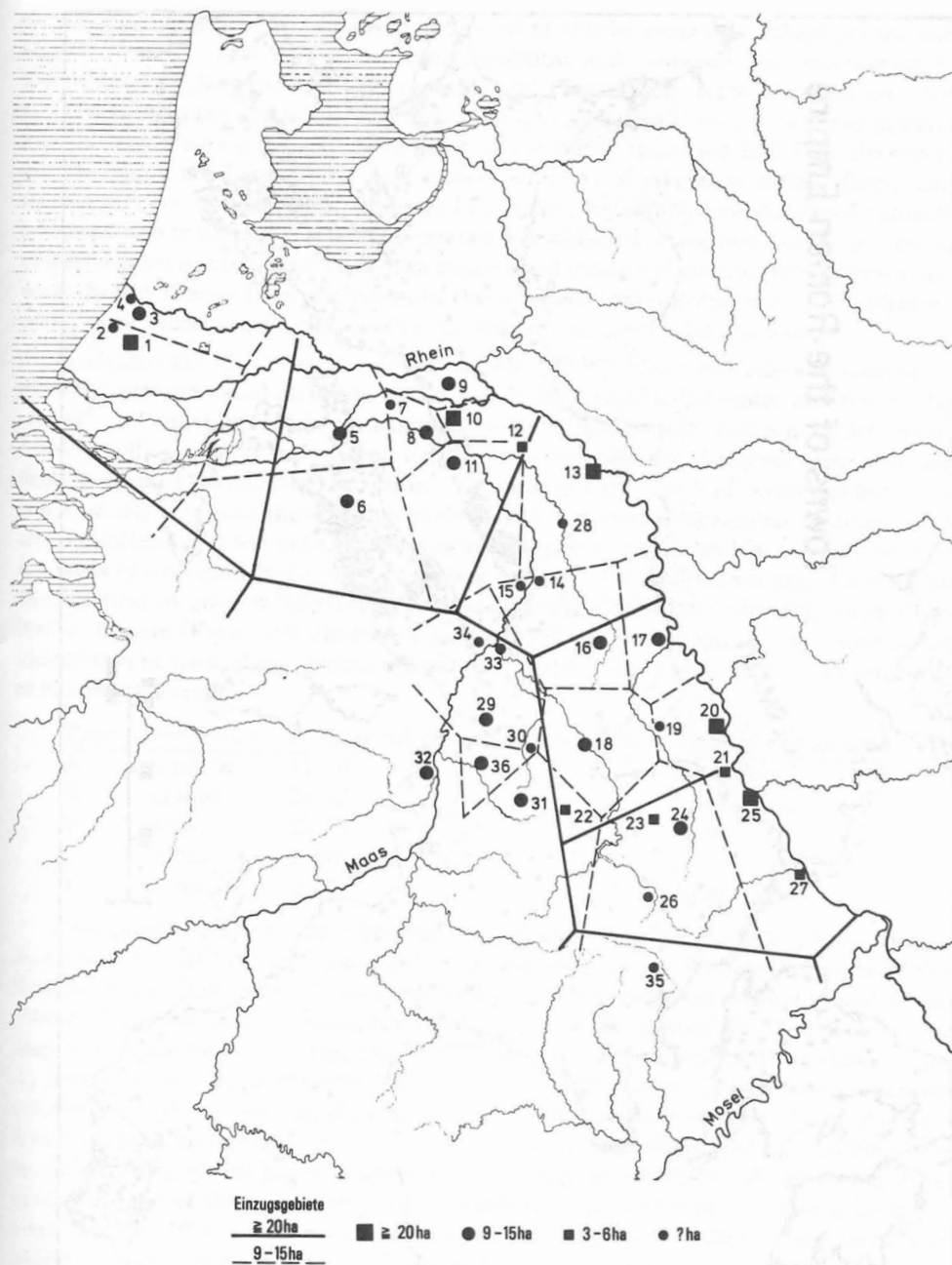


Fig. 22: Einzugsgebiete der zentralen Orte in der Germania inferior (nach KUNOW 1988)

