

THE NEOLITHIC AND COPPER AGE OF THE ABRUZZO-MARCHE REGION,
CENTRAL ITALY

R. G. Skeates.

The Queen's College, Oxford.

Thesis submitted in partial fulfilment of the requirements
for the degree of D. Phil.

Trinity Term 1992.

Volume 2 (Chapters 4-6)



CHAPTER 4. COMMUNICATION AND EXCHANGE

1. Introduction

This chapter is concerned with examining the networks of communication and exchange which existed within the Abruzzo-Marche region, and between this region and surrounding areas in the central Mediterranean, during the Neolithic and Copper Age. The following introductory section is concerned with providing some basic definitions, and with describing and discussing archaeological approaches to prehistoric exchange. These include the sourcing of commodities, the description of the spatial patterning of commodities, and the reconstruction of exchange networks. The latter are divided into: conventional models, which include Hallam et al.'s (1976) mathematical 'down-the-line' and 'gravity' models and Sahlins' (1972) social anthropological essay "on the sociology of primitive exchange"; and recent social approaches, which emphasize the social embeddedness of exchange, the life-histories of commodities, the functions, meanings, symbolism and social values attributed to commodities, and the social context of production and demand.

a) Definitions

It is necessary to begin with the definition of three key terms which are used throughout this chapter:

communication, exchange and commodity. 'Communication' is the making contact with, and the transfer of information between, people, which can take place in a variety of different ways. It should be distinguished from the term 'communications', which is used by geographers, and which can be defined as all means of transport that enable people to communicate with each other. The latter is not employed in this chapter. 'Exchange' is the giving and receiving of commodities between people, which takes place through a variety of different mechanisms. This term is preferred to 'trade', for the latter has come to imply the kinds of formal commerce engaged in by modern industrial communities. 'Commodity' is the most difficult term to define. In contrast to Marx's (1867) purist definition of it as a product intended principally for exchange that emerges in the institutional, psychological and economic conditions of capitalism, I favour Appadurai's (1986) broader definition, which comprises any class of 'thing' intended for exchange, which exists in a very wide variety of societies, although with a special intensity and prominence in modern capitalist societies.

b) Archaeological approaches to prehistoric exchange

Earle (1982: 3-4) proposes that there are three interrelated tasks which the archaeologist must undertake in order to examine prehistoric exchange networks. The first is to source the commodities of exchange, the second, to describe the spatial patterning of these commodities,

and the third, to reconstruct the organization of the prehistoric exchange. An attempt has been made to tackle each of these tasks in this chapter, although I make no claims to have completed any of them, for much work remains to be carried out in the future.

i) Sourcing of commodities

Scientific and typological approaches have been employed in the central Mediterranean in order to source the commodities of Neolithic and Copper Age exchange. The former, which comprise a variety of generally complementary chemical and physical techniques, have been concerned with 'characterization'. Characterization involves the following basic procedures: 1) selecting a raw material and region for research; 2) making a geological survey of possible sources of the material, and taking samples from each identified source; 3) analyzing these samples, using relevant chemical, physical, petrological and isotropic techniques, and statistically analyzing the resulting data, in order to determine the homogeneity and grouping of the sources, and, ultimately, to isolate the characteristic and distinctive chemical properties of material from each source ('fingerprinting'); 4) collecting representative samples of artefacts from archaeological sites located at varying distances from the sources; and 5) analyzing this artefactual material, comparing the results with those obtained from the samples collected from the known sources, and selecting the closest fit as the specific source(s) for

those artefacts (Earle and Ericson 1977: 4-5). Characterization studies in Italy have so far tended to concentrate upon obsidian artefacts, which can be sourced to a restricted number of sources in the central Mediterranean. Some fairly limited work has also been carried out on the sourcing of flint/chert, copper and pottery, which have more numerous and widespread sources, but unfortunately almost no research has so far been undertaken on the sources of 'greenstones', sea shells, coral, and red ochre, which were also important commodities of exchange during the Neolithic and Copper Age in the central Mediterranean. Although each of the methods employed in scientific characterization studies has its own specific problems, and although there are variations in the degree of precision between them, they do generally provide more reliable information than the more subjective typological approaches to exchange employed by most archaeologists. Problems concerning the latter have already been discussed in relation to chronology (see Chapter 1), and a similar range of problems exists in their use in studies of communication and exchange. For example, it is difficult to define typologically distinct regional pottery styles in the early Neolithic in the Adriatic region, and it is also difficult to distinguish between the exchange of ideas relating to the manufacture and decoration of pottery and the actual exchange of pottery vessels. Typological approaches are however indispensable, especially in pottery studies, and they are employed in this chapter.

ii) Description of the spatial patterning of commodities

The description of the spatial patterning of exchanged materials during the Neolithic and Copper Age in both the Abruzzo-Marche region and the central Mediterranean in general is basically limited to a simple 'dots on maps' approach, in which distribution maps are produced, showing the location and spatial relationships of a class of sourced artefacts, both in relation to each other and to the sources of their raw material. The limiting factor is the generally poor quality of the archaeological data from these areas: visual identifications of specific raw materials, such as red ochre and diorite, are often made without the support of more reliable chemical or physical analysis; most publications of survey and excavation work provide few quantitative details of exchanged artefacts, in terms of sampling strategies, sample sizes, and numbers and sizes of artefacts, for example (see Schiffer et al. 1978); the specific find-contexts of exchanged artefacts on excavated sites are rarely described in detail, and are generally poorly defined chronologically; and terminologies and definitions relating to artefact types, groups and styles can vary greatly between publications, often being implied rather than clearly stated. In addition, new archaeological discoveries have a habit of changing the face of distribution maps, due essentially to the fact that such maps simply record the presence/absence of archaeological data at a particular stage of research. So in general, it can be restated for the Italian context that

the archaeologist has to work with an incomplete map and he or she can rarely put much reliance on the picture such a map gives (Hodder and Orton 1976).

The mapping of commodities can, however, be enhanced by the application of the following series of research questions listed by Plog (1977: 129). What were the types of materials being exchanged in the network, and how diverse were they? What was the quantity of goods being exchanged? What was the size of the territory over which the exchange network extended, and what was its chronological duration? In what directions did goods flow, and did goods flow along these in equal quantities? To what extent was the network centralized, as indicated by greater quantities of the goods occurring at a few foci? How complex was the network? In addition, one can ask, in what form were commodities exchanged, did these forms change over time and distance, and in what types of contexts were they eventually deposited? The benefit of posing such research questions is exemplified in Italy by the work of Ammerman (eg. Ammerman, ed. 1985, 1987; Ammerman et al. 1990), who, having considered such questions during his fieldwork, especially in relation to Neolithic obsidian exchange networks in Calabria, has been able to produce slightly more sophisticated distribution maps (eg. Ammermann 1979: Fig. 3, which shows the varying percentages of obsidian found in the lithic assemblages at selected Neolithic sites in central Calabria).

It must, however, be recognized that distribution maps are not simply neutral descriptive media for the presentation of archaeological data - they are also tools for the interpretation of those data, and the patterns that they show must be understood not only as patterns of the past but also in relation to the selective and, to a certain extent, subjective influence of the map-maker (cf. Wilkinson 1951). Inevitably certain classes of data are highlighted and others excluded in the creation of archaeological distribution maps, especially in relation to the research questions posed (see Fowler 1977: 196-7 for a fuller discussion).

iii) Reconstruction of exchange networks: conventional models

During the 1970's, archaeological approaches to reconstructing the organization of prehistoric exchange networks included the application of mathematical models to explain the patterns seen on distribution maps (eg. Evett 1973 and Hallam et al. 1976 for the central Mediterranean), and the more theoretical application of models of exchange developed by social anthropologists (eg. Sahlins 1972 and Sherratt 1976). Both of these interpretative approaches now deserve some criticism.

'Down-the-line' and 'gravity' models were applied by a number of prehistorians during the 1970's to distribution maps of Neolithic and Copper Age commodities in the central

Mediterranean, such as obsidian and 'greenstone' axes (eg. Evett 1973; Hallam et al. 1976). In 'down-the-line' models of exchange, quantities of a particular commodity are seen to decrease progressively with distance away from its source, and in the associated mathematical 'gravity' models, the quantity of a particular commodity found on a site is described mathematically as a function of distance from the source of the material and as a function of the size of the interacting centres.

On first impression these models seem to be useful in describing the apparent 'fall-off' patterns of distribution and deposition exhibited by a variety of commodities of exchange in this region. For example, Italian 'greenstone' axes do appear to exhibit a pattern of fall-off in quantities and sizes with increasing distance away from the (presumed) major north Italian sources of the rocks involved. However, on closer examination of the archaeological data from the Abruzzo-Marche region and elsewhere in Italy, such straightforward patterns are not entirely confirmed. In addition, on a more theoretical level, these models appear to be too simplistic, for they fail to take into account the wide range of variables (other than distance from source) which both ethnographic and archaeological studies suggest affected the nature and extent of prehistoric exchange networks, and their representation in the archaeological record. The size and productivity of particular sources of supply can affect patterns of distribution, as can the strength of demand for

particular commodities and degree of communication with the supply zone. The availability of local materials or products to exchange against imports, and/or to use as alternatives to those imports (such as the use of local high quality flint as an alternative to obsidian in certain areas of northern Italy) are significant factors. Different sites within a given area participate in different ways and to different degrees in the exchange of particular commodities (for example, some sites are better placed than others in relation to exchange routes), and varying human population densities within a region can affect the distribution of commodities. Different modes of transport can lead to different patterns (as in the case of the predominantly maritime movement of obsidian in south-west Italy), and exchange networks and distribution patterns also change over time (for example, Lipari appears to have replaced Palmarola as the major source of obsidian in the Abruzzo-Marche region during the Neolithic).

Hodder (1982d: 202-3) provides some more general criticisms of these 'down-the-line' and 'gravity' models of exchange. Their assumptions concerning the minimization of effort and maximization of advantage in exchange strategies (such as the assumption that commodities were acquired from the nearest source) are derived from studies of modern Western societies, and are not necessarily relevant concepts for the Neolithic and Copper Age. In addition, these models do not try to differentiate between the numerous social processes and exchange mechanisms which

affect patterns of 'fall-off' in the archaeological record. Ultimately, these models are descriptive rather than explanatory, and, as Ammerman (1985a: 31) says, "there is a need to develop a new and more complex generation of models of neolithic exchange".

The most influential set of ideas relating to exchange, which has been developed within social anthropology and adopted by a number of archaeologists working on the organization of prehistoric exchange networks in Europe and the Mediterranean (eg. Sherratt 1976; Lewthwaite 1986: 61; Chapman 1988: 17), has been Sahlins' (1972) essay "on the sociology of primitive exchange" (which was first published in 1965). The main points of this essay will be summarized below, before being criticized in the light of more recent theories of exchange. Sahlins (following Polanyi 1957) proposed that, very generally, there are two types of exchange mechanism that can be seen in the ethnographic record: 'reciprocity' and 'redistribution or pooling'. The precise social relations of the two are very different, but they are not mutually exclusive and may occur in the same social contexts.

Reciprocity, which requires two distinctive socio-economic sides or interests, can be described as the vice versa movements between these two parties. Different types of reciprocity can be defined which fall along a continuum. The typology is based upon the sidedness of the exchange

relationship, the social (especially kinship, rank, and wealth) and spatial (especially residential) distance between the participants, and upon the degree to which morality acts as a constraint upon the nature of the relationship.

At one extreme there is 'generalized reciprocity', which is assistance given and returned at a fairly personal level, between close kinsmen or kinship ranks (eg. juniors and seniors), in which there is only a vaguely defined obligation to reciprocate. Staple foodstuffs, for example, are often given as a 'pure gift', and their flow is sustained by the prevailing social relations within a given place and time. Sahlins (1972: 194) notes that "A good pragmatic indication of generalized reciprocity is a sustained one-way flow. Failure to reciprocate does not cause the giver of stuff to stop giving: the goods move one way, in favor of the have not, for a very long period."

On the mid-point of the continuum lies 'balanced reciprocity'. In an ideal form this can be described as the simultaneous and direct exchange of the same types of goods to the same amounts. It takes place on a less personal (and especially inter-group) level than generalized reciprocity, and is more 'economic' in nature, in that it involves more or less precise reckoning. In this case social relations hinge on the flow of material goods, with the exchange often acting as a formal social compact, especially in peace and alliance contracts. Balanced reciprocal exchange

takes place, for example, in the context of inter-personal compacts of friendship or kinship, in which the alliance is sealed by the exchange of identical goods. This can then sometimes develop into a relationship of gift-giving between exchange partners. It can also occur within the context of the local inter-group affirmation of corporate alliances, which can involve various feasts and entertainments; inter-personal and inter-group peace-making, in which exchanges seal the peace agreements; and marriage alliance, which not only involves the exchange of marriage partners but also bridewealth presentations. Beads, cloth, women, axes, non-staple foodstuffs, cattle, fish, pigs, and acorns are examples of goods that are exchanged through such a mechanism. Dynamism exists in systems of balanced reciprocity. For example, in a situation where a series of honourably balanced dealings are made between comparatively distant parties, social distance between the two parties may then be reduced, and closer relations and peace established, which in turn increases the chances for more generalized exchanges in the future. In such a case a lack of precise balance in the transactions can help to sustain the exchange relationship. In a situation where there is a failure to make sufficient returns, there may result either a return of similarly imbalanced goods, or a break in the exchange partnership and a severance of social relations. One might even say that a system of balanced reciprocity is inherently unstable, and that it requires special conditions for its continuity (Sahlins 1972: 223).

At the other end of the continuum lies 'negative reciprocity', which is the attempt to get something for nothing with impunity. The participants confront each other as opposed interests, each looking to maximize utility at the other's expense. It is the most impersonal sort of exchange (with the greatest kinship distance), the most 'economic', and is generally morally and socially suppressed. Examples include impersonal haggle and barter, theft, and cattle raiding.

'Redistribution' or 'pooling' involves the collection of goods from members of a group, often under one hand, and their redivision within this group. It requires a social centre (where goods meet and then flow outwards) and a social boundary (within which persons are cooperatively related), and can be regarded as the collective action of a group. Characteristic contexts for this in pre-industrial societies include centralized social organization with rank and chieftainship, collective political and ceremonial action, and cooperative food production. A distinction should be drawn between the examples of a centralized 'big-man' system of redistribution, and a system of chiefly redistribution. The former pivots upon the achievements of one individual, and is likely to dissolve with his demise; whereas a system of chiefly redistribution can be either centralized or decentralized, and should be regarded as the formal organization of kinship-rank reciprocities in which the leader acts on behalf of the group.

Both archaeologists and social anthropologists have recently criticized Sahlins' ideas on exchange. Hodder (1982d: 200-1) has criticized Sahlins and his 'substantivist' colleagues for underestimating the role of individuals in the construction of social strategies, the degree to which rules can be manipulated, and the existence of conflicts and contradictions between interests. However, this seems to be unfairly applied to Sahlins who, for example, discusses stinginess and self-interest (Sahlins 1972: 203-4). On the other hand, more serious criticisms of Sahlins' views have been made by Davis (1990). He questions the validity of Sahlins' definition of a reciprocal economy, noting, for example, that categories of exchange such as theft and barter do not fit comfortably into the model, and concludes that reciprocal economies are simply an academic construct. Likewise, he questions the validity of Polanyi and Sahlins' neat tripartite classification of economies into those based upon markets, redistribution, and reciprocity. He also suggests that the principle of reciprocity is more relevant to the exchange of valuables, such as those goods exchanged in the 'kula' system in Melanesia, than to the exchange of non-valuables, such as foodstuffs.

More generally, Sahlins' classificatory scheme appears to me as a normative, evolutionary model which underestimates the great degree of variety exhibited both within and between different societies with respect to exchange mechanisms. Archaeologists have emphasized for

some time now that different explanatory models are required for the variety of mechanisms which operated upon different types of commodities in different chronological, geographical and social contexts (Rowlands 1973: 590; Pires-Ferreira and Flannery 1976: 287). In the Trobriand Islands, for instance, anthropologists have identified 70 named kinds of exchange, including 15 terms relevant only to exchanges associated with marriage. 'Urigubu', to take just one example, occurs after a marriage, and involves an unconditional obligation of the wife's brother (until the death of his sister) to send after each harvest his best yams and up to 60% of his harvest to his sister's husband (Davis 1990). Some of these categories are, however, ambiguous in their definition, and may therefore be open to manipulation. In addition, the different categories are often linked, for one exchange usually entails another. Unfortunately, however, it should be noted that there are serious difficulties in distinguishing between different possible communication and exchange mechanisms in the archaeological record, for, at least on a general level, different mechanisms can produce very similar fall-off patterns on distribution maps. This suggests that our interpretative models will always remain equivocal.

iv) Reconstruction of exchange networks: recent social approaches

Recent approaches to exchange now emphasize the point that one of the most characteristic features of an exchange

is that it is socially embedded. Each society has, for example, a distinct and culture-bound repertoire of named kinds of exchange, each of which applies to different types of goods, people, and social situations. Exchanges are especially embedded in the context of personal relations, and are closely associated with social factors such as status, power, prestige, diplomacy, symbolism, etiquette and morality. The nature of the relationship between the people involved in an exchange, for example, can restrict the nature of the exchange and the types and quantities of commodities involved. Similarly, exchanges of gifts can reflect, maintain, and transform the degree of personal relations wished for by the participants (Davis 1990). It is therefore essential that particular attention be paid by archaeologists to the social context of exchange and to the various meanings of things.

It is important, to begin with, to consider the 'life-histories' of the commodities of exchange, for the meanings of things are inscribed in their forms, uses and trajectories. Appadurai (1986), in particular, has been concerned with the 'social life of things', and has identified three aspects to the 'commodity situation' - ie. the situation in the social life of any thing in which its exchangeability (past, present or future) for some other thing is its socially relevant feature. The first is the 'commodity candidacy' of any thing, which refers to the shared standards and criteria (symbolic, classificatory and moral) that define the exchangeability of things in any

particular social and historical context. Such cultural conceptions of the objects may not always be completely shared between the two parties involved in an exchange, particularly in situations involving the flow across cultural boundaries, where, at the extreme, there may only be agreement about the terms of trade. The second aspect is the 'commodity phase' or 'state' in the social life of any thing, in and out of which different types of commodity move to varying degrees. 'Commodities by destination', for example, are intended by their producers principally for exchange, and generally remain within the commodity state (such as the decorated necklaces and armshells exchanged in the kula system in the Massim group of islands off the eastern tip of New Guinea - Weiner 1988: 139-157). 'Commodities by metamorphosis', on the other hand, are things intended for other uses that are placed into the commodity state; 'commodities by diversion' are objects placed into a commodity state though originally specifically protected from it; and 'ex-commodities' are things retrieved, either temporarily or permanently, from the commodity state and placed in some other state (such as ritual items, which are objects of value that become rapidly decommo-ditized due to their aesthetic elaboration and specific ritual biographies). The third aspect to the commodity situation of a thing is the 'commodity context' within which it may be placed. This refers to the variety of social arenas that exist, both within and between cultural units, which help to link the commodity candidacy of a thing to the commodity phase of its career. Marriage

transactions, for example, often constitute the context in which women are most intensely, and most appropriately, regarded as exchange values; and dealings with strangers often provide contexts for the commoditization of things that are otherwise protected from commoditization.

Prehistorians do, of course, already give some consideration to the life-histories of the objects and commodities which they study, especially by considering the transformation processes which act upon artefacts within the 'systemic context'. It is now recognized, for example, that prehistoric commodities often moved over considerable distances, passing between many hands, and sometimes being modified in form, during the stages of production, use, exchange and deposition through which they moved (see Schiffer 1976, 1987). Unfortunately, however, much of this has to be inferred indirectly from the archaeological record, which comprises only the final deposition contexts of artefacts. This point should especially be remembered with respect to distribution maps of finds of prehistoric commodities, which basically describe static patterns of deposition. In the light of such problems, the definition of depositional processes in the archaeological record becomes essential. Such processes range from accidental loss, to casual discard, to intentional burial, but even these basic categories are often difficult to isolate out from each other in the archaeological record. The best Italian exception is the 'Ice Man', who was recently found frozen in snow, along with items of clothing and hunting

equipment (Keys 1991), which, due to their exceptional state of preservation, come closest to capturing an event, 'in situ', in the 'systemic context'.

The functions, meanings, symbolism and social values attributed to exchanged goods must also be considered by prehistorians (Hodder 1982b). It is important to begin, however, by noting the complexity which anthropologists have encountered in these aspects of commodities and exchanges: they agree that a single commodity can have different meanings in different contexts (social, spatial and temporal) (Davis 1990). In the very short-term, for example, several different statements can be made through an item during the course of one exchange; and over the longer-term, new items, introduced as novelties or luxuries, can later become established as common goods or necessities. Variation in the knowledge of a particular commodity is an important aspect of this (Appadurai 1986). On the one hand there is the technical, social and aesthetic knowledge that goes into the production of the commodity; and on the other hand there is the knowledge that goes into appropriately using the commodity (which relates to its meaning and function). These two readings will diverge proportionately as the social, spatial and temporal distance between producers and consumers increases, with knowledge about the commodity tending to become increasingly partial, contradictory and differentiated.

'Value', which basically means 'worth' or 'desirability' (Sykes, ed. 1976: 1285), has been the subject of much debate following the seminal discussion of value and of commodities published by Marx in 1867. I do not intend to enter far into this complex discussion, but it is necessary to clarify my position on two points. To begin with, I understand 'value' to exist within a social and political context. It is a property that is assigned by an individual or by a group to an object in a manner that arises from the social context in question; it is never a property inherent within an object or material, even though it may be spoken of as such. Individual and institutional strategies of desire and demand, reciprocal sacrifice and power interact to create value in specific social situations (Appadurai 1986). Second, I should state that I support the multiple conception of value favoured by Renfrew (1986), in his article which tries to explain changing notions of value over the long-term, as opposed to the more restricted economic conception of value favoured by Appadurai (1986) in the same book.

