Centre and Periphery

Comparative Studies in Archaeology

Edited by T. C. Champion

ONE WORLD ARCHAEOLOGY

5 *Greeks and natives in south-east Italy: approaches to the archaeological evidence*

RUTH D. WHITEHOUSE and JOHN B. WILKINS

Introduction

Recent years have seen much work on the relationship between Greeks and the populations of southern Italy that were *in situ* before the Greeks arrived.[1] While much of this work is interesting, the majority continues to be characterized by two tendencies that we regard as unhelpful. First, there is the uncritical acceptance of the writings of Greek and Roman authors and a corresponding inclination to interpret the archaeological record in traditional historical terms, in line with the ancient authors. We have written about this elsewhere, so will not pursue it further here (Whitehouse & Wilkins 1985). Equally invidious is the strongly pro-Greek prejudice of most scholars, which leads them to regard all things Greek as inherently superior. It follows that Greekness is seen as something that other societies will acquire through simple exposure – like measles (but nicer!). These attitudes are apparent in the vocabulary used to describe the process: scholars write of the 'hellenization' of southern Italy, rather than employing terms such as 'urbanization' or 'civilization'. However, hellenization is a weak concept, lacking in analytical power, since it is evident that not all aspects of Hellenic culture are equally likely to have been adopted by the native south Italians, or at the same rate. The concept of hellenization may have some use in a restricted context, for a study of pottery styles or architecture, for instance. As a tool for examining profound changes in the organization of society it bypasses the relevant issues.

In this chapter we accept that profound changes in native society *did* occur after the arrival of the Greek settlers. We must emphasize, however, that we do not believe that these changes occurred as the direct result of some inherent or factually documented cultural superiority of the Greeks. On the contrary it is plausible to assume that the Greeks themselves were not fully urbanized at the time of their arrival, and were themselves subject to the general Mediterranean transition towards full urbanization during the first few centuries of their Italian settlement. For the native inland peoples, the case appears rather to be that these general Mediterranean moves towards urbanization were *mediated* through the Greek settlers on their southern and

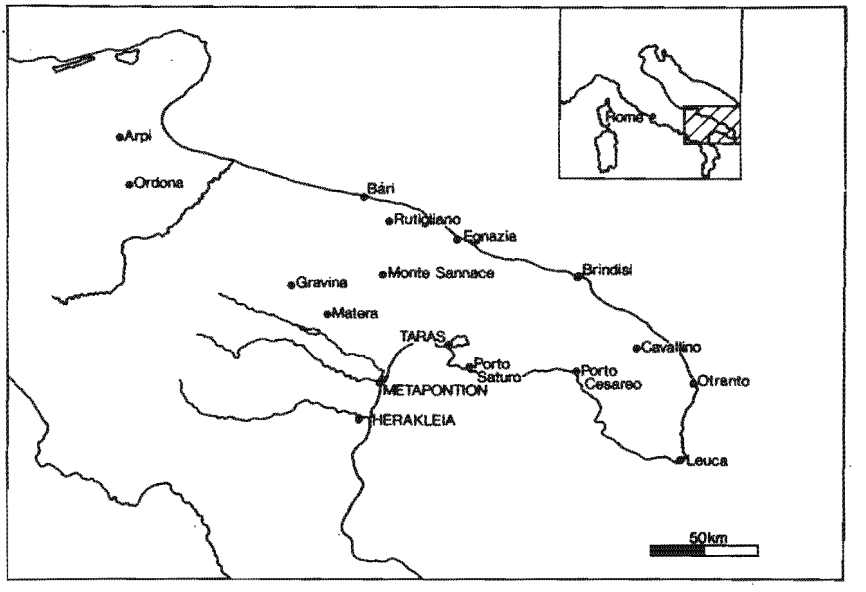

Figure 5.1 Map of south-east Italy showing the most important sites mentioned in the text.

western coasts. Our approach to the issue here is through an examination of the archaeological evidence. It is not intended as a comprehensive account, but rather as a preliminary attempt to cast off the shackles of the pseudo-historical approach and to employ models appropriate to the examination of archaeological data. The area of the study is limited to south-east Italy, defined as the region of Puglia and the eastern part of the region of Basilicata (Fig. 5.1).

We shall discuss in turn (a) the evidence, (b) the Greek cities, (c) the relationship between Greeks and natives, and (d) changes in the native communities.

The evidence

The quality of the archaeological evidence available for analysis is uneven and often very poor.

Settlements

Many native settlements are known, but few have been excavated or surveyed on any considerable scale. Many of them underlie sites of later periods and are more or less inaccessible. Because of the restricted scale of

excavations, little is known about the layout or the buildings of these settlements. In many cases the existence of a native settlement is inferred from the discovery of cemeteries, but the settlement site itself has not been located.

Burials

Very large numbers of tombs of the 8th–3rd centuries BC are known in south-east Italy and between them they have produced vast numbers of pottery vessels, as well as many artefacts of metal and other materials. Unfortunately, the combination of large-scale tomb-robbing, in both ancient and modern times, and poor recording by earlier generations of archaeologists, means that we rarely have even small groups of tombs, let alone whole cemeteries, where the tomb structure, human remains and grave goods all survived and were adequately recorded. Detailed analyses of individual cemeteries are therefore precluded, although it is possible to identify general trends in development.

Data from aerial photographs

The application of aerial photography to the archaeology of south-east Italy began with the work of John Bradford at the end of the last war (Bradford 1957) and has been continued by Italian archaeologists ever since. In south-east Italy the technique has proved particularly useful in the Tavoliere plain, where not only the well-known Neolithic ditched sites, but also settlements of Iron Age and Roman date show up as crop marks. Aerial photography has also brought to light the system of land boundaries in the territory of the Greek city of Metapontion, modern Metaponto (Schmiedt & Chevallier 1969, Adamesteanu & Vatin 1976). Large areas of south-east Italy, however, are given over to the cultivation of olives and other trees, and in these areas aerial photography is of little use.

Data from field survey

Modern field survey, which can provide important information about the past exploitation of whole landscapes, has not been applied widely in south-east Italy and not very often to the Iron Age or classical periods. Surveys in the Tavoliere (Cassano & Manfredini 1983), the Ofanto Valley (Cipolloni Sampò 1980), the Murge between Gravina and Matera, and in the Brindisino have concentrated on earlier periods, especially the Neolithic (references in Whitehouse 1981b). Two surveys which *are* of relevance to the present study are those conducted in the territory of Metaponto (Uggeri 1969, Chevallier 1971, Carter 1981) and between Gravina and Venosa (Vinson 1973, and forthcoming).

The Greek cities

In the area that concerns us there were only two major Greek cities: Taras and Metapontion, both situated on the Ionian Gulf. There were no Greek cities on the Adriatic coast of southern Italy, although it is possible that there may have been Greek communities existing within some native settlements, such as Brindisi and perhaps Otranto.

From an archaeological point of view Taras and Metapontion present a marked contrast. Taras lies directly under the modern town of Taranto and there has been continuous occupation of the site from the prehistoric period to the present day. As a result there are very few surviving Greek remains, and reconstruction of the plan of the ancient town is dependent on judicious exploitation of urban redevelopment and on chance finds. The situation of Metapontion could hardly be more different, since as a result of geological and climatic factors and especially the incidence of malaria, the area was more or less uninhabited from the late Roman period until after World War II. A comprehensive programme of aerial photography, field survey and excavation carried out since 1966 under the guiding hand of Dinu Adamesteanu (1979), former Soprintendente archeologico for Basilicata, has produced a wealth of information about the layout and buildings of the city itself and also about the land divisions of its territory (*chora*).