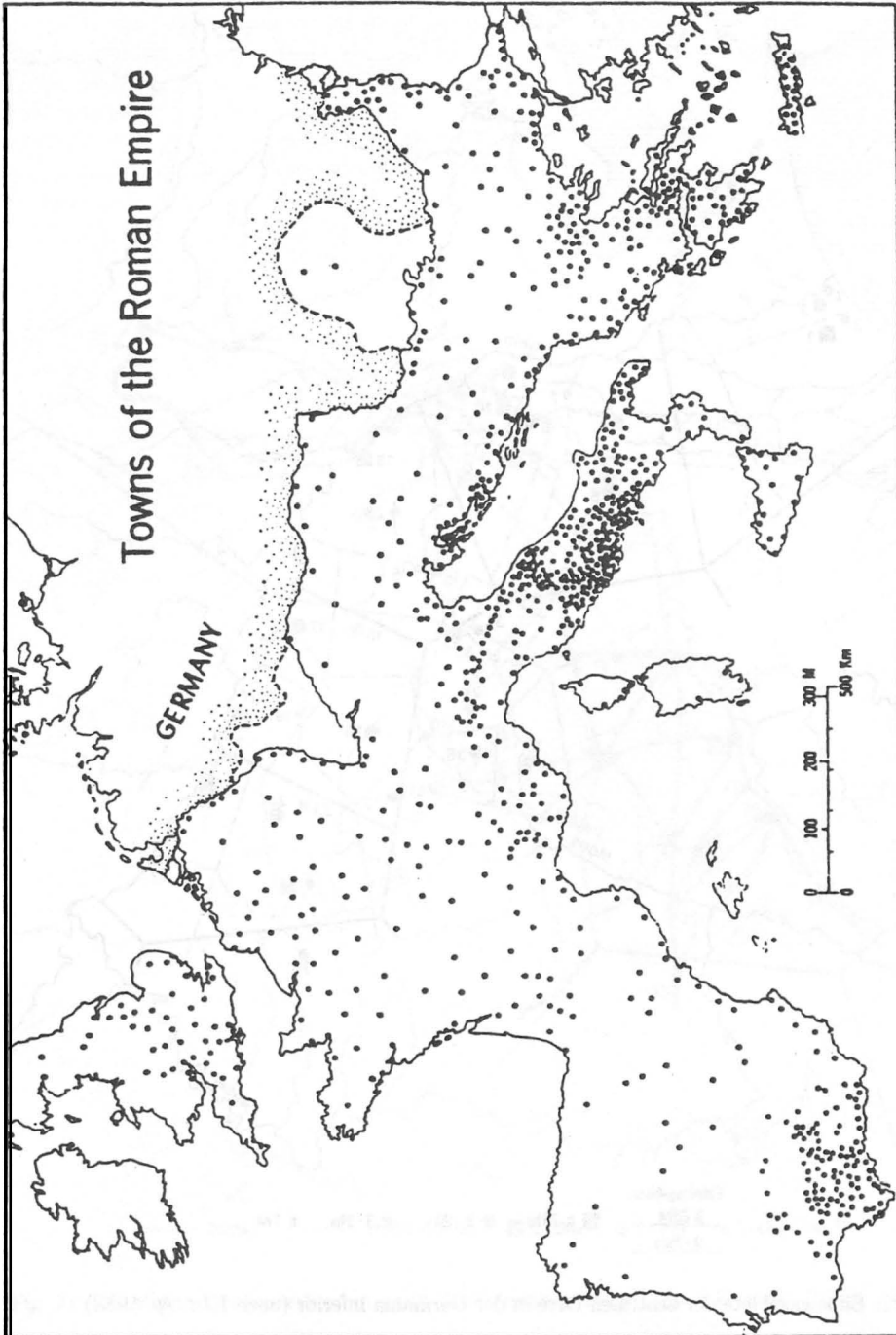


Fig. 23: Towns of the Roman Empire, from POUNDS (1994)

far more effective provision of two-dimensional territorial centres of varied status, and seems to offer a basic provision of socio-political and economic foci conforming to CHRISTALLER's 'Nourishment/Versorgungsprinzip' (Figure 22). Kunow points out that native society in the north had very little urbanisation before Rome, so that the primary imperial needs were strategic. In contrast in the south, nucleated foci were already in existence since the Late Bronze Age, though far short of taking on 'urban' form. But this dense cover of settlements surrounded by lesser rural establishments, usually already organized into tribal cantons and sub-cantons focussed on a settlement hierarchy – would provide a general substructure on which Rome could create a simplified regional town network. In fact Roman rural settlement in this southern region is elaborate, with plentiful evidence for villas – perhaps indicating the importance of regional marketing.