Renfrew (1986), following on from Marx (1867), defines a number of different types of value. 'Use value' is assigned, for example, because of the potential utility of a thing (more specifically, in relation to productive activities). Examples of commodities with high use value include 'primary commodities', such as foodstuffs or stone tools, which are relatively common, but necessary, things, that are generally produced in a technically standardized

way, and which circulate as a result of petty exchange. Such things are often described by archaeologists as 'utilitarian' goods. 'Labour value' is assigned to a thing because of the work involved in its production. (All commodities are products of labour - Marx 1867.) Historic or association value (including sentimental value) is assigned by one person (or a number of people) to an object in relation to the specific life-history of that object in relation to the person or people in question. In the kula exchange system, for example, valuables acquire highly specific biographies as they move from place to place and from hand to hand (Appadurai 1986). 'Symbolic value' is assigned to things, such as bone figurines, which have the capacity to signal fairly complex social messages by means of metaphor. 'Exchange value' is slightly different to these other values, for it is always expressed as a ratio between two sorts of things, and is created by the reciprocal exchange of sacrifices, in which one's desire for an object is fulfilled by the sacrifice of some other object which is the focus of desire of another (Simmel 1907). 'Prime value', as defined by Renfrew (1986), is the intrinsic value ascribed to things that are especially prized as the central tokens of value in a particular society. Objects of prime value also incorporate some or all of the other values, especially including a high symbolic value, but generally low use value, and sometimes low labour value.

Renfrew's materials and objects of 'prime value' can be quite closely equated with 'primitive valuables' (see Dalton 1977) or 'secondary commodities' and 'luxuries' (see Appadurai 1986 and Clark 1986), and a list of their archaeologically recognizable characteristics can be compiled. Materials ascribed with prime value, such as gold, are generally conspicuous materials which operate upon the senses in an agreeable and attractive manner, are rare (and sometimes even exotic), and are either durable (like gold, which does not tarnish) or suitable for conspicuous consumption (like fine wine and frankincense). Such materials are generally used more economically (in terms of mass) than comparable materials of lower value in the manufacture of artefacts. The technical knowledge required for the production of materials and objects of prime value is also likely to be much less standardized, due to the influence of taste, judgement and individual experience. Such objects, which are generally specialized, portable, goods, can be divided into ornaments (such as shell bracelets) and objects still retaining some use value (such as copper axes). Skeuomorphs or copies are sometimes made of materials and/or objects of prime value (eg. skeuomorphs of triton shell trumpets during the Bronze Age in the eastern Mediterranean - Montagu 1981). Materials and objects of prime value generally appear in the archaeological record either as a result of deliberate burial (generally with the dead in the form of personal ornaments, placed close to the body, and especially to the face and genitals; but also in other forms of deposit such

as hoards) or through loss or accidental breakage.

Moving further away from the archaeological record, characteristics of the exchange and use of materials and objects of prime value can also be described. They are generally exchanged according to the principles of balanced reciprocity. Appadurai (1986), for example, notes that they lie on the mid-point between pure gifts and pure commerce:

"With the gift, they share a certain insensitivity to supply and demand, a high coding in terms of etiquette and appropriateness, and a tendency to follow socially set paths. With pure barter, their exchange shares the spirit of calculation, an openness to self-interest, and a preference for transactions with relative strangers." (Appadurai 1986: 25.)

Although they resemble money, they are not generalized media of exchange, but represent highly specific powers of acquisition, whose distribution is restricted and controlled, not only as a result of their real scarcity, but also due to social and cultural sanctions.

Materials and objects of prime value are not regularly utilized or expended in daily life, but they are still used, although in special ways and on special occasions that are removed in some culturally well-defined way from the routines of economic life. They are especially employed as items of display and within contexts of display, and

above all, their use and consumption is rhetorical and social. In simpler, more egalitarian prehistoric societies, their use may initially have been ceremonial in nature, but during the Bronze Age their use probably developed into a more active role as prestige goods and symbols of power, owned and displayed in order to maintain and/or achieve the high status of a high ranking person (Renfrew 1986). In more developed societies, which have been observed ethnographically, such materials and objects of prime value exhibit a high degree of linkage to body, person and social personality, and access to them (including use and knowledge of them) is socially restricted as a privilege of those in power, although they may also be employed more actively, as instruments of status contests between élites, or as weapons used to attack or gain status, rank, fame, and/or reputation. In the kula system, for example, the path taken by objects of prime value, such as shell bracelets, is both reflective and constitutive of social partnerships and struggles for pre-eminence, for the men who exchange them gain and lose reputation as they acquire, hold and part with these valuables (Appadurai 1986).

Despite the importance of focussing attention upon the social functions, meanings and values of commodities, and upon their consumption, archaeological studies of prehistoric exchange also need to consider the broader social context of the production of commodities and demand for them (see, for example, Gamble 1981).

Within economic anthropology, there is perhaps some validity in the distinction emphasized by 'substantivists' between 'simple' and 'complex' economies (eg. Polanyi 1957; Sahlins 1972). The former term is applied to relatively undifferentiated and unspecialized economic systems that operate under a 'domestic mode of production', and which are characteristic of societies organized mainly by kinship. In such systems, most participants are occupied for most of their working time in activities yielding food for local consumption within the community, and the exchange of goods takes place mainly in order to obtain necessary items from neighbouring territories. The term 'complex', on the other hand, is applied to those economies characterized by a much larger technological complex and a more complicated division of labour; where craft-specialist production, the large-scale exchange of commodities and commercial activities play a significant role; and where production and exchange for gain occupy a substantial proportion of the population. The economic flow that takes place in modern industrial communities is an obvious example of such an economy. There are certainly problems with this distinction. Davis (1990) points out, for example, that the substantivist view overemphasizes the dominance of the market, and underestimates the importance of family-scale, non-market, exchanges, in our own society. Such polarizing categories do seem to have been overemphasized in the past, and should perhaps best be avoided and replaced by a more unified theory of exchange in the future. However, Renfrew (1986: 141-2) still argues

that there are nonetheless valid differences and contrasts underlying the substantivist debate within economic anthropology. He suggests, for example, that there is some equivalence between the category of 'simple' economy and most hunter-gatherer economies and the early days of farming, with their primary emphasis upon subsistence; and that the concept of 'complex' economies becomes more appropriate with the development of early state societies and especially in the early empires.

One important point to make about demand (and consumption) is that it must be recognized as a function of a variety of social practices and classifications, and as an aspect of the overall political economy of societies. The desire for goods is not culture-free nor a natural and mechanical response to the availability of goods and the money with which to purchase them (Appadurai 1986). Among the Muria Gonds of central India, for example, consumption is closely tied to collective displays, economic egalitarianism and sociability, and the collective social regulation of demand for goods (and thus of consumption) is part of a conscious strategy here on the part of the wealthy to contain the potentially divisive implications of differentiation (Gell 1983b). Changes in demand also need to be explained. Short-term strategies concerned with diverting the flow of existing commodities and establishing new commodities might entail small shifts in demand that can gradually transform commodity flows in the long run. But long-established patterns of demand act as constraints

on any given set of commodity paths. However, such paths are inherently shaky, especially when they involve relatively complex, long-distance, intercultural flows of commodities (Appadurai 1986).

c) Chapter structure

This chapter is organized, first, according to the various commodities of exchange which have been found in the archaeological record (obsidian, chert, 'greenstone', limestone and other rocks, copper, coral, pumice, red ochre, sea shells, pottery, and less archaeologically visible commodities); second, according to the various chronological phases defined in Chapter 1; and third, on various geographical scales of communication and exchange (intra-regional [ie. between groups located within the Abruzzo-Marche region], and inter-regional [ie. between groups in the Abruzzo-Marche region and regions located elsewhere in Italy and the central Mediterranean]). Decorated pottery is given extended treatment in this chapter, for with this commodity it is possible to discuss communication as well as exchange. Problems relating to the quality of the data, along with a variety of specific explanatory models, are discussed in relation to the exchange of particular artefact types, rather than in the introduction. In the summary and conclusion sections an attempt is made to draw together these various commodities and interpretations. In the structuring of this thesis, and with the need to avoid lengthy repetition, it has been

necessary, to a certain extent, to impose artificial divisions and to discuss communication and exchange separately from other aspects of social and economic behaviour. However, I attempt to rectify this imbalance in the concluding chapter of the thesis.

2. Obsidian

The section below begins with a description of the properties of obsidian and the work of characterization carried out on obsidian from the central Mediterranean region. Such work enables us to make suggestions about the nature and extent of exchange and communication networks in prehistoric Italy, although it is important that we recognize the problems involved in characterization studies. The four main sources of obsidian in the central Mediterranean are then described, along with the distribution of material exported from them. There follows a discussion of some interpretative models formulated by Hallam et al. (1976) in relation to these distributions. General chronological trends can also be identified in the use of obsidian in Italy. The forms and functions of obsidian artefacts are then discussed. Finally, quantitative data concerning the import and deposition of obsidian during the various chronological phases of the Neolithic and Copper Age in the Abruzzo-Marche region are presented. Patterns identified in these data are related to those observed for Italy as a whole.

Tools made from obsidian occur extensively in the Neolithic and Copper Age of Italy, particularly in the form of sharp blades used for different kinds of cutting activities. Obsidian fractures conchoidally like flint, but it is easier to work than flint because of its entirely disordered atomic structure, which allows flakes to be struck from obsidian cores in any direction (Cann 1983). It also produces sharper tools. Obsidian is a hard volcanic glass which is formed naturally by the cooling of certain types of lava (ie. those with a silica content greater than 65%, which are very viscous, have a high water content, and have a slow, but not too slow, rate of cooling).

Much detailed and successful work has been carried out over the last 30 years in the Mediterranean region on the characterization of obsidian, and a variety of chemical techniques have been employed in this (following earlier, less precise, descriptions of the physical properties of different obsidians). The majority of these techniques have been concerned with trace element analysis - the determination of quantitative values for a range of trace elements for each specimen. Each method has its advantages and disadvantages, in terms of the range of elements identified, precision, and size of sample required, but most are complementary to each other. Neutron activation analysis (NAA) has been most commonly used on central Mediterranean obsidian (eg. Hallam et al. 1976; Williams Thorpe et al. 1979; Crummett and Warren 1985; Ammerman et al. 1990). It is particularly useful in the quantification

of rare earth elements such as scandium, lanthanum and caesium, it gives good precision in discrimination between the obsidian from different sources in the Mediterranean, its sampling is basically non-destructive in character, and it is not an unduly expensive or time-consuming technique. Other methods which have been used for the central Mediterranean material include: optical emission spectroscopy (OES) (eg. Cann and Renfrew 1964); X-ray fluorescence (XRF) (eg. Francaviglia and Piperno 1987; Francaviglia 1988); Mössbauer spectroscopy (Mello 1983); fission track dating (eg. Radi et al. 1972; Bigazzi and Bonadonna 1973; Bigazzi and Radi 1981); strontium isotope analysis (Gale 1981); and magnetic sourcing (McDougall et al. 1983).

One especially useful thing about the study of obsidian in the central Mediterranean is that it can be sourced to a few fairly specific geographical locations which are all found on off-shore islands (see below, p. 476-481). This means that all of the obsidian found on the Italian mainland was imported, and almost certainly intentionally - as the scale of the imports suggests. Following the characterization of obsidian from these sources, it is then possible to make suggestions about the nature and extent of 'trade' routes and communication networks during the Neolithic and Copper Age. The results of early analyses, for example, indicated the surprisingly wide scope of 'trade' in Neolithic times and the efficiency of early prehistoric transport, particularly across the sea

(Dixon et al. 1968; Cann et al. 1969).

There are of course problems concerned with obsidian studies that need to be recognized, but most of them can be overcome. At the sources, although the elemental properties of the obsidian within a single lava flow are in general fairly homogeneous, relative concentrations of certain chemical elements can vary systematically within a single flow, due to magmatic mixing prior to eruption. At the site scale, dark coloured varieties of chert or flint are sometimes confused with obsidian, but their surfaces are normally duller and, in more detailed analyses, their refractive indices are shown to be lower, and they burn badly in a spectrograph. There is also a general lack of good quantitative data concerning obsidian for most prehistoric sites in Italy, and finds contexts have too frequently been imprecisely recorded. In the laboratory, certain techniques can also be imprecise: OES precision, for example, can be as low as $\pm 30\%$, which is on the margin of successful characterization; and with NAA it is not easy to duplicate irradiation effects for different samples, due to variations in the geometric shapes of the samples presented to the detector, and to systematic errors in counting. The number of samples taken from a site is often too small (generally less than five), especially in northern Italy, where obsidian from different sources is sometimes found at one site. Inter-laboratory comparisons are also rarely carried out. However, in a recent test between Bradford and Milan, duplicate measurements made on

obsidian from Lipari showed good agreement between the two laboratories (Ammerman et al. 1990: 212).

Characterization studies indicate that four main sources of obsidian were utilized in the central Mediterranean during the Neolithic and Copper Age: Pantelleria, Lipari, Palmarola, and Sardinia. By 1985 only three samples from the western Mediterranean, out of a total of more than 300 examined, could not be assigned to one of these sources (Crummett and Warren 1985).

Pantelleria is a small island which lies in the straits separating Sicily and Tunisia. Obsidian is found here in at least five different locations, three of which were exploited in prehistory (Francaviglia 1988), and it is distinguished by high concentrations of zirconium, sodium and iron, and low concentrations of scandium and cobalt. Pantelleria obsidian (Pa) was exported especially to Malta, but is also found on sites on the coast of Tunisia (Crummett and Warren 1985: 108) and in Sicily alongside Lipari obsidian (Francaviglia and Piperno 1987).

Lipari is the largest of the Aeolian Islands and is situated about 30 km off the north-east coast of Sicily. The Vallone del Gabellotto flow, upon which Neolithic chipping floors have been found, and the less extensive Acquacalda locality, were probably the only obsidian sources exploited on the island during prehistoric times. Obsidian is found here abundantly, often in the form of

large blocks, which would have been particularly useful in the production of long blades (Hallam et al. 1976). Lipari obsidian, like Melian obsidian (Jacobsen 1976), was first exploited and transported over long distances during the Mesolithic period in southern Italy, as is attested by pieces found in Mesolithic levels in the Uzzo, Sperlinga, Corruggi, and Genovesi caves in Sicily, and the Romanelli cave in Puglia (Malone 1986; S. Milliken pers. comm. 1990). Castellaro Vecchio is the earliest settlement known on the island and it produced a mixed ceramic assemblage of later Impressed Ware, bichrome painted pottery with broad bands, and trichrome red and brown painted pottery, which is similar to the Scaloria painted pottery found on the mainland. During the final Neolithic, dated here to 4321-3360 Cal. BC (R-180) and 3790-3529 Cal. BC (R-182) (Alessio et al. 1969), there was a notable increase in the number of settlements and obsidian-related industrial sites on Lipari, with major settlements now being located on the Acropolis, which lies in a high defensive position above the harbour, and in the Contrada Diana on the plain below. Malone (1986: 159) argues persuasively that the local inhabitants actively controlled the extraction and export of obsidian from Lipari during this period, demanding and receiving a greater quantity of valuable goods in return for obsidian (such as painted pottery, polished axes and beads) than was normal for Neolithic sites located elsewhere in the central Mediterranean. This contrasts with the model proposed by Torrence (1986: 170) for the island of Melos, where the total absence of settlement evidence

suggests that the outcrops of Melian obsidian were exploited through a non-specialist and only weakly controlled industry. During the later Copper Age the obsidian industry on Lipari seems to have declined, with a decrease in the number and size of settlements and obsidian processing sites.

Lipari obsidian (Li) travelled extensively over the central Mediterranean area during the Neolithic and early Copper Age (Fig. 108). It is found to the south, on the coast of Tunisia, in Malta (Scorba) and in Sicily (Arnella, Grotta del Uzzo, Monte Cofano, Santa Panegia, Ustica Island); in southern Italy (Argentano, Bari, Bevilacqua, Campi Latini, Calabrian survey sites, Fontanelle, Grotta S. Angelo III, Grotta Scaloria, Grotta di Latronico, Grotta dei Pipistrelli, Grotta della Trinità, La Panetteria, Lucera Castle, Masseria Guadone, Masseria Leonessa, Masseria S. Gaetano, Monte Aquilone, Murgia Timone, Passo di Corvo, Prestarona, Torre Bianca, Torre Canne, Torre Sabea, Serra d'Alto); west-central Italy (Grotta Bella, Grotta dell'Orso, Grotta del Leone I, Pienza, Valle Ottara); east-central Italy (Catignano, Cellitto, Fossacesia, Ripoli, S. Maria in Selva, Villa Badessa); Emilia-Romagna (Cava Nuova, Chiozza, Faenza Cappuccini, Fiorano, Razza di Campegine, S. Polo d'Enea, Villa Agazzotti Formigine); Trieste (Grotta dell'Ansa, Grotta Lonza, Grotta San Quirino, Grotta della Tartaruga, Grotta degli Zingari, Riparo di Monrupino, Vlasca Jama); the Po Plain (Gaione); Lombardia (Isolino di Varese); Liguria

(Arene Candide levels 12-11, Grotta Pollera level 22); and Provence (Grotte de l'Eglise, La Bertaude, Font-Marthe) (N.b. This list is not exhaustive, but it is probably representative, for it is based upon the following specialist articles which discuss the general distribution of obsidian artefacts: Radi et al. 1972; Bigazzi and Bonadonna 1973; Hallam et al. 1976; Williams Thorpe et al. 1979; Bigazzi and Radi 1981; Mello 1983; Williams Thorpe et al. 1984; Francaviglia and Piperno 1987; Ammerman et al. 1990; Oddone et al. 1990). Little of a chronological nature can be inferred from these occurrences, except that Lipari obsidian was widespread in southern Italy during the early Neolithic, and that, although present in northern Italy during the early Neolithic, it only occurred here in any abundance during the Rivoli-Chiozza and Rivoli-Castelnovo stages of the SMP period. However it is interesting to note that there are about twice as many sites with Lipari obsidian known on the eastern side of central and northern Italy than on the western side. This seems to support Barfield's (1981, 1989) claims for the existence of an important Lipari obsidian transport route running along the Adriatic coast during the Neolithic, which was originally suggested by the concentrations of obsidian found in the Trieste area at the northern end of the Adriatic.

Palmarola is one of the Pontine Islands and lies 35 km off the west coast of central Italy. Workable obsidian occurs here in one restricted locality, the Punta Vardella, in the form of small but useful lumps, and it was probably

first exploited during the early Neolithic. Although lying essentially within the area of Lipari obsidian exports, Palmarola obsidian was distributed more widely in Italy during the Neolithic than early studies suggested (eg. Hallam and Warren 1976) (Fig. 109). It has been found on the adjacent islands of Ponza, Gavi and Zannone, and on the islands of Capraia and Capri, to the north and south respectively. It has also been reported from sites in west central Italy (Palidoro, Batteria - Monte Circeo, Campo Mezzomonte, Grotta Bella, Grotta del Leone, and Pienza), and east central Italy (Tremiti Islands, Marcianese, Villa Badessa, and Faenza - Cappuccini); in northern Italy, in Liguria (Arene Candide, levels 13-12), the Po valley (Gaione), and Trieste (Vlasca Jama); and in southern Italy, in Calabria (Grotta S. Angelo - often misquoted as the Grotta S. Angelo in Abruzzo, eg. Hallam and Warren 1976, Fig. 4), Basilicata (Lavello), and Puglia (Casone, Lucera Castle and ? Passo di Corvo). (This list is based upon information provided by: Hallam et al. 1976; Williams Thorpe et al. 1979; Bigazzi and Radi 1981; Mello 1983; Guerreschi et al. 1987: 634; Ammerman et al. 1990; Oddone et al. 1990.) The contexts of the finds of obsidian from the majority of these sites are imprecisely recorded, and this makes it difficult to evaluate Oddone et al.'s (1990) claim that Palmarola obsidian became more restricted in its distribution in Italy during the second half of the Neolithic.

Sardinia, which is located over 200 km to the west of the Italian peninsula but only about 15 km south of Corsica, now has four identified sources of obsidian, SA, SB, SC, and SD, which all come from the Monti Arci volcanic region in west-central Sardinia (Hallam et al. 1976; McDougall et al. 1983). This obsidian may have been exploited from as early as the Mesolithic period, for, although not analysed, the obsidian sidescraper found in the Mesolithic layer V in the Arma dello Stefanin cave in Liguria probably comes from Sardinia (Barfield 1981). Sardinian obsidian was certainly transported to Liguria during the early Neolithic, for pieces of SB and SC obsidian were identified in the early Neolithic levels in the Caverna delle Arene Candide and Grotta Pollera (Williams Thorpe et al. 1979). Sardinian obsidians were distributed extensively in Corsica, Elba, and southern France, as well as in northern Italy, in the provinces of Liguria, Lombardia, and Emilia-Romagna (Hallam et al. 1976; Williams Thorpe et al. 1979; Williams Thorpe et al. 1984). They have not, however, been identified in the Abruzzo-Marche region.

Early distribution patterns of sourced obsidian samples from Italy seemed to indicate the existence of separate spheres of influence belonging to these different sources, with, for example, almost mutually exclusive distributions of Lipari and Sardinian obsidian (Hallam et al. 1976); and so models of competitive trading between obsidian sources were developed to explain this (Hallam et

al. 1976; Malone 1986). However, with the further analysis of samples from a greater number of sites, it became clear that obsidian was imported to individual sites, particularly in northern Italy, from a variety of sources (Williams Thorpe et al. 1979). At Gaione on the Po Plain, for example, obsidian from Lipari, Palmarola and Sardinia was used (Ammerman et al. 1990). This then brings into question the idea of competitive trading between sources. In addition, although it is true that Lipari obsidian is found more extensively and in greater quantities on Neolithic and Copper Age sites in Italy than Palmarola obsidian, the concept of competitive trading cannot be held to explain this pattern fully. More obsidian was available from the sources on Lipari, and larger sized blocks could be extracted from them, which makes it unsurprising that greater quantities of this obsidian came to be circulated in Italy. The island of Lipari also seems to have been more attractive to permanent settlement (and therefore easier for the large-scale exploitation of its obsidian sources) than the island of Palmarola, which appears to have remained mainly uninhabited to the present day, although Neolithic or Copper Age settlements were probably established on the adjacent island of Ponza, by the perennial spring of La Forna for example (Buchner 1949).