Taras

According to classical writers Taras was founded in 706–705 BC by dispossessed illegitimate sons (*Partheniai*) of Spartan women and helot men. (The helots were a subject class in Spartan society.) Archaeology seems to give support to the date, since the earliest material yet found in the city dates to the late 8th century BC. It also appears to support the account (Strabo VI, 278–9) that the establishment of Taras was preceded by an earlier settlement at Satyrion. This site has been identified at Porto Saturo, south of Taranto, where excavations have yielded Greek material dating from *c.* 750 BC onwards (Lo Porto 1964). The first settlement of Taras, perhaps provided with defensive walls from an early stage, lies under the present Città Vecchia, while its cemeteries are situated to the east under the Borgo Nuovo. Evidence of at least two arterial roads has been found and it is likely that the orthogonal plan that characterizes the present street system goes back to the 6th century BC. In the 5th century BC the city expanded into the former cemetery area and new defences were built, with a length of some 10 km. The city flourished until the 3rd century BC, falling to the Romans in 272 BC, after which it never regained its former status.

As the classical authors describe it, Taras was a city rich in buildings and sculpture, but of all the architectural splendour nothing survives but a few columns and fragmentary foundations underlying later buildings in the Città Vecchia. However, a range of statues, bronzes and fine pottery found in

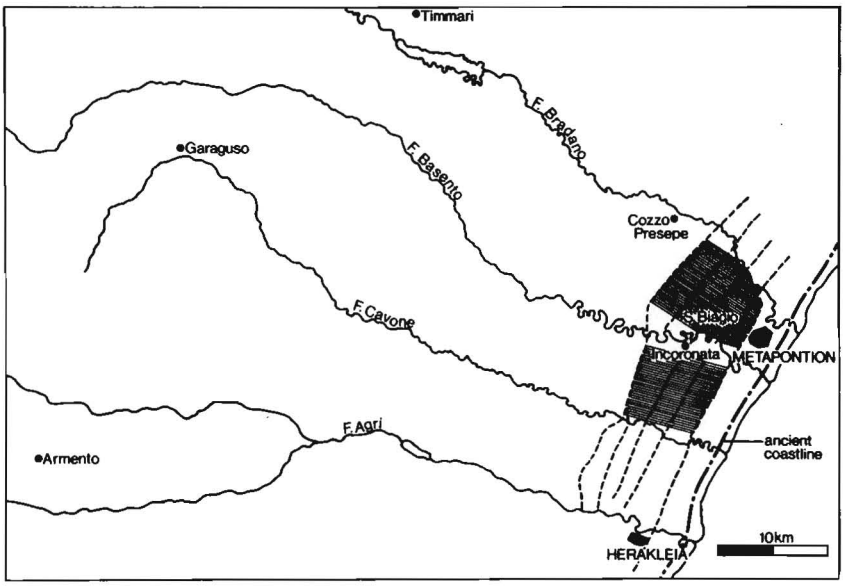

Figure 5.2 Map showing the territory and hinterland of Metapontion.

Taranto and now in the National Museum provides some indication of the artistic wealth of the ancient city.

Metapontion

The city of Metapontion was situated some 40 km southwest of Taras, further round the Ionian Gulf. According to tradition it was founded by men from Achaia and Troizen in central Greece in 773 BC, but in this case the archaeological evidence does not support the traditional foundation date. In fact the city on the sea shore was not established before about 650 BC, although as at Taras there is evidence of Greek material in the area from the mid 8th century BC onwards: the site of Incoronata, some 9 km inland on the west side of the Basento river, has produced both native pottery and Athenian and Corinthian wares dated *c.* 750–650 BC. Excavations in the city of Metapontion have uncovered parts of the city walls (probably first built in the 6th century BC) and many public buildings, including several temples, the agora, and the theatre. There was an industrial area in a central part of the city where a series of kilns has been excavated which produced, *inter alia*, Red-figure pottery of the later 5th century BC. The city flourished in the 6th and 5th centuries BC, but declined from the 4th century BC onwards, suffering attacks, according to the traditional historical record, from Lucanians, Romans and eventually Carthaginians (in the Punic Wars of the late 3rd century BC).

The most exciting aspect of the work at Metaponto has been the discovery of the land divisions of the city's *chora* (Fig. 5.2). It was found that anomalies on aerial photographs corresponded to regularly spaced depressions in the ground distinguishable by lusher vegetation and assumed to be ancient land divisions (possibly also serving for land drainage, at least in a later phase of use). The pattern consists of long parallel strips, stretching 12–14 km inland from the city wall and crossed by transverse boundaries delimiting individual lots. There were two areas of such land divisions: an eastern area between the Bradano and Basento rivers containing 39 strips of land, and a western area, slightly smaller in size and perhaps also slightly later in date, between the Basento and the Cavone rivers. The total surface area covered is *c.* 13 000 ha and probably represents the entire territory of Metapontion, since the area east of the Bradano was almost certainly Tarentine territory, while the area west of the Cavone belonged to the neighbouring Greek city (Siris at an early stage, later Herakleia). Field survey has discovered some 400 sites in the territory of Metapontion, mostly identified as isolated farmhouses. Many of these were constructed in the 6th century BC and it seems likely that the system of land division was laid out in that century, perhaps in the first half. Around 600 BC the native settlement at Cozzo Presepe, situated to the west of the Bradano river some 15 km inland, was violently destroyed and replaced by a heavily fortified Greek stronghold. It seems likely that it became a Metapontine outpost guarding the farmsteads and should therefore be associated with the laying out of the land divisions. It may also be taken to mark the north-east corner of Metapontine territory.

Greek territorial control

As we have seen, Metapontion seems to have controlled a territory of some 13 000 ha extending no more than 14 or 15 km inland. We have no comparable information from aerial photography or field survey about the territory of Taras, but we can make some calculations about its maximum extent from the distribution of known native settlements in the area; we may safely assume that native settlements of any size would not have been allowed to flourish within the *chora* of Taras itself. On this basis we may deduce that Taras controlled an area with a radius of only 10–12 km around the city itself, and a strip of land extending along the coast to the west as far as the Bradano river (and the territory of Metapontion), and inland no more than *c.* 15 km (Fig. 5.2). The maximum area that could have been under Tarantine control was about six times the size of the territory of Metapontion.

The point that should be emphasized is the small amount of land that was under direct Greek control, extending no more than 15 km from the Mediterranean coast – a situation that may well have been true of the other Greek cities of Magna Graecia also. Plato's image (*Phaedo* 109B) of the Greeks as frogs around a puddle seems appropriate indeed! Beyond the 15 km line native settlements continued to flourish, apparently free of direct

Table 5.1 Archaeological expectations for two hypotheses

Evidence	Greek control	Coexistence
Greek settlements	Outlying settlements or at least forts in native territory	None outside *chorai* of Greek cities
Greek-style defences and architecture		
nature	Indistinguishable from those of Greek cities	No more than generic similarity to those of Greek cities
distribution	Uneven distribution: some sites more Greek than others	Even distribution within given radius of Greek area on sites of equal status; decline with distance from Greek area
date	Early occurrence on some sites in strategic positions throughout territory	Generally later; date becomes later with distance from Greek area
Greek artefacts		
nature	Domestic as well as prestige goods on some sites; also coins	Emphasis on prestige goods and transport amphorae
context	Domestic as well as funerary and ritual	Mostly funerary and ritual
association	Some 'pure' Greek contexts	Always associated with local products
distribution	Uneven distribution: some sites with much more Greek material than others	Even distribution within given radius of Greek area on sites of equal status; decline with distance from Greek area
date	Early occurrence on some sites throughout territory	Date becomes later with distance from Greek area

Greek control, though certainly in contact with the Greek cities. It is the *nature* and especially the *effects* of these contacts that concern us in the pages that follow.