Much the most direct way to convert native settlement hierarchies into a Roman administrative network based on towns was to convert the largest tribal centre into the 'civitas capital', and either leave it in place or arrange for its displacement into a more accessible, route-friendly locale. If such places, together with the colonies of Roman army veterans liberally planted in conquered territories to ensure their stability and encourage both economic growth and Romanisation, provided a basis for regional provincial administration and tax-collection, it was natural that generally they were too few and far between to serve the needs of a comprehensive rural marketing network. The well-known map compiled by the historical geographer NORMAN POUNDS (POUNDS, *2nd Ed* 1994) showing towns of the Roman Empire (Figure 23) illustrates this contrast very well – with a very dense urban distribution in areas of pre-Roman urbanisation and a thin scatter in the newer provinces of Northwest Europe.

Type	Description	Average intercenter distance (km)	Type of exploitation
A	primitive	11–16	agricultural
B	colonial	21–37	agricultural
C	civitas	50–75	fiscal
D	civitas	> 90	fiscal
E	marginal	> 90	fiscal

A recent monograph by BEKKER-NIELSEN (1989) has brought POUNDS' pioneer survey up-to-date, and added significant depth to it. Focusing on the Western provinces of the Roman Empire, BEKKER-NIELSEN identified five basic and recurrent types of urban system (Tab.). They are distinct through a combination of the reasons for their foundation, their role in the landscape, and the inter-urban distances typical for their class. Type A, 'primitive', is characteristically the long-established city-state form of town, which we could merge with the 'Normalpolis' of Greek urban history. With a radius of control of 5,5–8 km only, such towns might typically have evolved from the 'village-state' forms discussed at the beginning of this paper. BEKKER-NIELSEN rightly emphasizes the dominant 'type of exploitation' of the associated chora or territory as 'agricultural', i.e. this is both the residence of and focus for farming populations, as a smallscale market centre, social and religious focus, and minor administrative node. Type B, 'colonial' is chiefly represented by Roman colonia. With control radii of 10,5–18,5 kms we are securely in the parameters suitable for district marketing on a day-return basis. Since this means that not only would the town be a residence of farmers as well as craft and trade populations, but in theory all the associated rural population of its territory could be serviced by the town, BEKKER-

NIELSEN rightly gives the dominant role here likewise to agricultural exploitation of the chom. The parallel to the traditional 'market town' of Early Modern England and the States (see supra) may well be appropriate. In Greek terms, we might term this type the 'Grosspolis' or 'big-town' as opposed to the 'village/small-town' of the preceding type.

In the next three categories in BEKKER-NIELSEN'S typology however, inter-urban distances are all well beyond daily access journey-times. Two kinds of tribal town or civitas capitals (C and D) are recognized, i.e. we are looking at networks that result from the modification of non Greco-Roman nucleated foci amongst indigenous tribal peoples. Finally in regions of the Western Roman Empire where geographical factors depress population density and economic productivity, BEKKER-NIELSEN recognizes a type E, 'marginal', urban form where towns are very rare and distant from each other. In all three types the dominant role of the town in its territory is termed 'fiscal', with the interpretation being that the town was there to collect taxes for its large region, form an administrative focus, and a residence for local elites, rather than serving as an effective market focus for the majority of the attached rural communities in its territory.

BEKKER-NIELSEN'S typology has a clear geographical structure to it, as can be seen in Figure 24, where a generalization is offered for Roman Italy, Gaul and Germany, in terms of the dominant form of urbanism that is recognizable empirically. In the heartland of Greek colonial, Etruscan and Roman civilisation in Italy, 'city-state' towns of type A are characteristic. In the rest of Italy and in southern France, Roman and Latin colonies and the transformation of native nucleated foci correspond to type B, regional urban foci, still frequent enough to act in basic market-town roles. In the remaining central and northern parts of Gaul and in the German province, however, BEKKER-NIELSEN characterizes the urban systems as types C and D, i.e. civitas administrative towns that are inefficient as rural market foci. It will already be observed that this appears to contradict KUNOW'S conclusions as regards at least the southern sector of Germania Inferior.