Although it is difficult to demonstrate detailed chronological patterns for the import of obsidian to specific regions, it is possible to identify some general chronological trends on an Italian scale. Obsidian sources

(at least on Lipari, and probably in Sardinia) began to be exploited during the Mesolithic period, but it was only in the early Neolithic that exports took off significantly, particularly in southern Italy where Lipari obsidian was imported to sites in quite large quantities. During the later stages of the Neolithic the volume and extent of obsidian imports increased throughout Italy, particularly during the final Neolithic/early Copper Age. Then, during the later Copper Age, there was a widespread decline in the use of obsidian in Italy (except perhaps in Sardinia). Obsidian continued, however, to be used and exchanged in small quantities during the Bronze Age.

Hallam et al. (1976) have suggested that obsidian was distributed in Neolithic Italy by a simple down-the-line exchange mechanism in which quantities of obsidian decreased progressively with distance away from the sources. On first impression this model seems acceptable. Malone (1986: 199), for example, has identified three zones of obsidian dispersal lying around the source of Lipari: sites in the Aeolian Islands and on the adjacent coasts of northern Sicily and western Calabria produced lithic assemblages with more than 50% obsidian artefacts; sites in most parts of southern Italy, Sicily and Malta had perhaps as much as 10% obsidian; and sites in the remoter areas of southern Italy and all of central and northern Italy had probably less than 1% obsidian. However, when obsidian distribution patterns are considered in more detail, the model of a steady exponential fall-off in quantities of

obsidian away from sources cannot be sustained.

To begin with, there is evidence to suggest that not all of the sites located within a given area participated to the same degree in the exchange of obsidian. The Calabria and Acconia surveys, for example, revealed that although there was a general decline in the quantity of obsidian found on sites with increased distance away from the obsidian source of Lipari (obsidian formed 90% or more of lithic assemblages on the majority of sites on the west coast of Calabria, but below 40% on sites located on the east coast near to Crotone), there was also significant variation in the quantities of obsidian found on east coast sites: some had less than 9% obsidian, whereas others, located at the same distance from Lipari, had more than 30% obsidian (Ammerman 1979, 1985b). Sites with different activity specializations were also identified, with more core preparation and initial working of obsidian taking place at the site located nearest to the west coast of Calabria (ie. nearest to Lipari) than on sites located further inland, where the later stages of reduction activity took place and where twice as many blades were found (Ammerman and Andrefsky 1982). Similar evidence comes from north-east Italy, where the site of Pescale stands out in marked contrast to other sites located on the Emilian plain, with its quantity of over 950 fragments and blades of obsidian, which in 1981 represented more than 80% of all the obsidian known from northern Italy (Barfield 1981). All seven of the pieces of obsidian analysed here were sourced

to Sardinia (Williams Thorpe et al. 1979), and the site has been interpreted as a well-placed node located on a main line of movement of obsidian which ran overland from the west of Italy, over the Apennines, and via the River Secchia, to Emilia, and also as a point of obsidian collection and redistribution serving the surrounding region (Barfield 1981; Malone 1986).

Another factor influencing the distribution of obsidian has been suggested by Barfield (1981), who notes that obsidian is found more frequently in areas of northern Italy where good quality flint is scarce, and vice-versa. For example, significant concentrations of obsidian were found in Emilia-Romagna and the Trieste area, where only inferior flint is available locally, whereas relatively little obsidian has been found in the flint-rich areas of the pre-Alps around Brescia and Verona. However, such a pattern could also reflect the predominantly maritime nature of obsidian transport and the influence of broad geographical factors, with only small quantities of obsidian filtering inland through to the most northerly and interior areas of the general obsidian distribution zone. Chronological factors must also be borne in mind, particularly when interpreting distribution maps of obsidian in the central Mediterranean which conflate different phases of the Neolithic and Copper Age onto a single diagram. As has been pointed out above, for example, obsidian only became abundant and widespread in northern Italy during the later stages of the Neolithic. Hallam et

al.'s (1976) model therefore appears to be too simplistic, and it now seems likely that a variety of processes affected the nature and extent of obsidian exchange networks in Italy.

It is of interest, although difficult, to consider in what form obsidian was transported through the exchange network: as unworked pieces or finished artefacts, cores or prepared blanks. In Calabria, where both prehistoric and experimental lithic reduction sequences have been studied in some detail, cores and semi-prepared cores are thought to have been the main forms of obsidian artefacts transported between Lipari and Acconia on the west coast and between sites within Calabria (Ammerman and Andrefsky 1982). At Gaione in the Po valley it seems that there were some differences in the form of obsidian pieces imported from different sources. Three-quarters of artefacts made from Lipari obsidian were blades or blade segments, there was little evidence of the working of this material, and there were no cores, all of which suggests that Lipari obsidian was imported in a finished form. By contrast, 28% of pieces made from Sardinian obsidian were cores, three-quarters were either cores or core trim, and blades were much less common, which perhaps suggests that Sardinian obsidian was imported to this site in the form of cores (Ammerman et al. 1990). More generally, and less convincingly, the limited evidence of on site obsidian working and the predominance of blades in assemblages in northern Italy and southern France has been taken to

indicate the import of largely finished artefacts to these regions (Williams Thorpe et al. 1979; Williams Thorpe et al. 1984). Similarly, the predominance of blades amongst artefacts made from Palmarola obsidian deposited in Vlasca Jama during the late Neolithic Danilo phase is supposed to indicate the importation of ready made blades to the Trieste region (Barfield 1972: 184).

It is important to try to assess the functions and value of obsidian artefacts. Barker (1981a) makes the perhaps unplausible claim that obsidian blades found on sites in central Italy were clearly not used for everyday working, due to their fresh and undamaged appearance, and because obsidian cores were reduced down to tiny sizes before being discarded. Obsidian artefacts, on the other hand, usually have a characteristically fresh and undamaged appearance, whether used or not. In addition, microwear analysis of lithic artefacts found on the Acconia survey in Calabria has shown that many obsidian implements carried traces of use wear, but that there was a distinct preference for plant cutting implements to be made of chert (Diamond and Ammerman 1985). It seems likely to me, then, that obsidian artefacts found in central Italy did have a fairly high use-value, even if this was focussed somewhat upon more specialized productive activities which required especially sharp tools, as opposed to those everyday activities which chert and flint tools could cater for. Likewise, although obsidian was generally not that common a material on sites in central Italy, especially compared to

the high quantities found on sites in southern Italy, its constant presence in the archaeological record throughout the Neolithic and Copper Age, and the degree to which cores were reduced, suggests that it was a fairly necessary material to early farming communities. As such, it probably gained a fairly high exchange value in central Italy, as is suggested by the long distances over which it was exchanged. It may also be possible that obsidian artefacts gained some symbolic value with increasing distance away from the sources: as, for example, at Gaione in northern Italy, where blades of obsidian are reported to have been found in a grave which also contained south Italian Serra d'Alto pottery (A. Ammerman pers. comm. 1991). However, it seems unlikely that Neolithic and Copper Age^{obsidian} artefacts in central Italy were generally used to signal complex social messages, or that they had the capacity to do so.

It is now time to turn to the quantitative data concerning finds of obsidian from sites in the Abruzzo-Marche region (see Table 13, p. 354). These data are poor in quality, with few details of obsidian quantities, artefact types, and contexts having been recorded for most sites, and few samples sourced by characterization studies, but they do reveal some spatial and chronological patterns which seem to tie in with those observed above for Italy in general. It should be noted that the data refer in particular to patterns of obsidian deposition at sites, rather than to artefacts actually in use.

Obsidian has been found on 10 early Neolithic sites in Abruzzo and Marche (Fig. 110). Cavities IA and IBB5 at Villaggio Rossi (CH) yielded 14 pieces, which amounted to 0.3% of the total number of lithics from the site (4933). There were nine bladelets, three flakelets, a small blade, and a minute core (Geniola 1982b), and samples were sourced to Palmarola (Oddone et al 1990). Spits 26-21 in Grotta dei Piccioni (PE) produced two blades and a flake of obsidian, which amounted to 2.8% of all early Neolithic lithics from these spits (109) (Cremonesi 1976). Obsidian was present in the early Neolithic levels at Cellitto (AQ) (Cremonesi 1985), and a bladelet came from the early Neolithic level at Ortucchio (AQ) (Cremonesi 1962). 'Much' obsidian was found at Colle S. Stefano (AQ) (Radi 1987-8). In the early Neolithic levels in Grotta Continenza (AQ) there were five bladelets, two of which were retouched, one flake, and one truncated bladelet, which amounted to 32% of all the lithics found in these levels (22) (Grifoni Cremonesi and Mallegni 1978). A core was found at La Valle (AQ) (Mattiocco 1986), and cores, bladelets and blades were found in Grotta S. Angelo (TE) (Radmilli 1975). Obsidian was present in small quantities at La Maddalena (MC) (Lollini 1965). Finally, at Ripabianca (AN) obsidian was "rather well documented", and included eight bladelets, one of which was retouched, two flakes, and a small core fragment (Broglia and Lollini 1963).

Obsidian, then, has only been found in small quantities on most early Neolithic sites in Abruzzo and

Marche, the largest recorded amount being 14 pieces from Villaggio Rossi, which can be set against an average of 6.2 pieces per early Neolithic site in the Abruzzo-Marche region. It was present from the start of the early Neolithic, as at La Maddalena, but may have increased slightly in quantity during the second half of the early Neolithic, as at Ripabianca. Bladelets are the most common artefact types, but there were also a few flakelets and flakes, truncated bladelets, small blades, and small cores. The proportion of obsidian artefacts to other lithic artefacts is higher in the caves than on the open settlement sites. This might relate to a different range of activities (including ritual activities) taking place in the cave sites. Obsidian occurs on early Neolithic sites throughout the Abruzzo-Marche region, from the south to the north, and at a distance of between nine and 77 km inland from the Adriatic coast. However, most sites with obsidian have been found inland, at an average of 47 km inland from the coast. Combined with the fact that obsidian from Villaggio Rossi, which is located relatively near to the coast (13 km inland), was sourced to Palmarola rather than Lipari, this might suggest that the greater part of the obsidian in early Neolithic Abruzzo and Marche was transported overland, across the Apennines, from Palmarola, rather than along the Adriatic coast from southern Italy and Lipari. Although some Lipari obsidian has been identified further north along the Adriatic coast in early Neolithic deposits at Faenza Cappuccini in Emilia-Romagna, it was found in association with Palmarola obsidian (Oddone

et al. 1990).

Four (or possibly five) middle Neolithic sites in the Abruzzo-Marche region produced obsidian artefacts (Fig. 111). At Catignano (PE) obsidian was relatively abundant, comprising 5% of the total number of lithics, and it was sourced to Lipari (Bigazzi and Bonadonna 1973; Bigazzi and Radi 1981; Tozzi 1982: 324). In spits 20-18 in Grotta dei Piccioni (PE) a flake and a bladelet were found (Cremonesi 1976). Three bladelets and two flakes of obsidian were also found at Villa Badessa (PE), located 5.25 km downstream from Catignano, where samples were again sourced to Lipari (Radi et al. 1972; Bigazzi and Radi 1981: 232-3), and also to Palmarola (Oddone et al. 1990). An obsidian bladelet came from the middle Neolithic deposits lying in front of Grotta Continenza (AQ) (it forms 20% of the total of five lithic artefacts found there) (Grifoni Cremonesi and Mallegni 1978). A bladelet may also have come from the middle Neolithic deposits in Grotta S. Nicola (AQ) (Borzatti von Löwenstern 1962b), although its context is ambiguously recorded.

There seems to have been a fair degree of continuity in the exchange and use of obsidian in the Abruzzo-Marche region from the early Neolithic to the middle Neolithic: quantities deposited at most sites remained small, bladelets predominated, the Continenza cave can be contrasted with the open sites through its high obsidian to total number of lithics ratio, and Palmarola obsidian

continued to be imported. However, the site of Catignano stands out against this trend with its relatively high quantity and proportion of obsidian; and at the same time obsidian from Lipari begins to appear in the provenanced samples, both from Catignano and Villa Badessa. This might indicate, then, that there was an influx of Lipari obsidian into Abruzzo during the middle Neolithic, and that a few sites such as Catignano became established as collection, use and even redistribution centres for it. This ties in with the general outline presented above (p. 333-4) for the distribution of Lipari obsidian, which was present in large amounts during the early Neolithic only in southern Italy, but which increased in quantity in northern Italy during the late and final stages of the Neolithic. It is difficult to suggest the routes along which Lipari obsidian travelled from the Aeolian islands to Catignano and Villa Badessa, but it seems relevant, considering that these two sites are located at no great distance from the coast (22 and 19 km), to recall Barfield's (1981, 1989) Adriatic sea route as one possibility.

Obsidian has been found on seven late Neolithic sites in the Abruzzo-Marche region (along with obsidian from another four sites which possibly date to this period) (Fig. 112). A broken retouched blade was found in the lower level at Fonti di S. Callisto (PE) (making up 0.3% of the total number of 313 lithic artefacts from this context) (Radi 1986-7). In spits 17-14 in Grotta dei Piccioni (PE) there were nine bladelets/blades and one core revival flake

of obsidian, which comprised 0.9% of the total quantity of lithics from these spits (1093) (Cremonesi 1976). At S. Agnese (PE) nine bladelets and four flakes were found, which formed 1.9% of the total number of lithics from the site (688) (De Pompeis 1978). A core was found in spits 28-24 of Grotta Maritza (AQ), forming 12.5% of the total lithics (8) (Grifoni and Radmilli 1964), and at Pianaccio (TE) one bladelet and five flakes were found (Rozzi and Radmilli 1951-2; Radmilli et al. 1953; Rozzi et al. 1955). Seven pieces of obsidian were found in the late Neolithic cavities at Ripoli (TE), which comprised less than 1.4% of the total number of lithics dated to this phase of occupation (Cremonesi 1965), and samples from the site were sourced to Lipari (Hallam et al. 1976). Other possible late Neolithic obsidian finds include: a bladelet from Grotta S. Nicola (AQ) (Borzatti von Löwenstern 1962b); artefacts from Mindoli (TE) (Rosa 1871, 1872a, 1874); blades from Viale Kennedy (TE) (D'Ercole 1988a); and a bladelet and a flake from Monte Tinello (AP) (Sivestrini Lavagnoli 1983).

During the late Neolithic the quantity of obsidian deposited in sites in Abruzzo (and possibly also in Marche) did not increase, in fact it seems to have dropped back to, or even below, the levels recorded for the early Neolithic. Only small quantities of obsidian were found on sites, with a maximum of 13 pieces found at the site of S. Agnese, an average of 4.2 pieces per site, and an average proportion of 1.1% obsidian to other lithic artefacts per site. Bladelets continued to predominate in the range of artefact

types, which also included a core and a core revival flake, flakes, and blades. However, flakes and blades may have increased slightly in number. Spatially, sites with obsidian now fall into two groups: inland sites, located between 34 and 77 km inland from the Adriatic coast; and coastal sites, located between 3.5 and 6 km inland from the coast. The fact that obsidian from Ripoli, which is located 4 km inland from the coast, was sourced to Lipari perhaps again points towards an Adriatic coastal sea route for the transport of Lipari obsidian from southern to east-central Italy.

There are 12 final Neolithic/early Copper Age sites with obsidian known from the Abruzzo-Marche region (along with another three possible sites) (Fig. 113). A bladelet was found at Fonterossi (CH) (Rellini 1914). Obsidian artefacts were "very abundant" at Fossacesia (CH), and included bladelets, blades, flakes, cores, and truncated pieces (Cremonesi 1973). Three samples from this site were sourced by fission track dating to Lipari (Radi et al. 1972; Bigazzi and Bonadonna 1973). Two bladelets/blades were found in spits 13-12 in Grotta dei Piccioni (PE), and these made up 0.4% of all the 547 lithic artefacts from those spits (Cremonesi 1976). At Piano d'Orta (PE) four flakes, two of which were retouched, were found, along with three blades, which formed 0.3% of all lithics from the site (2242) (Di Fraia 1988). In the upper stratum at Cellitto (AQ) there were many pieces of obsidian, which included 11 bladelets, five of which were retouched, six

flakelets and a beak, which comprised less than 29% of all lithics from the stratum (over 62) (Di Fraia 1970; Cremonesi 1985). Obsidian samples from this site were sourced to Lipari (Bigazzi and Radi 1981: 232-3). A flake was found in Grotta Cola (AQ), representing 33% of the total of three lithic artefacts found there (Radmilli 1957). 90 obsidian artefacts were recovered from the final Neolithic/early Copper Age cavities at Ripoli (TE), which made up less than 19.4% of the total number of lithics assigned to this phase of the site (over 453) (Cremonesi 1976), and 59 of these came from cavity 9, which also contained a human ulna. Two separate samples of obsidian from Ripoli were both sourced to Lipari (Hallam et al. 1976). In the Marche region, a lunate point was found at Ciafone (AP) (Lollini 1954-5; Lucentini 1984-6), and obsidian was found at Capannacce (MC) (Rellini 1934). Many pieces of obsidian were found at S. Maria in Selva (MC), including two small cores and a graver (Lollini 1965); the latter was sourced to Lipari (Hallam et al. 1976). Obsidian was present at Coppetella (AN) (Lollini 1963), and a few bladelets were found at Donatelli (AN) (Lollini 1965). Other possible final Neolithic/early Copper Age obsidian finds include: artefacts from Mindoli (TE) (Rosa 1871, 1872a, 1874); blades from Viale Kennedy (TE) (D'Ercole 1988a); and a bladelet and flake from Monte Tinello (AP) (Sivestrini Lavagnoli 1983).

Significant changes took place during the final Neolithic/early Copper Age in the exchange and deposition of obsidian in Abruzzo and Marche. The quantity of obsidian being deposited (and presumably also in circulation and use) increased, both overall, with an average of 21.5 pieces of obsidian being found per site (or, excluding Ripoli, still a relatively high figure of 7.8 pieces per site), and also at individual sites such as Ripoli. Relatively large quantities of obsidian were imported to the settlements at Ripoli, Fossacesia, Cellitto, and S. Maria in Selva. These sites might be considered as collection, use and possibly redistribution centres for obsidian (like Catignano during the middle Neolithic), particularly Ripoli with its 90 pieces. The deposition of 59 pieces in a cavity here is also outstanding, especially as a human ulna was found in the same context, and it might be considered as a special and possibly ritual deposit, perhaps reflecting a higher value given to obsidian imports in Abruzzo at this time, but such an interpretation stretches the quality of the data to its limits. The range of obsidian artefact types also increased during this period to include a lunate point, a beak and a graver, probably as a result of the greater quantity of obsidian available in the region. Obsidian also became more widespread across the region, spreading, without notable divisions, from four to 92 km inland from the Adriatic coast, probably again reflecting the increased quantity of obsidian in the region, but perhaps also the greater number and more widespread location of obsidian redistribution

centres (eg. Ripoli and Fossacesia, located 4-4.5 km inland from the coast; S. Maria in Selva, 25 km inland; and Cellitto, 75 km inland). The flake of obsidian from Grotta Cola, which is located at 1150 m above sea level overlooking the head of the River Liri, near to the Petrella Liri pass between the Liri and Imele valleys, and on the border of the east and west-central Italian regions of Abruzzo and Lazio, may indicate the existence of an obsidian transport route crossing the Apennine mountains at this point. All of the four sets of sourced samples of final Neolithic/early Copper Age obsidian from Abruzzo and Marche, which come from sites located across the landscape (Fossacesia and Ripoli, S. Maria in Selva, and Cellitto), were identified as Lipari obsidian. This would seem to indicate that obsidian used in Abruzzo and Marche during the final Neolithic/early Copper Age came almost exclusively from Lipari, and that obsidian from Palmarola was now of little importance here (which adds weight to Oddone et al.'s (1990) claim that Palmarola obsidian became more restricted in its distribution during the second half of the Neolithic). Sea transport may have brought obsidian northwards along the Adriatic to sites situated near the coast, such as Fossacesia and Ripoli, but the relatively large quantity of obsidian accumulated at Paterno is as likely to have been imported from the west, across the Apennines, as from the Adriatic coast to the east.

Only one (or at most two) middle-late Copper Age sites in Abruzzo and Marche have produced obsidian. At Ortucchio

(AQ) two flakes, one bladelet, one bladelet core, one blade, and one endscraper were found, which formed 0.5% of the total number of lithics from the site (1266) (Tartaro 1979). Obsidian bladelets found at Pescocostanzo (AQ) (Radmilli 1981) may also date to the Copper Age, but their dating is uncertain. This indicates that, despite the continued use of lithic artefacts in the Abruzzo-Marche region during the middle-late Copper Age, the import, circulation and deposition of obsidian in the region decreased markedly at this time. Such evidence corresponds well with the general decline in the obsidian industry identified throughout Italy at this time.