The relationship between Greeks and natives

The main theoretical alternatives would seem to be:

(a) Political or military control of the natives by the Greeks. This would require a significant Greek presence in the area, either on separate sites or within native settlements. One would expect either a system of separate forts or well-fortified native settlements in which the Greek administrators and service personnel could be housed.

(b) Coexistence between Greeks and natives. For coexistence to work, it would have had to be generally peaceful, although there could well have been episodes of hostility or actual warfare. Peaceful coexistence would have been articulated by mechanisms such as trade or exchange relations and marriage alliances, as well as diplomatic contacts and possibly formally negotiated treaties.

In order to choose between the two hypotheses, we may list the archaeological expectations for each case. Some of these expectations, chosen for the likelihood of recognition in the archaeological record in this particular case, are tabulated here (Table 5.1).

Greek settlements

Outside the *chorai* of Metapontion and Taras no 'pure' Greek settlement or fort sites have been found.

Greek-style architecture and fortifications

Throughout inland Calabria, Basilicata and Apulia native settlements acquired fortifications which were in a general sense of Greek type. How these should be interpreted depends on three main factors: their nature, their distribution and their date. As far as their nature is concerned, they do not seem to be unequivocally Greek. Morel (1983, p. 127) has written: '. . . many of these fortifications are *grosso modo* of Greek type, but with variations or errors in planning which prevent their being considered completely Greek'. This would suggest that they were built by natives copying Greek prototypes. Their distribution is very widespread within inland southern Italy, but the information on chronology is so poor that we cannot establish whether the distribution represents a chronological palimpsest or a uniform pattern established more or less at one time. On very few sites are the defences well dated: at both Botromagno (Gravina) and Monte Sannace (Gioia del Colle) they were apparently built in the 4th century BC, while on some of the sites to the west of the area under immediate consideration they were built either in the 5th century (Satrianum) or in the 4th (Serra di Vaglio) (Scarfi 1962, Holloway 1970, Greco 1980). There is no clear evidence of the appearance of Greek-type defences earlier than the 5th century BC on any site.

Little is known about the buildings within the native settlements before the 4th century BC. The presence of Greek-type decorative elements, such as terracotta antefixes, from the 6th century onwards, is sometimes taken to indicate the existence of buildings of Greek type, specifically temples or other public buildings. However, no such buildings have yet been found on any native site, and their presence cannot be assumed on the basis of the architectural terracottas alone. In fact these terracottas may have been traded as elements in their own right, along with other kiln products such as pottery vessels and votive figurines; they may have been attached to buildings of

non-Greek type or indeed used for some other purpose altogether. That they did not necessarily come off buildings of Greek type is indicated by their occurrence on sites in the Tavoliere plain of northern Apulia where very few imported Greek objects occur, and which remained relatively unaffected by Greek culture throughout the whole period under discussion. Where buildings have been excavated in the native settlements they appear, like the fortifications, similar in a general way to Greek buildings without showing any very close parallels. Few good examples are known before the 4th century BC.

The most Greek-looking features to appear in inland southern Italy are the sanctuaries. Recent work has brought to light a series of sanctuaries of Greek type both in southern Apulia (provinces of Lecce, Taranto and Brindisi) (Fig. 5.1) and in Basilicata, to the west of our area (Fig. 5.2). To date none have been found further north in central or northern Apulia. The south Apulian examples occur at Leuca (Grotta della Porcinara), Porto Cesareo (Scala di Furno), Oria, Rocavecchia and Egnazia; the earliest are those at Leuca and Porto Cesareo, dating to the 7th century BC (Adamesteanu 1979). The sanctuaries in Basilicata occur at Timmari, Garaguso, Serra di Vaglio, Rossano di Vaglio and Serra Lustrante di Armento (Dilthey 1980, Lattanzi 1980). Most were in use from the 6th century BC, although the monumental sanctuary at Rossano di Vaglio was built only in the 4th century. Most of these sanctuaries are not within settlements but outside them, often associated with water sources. Most of them have no monumental structure, or slight structural traces only, and are known from votive deposits containing pottery vessels (both Greek and native), figurines, and sometimes coins and other metal objects. Only in the later examples, such as Rossano di Vaglio, do we find actual buildings. These rural sanctuaries are very similar to those found in the *chorai* of the Greek cities themselves. The Metaponto survey found such sanctuaries at Incoronata, S. Biagio, Pizzica, S. Angelo Vecchio and S. Angelo Grieco, with dates from the 7th to the 5th centuries BC (Carter 1981, Dilthey 1980). Only the latest example, S. Angelo Grieco, produced any monumental structural remains. In the area of Taranto we know of two sanctuaries at Torre Saturo (Satyrion): one on the acropolis and another associated with a spring on the southern slope.

Greek artefacts

NATURE

The Greek artefacts found in the native area fall predominantly into the class of prestige goods, mostly fine pottery, including Corinthian and Attic imports (Figs 5.3 & 5.4). Many are vessels associated with wine drinking: the drinking vessels known as 'Ionian cups' are the commonest, but jugs of various kinds (*oinochoai* and *olpai*) and mixing and storage vessels such as *krateres*, *stamnoi* and *hydriai* also occur. Small vessels for unguents – *aryballoi*, *alabastra* and *lekythoi* – occur too. Transport amphorae, used for wine and olive oil, are also found, but as these normally occur in fragmentary form on

Figure 5.3 Early 5th-century BC Attic Red-figure *krater* from a tomb on Botromagno, Gravina. Height=41 cm.

A settlement sites rather than complete in tombs, they are less likely to be recognized. Votive figurines are found, usually in the sanctuary sites. As well as pottery, bronzes occur: Corinthian-style helmets and other armour; gold and silver objects, such as jewelry, are known from a few rich tombs like those at Rutigliano. Coins occur rarely before the 4th century BC; when they do, they occur mainly as stray finds, although a few hoards are known. They are too few for them to have been in general circulation. Greek-type household wares do not normally occur before the 5th century BC and do not become common until the 4th, by which time they were being made in many centres throughout southern Italy.