Here we can probe to a more comprehensive understanding of Roman urbanism. BEKKER-NIELSEN, and POUNDS, both took for their database the 'official' towns - municipia, coloniae, and cities allowed to keep civic status by the Romans. Their maps do not deal with a more spontaneous process, whereby the gaps between the official foundations might have begun to fill up with rural market centres which did not achieve official 'urban status'. Both BEKKER-NIELSEN and POUNDS are quite correct to stress the distinction observable between Mediterranean city-state urbanism (whether small- or large-polis, natural or planted and planned), and the officially-recognized and inspired tribal centre towns of conquered provinces. But wherever local populations were either already densely settled on fertile land, or burgeoned under the *Pax Romana*, the requirements of accessible service centres for marketing and exchange could be expected to stimulate the evolution of an intermediate level of central-place. Whether ultimately such nucleations achieved official urban status is probably irrelevant, except to indicate the likelihood that their role in the landscape was far more recent and less-established than that of Mediterranean city-states. But we have indeed already seen in the recent work carried out in Roman Britain, that there did arise such a series of lesser centres in the fertile, populous regions, many or most not meriting official urban status, and whose primary function will have been to ensure a reasonable blanket coverage of rural needs for service-centres at a day-return access level. The pioneer paper by HODDER and HASSALL (1971) (Figure 9) began