Table 13: Finds of obsidian from Neolithic and Copper Age sites in Abruzzo and Marche

Site	Pieces of obsidian	% of total lithics	Source
EARLY NEOLITHIC			
Villaggio Rossi (CH)	14	0.3	PI
Grotta dei Piccioni (PE)	3	2.8	-
Cellitto (AQ)	-	-	-
Ortucchio (AQ)	1	-	-
Colle S. Stefano (AQ)	Many	-	-
Grotta Continenza (AQ)	7	32	-
La Valle (AQ)	1	-	-
Grotta S. Angelo (TE)	-	-	-
La Maddalena (MC)	Few	-	-
Ripabianca (AN)	Many	-	-
MIDDLE NEOLITHIC			
Catignano (PE)	Abundent ^a	5	Li
Grotta dei Piccioni (PE)	2	-	-
Villa Badessa (PE)	5	-	Li & PI
Grotta Continenza (AQ)	1	20	-
? Grotta S. Nicola (AQ)	1	-	-
LATE NEOLITHIC			
Fonti di S. Callisto (PE)	1	0.3	-
Grotta dei Piccioni (PE)	10	0.9	-
S. Agnese (PE)	13	1.9	-
Grotta Maritza (AQ)	1	12.5	-
Pianaccio (TE)	6	-	-
Ripoli (TE)	7	<1.4	Li
? Grotta S. Nicola (AQ)	1	-	-
? Mindoli (TE)	x	-	-
? Viale Kennedy (TE)	x	-	-
? Monte Tinello (AP)	2	-	-
FINAL NEOLITHIC/EARLY COPPER AGE			
Fonterossi (CH)	1	-	-
Fossacesia (CH)	V. abundant	-	Li
Grotta dei Piccioni (PE)	2	0.4	-
Piano d'Orta (PE)	7	0.3	-
Cellitto (AQ)	Many	<29	Li
Grotta Cola II (AQ)	1	33	-
Ripoli (TE)	90	<19.4	Li
Ciafone (AP)	1	-	-
Capannacce (MC)	x	-	-
S. Maria in Selva (MC)	Many	-	Li
Coppetella (AN)	x	-	-
Donatelli (AN)	x	-	-
? Mindoli (TE)	x	-	-
? Viale Kennedy (TE)	x	-	-
? Monte Tinello (AP)	2	-	-
MIDDLE-LATE COPPER AGE			
Ortucchio (AQ)	6	0.5	-
? Pescocostanzo (AQ)	x	-	-

3. Chert

Chert was an important raw material in Neolithic and Copper Age times. (The term 'flint' is only used in this thesis to describe the variety of chert that occurs in certain Upper Cretaceous and Tertiary geological deposits in northern Italy - Whitten and Brooks 1972: 178; M. Durkin pers. comm. 1989.) Artefacts made from chert have been found on almost all of the known Neolithic and Copper Age sites in Abruzzo and Marche, and it is generally possible to regard these as examples of a 'primary commodity', which was a relatively common, but necessary, thing, which had a high use value and which was generally produced in a technically standardized way (see above, p. 319-20). However, like some obsidian blades, a few large chert artefacts may have been assigned increasingly high exchange, symbolic and even association values during the Copper Age (see above, p. 320). Unfortunately, and in contrast to obsidian studies, very little specialist work has so far been carried out on its characterization and exchange in Italy. For the Abruzzo-Marche region it has therefore been necessary to rely upon the 1: 500,000 scale 'Carta Geologica d'Italia' (Servizio Geologico d'Italia 1978) for a distribution map of chert, whose occurrence is quantified only in terms of either 'sometimes' or 'often'. I recorded the colours of chert artefacts in a number of museum collections, and some chronological patterns do seem to emerge from these data, but this variable should not normally be used on its own as a guide to sources, for

different coloured cherts and flints can occur within the same source.

Below, I shall briefly describe the results of work carried out in northern Italy and southern France on the sourcing and exchange of flint, and shall survey the evidence of prehistoric flint and chert quarrying and mining in Italy. I shall then describe and discuss the data relating to the acquisition and exchange of chert for the various phases of the Neolithic and Copper Age in Abruzzo and Marche. Two main approaches are used. First, using the 'Carta Geologica d'Italia', the nearest potential sources of in-situ chert to Neolithic and Copper Age sites are identified. Second, using the published details for assemblages of chert artefacts from Neolithic and Copper Age sites, a number of variables are examined as quantitatively as possible, including types of cores (pebble or nodule, and flake or blade), blade lengths, ratios of cores to flakes and blades, and ratios of cores to rejuvenation flakes. Both of these approaches are limited by a lack of published details. It is also difficult to compare the assemblages from different sites due to the possibility of their relating to different activities and different site formation processes, and due to the use of varying recovery techniques on excavations. However, some chronological patterns do emerge from these data, and I shall summarize them, and then compare them with the developments seen in northern Italy and southern France.

have been found above formations of grey 'medolo' flint on Monte Pizzocolo and Monte Colvolo. Those from the former have not been closely dated but are possibly of the Copper Age, and the latter probably relate to the settlement found at the foot of Monte Colvolo, which dates from the final Neolithic (late SMP/Lagozza) to the Middle Bronze Age (Barfield 1987b). Abundant deposits of high quality flint and extensive evidence of prehistoric and modern flint extraction have also been found to the east of Lake Garda in the Monte Baldo and Monte Lessini areas. A survey and excavation project currently being undertaken by the University of Birmingham under the direction of Lawrence Barfield is studying the evidence of Copper Age flint quarrying in the Monte Lessini around the Ponte di Veia. Preliminary work on an extensive area of flint mining located to the south of the Ponte, which probably dates to the Copper Age, suggests that the flint was mined from deposits of nodules weathered out from the limestone and concentrated in a dry valley. To the north of the Ponte a Copper Age settlement and secondary flint production sites have also been discovered (L. Barfield pers. comm. 1989).

Flint mines have also been found on the Gargano promontary in southern Italy (Galiberti 1987). The earliest of these is located at Defensola near to Vieste, where a series of sloping underground galleries was discovered. Limestone blocks, fragments of flint nodules and debitage were found on the surface, along with artefacts including large picks and mallets, and stone lamps made from blocks

of limestone with a concave hollow chipped out on one surface. Pottery found near to the entrance of the gallery complex included a round based and slightly carinated bowl in a fine black-brown fabric, and an oval vessel with a flat heel base in a coarser fabric which was decorated with short incised slashes. The pottery and mining complex are thought to date to an advanced stage of the early Neolithic. Other sloping galleries used for flint mining were found on the Gargano promontary at Tagliacantonì and in the Valle Don Matteo, and early Copper Age sherds were found at the former. Open flint quarries, which perhaps date to the middle-late Copper Age on the basis of the associated 'Campignian' style lithic industries, have also been found at Scarafarina and in the Valle Sbernia, and vertical-sided quarry pits were discovered at Due Ulivi near Mattinata (Galiberti 1987).

Turning now to the data from Abruzzo and Marche, it is possible to identify a number of developments in the production, use and exchange of chert between the early Neolithic and the Copper Age. However, the interpretation of these patterns must remain tentative, because in general lithic assemblages have been collected with little regard for sampling strategies, and have been published without detailed quantification.

For the early Neolithic there are 10 lithic assemblages which have been published or studied in sufficient detail to provide useful quantified data:

Crocefisso (CH) (Ducci et al. 1986-7); Villaggio Rossi (CH) (Ronchitelli and Sarti 1982; Geniola 1982b); Colle Maggio (PE) (unpublished material in Costantini private collection); Fontanelle (PE) (Ducci et al. 1986-7); Grotta dei Piccioni, spits 26-21 (PE) (Cremonesi 1976); Villaggio Leopardi (PE) (Cremonesi 1967); Capo d'Acqua (AQ) (Bonucelli and Faedo 1968); Grotta Continenza, spits 22-4 (AQ) (Grifoni Cremonesi and Mallegni 1978); La Maddalena (MC) (Lollini 1965); and Ripabianca (AN) (De Sanctis 1961; Broglio and Lollini 1963). Details of these assemblages are provided in Appendix 1.

During this period chert seems to have been obtained primarily in the form of pebbles found locally in river beds and Pleistocene deposits. Cores made on pebbles have been found at Crocefisso (CH), Capo d'Acqua (AQ) and La Maddalena (MC), and a chopper made on a modified pebble was found at Villaggio Leopardi (PE). However, nodule cores were also found at Crocefisso, which may have been obtained from the chert-bearing Palaeogene - Upper Cretaceous limestones located near Serramonesca, and at an altitude of about 300 metres above sea level, on the edge of the Maiella mountains, 15 km upstream along the River Alento from Crocefisso.

A large quantity of debitage was found at Crocefisso, including about 150 pieces of fire-cracked chert from the bottom of the excavated cavity.

Flake cores predominate over other types of cores in the early Neolithic assemblages, but at Capo d'Acqua (AQ) there were 10 irregular blade cores and one core for flakes and blades in addition to 11 flake cores. Flakes also outnumber blades and bladelets by an average ratio of 75% to 25% in four assemblages (expressed as percentages of the total numbers of flakes, blades and bladelets in the assemblage), and there were more flakes than blades or bladelets at Crocefisso (CH). However, at the later early Neolithic site at Ripabianca (AN) the assemblage was reported to be based essentially upon blades. At Villaggio Leopardi (PE) the blades are irregular in shape, but at Villaggio Rossi (CH) they are fairly regular. The early Neolithic blades in general were small, measuring up to about 5 cm in length at Colle Maggio (PE) and Ripabianca (AN).

The average ratio of cores to flakes and blades found on early Neolithic sites is 8% cores to 92% flakes and blades (expressed as percentages of the total numbers of cores, flakes and blades; from a sample of six sites). However there is some variation between sites in the numbers of cores, and this could relate to the proximity of sites to sources of chert (either in situ or secondary deposits). For example, in the Pescara region, the site of Villaggio Leopardi produced as many as 16% cores (against 84% flakes and blades) and is located just 8 km away from chert-bearing Middle-Lower Miocene marls found on the edge of the Gran Sasso mountains, whereas the site of Fontanelle

produced only 4% cores (against 96% flakes and blades) and is located 23 km away from the *in situ* chert deposits found near Serramonesca.

The average ratio of chert rejuvenation flakes to cores is 15% revival flakes to 85% cores (expressed as a percentage of the total numbers of rejuvenation flakes and cores; from a sample of four sites). There is again some inter-site variation in this ratio. For example, at Ripabianca (AN) there were relatively high numbers of rejuvenation flakes (17%) as well as relatively low numbers of cores, which implies a greater working and reduction of cores at this site, and a perhaps a low availability of local chert. The nearest potential sources of in situ chert lie in the Middle-Lower Miocene marls located 18 km up the River Cesano.

There are just three middle Neolithic assemblages of chert artefacts with sufficient quantified data to be discussed here: Catignano (PE) (Pitti and Tozzi 1976); Grotta dei Piccioni, spits 20-18 (PE) (Cremonesi 1976); and Villa Badessa (PE) (Radi 1979). Ratios of flakes to blades and bladelets, and rejuvenation flakes to cores seem to remain within the ranges of variation identified previously for the early Neolithic, as do the length of blades measured at Villa Badessa. At Catignano, however, there was a notably low number of cores found in relation to flakes and blades (2% cores against 98% flakes and blades). This may reflect a lack of locally available chert. Such an

interpretation is supported by the fact that 46% of the 65 cores in the assemblage had been reduced to core fragments and residues. The nearest potential chert sources lie 10 km downstream along the River Nora in the Middle - Lower Miocene marls located on the edge of the Gran Sasso mountains.

For the late Neolithic there are nine assemblages of chert artefacts which can be used for quantitative purposes: Fonti di S. Callisto, lower level (PE) (Radi 1986-7); Grotta dei Piccioni, spits 15-14 and 17-16 (PE) (Cremonesi 1976); S. Agnese (PE) (De Pompeis 1978); Grotta Maritza, spits 28-24 (AQ) (Grifoni and Radmilli 1964); Grotta la Punta, spits 12-10 and 9-8 (AQ) (Cremonesi 1968); Pianaccio (TE) (Rozzi and Radmilli 1951-2; Radmilli et al. 1953; Rozzi et al. 1955); Ripoli (TE) (Rellini 1934; Cremonesi 1965); and S. Donato (TE) (Radmilli et al. 1953; Rozzi et al. 1955).

Flake cores continued to be used during the late Neolithic, but more blade cores and especially bladelet cores were now deposited on sites. Presumably blade cores were converted into bladelet cores when they had been reduced to a certain size, which might explain the predominance of bladelet over blade cores in the assemblages. But, surprisingly, there seems to be a drop in the ratios of actual blades and bladelets to flakes found on late Neolithic sites compared to the ratios found on early Neolithic sites (with an average percentage ratio of

85% flakes to 15% blades and bladelets; from a sample of 5 sites). This might be explained by differences in the definition of what a blade is or is not between early and late Neolithic site reports, with perhaps more flakes being defined as blades on early Neolithic sites due to the scarcity of blades on those sites, and vice-versa for late Neolithic sites, although it is difficult to find any precise references to what is actually meant by a blade in such reports. On the other hand, it may relate to the increasing numbers of obsidian blades and bladelets being imported to these sites.

General blade lengths increased slightly during this period. For example, they measured up to 7 or 8 cm in length at S. Agnese (PE). More exceptionally, even longer blades were produced, such as the 11 cm long blade with a notch at one end and an endscraper at the other from the lower level at Fonti di S. Callisto (PE), which dates to the later late Neolithic.

Ratios of cores to flakes and blades, and rejuvenation flakes to cores, in late Neolithic assemblages remained fairly similar to those of the early and middle Neolithic. In the lower levels of Fonti di S. Callisto (PE), the high percentage of cores (11% cores against 89% flakes and blades), low percentage of rejuvenation flakes (3% rejuvenation flakes against 97% cores), and the presence of the 11 cm long blade, suggest that relatively abundant supplies of chert could be obtained near to this site. This

seems to be confirmed by the fact that potentially productive sources of chert are located just 4 km from the site in the Cretaceous - Upper Jurassic limestones on the edge of the Morrone mountains.

An unusual group of flaked chert artefacts was found in spit 14 of Grotta dei Piccioni (PE) (roughly contemporary with the ritual 'Level of the Circles'). The lithics had been placed in a small niche in the cave wall, and included: one bladelet core, one flake core, 87 flakes, and 1 flaked axe. This evidence, combined with the general increase in blade lengths seen on sites throughout the region during the late Neolithic, might indicate that chert had now begun to be exchanged in the Abruzzo-Marche region, rather than simply obtained directly from local sources. However, such exchange is unlikely to have been particularly large in scale at this time, because the cores from Ripoli were still made predominantly on pebbles.

There are 15 final Neolithic/early Copper Age assemblages of chert artefacts which can be used quantitatively: Fonterossi (CH) (Rellini 1914, 1932); Fossacesia (CH) (Cremonesi 1973); Grotta dei Piccioni, spits 13-12 (PE) (Cremonesi 1976); Piano d'Orta (PE) (Di Fraia 1988); Cellitto (AQ) (Di Fraia 1970); Grotta Cola II (AQ) (Radmilli 1957); Grotta Maritza, spits 23-22 (AQ) (Grifoni and Radmilli 1964); Ripoli (TE) (Rellini 1934; Cremonesi 1965); S. Maria in Selva (MC) (Lollini 1965); Valle del Cesolone (MC) (unpublished material in the

Pigorini Museum); Aquatina, stratum 6 and central level (AN) (Lollini 1965); Borgo Tufico (AN) (Silvetrini 1977; Alianiello 1982-3); Grotta dei Baffoni, stratum F (AN) (Radmilli 1953, 1956a); Fondo Coccia, level IV (AN) (Rellini 1931a and b, 1933); and S. Biagio (PO) (Rellini 1909-10; Dall'Osso 1915).

Flake cores continued to be used during this period, and flakes still outnumbered blades and bladelets by a average ratio of 91% flakes to 9% blades and bladelets (based on a sample of three assemblages). However bladelet cores possibly increased further in quantity.

During this period blade and bladelet production became more standardized, blade lengths increased further, and a range of large blade-based artefacts were now deposited at sites. At Fossacesia (CH) blades were characteristically regular and flakes were large; at Fonterossi (CH) there were many bladelets (minimum length 3 cm) and small flakes; and blades at Aquatina (AN) reached a maximum length of between 8 and 9 cm. Long retouched blades became more widespread, with examples being found at Fossacesia (CH) (Fig. 64.4-5), Pennadomo (CH), Mindoli (TE), and Ripoli (TE) (Fig. 64.2-3). Large blade-based artefacts variously described as daggers, javelin-heads or lanceheads also began to appear on final Neolithic/early Copper Age sites such as Mindoli, and also at Controguerra (TE), Col d'Api (AN), Costa (PO), and Ponte d'Azzo (PO) (which might in fact date to the middle-late Copper Age).

Quantities of cores decreased further against flakes and blades to an average ratio of 4% cores to 96% flakes and blades. At Piano d'Orta (PE), for example, there was a relatively low proportion of cores (4% cores against 96% flakes and blades) and also low numbers of rejuvenation flakes (4% rejuvenation flakes to 96% cores). Combined with the evidence of the more widespread occurrence of long blades, and the first appearance of relatively large daggers/javelins/lances on sites, this all seems to indicate a decrease in the primary production of chert artefacts on most settlement sites, and an increase in imported, finished or partially finished, chert implements. This hypothesis is supported by the evidence of final Neolithic/early Copper Age chert quarrying from at least two areas in the Marche region.

A possible chert quarry was identified near to the final Neolithic/early Copper Age site at Borgo Tufico (AN), where "an exceptional amount of debitage" was collected (Alianiello 1982-3). The site is located in an area of chert-bearing Middle - Lower Miocene marl. A probable open quarrying and production site was also discovered at Torre Beregna (MC) during the 19th century. Surface collection work carried out by Count Giuseppe Gnoli between 1873 and about 1885, and an excavation organized by Ancona Museum in 1917, identified a dense scatter of many thousands of chert artefacts over an area of about 300 m² and "some grooves dug into the ground" (Pigorini and Gnoli 1888; Boccanera and Corradini 1970; Piangatelli 1970; Boccanera 1976). The

lithics included: cores, flakes, blades (especially), sidescrapers, and other artefacts. These were generally not broken (unlike many artefacts found on settlement sites). The degree of working ranged from pebbles of roughly hewn chert, to artefacts with more advanced signs of working, to very finely worked artefacts. The colour of the chert varied (red, pink, yellow, grey, and white), but red was the predominant colour. A few sherds of coarseware were also discovered here, along with "a type of steatite amulet", a triangular smoothed stone, and a partially perforated piece of limestone. Torre Beregna is located at 755 m above sea level by the perennial Fonte delle Trocche spring (Fig. 102), in an area of Palaeogene - Upper Cretaceous limestone and marly limestone, which is a geological formation that often contains chert, including the red coloured Scaglia Rossa variety.

Large quantities of debitage and other chert artefacts were also found in many places along the 12 km length of the Cesolone stream, which leads down from Torre Beregna, past Serrapetrona, to the River Chienti (Fig. 102). For example, a box of lithics collected by Gnoli from the bank of the Cesolone stream and now deposited in the Pigorini Museum contained 1123 pieces of chert, of which the majority were flakes and blades, made especially of pink-red coloured chert. These might be interpreted as evidence of a secondary stage of lithic reduction being carried out on chert quarried in particular from Torre Beregna, and taking place at lower altitudes along the Cesolone stream.

Two settlement sites were also discovered around Serrapetrona alongside the Cesolone stream. Capannacce, which was excavated by Rellini (1934: 44-5), is probably the earliest of these and dates firmly to the final Neolithic/early Copper Age. Abundant sherds of pottery were found here, and included: coarse brown, finer blackish and fine yellow 'figulina' fabrics. There were large horizontal lug handles with raised ends, sherds with impressions placed on the exterior under the vessel rim, and also a vessel interior decorated with a notched band running around the rim. Lithic artefacts included: rough blades (especially), a few arrowheads, including a single barbed example, a point, obsidian bladelets, and a broken perforated limestone macehead. There were also some disc-shaped clay 'spindle whorls'. The location of this site at a distance of about 6 km along the Cesolone stream from Torre Beregna may well be related to chert extraction and artefact production activities taking place at the latter and along the Cesolone stream, and its foundation was probably contemporary with the first major exploitation of the Torre Beregna chert sources.

For the middle Copper Age there are eight chert assemblages that can be used quantitatively: Fonti di S. Callisto, upper level (PE) (Radi 1986-7); Grotta dei Piccioni, spits 10-9 (PE) (Cremonesi 1976); Grotta Maritza, spits 21-20 (AQ) (Grifoni and Radmilli 1964); Grotta la Punta, spits 7-5 (AQ) (Cremonesi 1968); Casone (MC) (Pigorini 1879, 1880); Grotta dei Baffoni, stratum E (AN)

(Radmilli 1953, 1956a) and Pianetti (AN) (Brizio 1899b; unpublished material in Bologna Museum); and S. Biagio (PO) (Rellini 1909-10; Dall'Osso 1915).

Chert quarrying at the Torre di Beregna (MC) probably continued during this period, for another settlement was established at Serrapetrona in the Cesolone valley (Pigorini and Gnoli 1888), which, on the basis of pottery types found there, probably dates to the middle Copper Age. Red and pink coloured chert also became predominant on sites in Marche, such as Le Conelle (AN) and Pianetti di Montefortino (AN), which might indicate an increased reliance upon imports of colourful and possibly better quality chert from specific sources, rather than the use of local pebbles, for raw material.

Blade cores were found in Grotta dei Baffoni (AN), and the proportion of blades and bladelets may have increased slightly in relation to numbers of flakes during this period. General blade lengths seem to have decreased at this time, for the majority of blades from Pianetti (AN) and S. Biagio (PO) only reached a maximum length of between 3.5 and 4 cm. However, long retouched blades increased in length and quantity, and examples are known from: Controguerra (TE), Berbentina (AN), S. Lorenzo (AN) (8.5 cm and 16 cm long), Area Guzzini East (MC) (broken, 7.5 cm long), Cava Koch (MC) (broken, 10.5 cm long), and Via Duomo (MC) (13.6 cm long). Large dagger/javelin/lance blade-based artefacts are also found on sites of this period,

including: Controguerra (TE), Col d'Api (AN), Costa (PO), Ponte d'Azzo (PO), and Le Conelle (AN). These developments perhaps suggest that the production of chert artefacts became further standardized during the middle Copper Age, and that the exchange of chert expanded slightly in scale.