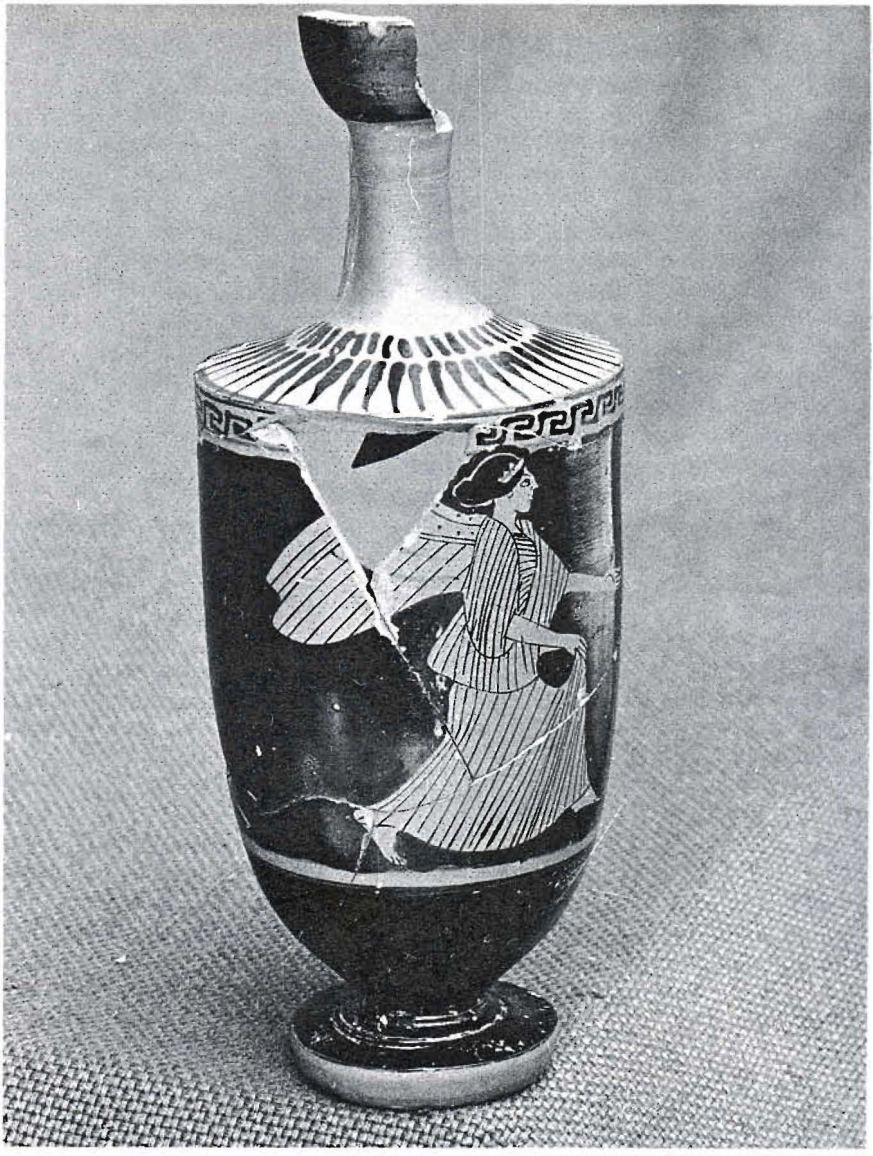

Figure 5.4 Early 5th-century BC Attic Red-figure *lekythos* from a tomb on Botromagno, Gravina. Height=17.5 cm.

CONTEXT

Numerically, most of the Greek imports have been found in tombs, although the sanctuary sites have produced disproportionately large quantities of Greek goods in relation to their number. By contrast, relatively little

Greek material is found in domestic deposits on settlement sites. Morel (1983, p. 129), has made this point in connection with Garaguso, where three different types of context have been excavated. The highest proportion of Greek pots occurs in the votive deposits (where native pots are rare, though not entirely absent); the tombs produce both Greek and native pots, while the settlement produces very little Greek pottery and native wares predominate. This pattern is probably a general one throughout southern Italy. Incidentally, it serves well to illustrate the problematic nature of the concept of 'hellenization' discussed above, for the sanctuary at Garaguso is more hellenized than the cemetery, which is itself more hellenized than the settlement – and yet probably all three (and almost certainly the settlement and the cemetery) were used by the same people.

ASSOCIATION

Greek artefacts are invariably associated with native products on all sites outside the *chorai* of the Greek cities; there are no 'pure' Greek sites, though at Garaguso the sanctuary site produced only tiny quantities of local material. Elsewhere the mix is more evenly balanced or is weighted strongly in favour of the local products.

DISTRIBUTION AND DATE

The unevenness of data recovery makes it difficult to assess the distribution of Greek goods in south-east Italy. In general, however, there seems to be a pattern of greatest quantity and earliest date in areas nearest to the Greek colonies, with a reduction in quantity and lowering of date with distance from them. Native sites in southern Apulia have produced Greek pottery of 7th-century BC date (Leuca, Brindisi), or even 8th-century (i.e. 'pre-colonial') date (Otranto, Porto Cesareo, Cavallino) (Adamesteanu 1979, Istituto di Archeologia 1978, 1979a, 1979b). In the area of central Apulia and eastern Basilicata, the imports began in the late 7th century BC and became common in the 6th. (Central Apulian sites include Ruvo, Rutigliano, Noicattaro, Valenzano, Conversano, Gioia del Colle (Monte Sannace), Altamura, and Gravina (Botromagno) (Adamesteanu 1979); sites in eastern Basilicata include Pisticci, Montescaglioso, Miglionico, Ferrandina, Garaguso, Timmari, Matera and Monte Irsi (Soprintendenza 1971, 1976, Lo Porto 1973).) Further north still, in northern Apulia, the first imports belong to the later 6th century BC and are very much sparser in distribution than further south. (Sites where they have been found include Canosa, Ascoli, Lavello, Arpi, Ordona, Salapia, Guadone and Cupola (Mazzei 1985).)

Reference to Table 5.1 indicates that in almost all respects the data fit the 'coexistence' model better than the 'Greek control' model. This point is emphasized if we compare the evidence with that for the period of the Roman Republic from the late 4th century BC onwards. The Romans undoubtedly *did* exercise political and military control over southern Italy and at that time we find evidence of most of the features listed in column 2 of

Table 5.1, which are notably lacking in the earlier period. For example the Romans established settlements within the area they brought under their control (Lucera, founded 314 BC, Venosa, founded 291 BC) and these were in every respect like Roman towns elsewhere in Italy. Therefore we feel justified in accepting the coexistence model for the earlier period. The one aspect of the evidence which seems somewhat anomalous is the occurrence of sanctuaries of Greek type, with predominantly Greek goods in their votive deposits, in the native area. However, small rural sanctuaries cannot easily be seen as instruments of political control and we tentatively propose a different interpretation, compatible with the 'coexistence' model, below.

Trade or exchange

If the Greeks did not exercise political or military control over the native inhabitants, then relationships between them (documented by the evidence just discussed) must be subsumed under the general heading of trade or exchange. Can we say anything about the nature of this exchange, either from the available data or from anthropological theory? Very little specific work has been done on this topic and we can only make a few general and preliminary remarks here.

(1) It is unlikely to have taken the form of true 'commercial' trade, based on the price-fixing market, motivated by the desire for profits and controlled by market forces. The market economy was not really developed in the Greek world before the 5th or 4th century BC, and was certainly not in existence in the native communities before this date.

(2) Ethnographic analogy would suggest that the most likely type of exchange was a prestige-goods system, organized by the local élites and motivated by status considerations rather than the profit motive. The overwhelming predominance of prestige goods among the Greek imports, including those associated with wine-drinking – very probably a status activity in these societies – supports this interpretation. Possible parallels can be found in Southeast Asia, among communities such as the Iban, the Land Dayak and the Lamet who live in hinterlands engaged in exchange with more sophisticated cultural centres (all discussed in Sahlins 1972, pp. 224–6). Sahlins writes:

> From the perspective of the advanced center, they are backwaters serving as secondary sources of rice and other goods. From the hinterlands view, the critical aspect of the intercultural relation is that the subsistence staple, rice, is exported for cash, iron tools and prestige goods, many of the last quite expensive.

The prestige goods, exotic items such as Chinese pottery and brass gongs, are used as ceremonial display items and in marriage prestations.