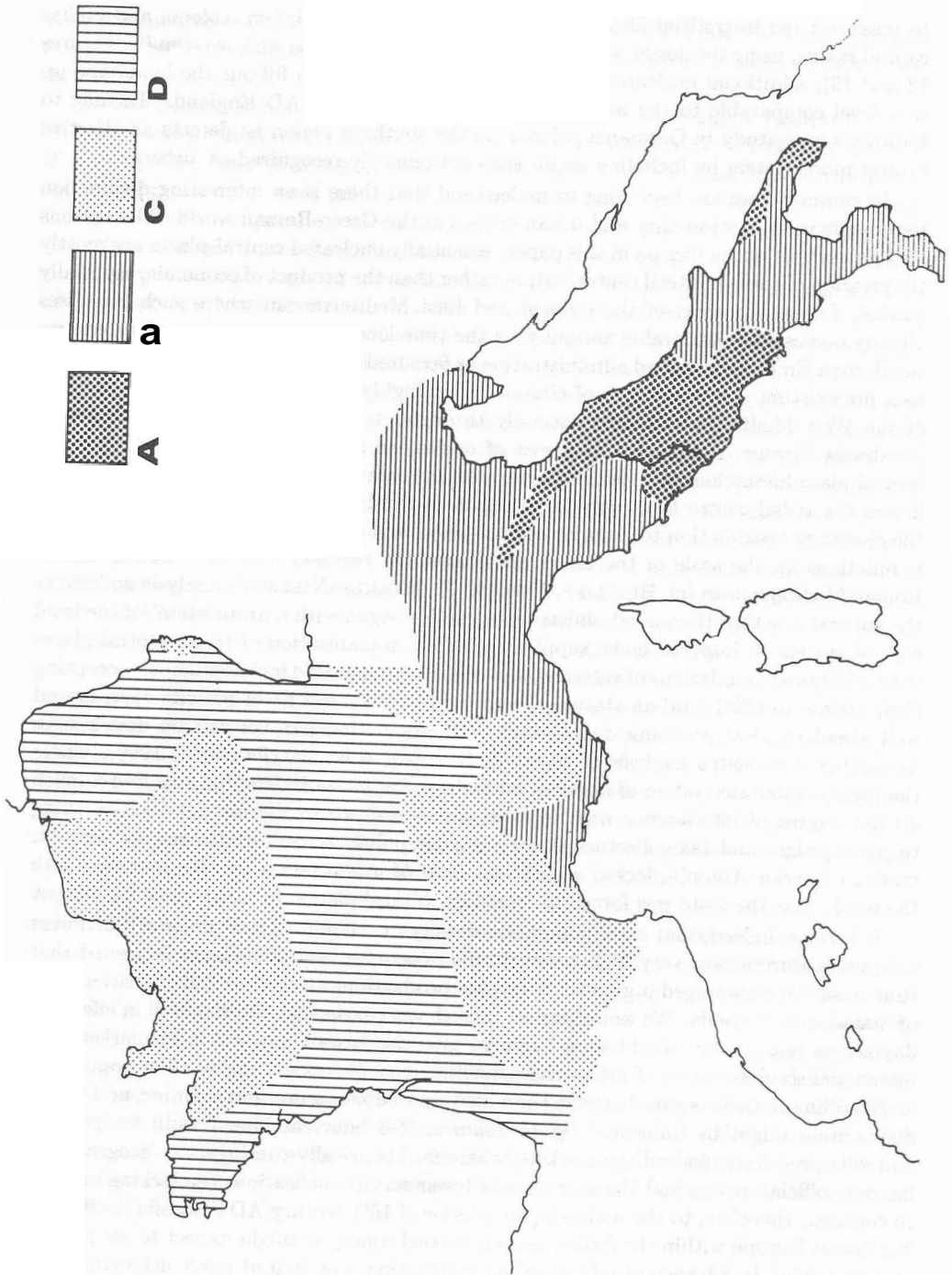


Fig. 24

to tease out the interstitial fill between major towns of *municipium*, *wlonia* and *civitas* capital status, using the 'lesser walled towns', but subsequently as we have seen (cf. Figures 18 and 19), additional nucleated foci have been documented to fill out the landscape up to a level comparable to the market network of 11th century AD England. Turning to Kunow's case-study in *Germania Inferior*, in the southern region he detects an effective central-place system by including major sites not officially recognized as 'urban'⁶.

In summary, we are beginning to understand that there is an interesting disjunction between market functionality and urban origins in the Greco-Roman world. The reasons for this were set out earlier on in this paper: essentially nucleated central-places are mostly the creation of socio-political centralisation rather than the product of economic, especially market, forces. In areas of the Central and East Mediterranean where such processes already possessed considerable antiquity by the time local centres were incorporated into the Roman Empire, delegated administration as favoured by Rome could easily be adapted to a preexisting, dense network of city-states, in highly-urbanized landscapes. In much of the West Mediterranean, and normally throughout the new provinces of temperate Northwest Europe, these same processes of nucleation and the development of regional central-place hierarchies were far less developed, in some areas not developed at all. Often it was the tribal centre for a very large region of rural small settlements that provided the closest approximation to a major central-place, and generally such places lacked high populations on the scale of the larger city-states and regional true cities of the Greco-Roman Mediterranean (cf. BINTLIFF, 1984, ch. 7). BEKKER-NIELSEN's analysis underlines the natural way that Roman administrative practice began with a 'translation' of the local control system to imperial ends, supplementing the romanisation of tribal central-places with additional foundations of veterans, and as further nucleated foci flourished – accepting their claims to official urban status. The administrative and fiscal priority then moved well ahead of ideal economic functionality. A fascinating parallel can be drawn with SULAIMAN FAROQHIS analysis of towns in Ottoman Anatolia (FAROQHI, 1990), where the highly-elaborate system of imperial administration based in Istanbul required a much greater degree of interference with regional societies down to the district level, wishing to place judges and tax-collectors at very regular points across the landscape. In fact, much of interior Anatolia lacked a sufficient level of urbanisation for this purpose, with the result that the state was forced to locate its 'central-places' in many **cases** in villages.

It is clear, indeed, that rural population density in the more fertile zones of Northwest temperate Europe was very high before Roman conquest, and likewise it is argued that Romanisation encouraged a growth in surplus production, marketing and the circulation of manufactured goods. We would expect in such a scenario that the shortfall in effective, day-access market foci would soon begin to give rise to two new kinds of market foci: interstitial service-centres of urban character (in range of services rather than population levels) filling the access gaps between the widely-spaced *municipia* and *coloniae*, and whose distribution might be influenced by 15–20km or 2–3 hour catchment radii for peasant and villa producers; and village markets, where for historically-contingent or geographical factors, 'official'⁶ towns and the new class of lesser service-nucleations are lacking or rare. In contrast, therefore, to the undeveloped interior of 16th century AD Anatolia, in Roman Northwest Europe within the fertile, densely-settled zones, we might expect to see market centres arising in advance of official urban recognition – or indeed never achieving such status, since their essentially economic role remained disjunctive to the imperial concept

of an administrative central-place. Here it is archaeology which is now the chief approach documenting the elaboration of a network of minor service-centres, in ways already noted earlier on in this paper.