The placing of finely made arrowheads in Copper Age burials, such as those at Camerata (AQ), Via Duomo (MC), Villa Potenza (MC), S. Rocco (AN), and Vescovara (AN), might be taken to suggest that these artefacts were exchanged over relatively long distances as valuables during the middle Copper Age. However, a comparison of the arrowheads found at two roughly contemporary sites, one a settlement site and the other a burial site, located at a distance of 3.5 km from each other near to the town of Recanati (MC), would seem to throw some doubt upon this hypothesis. The nine arrowheads from the settlement at Area Guzzini East measured between 3.1 and 7.5 cm in length, and were an average of 4.2 cm long, and five out of the nine were broken (Fig. 74.5-13). In contrast the four arrowheads from the Via Duomo burial measured between 5.4 and 7.5 cm in length, with an average length of 6.25 cm, and none of them were broken (Lollini and Capitanio 1970: Tav. IV). They were, however, probably all made locally, because the four arrowheads from the burial all fall within the size range of the arrowheads found on the settlement, and because the 7.5 cm long arrowhead from the burial closely parallels the 7.5 cm one from the settlement. It seems as if the arrowheads which were placed with Copper Age burials

were manufactured locally, rather than exchanged over long distances as valuables, and perhaps also that they were not made specifically as grave goods, but rather that longer and unbroken examples were selected from the standard range of available functional arrowheads as appropriate items for secondary use as grave goods. The key shift in the value of these artefacts between the context of daily life and the grave would probably have been their greater symbolic value in the latter.

In the upper level at Fonti di S. Callisto (PE), as in the lower level, there was a particularly high number of cores found in relation to flakes and blades (25% cores : 75% flakes and blades), which might be explained by the nearby location of the productive chert sources on the edge of the Morrone mountains, but it probably also relates to the specific activities taking place on this site during this period, for fairly few lithic artefacts in general (total 45) were found in this upper level.

For the late stage of the Copper Age only the assemblage from stratum 2 at Ortucchio (AQ) provides quantified data concerning chert artefacts in the Abruzzo-Marche region (Tartaro 1979). Cores for bladelets, flakelets and flakes were found at this site, and although flakes still predominated during this period, there were even higher numbers of blades and bladelets (84% flakes against 16% blades and bladelets). There was also a fairly high proportion of rejuvenation flakes at Ortucchio (22%

rejuvenation flakes : 78% cores), which might suggest that supplies of chert were insufficient to meet demand during this period. However, at Colle Montanari di S. Elena (MC) the predominant use of red chert indicates that, at least at this site, a degree of selection concerning chert types and sources might still have been exercised.

Large blade-based artefacts occur more frequently on sites of the late Copper Age and Early Bronze Age, and they have been found commonly, but not exclusively, in human burial contexts. A long retouched blade was found at Ortucchio (AQ), and another, measuring 17 cm in length, was placed in the burial at S. Rocco (AN). Dagger/javelin/lance blades occur on a number of late Copper Age and Early Bronze Age sites in Abruzzo and Marche, such as: Madonna del Freddo (CH), La Badia (TE), Le Conelle (AN), Moje (AN) (19 cm long), S. Rocco (AN), Orciano (PO), and Urbania (PO). Daggers with a notched base are especially characteristic of this period, with examples coming from: Salle (PE) (Fig. 65.1), the Sulmona basin (AQ), Villa Ripa (TE), (Fig. 65.3), S. Lazzaro (AP), Gaglianovo (MC), and Vescovara (AN) (See Appendix 1 for references). Similar notched daggers are found on later Copper Age sites in northern and central Italy, including: Tourbière de Brabbia (Montelius 1895: Pl. 4.2) in Piemonte; Tomb 97 in the Remedello cemetery (Cornaggia Castiglione 1971: Tav. VI.6) in Lombardy; Cà Granella di Sopra near Savignano sul Panaro (Malavolti 1951-2: Plate) and the Forlì province (unpublished example Forlì Museum) in Emilia-Romagna;

Poggio Aquilone (Colini 1898: Fig. 43), Stroncone (Colini 1912), Lake Trasimeno (unpublished examples in Arezzo Museum), the Perugia province, and the Gubbio area (unpublished examples in Perugia Museum) in Umbria; and Inviolatella on the Agro Romano (unpublished example in Bologna Museum), Casamari, and Cantalupo Mandela (Chierci 1884: Tav. IX) in Lazio.

The initial production of such daggers was probably stimulated by the introduction and circulation of copper daggers (Barker 1981a). Both the chert/flint and copper examples first appear during the middle Copper Age in Italy, and the typological similarities between them are well established. For example, the notches in the heel of the specimen from Vescovara are analogous to the rivet holes found on metal daggers (Barker 1981a: 83). There are also indications that at least a few of these flint/chert daggers were exchanged as valuables at an inter-regional scale in Italy. For example, a few daggers made of southern French banded flint were found on sites in northern Italy—two in Liguria, and one at Asola in the central Po Valley, about 400 km away from the source; and two fragments of an imported dagger made of a deep red speckled flint were found in the Bell Beaker levels at Monte Covolo, despite the local availability of good quality grey flint (Barfield 1987b). However the majority of the north Italian daggers were produced in the same flint as the rest of the associated flint industry found on sites, and were therefore probably manufactured locally (Barfield 1987b).

The data concerning the exchange of chert in the Abruzzo-Marche region are poorly quantified and difficult to interpret, and there is great scope for new fieldwork to be carried out to investigate chert quarrying and production in areas such as the Cesolone valley in Marche. However, the data do seem to reveal developments over time, and it is worthwhile summarizing these.

During the early and middle Neolithic in Abruzzo and Marche chert appears to have been acquired locally, mainly in the form of river pebbles, but also as nodules from in situ deposits located at distances of up to about 15 km. Comparison of the numbers of cores and rejuvenation flakes in assemblages and the distances of sites from potential in situ chert deposits suggests a fall-off in the availability of chert and a greater degree of core reduction with distance from the in situ chert deposits. On sites located less than about 9 km from deposits of chert, the lithic assemblages contained high proportions of cores and relatively few core rejuvenation flakes, whereas on sites located over about 9 km there were fewer cores (as opposed to flakes and blades) and greater numbers of core rejuvenation flakes. There is no evidence of the exchange of chert during this period, and the distances referred to above also suggest that chert was procured directly from sources (pebble and in situ). This contrasts somewhat with the evidence from northern Italy, where, for example, Neolithic chipped stone tool assemblages on sites in Reggio-Emilia were dominated by flint imported from the

Verona sources over distances of up to about 110 km (Barfield 1987b: Fig. 27.3).

The exchange of chert in the Abruzzo-Marche region seems to have begun during the late Neolithic, as is suggested by the increase in blade lengths and a group of possible chert exchange goods found in a niche in the Grotta dei Piccioni. However such exchange would have been small in scale, for even at the important site of Ripoli cores were still predominantly made on local pebbles.

Major developments in the production and exchange of chert artefacts took place during the final Neolithic/early Copper Age. Chert quarries now appear in the archaeological record, blade and bladelet production became more standardized, blade lengths increased further and long retouched blades became more widespread on sites, a new range of large blade-based artefacts appeared, and there was a decrease in the proportion of cores to flakes and blades. These developments suggest that there was a shift away from the primary production of chert artefacts on sites towards the import of finished or partially finished chert artefacts which were produced near to major in situ sources of chert. This evidence corresponds with the evidence of the widespread distribution of Chassey 'blonde' flint in southern France at this time.

During the middle and late stages of the Copper Age the production of chert artefacts became further standardized, and exchange continued and possibly expanded, as is suggested by: the continued evidence of quarrying, increasing lengths and quantities of long retouched blades and other artefacts based on large blades, and the predominance of red and pink chert found on a number of sites, particularly in Marche. However, chert artefacts do not seem to have been regarded as particularly valuable commodities in this region. For example, the fine Copper Age arrowheads placed as grave goods in the Via Duomo burial seem to have been manufactured locally and not intentionally as grave goods. This ties in with the evidence from northern Italy, where the majority of flint daggers were manufactured locally, despite being used as grave goods alongside or as alternatives to similar copper examples. The general decrease in blade lengths on middle Copper Age residential sites in Abruzzo and Marche, and the high proportion of rejuvenation flakes to cores at the late Copper Age site of Ortucchio, might also indicate that the scale of chert exchange was now insufficient to meet demand and that poorer quality local chert enabling the production of only shorter blades was being used again in greater quantities. This would tie in with the developments seen in northern Italy at this time, where there was a decline in the scale of flint exchange networks and a shift towards the use of more local sources of flint.

4. 'Greenstone', limestone, and other rocks

The major European sources of 'greenstones' (which include rocks so diverse as jade [jadeite and nephrite], serpentine, and steatite) that are relevant to prehistoric Italy are found in north-east Corsica, the Ligurian Apennines, and the Piedmontese Alps and northern Alps (Evett 1973: Map). Mineralogical studies in continental Europe of artefacts made from just one relatively well-defined 'greenstone' rock type, jadeite, have identified a broad range of composition within this category of artefacts, which lends weight to the impression that the raw material for these was obtained from a number of different sources (Woolley et al. 1979). Evidence of the earliest exploitation of jadeite sources in Europe comes from northern Italy where working floors dating to the Fiorano and SMP phases of the Neolithic have been discovered in both of the north Italian source areas; and they continued to be systematically exploited into the Early Bronze Age. During this long period jadeite artefacts were transported over substantial distances: examples have been recovered from sites located as far north as the British Isles, and as far south as southern Italy and Sicily. It can probably be assumed that all of the 'greenstone' artefacts found in the Abruzzo-Marche region were imported over long distances from the north of Italy. However it is worth mentioning that Leighton (1989: 142) has recently questioned this assumption in relation to axes of jadeite found in southern Italy and Sicily, for jadeitic

pyroxenes also occur in the blue schists of the Fuscaldo area in Calabria, and the same may apply to central Italy.

Tools were also produced from a variety of other rock types in the Neolithic and Copper Age in Abruzzo and Marche, but most of these appear to have been obtained from sources located within the region. The most commonly used of such rocks were limestone and sandstone, and sources of these are found widespread in the region, particularly in the Apennine mountains (see Chapter 2 and Fig. 79).

There are serious problems involved in discussing the exchange of artefacts made from 'greenstone', limestone and other rocks in central Italy. The identification of rock types in archaeological publications is somewhat unreliable, and very little sound petrological analysis of artefacts has been carried out so far. In addition, the variety of terminologies employed in the description of artefacts, such as 'axe', 'adze' or 'chisel', and 'ground' or 'polished', is extremely confusing (Adkins and Jackson 1978). I have chosen to generally avoid using the terms 'adze' and 'chisel', and describe artefacts as polished only when they show clear signs of intentional polishing, additional to their initial grinding and smoothing. There are also almost no quantified details about the occurrence of such artefacts on sites in the Abruzzo-Marche region.

Below, I shall discuss in some detail the production, use and exchange of four classes of artefacts made from

'greenstone', limestone and other rock types found in the Abruzzo-Marche region: ground-stone axes (some of which were also polished), stone rings, perforated ground-stone maces and axe-hammers, and knobbed battle-axes.

a) Ground-stone axes

Ethnographic studies of stone axes in New Guinea and the Solomon Islands (White and Modjeska 1978; Phillips 1979) provide a useful starting point in trying to understand the production, exchange and uses of stone axes in prehistoric Italy. The potential value of such studies lies in their ability to broaden the interpretative horizons of the prehistorian, particularly in relation to exchange where they are able to describe the dynamic 'systemic' contexts of axes rather than the static depositional contexts in which archaeologists find them. However, such studies should not be relied upon too heavily as a source of analogies, for one general point which emerges from all of them is the individual nature of each society's view of the stone axe.

Stone axes were sourced to 14 quarries located around Mount Hagen in New Guinea. The axes were generally produced at or near to these, and only rarely was whole rock traded from the quarries. Although certain quarries specialized in different types of axe, axe manufacture was not a full-time occupation and was not carried out by specialists.

Axes travelled over considerable distances and in great numbers from these quarries, along chains of male owner-users. For example, some of the southern Highland groups in New Guinea were entirely supplied by axe quarries located between 120 and 160 km away. A number of mechanisms ensured the circulation of axes, and included: simple direct trade; gift giving between exchange partners; bride-wealth presentations; and occasional large-scale ceremonial exchanges between 'Big Men' and their followers. These also led to the formation of local axe assemblages which comprised a diversity of axes, coming from different sources, and occurring in various shapes and sizes. In addition, a wide range of local variables influenced the distribution of axes, such as: human population densities, the size and productivity of the sources of supply, distance from these sources, the strength of demand for axes, the availability of local materials or products to exchange against axes, the presence of other materials to make artefacts which could be used instead of axes, and the existence of local cultural traditions (limiting the substitution of different sources of supply). Warfare seems to have made little difference to the continuing movement of axes. In fact it may actually have encouraged their production and exchange, particularly through an increase in the number of ceremonial exchanges taking place in order to cement political alliances, but also through the losses of stored axes occurring in newly conquered territories.

Axe form and size were seen to be dynamic variables. Generally, the more steps an axe moved along the chain of owner-users away from its quarry, the smaller and less finely finished it became. Axes also generally became fewer in number with increasing distance from their sources.

Stone axes in New Guinea and the Solomon Islands were used for a wide range of activities, which can be divided into work and ceremonial categories (Phillips 1979). Stone axes were regarded as important tools, and activities in which they were used as work axes included: garden clearing, woodworking (splitting firewood, cutting stakes for fencing, felling and cutting timber for building, roughing out wooden implements, sharpening digging sticks, canoe building), and pig butchering. The range of practical uses to which the work axes were put was found to be wider in the area of axe manufacture around Mount Hagen than in the southern Highlands located further away. Ceremonial uses of stone axes included: being carried, either hafted or unhafted, as badges by social and priestly leaders; being presented as valuables and prestige goods in ceremonial exchanges and bride-wealth ceremonies; being worn at dances by young bachelors; and being used at funerals to cut joints from the fingers of the relatives of the deceased. Work and ceremonial axes could be distinguished by their metrical attributes, hafting, and presence or absence of decoration. Axes were sometimes also used as weapons.

Work on Italian stone axes can be regarded as still in its infancy compared with the large-scale stone axe studies carried out in Britain, and it seems worthwhile to review briefly the achievements of the latter, which are summarized by Cummins (1979) and Clough (1988), before turning to the former. By 1979 a sample of over 3000 axes and axe fragments from England and Wales, dating to a time-span of over 1500 years, had been examined petrologically, and a large number of axe groups had been petrologically defined. For six of these there are clear factory-centred spatial distributions, but patterns formed by the axes belonging to groups I and VI are notably different. 50% of the analyzed Group I axes have been found at a distance of over 420 km from the source area in Cornwall, and a great number have been found near to the Essex coast, about 500 km from the source area. Group VI axes, sourced to the central Lake District, stand out as the most important axe group in England and Scotland. They comprised 39.5% of the total number of grouped stone implements from Britain in 1988, were transported over great distances, and form an anomalous concentric pattern of distribution centred on the Humber estuary, more than 200 km from the source area. Fairly simple economic and utilitarian factors have so far been generally proposed to explain these distributions, such as the sea-borne transport of the Group I axes, and the functional effectiveness and visual attractiveness of the Group VI axes. However, symbolic aspects affecting axe production, use and exchange are now beginning to be considered (eg. Patton 1991).

New fieldwork has also been carried out on the Group VI Great Langdale quarries (Bradley 1990a). The quarries are found along a 15 km long rock outcrop, in spectacular and sometimes inaccessible locations which defy straightforward economic or utilitarian explanations. During the early phase of quarrying activity, before about 4800 Cal. BC, production was wasteful and irregular, with as much as 90% of quarried material being rejected on grounds of poor quality. Rock was quarried from relatively accessible places, axe roughouts were produced at camps in the mountains, possibly in association with summer grazing and hunting trips, and later stages of production such as grinding and polishing took place in settlements situated on the lower mountain slopes and in the Cumbrian lowlands. The axes then became distributed within a localized area in a fairly regular pattern of fall-off with distance away from the quarries. After about 2800 Cal. BC, during the later phase of quarrying activity, and against a background of social change in the lowlands, production became more efficient, with much less evidence of error and wastage, and a greater range of axe manufacturing stages taking place in the mountains close to the quarries. A degree of control over production is also likely to have existed at this time, for there was a seemingly irrational move towards inaccessible outcrops, and special quarrying expeditions may now have been organized. Grinding and polishing were still carried out on settlements, but the axes were now distributed more extensively in Britain, with accumulations of axes developing at the limits of the

distribution in places such as riverbeds and ceremonial centres.

Interest in the sources of ground-stone axes in Italy developed during the 19th century and, following a period of neglect, revived during the 1970's with the work of Evett (1973). Evett studied a sample of 45 axes from five Neolithic settlements located in north, central and southern Italy (Chiozza in Emilia-Romagna; La Maddalena and Ripabianca in Marche; and Murge Timone, Murgecchia and Tirlecchia in Basilicata), recording their size, colour and hardness. Then, using the 'hypothetico-deductive method' favoured by the 'New Archaeologists', he proposed a number of hypotheses relating to Neolithic stone axe typology, functional variability and trade in Italy, and claimed to have confirmed these through his studies. He suggested that distance from source was the major underlying factor affecting the size and quantity of Neolithic 'greenstone' axes in Italy. At Chiozza, which was located only 50 km from the north Italian 'greenstone' source area, the 'greenstone' axes measured an average length of 7.5 cm and comprised 86% of all axes; whereas on the sites in Marche, located 250 km from the source area, the average length was 3.4 cm and the proportion 25%; and on the sites in Basilicata, located 650 km from the source area, 'greenstone' axes measured on average only 2.3 cm in length and comprised 28% of all axes. He also noted that limestone axes were generally larger than the 'greenstone' axes (with an average length of 7.7 cm as opposed to 7.1 cm), and

explained this difference by arguing that axes made from limestone, which is a relatively soft rock, would have required extra thickness for strength. Finally he suggested that the larger axes (including some made of 'greenstone'), some of which carried signs of intensive use, were employed for chopping, and that the smaller 'greenstone' axes, with less use-wear and occasionally with suspension holes, served some kind of sociological or ideological function.

Evetts's methodology and conclusions can nowadays be criticized in a number of ways. He studied a very small sample of axes in relation to the total number of known Neolithic axes from Italy (for example, there are 327 Neolithic - Early Bronze Age ground-stone axes from the Abruzzo region alone in the Bellucci Collection in Perugia Museum); he assumed the existence of a simple down-the-line trade network transporting axes down the Italian peninsula; and he assumed, without any petrological analyses, that all 'greenstone' axes found in central and southern Italy could be safely regarded as being of northern origins (which now seems less likely - see above, p. 378-9). However, despite these problems, it is difficult to reject his conclusions entirely. For example, Malone (1986) has confirmed that 'greenstone' axes in southern Italy do tend to be either small or very small in size, that they are often perforated to form 'axe-amulets', that few (between two and three) are usually found per lithic assemblage on Neolithic sites, and that they are most often found in burial contexts and caves rather than on settlements.

More recently, Leighton (1989) has studied a sample of 83 axes from the site of Serra Morgantina in east-central Sicily, which dates to between the final Neolithic and Roman periods. The axes were made from two main rock types: fine-grained basalt, from which the majority were made, and tough serpentine ('greenstone'). Petrological analysis indicated that the basalt was obtained from sources located in the Iblean hills, about 25 km away, whereas the tough serpentine probably came from sources further afield, either in the Peloritani mountains of north-east Sicily or in Calabria. Leighton observed that the size and form of axes correlated with these two rock types, with larger axes being made of basalt, and adzes and small axes being made of tough serpentine, and he interpreted these two axe groups in terms of functional differences. Heavy duty work was probably carried out with the large basalt axes, many of which have rather blunt blades; and the discovery of basalt axes in contexts such as flint mines, ditches and rock-cut cemeteries elsewhere in Sicily also supports their interpretation as heavy-duty tools. The use of basalt axes would have combined hardness with weight and a crystalline structure resistant to shattering. The smaller, rarer and more colourful 'greenstone' axes, on the other hand, which had sharper cutting edges, were probably employed for lighter and more delicate tasks such as woodworking, and may also have had a more symbolic value.

Most recently, O'Hare (1990) has published his preliminary study of a sample of 246 polished stone axes

from southern Italy. He notes general correlations between methods of manufacture, axe shape and rock type. Flaking, for example, followed by grinding and polishing, was used to shape local rocks possessing a conchoidal fracture (eg. limestone) into relatively short forms with relatively thick, square butts (a form which may have been chosen in order to lessen the danger of snapping off the butt). Pecking, on the other hand, also followed by grinding and polishing, was used on tougher, more exotic, rocks without a conchoidal fracture (eg. diorite) to form longer, more slender and pointed axes, which were commonly exchanged. Whichever method was used, the time involved in the manufacture of these artefacts would have been substantial: O'Hare suggests, with reference to experimental studies, that it would have taken an individual between about three and 25 hours to produce an ordinary ground-stone artefact. This implies that, whatever their use value, ground stone tools had a high labour value. O'Hare's sample of 31 axes found in 'ritual' cave sites, often in association with painted trichrome pottery and burials, was distinguished by relatively high proportions of: jade axes (jade is extremely difficult to work, may have been imported over long distances, and has a *spectacular* green colour), finely finished and unused axes, perforated axes, and unusually small axes. Turning to exchange, the majority of O'Hare's sample of axes were poorly provenanced, but on an inter-regional scale it was at least clear that three-quarters of the sample of axes from Puglia were of imported igneous rock, and that a major source for this was the

Campania/Monte Vulture area, which lies immediately to the west.

It is difficult to make any Italian-scale generalizations at this stage about the production, exchange and use of ground-stone axes, and there is clearly scope for a major research project, backed up by a large sample of petrological analyses, to be carried out on this problem, particularly concerning the Italian 'greenstones'. Two broad functional groups of ground-stone axes do seem to emerge in Italy from a correlation of use-wear traces, rock type, artefact form, deposition contexts, and ethnographic studies: larger heavy-duty 'work axes' made from predominantly local raw materials, and smaller light-duty 'work and ceremonial axes' made especially of imported 'greenstone'. One further important point to make is that although they are found widely in Italy ground-stone axes probably carried different values and meanings for people in the north, central and south Italian regions. One indication of this seems to be the relatively high degree of conversion of small 'greenstone' axes into amulets and their deposition in ritual contexts in southern Italy, particularly after the late Neolithic, compared with regions further north (cf. Bradley 1990b).