(3) This analogy may also offer some suggestions about the nature of the goods traded in exchange for the Greek products. South-east Italy lacks

useful raw materials such as metals or other minerals, and the only items available for exchange would probably have had to come out of the domestic economy – either actual subsistence goods or secondary products forming part of the same economy, such as textiles, skins, goods made of bone etc. It is possible that, as in Southeast Asia, one of the main commodities traded was the subsistence staple: in this case, wheat. However, Metapontion at least was situated in very good agricultural land and was famous for its cereal production; the ear of wheat found on almost all Metapontine coins symbolizes this agricultural prosperity, which was also enjoyed by other Greek cities around the Ionian Gulf, such as Sybaris. It therefore seems unlikely that Metapontion would have needed to import additional grain, though Taras may have been in a slightly less favourable position. The most likely import, still within the sphere of the domestic economy, is perhaps woollen textiles. At a slightly later period, under the Romans, Apulia was famous for its wool production and large numbers of sheep were kept, transhuming from lowland winter pastures to the mountains in summer. It is unlikely that the Greek cities themselves could have produced very much wool, since it would have been impossible to keep large flocks of sheep all the year round within their small, exclusively lowland, territories and, if we are right about the area under their direct control, they would not have had access to the upland summer pastures which were essential for the support of large flocks. The native settlements of this period all produce very large numbers of pottery loomweights – they are among the commonest finds on excavations – suggesting production of textiles (presumably wool since we have no evidence of any suitable plant being grown) above the level required by domestic consumption alone.

(4) Finally we might speculate about the way in which the exchange took place and also where it took place. In well developed prestige-goods exchange systems, one usually finds trading partnerships between leaders of the different communities, and special trading places, known to historians as emporia (although anthropologists sometimes refer to them as ports-of-trade or gateway communities). Special trading sites of this sort are administered by the native élite, but are inhabited and frequented mostly by alien merchants. They are usually located in places apart from the normal residential settlements, and special conditions prevail which make them neutral ground for the two trading parties, where their personal safety and fair conditions for trading are guaranteed. In the south-east Italian instance, it is unlikely that either trade partnerships or emporia existed in developed form, particularly at an early stage, but we might expect them to appear in some embryo or prototype form.

We suggest tentatively that the sanctuary sites of Greek type associated with native settlements might be considered proto-emporia of this kind. A similar view has been expressed by Morel in connection with some of the 'pre-colonial' sites such as Incoronata.

> In every case these are centres of 'redistribution' in the sense that the Greeks (or others) did not dare or could not or would not penetrate to

> any extent into native territory and thus brought their products to these points where the natives – at least according to the most probable conjecture – came for them and then traded them further among their own people (Morel 1983, p. 149).

The sanctuary sites, with their religious associations, and situated outside the settlements themselves, might provide an appropriate environment for trade of this sort. On many of these sites the votive goods include products from a variety of different sources, which is what one might expect on a specialized trading site. The locations of some of the sanctuaries would also fit such an interpretation: they are situated within reasonable distance of the Greek cities on natural routes penetrating into native territory. Examples include Timmari, *c.* 40 km inland from Metaponto, close to the Bradano river, and Garaguso, *c.* 40 km from Metaponto, between the Basento and the Cavone rivers; Armento is in a similar position in relation to Herakleia, i.e. *c.* 40 km inland, close to the Agri river. In the case of Taranto, Oria is *c.* 35 km to the east, Porto Cesareo *c.* 60 km south-east, Egnazia *c.* 50 km north; both Porto Cesareo and Egnazia are on the coast (of the Ionian Gulf in the former case, the Adriatic in the latter) and could represent coastal emporia for sea-borne rather than overland trade. As far as the inland sites are concerned, it is possible that the Greek traders penetrated 50–60 km from their home cities but no further. Beyond a radius of this sort Greek goods would have been passed on as items of exchange between different native settlements.

Changes in the native communities

In the centuries that followed the settlement of Greeks in southern Italy, considerable changes occurred in the organization of the native communities. These changes were both complex and far-reaching and they deserve detailed examination through carefully designed research projects. No such research has yet been undertaken, however, and we shall restrict ourselves here to a few comments on three aspects of the changes involved: (a) urbanization, (b) social differentiation, and (c) ethnicity and political organization.

Urbanization

The criteria we can use to assess the degree of urbanization present include: (a) the absolute size of sites; (b) the existence of urban features such as fortifications, public buildings, and street systems; (c) evidence for the rôle of a site as a 'central place' within a system of sites in a region. Unfortunately the scarcity of good quality data from excavations and the general lack of field survey make it difficult to assess any of these aspects. However, we do have some data for two areas of south-east Italy, which suggest rather different settlement patterns. The first area is the Tavoliere plain; the second is the area between Gravina and Venosa where Vinson (1973) carried out his

survey. Outside these two areas we have very little evidence for overall settlement pattern, although individual sites have been excavated in some cases.

In the Tavoliere we have evidence of sites of the Early Iron Age both along the coast, where they have Bronze Age antecedents, and in the interior, where Bronze Age occupation was apparently lacking. We know little about the sites of the 10th to 8th centuries BC except that they existed, though remains of post-built rectangular huts with apsidal ends have been excavated at Salpi (Salapia 1: Tinè Bertocchi 1975). In the 7th or 6th centuries BC several sites may have been equipped with defences, although only at Arpi have the defences actually been dated, to the 7th century BC. The defences were not stone walls of Greek type but earthworks, comprising a ditch and internal bank, with, at Arpi, traces of a wall on top, with stone footings, possibly surmounted by mudbrick. At Arpi the defences enclosed a semi-circular area, with the straight side protected by the Celone river; the enclosed area measures a huge 1000 ha (10 sq km), with a 13 km perimeter. Unfortunately we know nothing about the internal layout or buildings at Arpi and, although it is tempting to label such a site 'urban' on the basis of size alone, there are alternative explanations. Both Tinè Bertocchi (1975, p. 274) and De Juliis (1975, p. 287) assume that the defences enclosed areas of agricultural land and cemeteries as well as dwellings, and that they might have served to house the entire population of the territory in times of threat. It is certainly the case that tombs have been found within the defences. Arpi is not the only huge defended site on the Tavoliere: Tiati, in the far north-west, occupies two hills divided by a deep valley, the whole enclosed by defences 11 km long. Unfortunately very little is known about Tiati; even the plan is known only from aerial photographs. Other major sites are known at Ordona, Ascoli Satriano, Salpi, Cupola, Orsara and, just south of the Tavoliere, at Canosa. Clearly the construction of these vast defended enclosures represents a new form of territorial exploitation, but not necessarily a characteristically urban form. We badly need information on what was inside these enclosures.

In the Gravina area we find a different pattern. Some of the 10th–8th-century BC settlements, of the period before the arrival of the Greeks, covered large areas, but show no obviously urban features. At Botromagno (Gravina), for instance, material of this date has been excavated or collected from the surface over a large area of the hilltop and the slope down to the river gorge, covering perhaps 100 ha in all. However, at present we do not know what this spread means: it could be a group of small settlements separated by open spaces. Even if it was all occupied, there is no indication of overall urban organization, such as planned layout or defences. It should be said here that the type of location chosen for settlement in this area was normally a high, steep hill protected by natural ravines and gullies, where the need for artificial defences would have been less pressing than in the almost flat Tavoliere plain.