At this point a striking parallel can be introduced with the insights RICHARD BRITNELL has drawn out of a comparison of urbanisation in High Medieval England and that of contemporary Italy (BRITNELL, 1991). At first sight, Italy (at least the North-Central regions) appears a far more 'advanced' society: towns are much denser, the percentage of town versus rural populations far higher. Yet recent study, not least by BRITNELL and other economic researchers, has shown that in critical areas such as mobilisation of surplus production through an ascending hierarchy of well-integrated markets, levels of GNP and personal wealth creation, and the overall population density, England is no way inferior to Italy. The imbalance of urbanism in favour of Italy has more to do with the historical trajectory of socio-political structures than it has to do with the economics of central-place theories. From the end of the 1st millennium AD into the 12th and 13th centuries, North-Central Italy witnessed a remarkable rise of defended, nucleated settlements in the context of a dominant feudal regime – the so-called 'incastellamento' process (POTTER, 1979; HODGES & WHITEHOUSE, 1989). Despite close links to district landowning elites, very many of these nucleated centres developed into city-states and asserted their autonomy as 'corporate communities' with 3–400 claiming semi- or full-independence of outside powers by the 11th century (WALEY, 1988), yet most were little more than glorified villages compared to modern towns. In fact, this bears all the essential marks of the '**Dorfstaat/Village-State**' process argued to have underlain the rise of city-state landscapes in Archaic Greece and the same regions of Italy some 1600 years earlier. And likewise, we would see the sheer multiplicity of urban settlements in Medieval Italy as the product of social and political change, upon whose further evolution geographical forces – especially market and wider service factors – might be expected to operate. In other words: just as we have suggested that the Greco-Roman city-state landscapes of the Mediterranean gradually converged towards economic and other service networks, but may ultimately have been no more or less efficient in marketing than the Northwest European provinces of Rome – where 'official' towns were much rarer, but just as many lesser nucleations arose over time to service dense rural populations; so in the High Middle Ages, it seems that if anything, the network and vertical hierarchisation of English large and small towns, and village market centres, were more effective in commercial marketing than the more closely-packed network of Italian city-states and their satellite nucleations. Amongst other observations in BRITNELL's comparison we might note the important point that in Medieval Italy, neighbouring cities were frequently close rivals or even enemies of each other, hindering a smooth flow of trade between them; in contrast, Medieval England was a unified monarchy where towns were inhibited from effective protectionism and stimulated to participate in the movement of goods within and between regions of the country. One might reflect that Romanisation would have found easier ground for the development of effective market systems in well-populated and fertile landscapes of the Northwest provinces, than amidst a possibly more conservative and inward-looking ancient city-state landscape in Central Italy or Greece.

7. Megalopoleis – Feeding the Great City

In the Greco-Roman world there existed a small number of giant cities, whose populations could run into hundreds of thousands, or even, in the case of Imperial Rome, perhaps as much as one million inhabitants. In the study of ancient urbanism, these abnormal agglomerations have been considered as prime examples of what SOMBART, and later FINLEY, referred to as 'consumer' or 'parasite' cities (see discussion in FINLEY, 1977). They had no significant craft or industrial production for export beyond the town, totally inadequate numbers of farmers to support the food needs of the city, and were not major centres for commerce except the one-way shipment of goods consumed by the city itself. The *raison d'être* of such giant centres was primarily political, their economy of the 'command' type – where foods, manufactured items, raw materials and luxury goods poured into the city from a very extensive region or series of regions under its political control, most of it demanded rather through tax and tribute than paid for by the city; that which was paid for was covered by cash in the absence of material goods produced by the city to exchange with. In return, the giant city provided 'services', mainly in the form of political and military administration, and the disbursement of large amounts of its cash income. It also offered an attractive residence to elites, and often subsidised lifestyles to ordinary people. ERNST KIRSTEN, in his seminal monograph on the Greek city (1956) distinguished these provincial and imperial capitals from the more typical Greco-Roman town (which arose through his *Dorfstaat* or Village-State model), and called them 'Megalopoleis'.

Contemporary scholars of Antiquity, although they would frequently dispute with FINLEY on the characterisation of the typical ancient town as non-productive in terms of exports regionally and inter-regionally, still tend to agree that Megalopoleis such as Antioch, Athens, Syracuse and Rome were essentially sustained by their political and social role rather than through exchange of products between city and supporting region(s). They cannot be considered in any way the product of market forces. On the other hand, it might be suggested that once such giant agglomerations come into existence in advanced, largescale societies, they can stimulate market forces through the logistics of their supply systems. Here once again it is German scholarship which provides the classic source for modelling this process. VON THUENEN's study 'The Isolated State' of 1826 generalized the observation of differential land-use around German cities into a famous concentric-ring scheme (Figure 25). The segregation of crop and animal husbandry zones reflected a number of variables: energy investment required, cost of transport to the city, ease of preservation of products, and value of product. The differentials typical for the major forms of land-use led to an observable tendency for their spatial segregation.