Turning now to a detailed description of the occurrence of ground-stone axes in Abruzzo and Marche (see Table 14, p. 393), it can be stated that examples have been reported from seven early Neolithic sites. Five were found at

Villaggio Rossi (CH), of which at least two were made on pebbles (Fig. 69.1-4) (Geniola 1982b). One came from Fontanelle (PE) (Fig. 69.6) (Ducci et al. 1986-7); two from spits 26-21 in Grotta dei Piccioni (PE) made from 'greenstone' and cherty limestone (Fig. 69.5) (Cremonesi 1976); and nine from Villaggio Leopardi (PE), at least one of which was of 'greenstone' (Cremonesi 1967). One was found in spits 22-4 in Grotta Continenza (AQ) (Grifoni Cremonesi and Mallegni 1978). Five more were found at La Maddalena (MC) (Evet 1973), including some of 'greenstone'; and three came from Ripabianca (AN), one of which was made from 'greenstone' (Fig. 70.7-8) (Evet 1973). For the middle Neolithic, a ground stone axe was found at Catignano (PE) (Tozzi 1982), and a small polished 'greenstone' axe was found at Villa Badessa (PE) (Radi 1979).

Ground-stone axes have been found on up to four late Neolithic sites in Abruzzo and Marche. One ground-stone axe and a small 'greenstone' axe were discovered in spits 17-16 in Grotta dei Piccioni (PE), and another two ground-stone axes came from the overlying spits 15-14, one of which was made on a pebble (Fig. 71.12-15) (Cremonesi 1976). A 'greenstone' axe was also found at Pianaccio (TE) (Radmilli 1981: 311). Other axes, which date either to the late Neolithic or to the final Neolithic/early Copper Age, include some of 'greenstone' from Ripoli (TE) (Fig. 71.9-11) (Cremonesi 1965), and one of 'greenstone' from Monte Tinello (AP) (Silvestrini Lavagnoli 1983).

Ground-stone axes have been found on 15 final Neolithic/early Copper Age sites in the Abruzzo-Marche region. A small limestone axe or chisel comes from Fonterossi (CH) (Rellini 1932), and others have been found at Fossacesia (CH) (Cremonesi 1973). Four simple axes made on pebbles and three small axes, at least one of which was made of 'greenstone', were found in spits 13-12 in Grotta dei Piccioni (PE) (Fig. 72.16-17) (Cremonesi 1976). A small 'greenstone' axe comes from Piano d'Orta (PE) (Di Fraia 1988), and an axe was reported from Cellitto (AQ) (Di Fraia 1970). Three small axes were found at Ripoli (TE) (Fig. 71.9-11), at least one of which was made from 'greenstone' (Cremonesi 1965), and another ground-stone axe was found at Rocciano (TE) (unpublished in the Pigorini Museum). An intact 'jadeite' axe was recovered from a cavity in the late Neolithic - final Neolithic/early Copper Age settlement at Mindoli in the Vibrata valley (TE) (Rosa 1874: 196; Colini 1910: Tav. XVII.4), and a fragment of a 'jadeite' axe was also reported to have been found at the poorly dated site of S. Giuseppe, again located in the Vibrata valley (TE) (Rosa 1872a:394). In the Marche region, a 'greenstone' axe was found at Monte Tinello (AP) (Silvestrini Lavagnoli 1983), and others were found at Colle Morico and S. Maria in Selva (MC) (Fig. 72.21) (Pigorini 1902; Lollini 1965). Two small ground-stone axes come from stratum 6 and the central level at Aquatina (AN) (unpublished in Ancona Museum), a limestone example was found in stratum IV at Fondo Coccia (AN) (Rellini 1933), and two small 'greenstone' axes come from Fienili (AN), one

of which was perforated by a small hole (hole diameter - 2 mm, axe size - 3.2 cm long and 0.5 cm thick) (unpublished material in the Pigorini Museum). Axes of green, brown and grey coloured stone were found at S. Biagio (PO) (Fig. 73.22-28) (Dall'Osso 1915; and unpublished material in the Pigorini Museum and Fano Museum).

For the middle-late Copper Age, ground-stone axes have been reported from seven sites. A ground-stone axe made of flinty limestone came from spits 10-9 in Grotta dei Piccioni (PE) (Cremonesi 1976), and at Ortucchio (AQ), in stratum 2, there were some small stone axes (Tartaro 1979). Small ground-stone axes have also been found at Crocetta (TE) (D'Ercole 1988b), Casone (MC) (Pigorini 1879, 1880), Aquatina stratum 4 (AN) (Fig. 74.42) (Lollini 1965), Fabriano (AN) (unpublished in the Pigorini Museum), and S. Biagio (PO) (Dall'Osso 1915; and unpublished material in the Pigorini Museum and Fano Museum).

Table 14: Ground-stone axes from Neolithic and Copper Age sites in Abruzzo and Marche

Site	No. of axes	Raw material
EARLY NEOLITHIC		
Villaggio Rossi (CH)	5	2 pebbles
Fontanelle (PE)	1	-
Grotta dei Piccioni (PE)	2	1 'greenstone', 1 cherty-limestone
Villaggio Leopardi (PE)	9	At least 1 'greenstone'
Grotta Continenza (AQ)	1	-
La Maddalena (MC)	5	Some 'greenstone'
Ripabianca (AN)	3	1 'greenstone'
MIDDLE NEOLITHIC		
Catignano (PE)	1	-
Villa Badessa (PE)	1	'Greenstone'
LATE NEOLITHIC		
Grotta dei Piccioni (PE)	4	1 'greenstone', 1 pebble
Pianaccio (TE)	1	'Greenstone'
? Ripoli (TE)	-	Some 'greenstone'
? Monte Tinello (AP)	1	'Greenstone'
FINAL NEOLITHIC/EARLY COPPER AGE		
Fonterossi (CH)	1	Limestone
Fossacesia (CH)	x	-
Grotta dei Piccioni (PE)	7	4 pebbles, at least 1 'greenstone'
Piano d'Orta (PE)	1	'Greenstone'
Cellitto (AQ)	1	-
Ripoli (TE)	3	At least 1 'greenstone'
Rocciano (TE)	1	-
Mindoli (TE)	1	'Jadeite'
S. Giuseppe (TE)	1	'Jadeite'
Monte Tinello (AP)	1	'Greenstone'
Colle Morico (MC)	x	-
S. Maria in Selva (MC)	x	-
Aquatina (AN)	2	-
Fondo Coccia (AN)	1	Limestone
Fienili (AN)	2	'Greenstone'
S. Biagio (PO)	x	Green, brown, and grey stones
MIDDLE-LATE COPPER AGE		
Grotta dei Piccioni (PE)	1	Flinty limestone
Ortucchio (AQ)	x	-
Crocetta (TE)	x	-
Casone (MC)	x	-
Aquatina (AN)	x	-
Fabriano (AN)	x	-
S. Biagio (PO)	x	-

b) Stone rings

Cylindrical discs of stone, with centrally drilled holes, and generally smoothed surfaces, known as 'stone rings', are found on sites in northern and central Italy, and date from the end of the early Neolithic to the final Neolithic. Barfield (1981: 35), contrasting their distribution with the more widespread one of jade axes, suggests that their distribution was constrained culturally to areas in which the Fiorano-Sasso and early SMP 'cultures' exerted some influence. This is difficult to test for the examples found in the Abruzzo region, but it is certainly interesting that only two have been found in southern Italy: one from Grotta delle Felci on the island of Capri, and the other from the Neolithic settlement at Malvezzi near Picciano in Basilicata (Tanda 1977). (Perforated 'greenstone' axe-amulets, on the other hand, seem to be particularly common in the south compared to the centre and north.) Stone rings are made from a variety of rocks, including 'greenstones', basalt, schist, and limestone, and occur only in small numbers in both settlement and cave deposits. They do not appear to have been used as grave goods, and their function is difficult to determine. Most archaeologists regard them either as ornaments (bracelets or pendants) or as hafted (and possibly ceremonial) objects, but the more roughly made examples with small central holes might have been used as weights (Tanda 1977).

A few examples have been found in the Abruzzo-Marche region. A rough and broken limestone ring (11.3 cm external diameter, 5.1 cm internal diameter) was found in the middle Neolithic settlement at Villa Badessa (PE) (Radi 1979). For the late Neolithic, limestone fragments (7.3 cm external diameter, 1.5 cm internal diameter) have been found in Grotta dei Piccioni (PE) in spits 17-16 (Cremonesi 1976), and limestone and sandstone examples in the cavities of the settlement at Ripoli (TE) (Cremonesi 1965). A fragment of a 'greenstone' lithic ring was discovered in the settlement at Fossacesia (CH), which dates to the late Neolithic-final Neolithic/early Copper Age transition (Cremonesi 1973). Final Neolithic/early Copper Age examples include: one from spits 15-14 in Grotta dei Piccioni (PE) (Cremonesi 1976), one in limestone from Cellitto (AQ) (Cremonesi 1985: 795), some limestone rings from Ripoli (TE) (Cremonesi 1965), and one in limestone from stratum III at Fondo Coccia (AN) (Rellini 1933).

Limestone lithic rings, which comprise the majority of examples found in Abruzzo and Marche, are the characteristic type in central Italy, and were all probably manufactured relatively locally. The same applies to the sandstone specimen from Ripoli, which is located 18 km away from the nearest in situ Upper Miocene sandstone deposits.

The 'greenstone' ring from Fossacesia, on the other hand, can probably be regarded as an import from sources located outside the Abruzzo-Marche region (see above, p.

378 and Fig. 114). The number of 'greenstone' rings in Sardinia and Italy (listed by Tanda 1977) seems to fall off roughly with increasing distance away from the Corsican and north Italian sources of 'greenstones' illustrated by Evett (1975: Map), and few are found on the eastern side of Italy (Fig. 114). Eight were reported from northern Sardinia, eight from Liguria, six from Piemonte, five from Lombardia, one from the Veneto, two from Emilia-Romagna, three from Toscana, four from Umbria, and one from Abruzzo. The Fossacesia example lay on the southernmost edge of this distribution, 500 km from the nearest known 'greenstone' sources in Liguria, and was probably exchanged between many hands over this long distance.

c) Maces

Perforated ground-stone maceheads date mainly to the Copper Age in Italy, and are found especially in central Italy, in graves and on settlements (Renfrew and Whitehouse 1974; Barker 1981a). Their function is difficult to determine; they might have been used as hammers or as weapons, but may also have been carried as ceremonial objects. Two spherical limestone maceheads, perforated by biconical holes, were found in final Neolithic/early Copper Age cavities at Ripoli (Rellini 1934). One of these was cavity XXV, which might be considered as a special deposit, for it also contained a human tibia, flakes and blades, arrowheads, pottery, including cups and plates in a fine yellow 'figulina' fabric, three bone awls, and some

perforated sea shells, including examples of the imported Triton species. Two limestone maceheads were found in stratum III at Fondo Coccia [AN] (Rellini 1933), and two more poorly dated limestone maces come from Le Conche and Montesecco [AN] (Ornella Acanfora 1944-5). It seems very likely that all of these were manufactured within the Abruzzo-Marche region, and perhaps even locally. In situ deposits of limestone are found 27 km away from Ripoli in the Monte dei Fiori, 4 km away from Montesecco, and directly adjacent to the site of Le Conche on the Jurassic limestone and marl Arcevia hill.

d) Perforated axe-hammers

Ground-stone axe-hammers with shaft-holes have been found on sites dating to the later Copper Age and Early Bronze Age, particularly in central Italy. It is difficult to date them precisely, particularly those collected as single finds during the last century. However, Renfrew and Whitehouse (1974) suggest that during the Copper Age their distribution was restricted to central Italy, with just one example known from northern Italy in the cemetery at Cumarola, and possibly another from a south-east Italian Laterza context; and Bermond Montanari et al. (1988: 607) suggest that the numerous examples from Emilia-Romagna date to a period which began after the later Copper Age Remedello phase and continued on into the Early Bronze Age. The distribution of 135 Copper and Bronze Age specimens found before 1896 and listed by Colini (1892: 223-5, 1896:

265-6) shows a rough pattern of fall-off in quantities from around the Emilia-Romagna region (Fig. 115). One came from Piemonte, five from Trento - Alto Adige, two from Istria, six from Veneto, 10 from Lombardia, 51 from Emilia-Romagna, seven from Toscana, four from Sardinia, three from Lazio, 20 from Umbria, 19 from Marche, nine from Abruzzo, one from Puglia, and one from Sicily. This pattern probably requires little modification today. For example, Leighton's (1989: 149) recent study of stone axes confirms that shaft-hole stone axes were rarer in Sicily and southern Italy than in areas to the north.

Colini (1896: 257) suggested that the majority of the Italian axe-hammers were made from local rocks found in the regions where they occur, and that only a few, made from more colourful and harder rocks, were transported over longer distances. He also noted that most carried evidence of use wear, such as flaking or abrasion on the blade or butt, and that they were generally found broken, again presumably the result of use (Colini 1896: 262). These early observations seem to be confirmed by the detailed evidence from the Abruzzo-Marche region, which will now be described.

Examples of perforated axe-hammers are known from five middle-late Copper Age sites in Abruzzo and Marche. A perforated axe-hammer of very fine grained sandstone (Fig. 73.31) came from spits 10-9 in Grotta dei Piccioni (PE) (Cremonesi 1976), and at Ortucchio (AQ), in stratum 2, some

perforated axe-hammers of limestone (Fig. 73.29-30) were found (Tartaro 1979). Some broken perforated axe-hammers (Fig. 74.32-41), all probably of limestone, came from the ditch at Le Conelle [AN] (Puglisi 1959; Cazzella 1987). Perforated axe-hammers were also found at S. Biagio [PO], probably of limestone, (unpublished in Bologna Museum), and at S. Lorenzo in Campo [PO] (Rellini 1909-10). Late Copper Age - Early Bronze Age examples come from Grotta la Cava [AQ], and stratum 2 of Grotta Continenza [AQ] (Tozzi 1962; Grifoni Cremonesi and Mallegni 1978).

It is also worth mentioning the less precisely dated examples of perforated axe-hammers from the Abruzzo-Marche region of which there is some description of the rock type. One of limestone was found at Fonterossi [CH] (Colini 1896), one of calcareous sandstone at Lettopalena [CH] (Colini 1896), and two yellow coloured specimens were found at Madonna del Freddo [CH] (Chierci 1878). At Pescina [AQ] there was one made from a light brown stone (Radmilli 1981: 380), and two more in a similar rock type from Pescocostanzo [AQ] (Radmilli 1981). A schist axe-hammer was found at Ancarano [TE] (Rosa 1871), and one made from a yellow coloured stone at Parolito [MC] (unpublished in S. Severino Museum). At Madonna delle Spinelles [AN] there was one made of local sandstone (Ornella Acanfora 1944-5), and another found near to the River Névola [AN] was of limestone (Colini 1892). At Protonara [AN] an axe-hammer of greenish-grey coloured 'porphyrite' was found. The point was flaked by use, and it was broken at the butt end

through the shaft-hole, but had been provided with a new hole further down its body (Colini 1896: Tav. II.2). Out of the five examples found at Orciano [PO], three were of limestone and two were of diabase or green porphyrite (Rellini 1909-10), and at Pardo di Sotto [PO] there was a finely made example of a dark green porphyrite or diabase (Rellini 1909-10).

The majority of these shaft-hole axe-hammers from Abruzzo and Marche were made of limestone or sandstone, which both occur extensively within the region, and it is likely that these were manufactured at a fairly local scale. This suggestion is supported by finds of unfinished axes with shaft-holes from the Marche region. At the chert quarrying site of Torre Beregna (MC) a partially perforated piece of limestone was found (Pigorini and Gnoli 1888: 46). A few incomplete hammer-axes were also recovered from the ditch at Le Conelle (Cazzella 1987: 50), and a partially drilled axe-hammer made from local stone was found in the Valle di Magliano near Cingoli (unpublished material in Cingoli Museum). Most axe-hammers were found broken in settlement contexts, which points towards their functional use as tools.

The few possible imports of axe-hammers come in particular from sites located in the north of the region, in the Ancona and Pesaro-Urbino provinces (ie. Protonara, Orciano and Pardo di Sotto). The rock type of the example from Protonara was identified as porphyrite (Brizio 1899b:

621), and, if the identification is correct, then this specimen (or at least the raw material for it) is likely to have come from the Dolomite Alps in the Trento - Alto Adige area (Evetts 1973: Map). However, despite its probable importation from outside the region, this axe-hammer still appears to have been heavily used and even re-hafted when broken, which suggests that its value as an import was primarily 'functional' (ie. high use value) rather than symbolic.

e) Knobbed battle-axes

Knob-ended battle-axes, long and finely made of polished-stone, have been found especially in central Italy, either as grave goods or as isolated surface finds, and date to the late Copper Age and Early Bronze Age. They appear to be particularly characteristic of the Rinaldone group in Tuscany and Lazio (Renfrew and Whitehouse 1974: 366), and Rinaldone examples similar to one found at Senigallia (AN) in Marche (Strobel 1881: 130; Colini 1892: 170) include: one from Tomb 1 in the Rinaldone cemetery (Colini 1903: Tav. XIII.1), one from the Ponte S. Pietro cemetery (Radmilli 1978: Tav. XXXIV.2), and another from the Tuscany region (unpublished artefact in the Ashmolean Museum, Oxford). A comparable example, but in copper, with a halberd shaped blade, was found at Santa Fiora in the Monte Amiata area (Barfield 1969: Fig. 1), and another similar example in stone was found in the Remedello group Cumarola cemetery in Emilia-Romagna (Barfield 1971: 58).

In Abruzzo and Marche knobbed battle-axes of stone have been found in late Copper Age and Early Bronze Age contexts, in graves and as surface finds, and especially in the Ancona province in Marche. One made from a hard speckled 'greenstone' was found in Grave 1 at Vescovara [AN] (Annibaldi 1951-2). Three more come from less precise contexts: a short one from Pluviano [PE] in a dark granitic stone (Radmilli et al. 1953), one of light green porphyrite from Moje [AN] (Colini 1892), and one measuring 21 cm in length from Senigallia [AN] in a greenish brown stone (Strobel 1881) (Fig. 116).

All of the examples from Abruzzo and Marche were made from rocks which do not occur within the region, and their most likely source seems to be the Alps in northern Italy (Evetts 1973: Map). Moreover, it is tempting to link them, stylistically at least, to the knobbed battle-axes from Switzerland and ultimately to the Corded Ware or Battle Axe Culture, which was distributed northwards from the Alpine foreland to southern Scandinavia. The high quality of their manufacture and the amount of labour input required for this, their high potential use value, their possible skeuomorphic relationship to copper examples, their large size, their rarity, their exchange over long distances, and their deposition especially in graves in central Italy suggests that they could easily have been prized possessions and valuable commodities. It is even tempting to tentatively suggest: that they were assigned a 'prime value' (see above, p. 320-1); that they were used, at least

sometimes if not exclusively, for display in ceremonial contexts; and that they might have been regarded as prestige goods. However, this may be placing too much emphasis upon their final, and as yet poorly defined, deposition contexts represented in the archaeological record.

f) Conclusions

For the early Neolithic in Abruzzo and Marche axes were the only type of ground-stone artefact found on sites. They occur in fairly high numbers, with an average of four axes per assemblage, but as many as nine were found at Villaggio Leopardi. 'Greenstone' axes, probably imported from outside the region, were distributed fairly widely, being found on at least four out of the seven sites with axes. They might have been imported via an exchange network which ultimately stretched back to the north Italian mountains. Both the 'greenstone' axes and the examples made from more locally available rocks such as limestone were probably used as light-duty work axes, particularly in woodworking activities. There is no evidence to suggest any distinctions in the function of axes made from these different materials at this stage.

Only one axe was found on each of the middle Neolithic sites in Abruzzo and Marche which have produced axes, and at least one of these was made from 'greenstone'. The earliest stone ring also dates to this period. Considering

that it is a roughly worked example made in locally available limestone, it could be interpreted simply as a stone weight, but it could equally be considered as an unfinished and broken ornament designed to be worn as a bracelet or pendant (a small hand could fit through the internal hole, which has a diameter of 5.1 cm).

During the late Neolithic the number of ground-stone axes may have increased slightly to two or three per assemblage, and stone rings may also have increased slightly in number, but there was no apparent increase in the quantity of imported 'greenstone' axes or rings.

These comments can be quite closely repeated for the final Neolithic/early Copper Age: axes do not seem to have increased in number per assemblage, and 'greenstone' axes, although distributed fairly widely, occur in a similar proportion of assemblages with stone axes (10 out of 16) as for the early Neolithic (four out of seven). There were, however, some significant developments. An increased variety of rock types seem to have been used for ground-stone axes. A greater range of ornamental or ceremonial ground stone artefacts was also developed at this time. The perforated miniature greenstone axe from Fienili probably dates to this period, an exceptional 'greenstone' ring was imported to the late Neolithic - final Neolithic/early Copper Age site at Fossacesia, and the first limestone maceheads appear, one of which was found in a 'special' deposit in the settlement at Ripoli.

During the middle Copper Age, however, the exchange of ground stone artefacts seems to have temporarily collapsed. No 'greenstone' artefacts from Abruzzo and Marche can be dated securely to this period, and the manufacture of stone rings appears to have halted. A new range of heavy-duty work axes developed at this time, but all of the examples which can be dated firmly to the middle Copper Age were made from locally available rock types such as limestone and sandstone, and evidence of their local manufacture has been found on three sites in Marche.