From the 7th century BC on, contemporary with the Greek settlement of

the coast, four sites in Vinson's survey (1973) reached a size which he feels justifies the term 'town'. He provides no detailed information on size, but Botromagno, at 100 ha, was the largest of them. There may have been three other settlements of this status underlying later towns, making seven in all. However, as in the Tavoliere, we lack any indication of urban buildings, defences, or street systems, until a late stage. As we have seen, Botromagno was equipped with Greek-type stone defences in the 4th century BC (as was Monte Sannace, further east) (Scarfi 1962). By this stage Botromagno, like Monte Sannace, seems to have been generally urban in character, with densely built-up areas laid out along streets, though no unequivocal public buildings have been found. Vinson's survey found that around the end of the 5th or the beginning of the 4th century BC many (20 out of 33) smaller village sites were abandoned and, though many new sites were established in the centuries that followed, these were generally smaller in size and may represent single farms rather than villages or hamlets. We may tentatively interpret this pattern as follows. A tendency towards the growth of a few large centres can be seen from at least the 7th century BC onwards, if not earlier, but it is not accompanied by notably urban formal features. The late 5th–4th centuries BC saw a phase of full urbanization, with marked development of the towns themselves, accompanied by abandonment of many villages in the countryside. In their place single family farms were established, presumably dependent on the main towns – a pattern similar to that found in the territory of Metapontion, and possibly characteristic of the Greek cities in general.

In view of the paucity of the data, it would be premature to frame any hypothesis connecting the urbanization of the native communities with exchange with the Greek settlements. One thing is clear, however, and that is that the influence of the Greek communities did not rapidly give rise to urbanization of the hinterland. The Greek settlements themselves apparently achieved urban status only in the 6th century BC, while the native communities do not appear really urban for another two centuries.

Social differentiation

In the absence of good settlement excavations, the evidence for social differentiation comes almost exclusively from burials. Even here the evidence is not good: in our area we have no complete cemeteries, or even parts of cemeteries, which have both escaped robbing and been excavated and recorded in modern scientific fashion. For the present we have to content ourselves with documenting general trends in the burial evidence.

There are clear distinctions in the grave goods provided with burials even in the 9th and 8th centuries BC, before the arrival of the Greeks. Whereas some burials are equipped with only one or two pots, others have abundant bronze and iron goods: these include weapons such as spearheads, and ornaments such as fibulae, pendants and earrings (e.g. Lo Porto 1969). However, there is no distinction in form between the richer and the poorer

tombs – most are small slab cists under stone cairns – and they occur in the same cemeteries. In the late 7th and 6th centuries BC the distinction between rich and poor burials becomes much more marked. The rich burials contain many Greek goods, both pottery and bronzes, and occasionally precious metals as well. The imported vessels include Corinthian and Attic vases of very high quality. Characteristically the imported goods reflect two status areas: wine-drinking (pottery cups, jugs, storage and mixing vessels) and warfare (bronze helmets, greaves and other armour, iron spearheads). These rich tombs often contain very large quantities of material, including many pots of local geometric wares as well as imported vessels (for examples see Lo Porto 1973). At this stage rich burials are sometimes in tombs of distinctive form and sometimes found in locations apart from the main cemeteries. The rich early 6th-century tomb at Armento is a case in point (Adamesteanu 1972). At Botromagno rich tombs were sometimes placed within the settlement, while poorer burials were situated in cemeteries outside. Four tombs, falling within the period *c.* 530–470 BC, were found in the recent excavations at Botromagno in one small area of the settlement: all had been robbed in antiquity, but the fragmentary remains of the grave goods indicate that three at least were originally rich, equipped with abundant imported Attic and Metapontine pottery (Figs 5.3 & 5.4), as well as fine wares of local type and imported bronzes (interim reports in Whitehouse 1979, 1980, 1981a, 1982, 1983, 1984). Rich burials continue in the 4th century BC, but the goods were now predominantly of local manufacture, since Greek-type wares were being produced in many south Italian centres by this stage. Pottery dominates the grave goods in 4th-century tombs and frequently large numbers of vessels are found, up to 50 being not unusual. The tombs themselves are more impressive than previously, being rock-cut chamber tombs with monumental entrances, equipped with jambs, lintels, thresholds and blocking slabs of local limestone.

Rich burials occur commonly in southern and central Apulia and in Basilicata, but are rare in northern Apulia, where before the 4th century BC most graves contain only pottery vessels of local type and bronze ornaments such as fibulae; Greek imports are rare.

In general it seems clear that an increase in social differentiation in the native communities followed the arrival of the Greeks. Since Greek goods figure so prominently in the rich graves, it seems reasonable to assume that there was a direct association between the importation of Greek goods and the increasing differentiation. Models to explain the connection are not hard to find. It has been suggested in several different contexts that the availability of prestige goods imported from outside provides a means for some individuals to increase their wealth and status by the acquisition of these desirable luxury goods. It has been suggested, for instance, for the 6th-century BC Hallstatt communities of west-central Europe who gained access to goods of both Greek and Etruscan manufacture (Wells 1980, 1985). Another case where a similar interpretation is proposed is the 1st-century BC–1st-century AD communities of south-east England, which acquired

luxury goods from the Romans (Haselgrove 1982). A number of assumptions are made in these cases. One is that the trade would have been in the hands of relatively few individuals, usually community heads, who wielded authority locally and were the centres of redistributive economic systems (chiefs, in a word) and would therefore be in a position to concentrate the surplus products of the whole community for exchange with the outside world. A second assumption often made is that the goods exchanged for the luxury imports would have included raw materials such as metals or other minerals, which would have required mining or quarrying, and perhaps also products such as furs or hides which would have required specialist skills to acquire. Exchange based on such products would have required considerable centralized organization to administer and it is often suggested that the need to exploit such resources to exchange for prestige goods encouraged the growth of urban communities and complex political organization.

However, the example of the Iban, the Land Dayak and the Lamet, quoted above, shows that there are other possibilities. In these cases the products exchanged for the prestige imports are not raw materials but the subsistence staple, rice, and other products of the domestic economy. Thus they are goods produced by the household (in the domestic mode of production) and there is no special requirement for centralized organization or concentration of either labour or products; each household could trade for itself. Sahlins (1972, p. 225) lists the consequences for the economy and polity of the hinterland communities as follows:

> (1) Different households, by virtue of variations in ratio and number of effective producers, amass different amounts of the subsistence-export staple. The productive differences range between surfeit above and deficit below family consumption requirements. These differences, however, are not liquidated by sharing in favor of need. Instead (2) the intensity of sharing within the village or tribe is low, and (3) the principal reciprocal relation between households is a closely calculated balanced exchange of labour service . . . (4) Even household commensality may be rather rigidly supervised, subjected to accounting of each person's rice dole in the interest of developing an exchange reserve . . . (5) Restricted sharing of staples, demanded by articulation with the siphoning market, finds its social complement in an atomization and fragmentation of community structure. Lineages, or like systems of extensive and corporate solidary relations, are incompatible with the external drain on household staples and the corresponding posture of self-interest required *vis-à-vis* other households. Large local descent groups are absent or inconsequential. Instead, the solidary relations are of the small family itself . . . (6) Prestige apparently hinges upon obtaining exotic items – Chinese pottery, brass gongs etc – from the outside in exchange for rice or work. Prestige does not, obviously cannot, rest on generous assistance to one's fellows in the manner of a tribal big-man. The exotic goods figure internally as ceremonial display

items and in marriage prestations – thus insofar as status is linked to them it is principally as possession and ability to make payments, again not through giving them away.

In such a system the importation of prestige goods leads to increasing differences in wealth and status between individuals, but *not* to increasing centralization or associated traits such as increasing nucleation of settlement. Indeed, there is a tendency to fragmentation of the social structure, rather than increased coherence. We suggest tentatively that the situation in south-east Italy after the arrival of the Greeks is closer to this model than to that proposed for central Europe at the same period or south-east England in the late pre-Roman period. It would fit the suggestion made earlier that the main exported products were woollen textiles, produced by individual households, as well as the lack of clear evidence for urbanization before the 4th century BC.