It is important to note the ideal nature of the model, which assumed equal transport costs and land productivity in all directions. To take account of real-world modifications, VON THUENEN modelled the channeling effect which a major navigable river crossing the region would have on distorting the rings of production. The model is clearly intended to serve as a point of comparison for signs of structuring in land use around actual historical regional centres. It has stimulated a number of historical studies, such as that on the effect of the growth of Medieval and Post-Medieval London on the pattern of land-use in South-East England (CAMPBELL et al., 1992), where there are clear trends of a transformation into specialized land-use regimes as a result of London's needs.

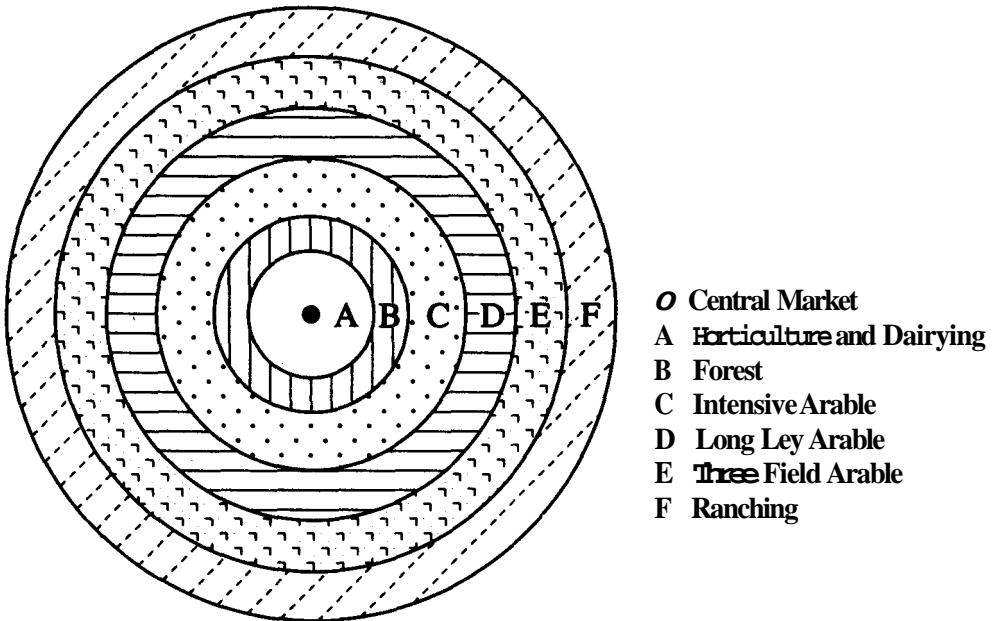


Fig. 25: VON THÜENEN's Isolated State

In 1994 I was led to argue, through observation of a bimodal pattern of rural villages in the hinterland of the megalopolis of Classical Athens, that urban demand had led to two forms of land-use as predicted by the central concept of the VON THÜENEN model: in the immediate surrounding countryside of Athens – within an approximate easy market-return radius of some 15 kms (Figure 26) villages are packed with a great density of between 1–2 km radius per settlement, whilst further away from Athens a more typical village radius of 2–3 kms is observed. My reading of this bimodality was that the outer villages were growing extensive crops of cereals, olives and pasturing much animal stock, whereas in the 'Greater Athens' band nearer the city, smaller village territories were associated with a focus on market gardening for the needs of the urban population. Indeed Athens almost certainly had an even more extensive effect in stimulating commercial production, as we find literary references suggesting the appearance on its market of the more storable and easily transportable agricultural and craft products from adjacent provinces (Megara, Boeotia).