The exchange of ground stone artefacts appears to have revived during the late Copper Age and Early Bronze Age. The poorly dated examples of 'greenstone' perforated axe-hammers most probably belong to this phase. These seem to have been employed as work axes, for the point of the specimen from Protonara was flaked through use. However knobbed battle-axes also developed at this time, and, although potentially useful as tools, they may also have been assigned a 'prime' value and a ceremonial function. They are few in number, they are finely shaped and polished, they have been found especially as grave goods, and all are made of non-local 'greenstone'.

5. Copper

This next section begins with a description of the sources of copper and other metals found on the Italian

mainland. Evidence of the earliest use of metals in Italy is then presented, and the four main regional styles of metalworking in the middle-late Copper Age of Italy are described. Spectrographic and metallurgical analyses of Copper Age metal artefacts from Italy provide a check upon the validity of these typological groupings, give indications about the nature of the raw materials employed, and reveal the high and complex level of technological achievement reached by Italian Copper Age metalworkers. The large copper artefacts found in Italy at this time might generally be regarded as commodities of 'prime value', although their value may have varied from region to region. Detailed data relating to copper artefacts found in the Abruzzo-Marche region are then presented. Copper artefacts are known from nine sites, which date from the late Neolithic to the late Copper Age. There are no known sources of copper in Abruzzo or Marche and so these objects or, possibly, their raw materials, can be regarded as imports from outside the region. Potential sources and exchange routes are suggested. The Abruzzo-Marche region lay outside the 'direct contact zone' of settlement which was linked to the Tuscan copper production zone and sources. Finally, the deposition contexts of copper artefacts on sites are reviewed in order to provide indications about the function and value assigned to different types of metal artefacts during the Copper Age in Abruzzo and Marche.

Many sources of native copper, copper ores, and other metals are known from the Italian mainland, and a number of these were exploited during the Copper Age. In eastern Liguria there are extensive sources of copper ores, and evidence of their mining during the Copper Age was recovered during the last century at Libiola, where a very narrow man-made tunnel dug into copper-bearing rock was found to contain stone hammers, wooden wedges, a shovel, and also a pick handle made of oak, which has been radiocarbon dated to 3510-3135 Cal. BC (Bln-3367) and 3497-2920 Cal. BC (Gif-7213) (Maggi and Del Lucchese 1987, 1988). Deposits of copper ores and silver are also known in the central Alpine foothills, in areas lying to the east and west of the Adige valley (Barfield 1971). In central Italy important deposits of copper, silver, antimony, and arsenic are found in and around Monte Amiata and the Colline Metallifere in Tuscany. For example, rich and easily found native copper deposits are located at Pari. Copper appears here in a series of feldspathic veins which contain disc-shaped nuggets measuring up to 5 cm in diameter, and native copper and cuprite are intermixed so that when the surrounding cuprite is broken away the copper appears as flat pieces of metal which can be hammered and combined (Warden 1983). Other native copper deposits are known from Frassinoro, Impuneta and Montecatini; and important copper ore deposits are found at Massa Marittima, Campiglia Marittima and Montecatini. The copper ores from Massa Marittima are sulphides rather than oxides, and are therefore more difficult to smelt (Warden 1983), but

despite this Copper Age copper mines have been reported from this area, and also from a site located further inland near to Arezzo (Cocchi Genick and Grifoni Cremonesi 1988). The distribution of copper axes and daggers found in central Italian Copper Age burials, which is densest within 60 km radii drawn around these sources (Barker 1981a: Fig. 24), clearly supports the impression that the copper deposits in Tuscany were being exploited during the Copper Age. Little is known about the sources of copper used by the Copper Age groups in southern Italy. Barker (1981a: 88) presumes that the sources used by the Gaudio group in Campania were not those of the Colline Metallifere, and, although Renfrew and Whitehouse refer to "the absence of copper ores in southern Italy" (1974: 350), copper deposits are in fact now known from Calabria (S. Knott pers. comm. 1988). It seems quite possible that a large number of very small copper sources were exploited in the Mediterranean during prehistory, but that due to their small size and their rapid exhaustion and abandonment, they do not feature on modern distribution maps of copper sources and have not yet been discovered by archaeological fieldwork (R. Chapman pers. comm. 1990).

Evidence of the earliest use of metals in Italy comes from the end of the late Neolithic and the start of the final Neolithic/early Copper Age periods. In southern Italy copper slag was found in the Diana levels on the Lipari acropolis, which have been radiocarbon dated to 4321-3360 Cal. BC (R-180) (Alessio et al. 1969), and a small fragment

of a copper blade was found in one of the final Neolithic ditches at Pizzica Pantanello, which is located on a hill above the coastal plain, near to the River Basento in Basilicata (Bianco and Cipolloni Sampò 1987: 315). In central Italy, a metal awl of quadrangular section (Fig. 77.1), probably of copper, comes from the settlement at Fossacesia in Abruzzo (Cremonesi 1973), which dates to the point of transition between the late Neolithic - final Neolithic/early Copper Age, with radiocarbon dates of 4510-4000 Cal. BC (R-878) (Alessio et al. 1978) and 4772-3780 Cal. BC (F-30) (Azzi et al. 1973). The earliest metal finds in northern Italy comprise a small fragment of copper from the Rivoli-Castelnuovo SMP levels at Rivoli, radiocarbon dated to 4360 - 4004 Cal. BC (Birm-617) and 4214 - 3690 Cal. BC (Birm-616) (Williams and Johnson 1976), and three copper axes from the Bocca Lorenza cave, which were also found in association with Rivoli-Castelnuovo style pottery (Barfield 1971: 49). It is no longer necessary to call upon hypotheses of invasion and immigration from the Aegean to explain the origins of metallurgy in Italy (Renfrew and Whitehouse 1974; Barker 1981a), but it remains a possibility that the initial stimulus (be it in the form of imported artefacts or knowledge of techniques) towards the exploitation of the local Italian sources and the development of local artefact types came from the north, across the Alps, and/or across the Adriatic from the east.

Four main regional styles of metalworking can be identified for the later Copper Age in Italy, based upon

typological groupings and their spatial distribution (Renfrew and Whitehouse 1974). Remedello metalwork, found on sites in the Po valley and on the Venetian plain includes copper awls, flat axes, triangular daggers, with or without midribs and with or without tangs, halberds, rivets with conical heads, and ornaments such as a cylinder of wire and buttons. Two silver ornaments are also known: a crutch-headed pin from Remedello Sotto, and a crescentic pectoral from Villafranca Veronese. Analysis of the composition of metalwork from rock-cut tombs at Anghelu Ruju in Sardinia suggests that Remedello copper was exported to Sardinia at this time (Tylecote et al. 1983). Rinaldone artefacts, found especially in Tuscany and Lazio, include copper square-sectioned awls, flat axes, flat daggers with rounded, triangular or trapezoidal heels and usually three rivets (one with a hilt from the Monte Bradone cave), daggers with midribs or tangs, and a halberd. Antimony V-bored buttons are also known from Monte Bradone and Ponte S. Pietro. Gaudo copperwork, which has been found on sites in Campania, includes square-sectioned awls, triangular daggers with midribs and a straight or slightly rounded heel, long narrow and flat triangular daggers with or without tangs, one broad-heeled tanged dagger with a midrib from Mirabella Eclano, and a halberd from Roggiano Gravina. Two beads of silver wire and a silver bracelet from Gaudo are also known. Finally, Laterza metallurgy is represented by copper daggers, including two from Tomb 3 at Laterza with crescentic hilts, small knife-daggers, a small trapezoidal blade, and ornaments.

To a certain extent the validity of these typological groups is supported by the spectrographic analyses of trace elements and groupings of their levels carried out on central and north Italian Copper Age metal artefacts in the Pigorini Museum by Barker and Slater (1971). Most artefacts from the Remedello area corresponded to Barker and Slater's metallurgically defined Group 2, which was characterized by the presence of arsenic, occasionally in remarkably high percentages, and most artefacts from the Rinaldone area corresponded to their Group 3, which was differentiated by the presence of antimony, again sometimes in significantly high quantities (arsenic was also present). However, an axe from Cremona was found to contain high quantities of both arsenic and antimony, which argues against a strict division of these groups on metallurgical grounds.

These analyses also provide indications about the nature of the raw materials employed in the manufacture of copper artefacts. Objects in Group 1 were of very pure copper, and, although it is difficult to prove simply on the grounds of purity, it seems likely that at least some of these, such as the three flat axes from Bocca Lorenza in northern Italy (Matteoli and Storti 1982), were made from native copper (Barker and Slater 1971: 187-8). The high impurity levels found in some of the Group 2 and 3 artefacts, on the other hand, may reflect the exploitation and smelting of fahlerz copper ores, with the high percentages of arsenic or antimony perhaps indicating the deliberate selection of ores (Barker and Slater 1971).

Experiments by Eaton (1980) suggest that co-smelting of partially roasted copper ores and arsenic sulphide was the most likely method of fabrication for Copper Age metal artefacts in Italy. Such control of raw materials points towards a high and complex level of technological achievement in Italian Copper Age metallurgy.

It is difficult, from a more functional point of view, to interpret the role of large copper artefacts in Copper Age Italy. On one hand, the presence of arsenic in copper objects, which is characteristic of Copper Age metallurgy in the Mediterranean, is said to improve the workability and hardness of copper artefacts, which points towards a 'functional' role for these artefacts as tools. But on the other hand, technical analysis of the dagger blades from Buccino suggests that they were "marginal to inadequate for functional use" (Avery et al. 1973: 113). The copper dagger blade with a midrib and three rivet holes at the base, for example, had adequate buckling strength due to the presence of the midrib, but its hardness was very low, and it could have been readily bent by hand (Avery et al. 1973). It has also been noted that the presence of arsenic in copper objects may give them an attractive bright silver-coloured surface (Eaton 1980), which points towards a symbolic role for such objects. Such 'silvering' has, for example, been noted on a copper flat axe from Rinaldone (Pernier 1905: 149). In addition, Malone (1986: 173) reports that metal objects have been found in only about 32% of Copper and Early Bronze Age sites in Italy and Sicily, and that the

bulk of these were found in tombs as grave goods. It must, however, be remembered that large copper objects can be readily recycled, and are therefore unlikely to be found 'discarded' on settlement sites.

The possibility of a high degree of curation and recycling for large copper artefacts has recently been increased by the discovery of a frozen corpse of a man lying in snow on the Italian side of the Austro-Italian border, south of Innsbruck. The man was radiocarbon dated to 2866-2616 Cal. BC, which places him neatly within the late Copper Age in Italy (see Chapter 1), and he was accompanied by an axe made of pure copper, as well as a flint dagger, a wooden bow, and a set of 14 bone-pointed arrows (Keys 1991). It is thought that he was killed by a snow-fall during an expedition in the mountains, and that he therefore represents an individual caught 'in action' along with the tools (including the copper axe) which he would have used, possibly in the course of hunting activities. If this turns out to be the most accurate interpretation, then it provides strong evidence in support of the 'functional' case for large copper artefacts, at least in northern Italy, during the Copper Age. An alternative interpretation is that this individual may have died elsewhere, and that he was transported and buried in the snow, accompanied by special grave-goods, according to yet another kind of Copper Age mortuary rite. Clearly we require more details about this individual, and the context in which he was found, before we can discuss with

confidence the function and role of his axe.

So, on one hand there exists the possibility that large copper artefacts were in fact used functionally, and in preference to stone axes in certain activities. But on the other hand, the archaeological record provides a fairly strong case in favour of the view that they were also used as items of display, with high symbolic and exchange values, and possibly high associational and labour values, which would obviously place them squarely within Renfrew's (1986) category of materials and objects of 'prime value' (see above, p. 320-1). (For a similar interpretation, in relation to the role of early copper artefacts in Continental Europe, see Sherratt 1976.)

The data relating to the early use of metals in Abruzzo and Marche can now be considered (Fig. 77, Table 14). The earliest known metal object from this region, which is presumably of copper rather than bronze, is a quadrangular-sectioned awl (Fig. 77.1) from the settlement at Fossacesia (CH) (Cremonesi 1973). The site has produced two radiocarbon dates (quoted above, p. 409), and dates to the point of transition between the late Neolithic and the final Neolithic/early Copper Age. A few fragments of copper were also found in the final Neolithic/early Copper Age settlement at S. Maria in Selva (MC) (Lollini 1965). At Aquatina (AN), in the later final Neolithic/early Copper Age deposits of stratum 6, a fragment of copper was found which contained arsenic (in an unspecified quantity)

(Lollini 1965). Stratum 6 has a radiocarbon date of about 3772-3040 Cal. BC. A small copper flat axe with slightly raised edges was recovered from the final Neolithic/early Copper Age - middle Copper Age settlement of S. Biagio (PO) (Rellini 1934: 45); and in the Copper Age stratum E of Grotta dei Baffoni (AN) a small piece of copper lay in a hollow (2 cm deep, 4.5 cm wide, 3 cm long) in an irregularly shaped piece of baked clay (Radmilli 1956a). Another fragment of copper was found in the middle-late Copper Age ditch at Le Conelle (AN), and analysis by Cambi revealed that it was arsenical copper with the same components as copper of the Rinaldone group (Puglisi 1965b). In the middle-late Copper Age burial at S. Rocco (AN) a copper flat axe (Fig. 77.3) was placed by the side of the body along with 26 flint arrowheads, three flint blades (at least one of which was long), a flint dagger/lance, and a clay spindle whorl (Pigorini 1897). Similarly, in the late Copper Age rock-cut tomb at Camerata (AQ), a copper flat axe (Fig. 77.4) was placed alongside the body together with a bone adze, and 18 arrowheads were arranged in a 'crown' around the head (Pigorini 1888). Finally, a thin and flat-bladed copper dagger was found at Salle (PE). There were notches or possibly corroded rivet holes on the rounded base (Fig. 77.2), and it dates to the late Copper Age - Early Bronze Age (unpublished in the Pigorini Museum).

There are no known sources of copper in the Abruzzo-Marche region, and so these copper artefacts (or at least

the copper from which they were made) can be regarded as imported. The Fossacesia awl was probably brought by sea from southern Italy. All three sites with the earliest copper artefacts in central and southern Italy lie near to the coast: Fossacesia - 4.5 km inland; Pizzica Pantanello - on a hill on the edge of the coastal plain; and Lipari Acropolis - by a natural harbour on an island. These locations probably reflect the transport of copper by boat around the central and south Italian coastline at this early stage in the use of copper. The two later copper artefacts from Abruzzo were probably imported across the Apennines from sites in west-central Italy. The Camerata flat axe and the Salle dagger were found on sites located close to the major modern trans-peninsular communications route from Rome to Pescara, which crosses the Apennines via Arsoli, Carsoli and the Fucino basin, and then runs on to the River Pescara via the Sulmona basin; Camerata is located at 7 km up the Fióio valley from Carsoli, and Salle is located 8 km up the River Orta from the River Pescara. In addition, the Salle dagger can be fairly well paralleled by a number of daggers with rounded heels and rivet holes (and in some cases a midrib) from tombs in west-central Italy, including examples from Partena, Quercieto, Battifolle, and the Monte Brandoni cave in Tuscany (Colini 1903: 156); Chiusa d'Ermini by the River Fiora (Rittatore 1951: Fig. 5), and the Viterbo area (Colini 1903: Fig. 7) in northern Lazio; and Cerreta near Stroncone (Colini 1912: Fig. XXXVII) and Poggio Aquilone near Marsciano (Brizio 1899a, Fig. 3) in Umbria.

The finds from Marche were probably also imported across the Apennines from nearby Copper Age sites in west-central Italy, perhaps especially from those in Umbria. It is tempting to read much into the fact that all of the copper artefacts from Marche have been found within a 40 km radius of the town of Cupramontana (Fig. 117) in order to claim that, as the name suggests, a source of copper existed here. However, the name of the town is thought to originate from a local temple which was dedicated to the goddess Cupra, who was allied to the Roman goddess Bona (Corbella, ed. 1979), and analysis of the fragment of copper from Le Conelle showed that it is made of arsenical copper with the same components as copper of the Rinaldone group (Puglisi 1965b). Aquatina, Grotta dei Baffoni and S. Rocco all lie close to the River Esino (between 1 and 5 km away), which forms the eastern half of a major modern trans-Apennine communications route, that runs via Fossato di Vico and Fabriano. S. Maria in Selva also overlooks another important communications route, the River Potenza, which connects with an Apennine crossing point between Nocera Umbra and Pioraco.

Barker (1981a: 75) notes that relatively few copper objects reached Copper Age graves located at any significant distance from the Tuscan sources, either south of the Tiber or east of the Apennines. He reasonably interprets this patterning in terms of a 'direct access' model (following Sherratt 1976: 558-9), in which there would have existed a 'production zone' (the area of

settlement concerned with the active exploitation of the copper sources), a 'direct contact zone' (the area of settlement linked directly to the production zone by face-to-face contact, with supplies of copper ensured by close kinship links) lying within a 100 to 150 km radius of the sources, and an 'indirect supply zone' (the area without direct access to the production zone, receiving supplies of copper through intermediaries), including sites in Abruzzo and Marche (Barker 1981a: 170-1). He attributes this unequal distribution of copper artefacts to an insufficient level of demand made by the east central Italian groups, and an unspectacular level of social stratification achieved by Copper Age groups in central Italy as a whole. It may also relate, however, to the generally weakened nature of exchange and communications systems in central Italy during the middle Copper Age.

Deposition contexts of artefacts (where recorded in sufficient detail) may provide indications about the function and value assigned to different types of metal objects during the Copper Age in Italy. Three categories can be identified in the Abruzzo-Marche region (the dagger from Salle (PE) is excluded, as no contextual data are available for it). The first group comprises the small fragments of copper as well as the copper awl which were all found in settlement deposits (viz. at Fossacesia, Aquatina, S. Maria in Selva, and Le Conelle). It seems possible that these pieces were either used as special-function tools or worn as ornaments in these settlements

(and elsewhere), and that they consequently found their way, along with other broken, lost, or intentionally buried artefacts, into the general settlement deposits. The second group comprises the small piece of copper found in a hollow in a lump of baked clay in stratum E of the Grotta dei Baffoni. Although it seems unlikely that the hollowed lump of baked clay acted as a crucible, it still seems possible that the piece of copper may have derived from the manufacture of copper artefacts. That such an activity should take place in a cave is not entirely surprising, considering that a baked clay flanged axe mould was found in the Bronze Age levels in the Grotta a Male cave in Abruzzo (Pannuti 1969: 220). The third group comprises the relatively large flat axes from the burials at Camerata and S. Rocco. These graves share a number of similarities: they each contained a single individual; grave goods were positioned around the body, including numerous flint arrowheads and a copper flat axe, as well as a few other artefacts; and they both date to the middle-late Copper Age. In these contexts the function of the copper axes appears to have been primarily symbolic, and considering the general rarity of large copper artefacts in Abruzzo and Marche (even in graves), and the metallurgical and contextual evidence discussed above from elsewhere in Italy, it seems possible that they were regarded as objects of 'prime value', if not also as prestige goods. It is unclear, however, lacking the relevant contextual evidence both for the Abruzzo-Marche region and for Italy as a whole, whether or not their function and value differed

significantly outside the mortuary context.

Table 15: Copper artefacts from Neolithic and Copper Age sites in the Abruzzo-Marche region

<u>Site</u>	<u>Artefacts</u>	<u>Finds-context</u>
Fossacesia (CH)	Quadrangular awl	Settlement
Salle (PE)	Flat dagger	? Surface find
Camerata (AQ)	Flat-axe	Burial
S. Maria in Selva (MC)	A few fragments	Settlement
Aquatina (AN)	A fragment	Settlement
Grotta dei Baffoni (AN)	A fragment	Cave
Le Conelle (AN)	A fragment	Sett. ditch
S. Rocco (AN)	Flat-axe	Burial
S. Biagio (PO)	Flat-axe	? Surface find

6. Coral

A smoothed pendant with a small hole at one end, reportedly made of red coral, was found at an unspecified depth in the Ripoli levels (spits 17-12) of Grotta dei Piccioni (Cremonesi 1976), which date to the late Neolithic - final Neolithic/early Copper Age. The most important central Mediterranean coral reefs lie off the coasts of Sardinia and Tunisia, and the former were regularly exploited by Neopolitan fishermen during the fifteenth century (Braudel 1972). Mediterranean coral ornaments were also imported into central and western Europe and deposited in graves there during the earlier Iron Age (750-250 BC) (Champion 1982). It is likely, then, that the piece of coral deposited in the Grotta dei Piccioni was imported as an exotic object, and that it was displayed as a suspended ornament. It may have been assigned relatively high exchange and symbolic values.

7. Pumice

Two pieces of grey pumice were found at the final Neolithic/early Copper Age site of Fondo Coccia near Pianello (AN), one in stratum IV and the other in stratum III (Rellini 1933). A large piece of grey pumice was also found at Ripoli in an unspecified context (Rellini 1934: 27), which must date to either the late Neolithic or the final Neolithic/early Copper Age. These pieces are likely to have been imported into the Abruzzo-Marche region. Their source might lie, like much of the obsidian imported into the region at this time, on the island of Lipari, where pumice occurs both naturally and in final Neolithic/early Copper Age settlement sites such as Contrada Diana and Contrada Spatarella (Bernabò Brea and Cavalier 1960; Cavalier 1979). However, pumice also occurs naturally today along the Lazio coastline, and this potential source lies closer to the Abruzzo-Marche region than the island of Lipari. At Contrada Diana, artefacts made from pumice included a small axe, a disc-shaped 'spindle-whorl' with a central hole, and some 'smoothers' (Bernabò Brea and Cavalier 1960: 62, Tav. XX.3), which suggests, at least at this site, that pumice was used for functional rather than ornamental purposes.