Ethnicity and political organization

In almost all works on the subject of this chapter by other authors the native inhabitants of southern Italy are referred to by a series of 'tribal' names attributed to them by Greek and Roman authors (the names relevant to our area are Enotrians and Iapygians, the latter subdivided into Daunians, Peucetians and Messapians). We have been careful to avoid this practice, for a number of reasons. Firstly, the literary references are ambiguous and sometimes contradictory. For instance, the Peucetians figure as allies of the Iapygians on a Tarentine dedication at Delphi of the early 5th century (described by Pausanias X.13.10), whereas other authors (e.g. Polybius III.88 and Strabo VI, 279) regard the Peucetians as a subdivision of the Iapygians, along with the Daunians and the Messapians. A more crucial criticism relates to the attitudes of the ancient writers and their expectations about the world of the 'barbarians' living outside their own Greek world. We have dealt with this issue elsewhere (Whitehouse & Wilkins 1985) and concluded that it was natural for the Greek and Roman writers to conceptualize the world around them in terms of 'peoples' to whom they could attribute names, but that there was no a priori reason to deduce from this that the pre-Greek occupants of southern Italy actually thought of themselves as one people or a number of peoples.

If we leave aside the literary sources, we can turn to anthropological and archaeological theory to help us examine the material evidence. In our earlier work we referred to important articles about the nature of 'tribes' and 'peoples' by Fried (1968) and Renfrew (1978). We concluded from our discussion of these works that the concept of 'peoples' has no meaning in the context of organizationally simple societies and that we should expect it to appear only with at least relatively complex political organization, perhaps at the level of the state.

In his article Fried (1968, p. 15) argued that the development of more

complex societies, with a clear ethnic self-awareness, occurs through contact with more highly organized societies, as in the classic colonial situation. Here we shall attempt to establish whether this model fits the situation in south-east Italy in the 7th–4th centuries BC. To do this we must look for archaeological evidence for two separate (but perhaps interconnected) social phenomena: (a) the emergence of ethnic self-awareness, and (b) the development of complex political organization.

ETHNIC SELF-AWARENESS

Ian Hodder (1979) has addressed this issue in an important article in which he suggests that differences in material culture may be used to emphasize group identities, especially in times of economic and social stress. He argues, in connection with ethnographic field work carried out in the Baringo district of western Kenya, that 'the material culture differences between tribes can only be understood if material culture is seen as a language, expressing within-group cohesion in competition over scarce resources' (1979, p. 447). The inhabitants of south-east Italy may have been in a position of economic and social stress as a result of changes induced by contact with the Greek settlements; indeed they might have been in competition over scarce resources – the resources in question being the prestige goods produced by the Greeks. If this was the case, we might expect to find more material culture distinctions appearing in the period after the arrival of the Greeks, created by the 'need to stress overtly clear, unambiguous identities' (Hodder 1979, p. 447). In fact we do find some evidence for such distinctions in the archaeological record. In pottery styles, for instance, the 9th and 8th centuries BC are characterized by a rather uniform geometric painted ware, called Iapygian Geometric, which occurs throughout Apulia and widely in Basilicata, as far west as the Campanian and Calabrian borders. In the 7th–6th centuries we find the emergence of distinctive regional styles, each with characteristic forms and decoration; they are usually given the traditional 'ethnic' labels, i.e. Daunian in northern Apulia, Peucetian in central Apulia, and Messapian in southern Apulia; a fourth style (Enotrian) can also be defined, if more tentatively, in Basilicata (De la Genière 1979). At least a few other artefact types also seem to be specific to particular culture areas. In the 'Daunian' region we find remarkable stone funerary stelae, dated to the later 7th and 6th centuries BC. Some fibulae types may be specific too: the double-bow type, often made of silver, of the 6th–5th centuries BC seems to have been a 'Peucetian' form. Much more work needs to be done on this subject, but we may tentatively conclude that the 7th–6th centuries saw the emergence of ethnic group identities (four within our area) out of the undifferentiated culture of the First Iron Age. These can *perhaps* be correlated with the peoples described by the classical writers, though the problems of ambiguity and contradiction in these sources remain.

COMPLEX POLITICAL ORGANIZATION

Complex political organization is most easily recognized archaeologically in spatial terms, since it is reflected in a hierarchical settlement pattern, with

large central places surrounded by smaller dependent settlements, either of more or less uniform size or in 'tiers' of different sizes. Unfortuantely, as we have seen in the discussion of urbanization, we have very little data to assess this. However, two features are of some interest in this context: (a) the enclosure of large areas of land by earthworks in northern Apulia (Daunia), and (b) the tendency towards the emergence of a few large centres from the 7th century BC onwards in the area of the Gravina survey (and probably elsewhere in both Apulia and Basilicata). The 'Daunian' phenomenon cannot really be described as nucleation of settlement, since it is unlikely that the enclosures were densely built-up inside, but it does suggest territorial claims on land on behalf of the whole community of a type not seen at an earlier date. It can perhaps be compared to the large earthworks constructed at Colchester and other locations in south-east England in the period before the Roman conquest. It may indicate a time when settlements were being called upon to serve urban *functions* (e.g. protection of citizens from outside attack, administrative centres, centres of craft production) before they have really acquired urban *form*. The pattern in the Gravina area may reflect the slow development of an increasingly centralized pattern, although on present evidence it would be difficult to show that the smaller centres were dependent on the larger ones before the 4th century BC, when we see the emergence of a pattern characterized by a few large 'town-sized' settlements surrounded by numerous small 'farm-sized' sites. Tentatively we may conclude that society did develop towards a more complex political form after the arrival of the Greeks, but only at a slow pace. We would hesitate to suggest that full state organization was in existence before the 4th, or at earliest the 5th, century BC.

Conclusion

We have looked briefly at both the *nature* of the contact between Greeks and natives in south-east Italy and at some of the possible *effects* of this contact. Obviously there are many aspects of the subject that we have not touched on; in particular craft specialization, internal trade or exchange, and trade with areas other than the Greek cities would all repay attention. However, we offer this chapter as a contribution towards a specifically archaeological approach to this subject, in the belief that such an approach has a profitable future ahead of it. We have tried to demonstrate that an analysis of the development in south-east Italy in terms of a centre–periphery model can give important insights into the precise forms of social and economic relations through which the native communities were brought into contact with the Greeks, and we have highlighted the specific importance of prestige goods for the transformation of native economies and social organization.

Note

1 There exists no satisfactory term to describe such local peoples. 'Local' is imprecise; 'indigenous' is inappropriate, because of its implication of permanent habitation since the beginning of time; while 'native' carries romantic or colonial overtones. As the least evil we choose 'native' here.

References

Adamesteanu, D. 1972. Una tomba arcaica di Armento. *Atti e Memorie della Società Magna Grecia* **11–12** (1970–1), 83–92.

Adamesteanu, D. 1979. La colonizzazione greca in Puglia. In *La Puglia dal Paleolitico al Tardoromano*, D. Adamesteanu, F. Biancofiore, G. Cremonesi, F. D'Andria, A. Geniola & A. Palma di Cesnola, 193–269. Milan: Electa.

Adamesteanu, D. & C. Vatin, 1976. L'arrière-pays de Metaponte. *Compte Rendu de l'Académie des Inscriptions*, 110–23.

Bradford, J. S. P. 1957. *Ancient landscapes*. London: Bell.

Carter, J. C. 1981. Rural settlement at Metaponto. In *Archaeology and Italian society*, G. Barker & R. Hodges (eds), 167–78. British Archaeological Reports International Series 102, Oxford.