MORLEY (1996) has investigated the potential effects of the city of Rome on its immediate region, and assembled suggestive qualitative evidence for specialized production of short-storage products such as flowers, fruit and vegetables in a *suburbium* zone. In addition, the same author has examined the effects of differential transport costs on the provision of the city of Rome. Using ancient formulae for the relative costs of transport by land, river and sea (ratio 25:5:1 respectively), he creates a map of the Central Mediterranean with two access zones in relation to Rome: one for goods which are moved 20 miles overland or the equivalent by boat, the other for 30 miles overland or its marine equivalent. Whether or not the ratios are exactly correct (and there is dispute on this issue – cf. for example

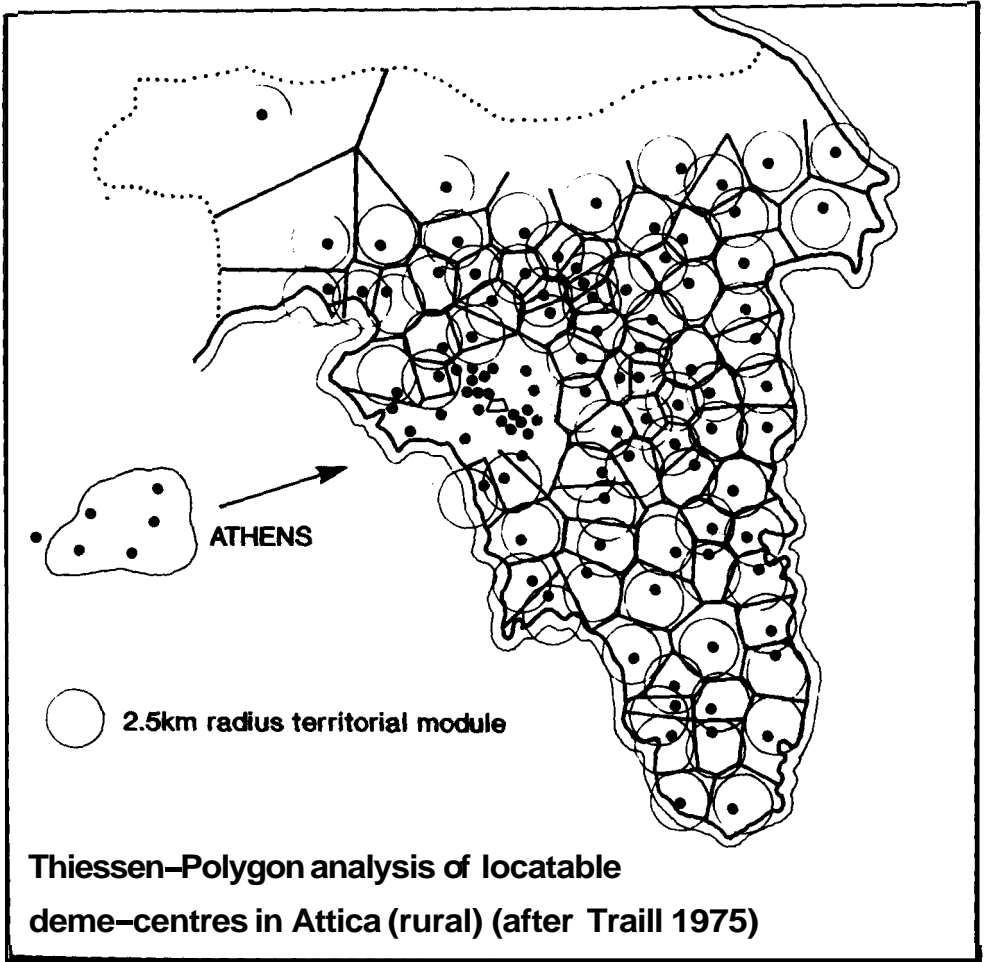


Fig. 26

POLFER, 1991), it is reasonable to concur that the provision of Rome from coastal Tunisia, Sicily and other close West Mediterranean islands was likely to have been easier than from most parts of peninsular Italy outside of a narrow western coastal strip. The importance of the highlighted zones of preferential access to provisioning Rome is well-borne out by both historical and archaeological evidence, so that we can indeed support the view of land-use transformation reflecting market principles.

MORLEY does however point out that a simple dominance of Rome on western Italy's coastal production is contradicted by evidence such as that of the great villa at Sette Finestre, where production could easily have been geared to the great city, but at least as far as wine exports seems rather to have been for the market of southern Gaul.

In general, however, the value of von THUENEN's general model in terms of megalopoleis can be justified from the few case-studies reviewed here, and indeed at the widest level

Rome's impact on the patterns of land-use in its entire Empire deserve consideration in the same light. Contemporary writers themselves commented that Rome's cereal fields were Sicily and Egypt, its olive groves Spain and Tunisia, and there are references pointing to pig and sheep-goat specialisation influenced by Rome's needs in remoter Southern Italy.

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