Cassano, S. M. & A. Manfredini 1983. *Studi sul neolitico del Tavoliere della Puglia*. British Archaeological Reports International Series 160, Oxford.

Chevallier, R. 1971. Mission archéologique de la faculté des lettres de Tours à Metaponte. *Revue Archéologique* **2**, 309–26.

Cipolloni Sampò, M. 1980. Le comunità neolitiche della Valle dell'Ofanto: proposta di lettura di un'analisi territoriale. In *Attività archeologica in Basilicata 1964–1977. Studi in onore di Dinu Adamesteanu*, E. Lattanzi (ed.), 283–311. Matera: Meta.

de La Genière, J. 1979. The Iron Age in southern Italy. In *Italy before the Romans*, D. Ridgway & F. Ridgway (eds), 59–93. London and New York: Academic Press.

De Juliis, E. M. 1975. Caratteri della civiltà daunia dal VI secolo aC all'arrivo dei Romani. In *Civiltà preistoriche e protostoriche della Daunia*, S. Tinè (ed.), 286–97. Florence: Parenti.

Dilthey, H. 1980. Sorgenti acque luoghi sacri in Basilicata. In *Attività archeologica in Basilicata 1964–1977. Studi in onore di Dinu Adamesteanu*, E. Lattanzi (ed.), 539–60. Matera: Meta.

Fried, M. H. 1968. On the concepts of 'tribe' and 'tribal society'. In *Essays on the problem of the tribe*, J. Helm (ed.), 3–20. Washington: University of Washington Press.

Greco, G. 1980. Le fasi cronologiche dell'abitato di Serra di Vaglio. In *Attività archeologica in Basilicata 1964–1977. Studi in onore di Dinu Adamesteanu*, E. Lattanzi (ed.), 367–404. Matera: Meta.

Haselgrove, C. 1982. Wealth, prestige and power: the dynamics of political centralisation in south-east England. In *Ranking, resource and exchange*, C. Renfrew & S. Shennan (eds), 79–88. Cambridge: Cambridge University Press.

Hodder, I. 1979. Economic and social stress and material culture patterning. *American Antiquity* **44**, 446–54.

Holloway, R. R. 1970. *Satrianum*. Providence: Brown University.

Istituto di Archeologia e Storia antica dell'Università di Lecce, 1978. *Leuca*. Lecce: University of Lecce.

Istituto di Archeologia e Storia antica dell'Università di Lecce, 1979a. *Salento arcaico*. Lecce: University of Lecce.

Istituto di Archeologia e Storia antica dell'Università di Lecce, 1979b. *Cavallino*. Lecce: University of Lecce.

Lattanzi, E. 1980. L'insediamento indigeno sul pianoro di Timmari (Matera). In *Attività archeologica in Basilicata 1964–1977. Studi in onore di Dinu Adamesteanu*, E. Lattanzi (ed.), 239–82. Matera: Meta.

Lo Porto, F. G. 1964. Satyrion (Taranto). Scavi e ricerche nel luogo del più antico insediamento laconico in Puglia. *Notizie degli scavi di antichità* **18**, 177–279.

Lo Porto, F. G. 1969. Metaponto. Tombe a tumulo dell'età del ferro scoperte nel suo entroterra. *Notizie degli scavi di antichità* **23**, 121–70.

Lo Porto, F. G. 1973. Civiltà indigena e penetrazione greca nella Lucania orientale. *Monumenti Antichi*, serie miscellanea **1–3**, 149–250.

Mazzei, M. 1985. Importazioni ceramiche e influssi culturali in Daunia nel VI e V sec. aC. In *Papers in Italian archaeology IV. Part iii: Patterns in protohistory*, C. Malone & S. Stoddart (eds), 263–79. British Archaeological Reports International Series 246, Oxford.

Morel, J.-P. 1983. Greek colonization in Italy and the West (problems of evidence and interpretation). In *Crossroads of the Mediterranean*, T. Hackens, N. D. Holloway & R. R. Holloway (eds), 123–61. Louvain: Catholic University of Louvain.

Renfrew, C. 1978. Space, time and polity. In *The evolution of social systems*, J. Friedman and M. J. Rowlands (eds), 89–112. London: Duckworth.

Sahlins, M. 1972. *Stone Age economics*. London: Tavistock.

Scarfi, B. M. 1962. Gioia del Colle (Bari) – L'abitato peucetico di Monte Sannace. *Notizie degli scavi di antichità* **16**, 1–283.

Schmiedt, G. & Chevallier, R. 1969. *Metaponto e Caulonia*. Milan: l'Universo.

Soprintendenza alle Antichità della Basilicata, Potenza, 1971. *Popoli Anellenici in Basilicata*. Naples: La Buona Stampa.

Soprintendenza Archeologica della Basilicata, 1976. *Il Museo Nazionale Ridola di Matera*. Matera: Meta.

Tinè Bertocchi, F. 1975. Formazione della civiltà daunia dal X al VI secolo aC. In *Civiltà preistoriche e protostoriche della Daunia*, S. Tinè (ed.), 271–85. Florence: Parenti.

Uggeri, G. 1969. Κλῆροι arcaici e bonifica classica nella χώρα di Metaponto. *Parola del Passato* **118**, 51–71.

Vinson, S. P. 1973. Ancient roads between Venosa and Gravina. *Papers of the British School at Rome* **40**, 58–90.

Vinson, S. P. forthcoming. *Ancient roads between Venosa and Gravina: Conclusions*. Unpublished ms.

Wells, P. S. 1980. *Culture contact and culture change: early Iron Age Central Europe and the Mediterranean world*. Cambridge: Cambridge University Press.

Wells, P. S. 1985. Italy and Central Europe: material culture, ritual and communication in the Iron Age. In *Papers in Italian Archaeology IV. Part iii: Patterns in protohistory*, C. Malone & S. Stoddart (eds), 255–62. British Archaeological Reports International Series 245, Oxford.

Whitehouse, R. D. 1979. Botromagno, Gravina in Puglia (Bari province). *Lancaster in Italy*, 1–4. Lancaster: University of Lancaster.

Whitehouse, R. D. 1980. Botromagno, Gravina in Puglia (Bari province). *Lancaster in Italy*, 16–21. Lancaster: University of Lancaster.

Whitehouse, R. D. 1981a. Botromagno, Gravina in Puglia (Bari province). *Lancaster in Italy and North Africa*, 20–5. Lancaster: University of Lancaster.

Whitehouse, R. D. 1981b. Prehistoric settlement patterns in southeast Italy. In *Archaeology and Italian Society*, G. Barker & R. Hodges (eds), 157–65. British Archaeological Reports International Series 102, Oxford.

Whitehouse, R. D. 1982. Botromagno, Gravina in Puglia (Bari province). *Lancaster in Italy*, 12–17. Lancaster: University of Lancaster.

Whitehouse, R. D. 1983. Botromagno, Gravina in Puglia (Bari province). *Lancaster in Italy*, 23–9. Lancaster: University of Lancaster.

Whitehouse, R. D. 1984. Botromagno, Gravina in Puglia (Bari province). *Lancaster in Italy*, 26–33. Lancaster: University of Lancaster.

Whitehouse, R. D. & J. B. Wilkins 1985. Magna Graecia before the Greeks: towards a reconciliation of the evidence. In *Papers in Italian Archaeology IV. Part iii: Patterns in protohistory*, C. Malone & S. Stoddart (eds), 89–109. British Archaeological Reports International Series 245, Oxford.