8. Red ochre

A few pieces of red ochre have been recovered from Neolithic cave sites in the Abruzzo region, the majority of

which seem to have been found either in or close to ritual deposits. A piece of red ochre measuring 4.5 by 2.5 by 1.5 cm was found in the early Neolithic spit 25 in Grotta dei Piccioni (PE), which overlay the burial of a child; and in the early Neolithic spit 22 in this cave two grindstones were reportedly stained with this mineral (Cremonesi 1976). Two small pieces of red ochre were also found in the late Neolithic spit 15 in Grotta dei Piccioni, at the same stratigraphic level as the ritual 'Level of the Circles' (Cremonesi 1976). Red ochre was discovered in the early Neolithic ritual level in Grotta Continenza (AQ). Traces of it were found in a pottery vessel containing the cremated remains of an eight year old child, a small pile of it was found near to the cave wall close to the group of vessels, and more was found in a clay-lined pit (Grifoni Cremonesi 1984). A pile of red ochre was also found in the earlier late Neolithic cavity 1 at Ripoli (TE) (Cremonesi 1965: 94), and pieces of ochre were found in the final Neolithic/early Copper Age levels at Fondo Coccia (AN) (Rellini 1933).

Red ochre has a long history of use in ritual contexts in Italy. Two nodules of red ochre were found in the Upper Palaeolithic levels in Grotta la Punta in Abruzzo, which also contained human remains (Cremonesi 1968: 175), and a young man was buried with red ochre in Grotta Paglicci in Apulia (Mezzena and Palma di Cesnola 1972). A piece of red ochre was also found under the skull of an old woman buried in the Mesolithic deposits in the Vatte di

Zambana rock-shelter in the Trento valley in northern Italy (Corrain et al. 1976). Red ochre continued to be used in human burial contexts during the Neolithic, and even during the Copper Age, to which period belong skulls stained with this mineral found at Sgurgola and Ponte di San Pietro in Lazio (Barker 1981a: 75).

This fairly strong association of red ochre and ritual contexts suggests that it was regarded as a special material during the Neolithic in Italy; probably valued particularly for its red symbolic properties, but perhaps also as a medicine as in Roman times (Pliny Nat. Hist. XXXV.34, trans. Rackham 1947). It was probably imported to the sites in the Abruzzo-Marche region across the Apennines from Lazio or Tuscany, where ochre is commonly found in association with iron deposits (Davies 1935: 35, 72).

9. Sea shells

Little work has so far been carried out on the sources and exchange of Mediterranean sea shells in prehistoric Italy. Two studies are described below: the first is concerned with the exchange of sea shells in northern Italy, and the second with the exchange and function of artefacts made from one particular molluscan species in Italy. The range of artefacts made from sea shells in Neolithic and Copper Age Italy is described, and attention is focused in particular upon triton shell trumpets. Problems in the mapping of sea shell exchange networks are

considered, then the data for the Abruzzo-Marche region are discussed. Sea shells belonging to 11 different species have been found on sites there, dating from the early Neolithic to the late Copper Age. Slight changes over time can be observed in the quantities and range of sea shell artefacts found on sites, in the distance that they travelled inland from the Adriatic coast, and in the presence of sea shells imported from outside the region.

Barfield (1981) has documented the exchange of certain sea shells in northern Italy. The earliest evidence of such exchange dates to the late Mesolithic, when Mediterranean Columbella shells were probably transported across the Alps from sites such as Romagnano in the Trentino to Tardenoisian sites in Switzerland and southern Germany. Trans-Alpine exchange of sea shell artefacts seems to have continued during the Neolithic, with cylindrical beads of Spondylus gaederopus, for example, being found in the Trento region, in a middle SMP burial at La Vela and at Arco, and also north of the Alps on sites belonging to the Rössen and Grossgartach cultures. These Spondylus shells are likely to have been obtained either from coastal sites in Liguria, where Spondylus rings were found in SMP levels in Caverna delle Arene Candide and also in Caverna della Pollera (Bernabò Brea 1946), or from northern Adriatic coastal sites around Trieste, which have also produced Spondylus artefacts. Spondylus shells are also found in the central Adriatic: they are numerous on some Danilo sites in Dalmatia, and five fragments of bracelets, rings and a

pendant were found at Cala Tramontana on the Tremiti Island of S. Domino (Palma di Cesnola 1967). Barfield (1981) has employed Shackleton and Renfrew's (1970) 'prestige chain exchange' model to explain the function and distribution of Spondylus shell artefacts in northern Italy. The four defining characteristics of this model are: 1) the transfer of prestige goods (in this case Spondylus shells) takes place, often between persons of high status, on a basis of balanced reciprocity; 2) the prestige goods are frequently handed on in subsequent exchanges; 3) such goods are not expended or utilized in daily life; and 4) they appear in the archaeological record either as a result of deliberate burial (generally with the dead) or through loss or accidental breakage. Such an exchange mechanism can therefore lead to the distribution of prestige goods over considerable distances, and their occurrence in places remote from the source in quantities as great as on sites nearer to it. Sea shells continued to be imported inland during the later Copper Age in northern Italy, with ornaments of Columbella, Conus and Pectunculus being found on sites such as Remedello, Fontanella and Manerba in the Po Valley.

Another study (Skeates 1991b) has mapped the distribution of Charonia nodifera (triton) shells for the Neolithic in Italy and the central Mediterranean. Examples are commonly found in caves situated near to Finale on the Ligurian coast, including: Grotta dei Bergeggi (Issel 1886, 1892), Grotta di Galuzzo (Mosso 1910), Caverna della

Pollera (Issel 1893; Bernabò Brea 1946, 1947), Arma del Sanguinetto or della Matta (Issel 1893); and Caverna delle Arene Candide (Issel 1886, 1892; Mosso 1910; Bernabò Brea 1946, 1956). The Ligurian coast seems the most likely source for these shells in Neolithic Italy because the earliest dated examples in Italy come from the Caverna delle Arene Candide (levels 26 and 25, dating to the late sixth millennium Cal. BC), because sea-worn pieces are reported from that cave, and because triton shells are present in outstandingly greater numbers in the Ligurian caves than on sites elsewhere in Italy or the central Mediterranean. Unfortunately no information concerning their modern distribution in the Mediterranean is available, which could be used to suggest alternative source areas for these shells. The triton shell bracelets found across the Alps in south-west Switzerland in cist graves belonging to the Chamblandes culture, which is related to the Chassey-Lagozza culture, probably also came from Liguria during the final Neolithic/early Copper Age (Sauter and Gallay 1976).

Triton shell artefacts found on late Neolithic - final Neolithic/early Copper Age sites further down the Italian peninsula come exclusively from deposition contexts containing human remains and other exchange goods, including other sea shells, obsidian and plain and painted fineware pottery. This suggests that they moved down the peninsula as valuables in a long-distance exchange network, although not necessarily as prestige goods. In Grotta

delle Felci on the island of Capri necklaces and bracelets of large shells, probably triton, were found along with ornaments of Patella and Ciprea, and sherds of late Neolithic Capri style painted pottery. The remains of six or seven human individuals were found in the little cave, two skulls and the remains of a female skeleton were found at the mouth of the cave, and fragments of human bone were also recovered from a small cave nearby (Rellini 1923). Triton shells were found in the final Neolithic/early Copper Age cavity XXV in the settlement at Ripoli. A human tibia was found in the upper deposits of this cavity, and artefacts from the lower deposits included: many perforated Pectunculus and Ostrea shells, a limestone macehead, lithic blades, flakes and arrowheads, three bone awls, and coarse and fineware pottery vessels (Rellini 1934). A triton shell trumpet was also found in the late Neolithic 'Level of the Circles' in Grotta dei Piccioni. It formed one of a group of unusual artefacts deposited near to circle XI, which included: 11 bird humeri and a hare metatarsal, each with a red coloured pellet of clay stuck onto the distal end; six clay weights; a half drilled disc-shaped pebble; and five intact fineware pottery vessels. These had been placed close to a group of human remains which comprised two child skulls (both aged four to six years) and the post-cranial body parts of another child (aged eight to nine years). The remains of an infant were also found in this level, along with possible evidence of intentional pottery smashing and feasting accompanying ritual performances (Cremonesi 1976; Skeates 1991a).

A variety of artefact types were made from sea shells during the Neolithic and Copper Age in Italy. Ornaments predominate, and include: simple perforated shells, shaped pendants with suspension holes, bracelets, rings, beads, and buttons, some of which were decorated. Shell scrapers or spoons, with worn edges, and awls were also employed for more utilitarian tasks. Manufacturing activities probably took place in Caverna delle Arene Candide where numerous fragments of sea shells were found, including cut, smoothed and thinned pieces, and 200 fragments of triton shell (which probably do not represent the remains of meals, for this is a species which is not commonly eaten in the Mediterranean).

The most extraordinary class of shell artefact, however, consists of the conch shell trumpets made from the shell of a Charonia nodifera (triton shell) with its apex removed. Five triton shells were found in Caverna della Pollera, each with the apex cut off artificially, one of which also had a small suspension hole drilled through its lip (Issel 1893; Bernabò Brea 1946, 1947). A triton shell found in Arma del Sanguinetto or della Matta also had its apex artificially removed (Issel 1893), and others were found in Caverna delle Arene Candide (Issel 1886, 1892). The example from the ritual 'Level of the Circles' in Grotta dei Piccioni in Abruzzo had had its apex removed, a small cylindrical hole was drilled near to its lip, and it was partly tinted with red paint (Cremonesi 1976). That these artefacts were used as trumpets can be argued on the

basis of analogies with examples from Classical Greece and Italy (described in literature, depicted on coins, sculpture, and funerary monuments, and actually found at Pompeii), and more recent ethnographic examples from northern and southern Italy (Skeates 1991b). Experimental studies and ethnographic observations suggest, however, that they were not used simply as musical instruments. End-blown triton shell trumpets produce only a limited range of notes (Picken 1975: 552), and the nature of the sound has been described, more subjectively, as loud, braying and unmusical (Jackson 1917). The sound produced by them probably acted as a signal: evoking emotions, announcing simple messages, directing and impelling men and gods to action. More specifically, the Neolithic examples from Italy may have been blown in connection with Neolithic ritual performances. They have been found exclusively in caves in deposits in which human remains were also present, and, as Mosso (1910: 363) says, "the fact that they are found near human bones gives reason to suppose that even in neolithic times these shells were sounded with a religious signification". Just because a prehistoric shell trumpet was deposited in a ritual context, such as the 'Level of the Circles' in Grotta dei Piccioni, it does not necessarily mean that it was sounded in that place, but it does seem likely that this was so, particularly when one considers the religious associations of conch shell trumpets in more recent times. For example, Mosso writes that,

"The triton shell is still sounded in the church in Piedmont, and I have myself sounded it as a child. During the services in Holy Week at Chieri, when the choir was singing the psalms, and a table was struck with sticks during the Tenebrae of the Sepulchre, the sacristan gave us the triton shell to sound. Dr. Issel relates that during the services of Holy Week in the Cathedral of Genoa a Triton nodiferum used to be sounded, the same shell which I have found in caves among axes and knives of stone." (Mosso 1910: 365.)

Triton shell trumpets not only functioned as emitters of oral signals, but might also have been regarded as visual symbols, as is suggested by the painted example with a suspension hole from Grotta dei Piccioni and the example, also with a suspension hole, from Caverna della Pollera. This dual function probably led to their being assigned a high symbolic value, which would have enhanced their exchange value in long distance exchange networks during the late Neolithic and final Neolithic/early Copper Age in Italy.

There are a few problems involved in the reconstruction of sea shell exchange networks in Italy and these must be mentioned. To begin with, molluscs were not only exploited for their shells but also as an important source of food (and perhaps also as bait), particularly during the early Neolithic in Italy; and it is especially difficult to distinguish between exchange items and food

refuse in the case of unmodified sea shells found on early Neolithic sites located near to the coast. For example, the great abundance of Patella and Trochus shells in the early Neolithic levels of Caverna delle Arene Candide has been interpreted as the remains of meals (Bernabò Brea 1946), and oxygen isotope analysis suggests that molluscs belonging to the genus Cardium were harvested seasonally at Coppa Nevigata in Apulia (Deith 1987). Sea shells occur naturally in the tidal stretches of major rivers, and this could distort lowland distribution patterns. Fossil shells may also have been collected from sources found far inland. For example, they occur in the Early Bronze Age cemetery at Castelluccio in Sicily (Malone 1986: 181).

Shells belonging to 11 species have been found in Neolithic and Copper Age deposits on sites in the Abruzzo-Marche region, and these can be divided into bivalves and univalves (Oliver 1975). The bivalves include: Arca (ark shells), Cardium (cockle shells), Glycimeris violacescens (dog cockle shells), Ostrea (oyster shells), Pectunculus violacescens (scallop shells) and Venus (Venus shells). Univalves include: Charonia nodifera (triton shells), Cyprea (cowrie shells), Murex trunculus (murex shells), Patella (limpet shells) and Trochus (top shells). At least nine are edible, and some of them can be particularly colourful (eg. Cyprea, Pectunculus violacescens, and Venus). The scallop shell later became a popular symbol in art. Most of these shells were probably found locally along the Adriatic coast, but it is possible that those of

Charonia nodifera were imported from Liguria (see p. 426).

Sea shells have been found on nine early Neolithic sites in Abruzzo and Marche (see Table 16, p. 437). In the Chieti province there are two early Neolithic sites with sea shells: Crocefisso (located 10 km inland from the coast) with two Venus shells, one of which was broken (Ducci et al. 1986-7), and Villaggio Rossi (13 km inland) with one Patella shell and one bivalve shell (Geniola 1982b). In the Pescara province four sites have produced sea shells: Colle Maggio (16 km inland) with one perforated shell (M. Costantini pers. comm.); Fontanelle (4 km inland) with one perforated Glycimeris violacescens shell (Ducci et al. 1986-7); spits 26-21 in Grotta dei Piccioni (34 km inland) with three perforated Pectunculus shells and one Trochus shell (Cremonesi 1976); and Villaggio Leopardi (21 km inland) with one Pectunculus shell, which was perforated and had smoothed edges (Cremonesi 1967). In the Aquila province two sites had sea shells: Capo d'Acqua (40 km inland) with one fragment of Cyprea shell (Bonuccelli and Faedo 1968), and Grotta Continenza (77 km inland) with one shell fragment (Grifoni Cremonesi and Mallegni 1978). Finally, at Ripabianca in the Ancona province (9 km inland), shells of Cardium and Pectunculus were found, along with one cut and perforated Murex trunculus shell (De Sanctis 1961; Broglio and Lollini 1963).

These early Neolithic sites lie at an average of 24.9 km inland from the Adriatic coast (or 18.4 km inland if one

excludes the unidentified shell from Grotta Continenza, which may be a freshwater one from the adjacent lake Fucino). Pectunculus shells were the most common type. Most sites only produced one or two sea shells, but a greater quantity and a wider range was found at Ripabianca, which might suggest that this site, located at nine kilometers inland from the Adriatic coast, acted as a node in a sea shell exchange network that ran up the River Cesano from the coast (however, it should be noted that the published data concerning sea shells at this site are extremely scanty). Simple perforated shell ornaments seem to predominate during this period, although there was also a cut and perforated Murex trunculus shell from Ripabianca, and a perforated shell with smoothed edges from Villaggio Leopardi.

For the middle Neolithic, sea shells have been recorded from two sites in the Pescara province: spits 20-18 in Grotta dei Piccioni (34 km inland) with one Trochus shell (Cremonesi 1976), and Villa Badessa (19 km inland) with Pectunculus shells and a segment of a bracelet, perhaps originally measuring 10 cm in diameter (Radi 1979). This bracelet stands out as the only well worked shell artefact to be found on an early or middle Neolithic site in Abruzzo or Marche.

Sea shells have been found on two late Neolithic sites in Abruzzo. In spits 17-16 in Grotta dei Piccioni (34 km inland) there were five perforated Pectunculus shells, and

in spits 15-14, at the same stratigraphic level as the 'Level of the Circles', there were 15 Pectunculus shells (all perforated except for one), and a Trochus shell. A shell trumpet of Charonia nodifera, cut, perforated, and red-painted, was found in the 'Level of the Circles' (see above) (Cremonesi 1976; Skeates 1991a). Grotta dei Piccioni, which is located in a hidden and relatively inaccessible location high above the Orta gorge, on the edge of the Pescara province lowlands, clearly stands out as a significant inland site for the deposition of sea shells during the late Neolithic. Considering the ritual nature of the deposits at this time, it seems possible that the activities which took place at the cave included the ceremonial use and deposition of imported sea shells. Two shells were also found at Pianaccio in the Teramo province (3.5 km inland) (Rozzi et al. 1955).

At Fossacesia (4.5 km inland), which dates to the late Neolithic - final Neolithic/early Copper Age transition, there were many perforated Pectunculus shells (Cremonesi 1973). Two sites from the Teramo province which date to both the late Neolithic and the final Neolithic/early Copper Age have also produced sea shells: at Mindoli (9 km inland) there were some perforated Pectunculus shells (Rosa 1871), and at Ripoli (4 km inland) there were many Pectunculus violaceus shells, some with smoothed edges and others with holes, and also one Patella shell, some perforated Cardium and Arca shells, and shells of Triton and Ostrea (Rellini 1934; Cremonesi 1965). Ripoli seems to

stand out as a node in a sea shell exchange network, with its large numbers and relatively wide range of shells, some of which were imported, but others of which were probably collected locally from along the Adriatic coastline.

Sea shells have been found on seven final Neolithic/early Copper Age sites in the Abruzzo-Marche region. Two sites in the Pescara province produced sea shells: spits 13-12 in Grotta dei Piccioni (34 km inland) had six perforated Pectunculus shells and one Cardium shell (Cremonesi 1976), and Piano d'Orta (33 km inland) had one perforated Glycymeris violacescens shell (Di Fraia 1988). In the Macerata province there are two sites with sea shells: Area Guzzini west (15 km inland) with nine perforated 'white bivalves' (Percossi Serenelli and Silvestrini Lavagnoli 1988), and S. Maria in Selva (25 km inland) with some shell ornaments (Lollini 1965). In the Ancona province sea shells were found on two sites: stratum 6 and the central level of Aquatina (52 km inland) with two crescentic pendants, one with a hole at each end (6 cm long by 1 cm wide), the other broken with a hole at one end (Lollini 1965; unpublished material in Ancona Museum); and the lower level at I Fossi (37 km inland) with a broken straight-sided pendant which had a hole at one end (unpublished material in Ancona Museum). Shell artefacts were also found at S. Lorenzo in Campo (24 km inland) in the Pesaro-Urbino province (Rellini 1909-10).

In comparison with the early Neolithic, sea shells were transported to sites slightly further inland during the final Neolithic/early Copper Age (an average of 6.5 km further inland), and they occur in slightly greater quantities on sites (an average of 3.2 per site, as opposed to 2.4 during the early Neolithic). Although simple perforated shell pendants continued to be used during this period, the number of finely worked ornaments seems to have increased. The latter include the two crescentic pendants from Aquatina for which a parallel can be found across the Apennines in the roughly contemporary Lagozza level in the Grotta del Leone near Agnano in Tuscany (Cocchi Genick and Grifoni Cremonesi 1988: Fig. 6.18), which leads one to wonder if they might have been exchanged at an inter-regional level in central Italy.

Just one perforated shell was found at the late Copper Age site of Ortucchio (75 km inland) in the Aquila province (Radmilli 1981). This seems to reflect a decline in the volume and scale of exchange during the middle-late Copper Age in the Abruzzo-Marche region, and in this context may indicate a localized importance for the site of Ortucchio.

Table 16. Sea shells from Neolithic and Copper Age sites in the Abruzzo-Marche region

Site	Km inland from the Adriatic coast	No of shells found	Identified species
EARLY NEOLITHIC			
Fontanelle (PE)	4	1	<u>Glycymeris violacescens</u>
Ripabianca (AN)	9	+	<u>Cardium</u> , <u>Pectunculus</u> , <u>Murex trunculus</u>
Crocefisso (CH)	10	2	<u>Venus</u>
Villaggio Rossi (CH)	13	2	<u>Patella</u>
Colle Maggio (PE)	16	1	-
Villaggio Leop. (PE)	21	1	<u>Pectunculus</u>
Grotta dei Picc. (PE)	34	4	<u>Pectunculus</u> , <u>Trochus</u>
Capo d'Acqua (AQ)	40	1	<u>Cyprea</u>
Grotta Continenza (AQ)	77	1	-
MIDDLE NEOLITHIC			
Villa Badessa (PE)	19	+	<u>Pectunculus</u>
Grotta dei Picc. (PE)	34	1	<u>Trochus</u>
LATE NEOLITHIC			
Pianaccio (TE)	3.5	2	-
Grotta dei Picc. (PE)	34	22	<u>Pectunculus</u> , <u>Trochus</u> , <u>Charonia nodifera</u>
LATE NEOLITHIC - FINAL NEOLITHIC/EARLY COPPER AGE			
Ripoli (TE)	4	++	<u>Pectunculus</u> <u>violacescens</u> , <u>Patella</u> , <u>Cardium</u> , <u>Arca</u> , <u>Triton</u> , <u>Ostrea</u>
Fossacesia (CH)	4.5	++	<u>Pectunculus</u>
Mindoli (TE)	9	+	<u>Pectunculus</u>
FINAL NEOLITHIC/EARLY COPPER AGE			
Area Guzzini west (MC)	15	9	White bivalves
S. Lorenzo in C. (PO)	24	+	-
S. Maria in Selva (MC)	25	+	-
Piano d'Orta (PE)	33	1	<u>Glycymeris violacescens</u>
Grotta dei Picc. (PE)	34	7	<u>Pectunculus</u> , <u>Cardium</u>
I Fossi (AN)	37	1	-
Aquatina (AN)	52	2	-
MIDDLE-LATE COPPER AGE			
Ortucchio (AQ)	75	1	-

Key: + = some, ++ = many.

10. Pottery

Below, I shall begin by discussing the results of thin-section analyses of Italian Neolithic and Copper Age pottery and their implications for studies of ceramic production and exchange. I shall then carry out a detailed stylistic analysis of pottery assemblages from the Abruzzo-Marche region in relation to intra- and inter-regional communication and exchange during the following chronological phases: the early Neolithic, middle Neolithic, earlier late Neolithic, later late Neolithic, final Neolithic/early Copper Age, and middle-late Copper Age.

a) Thin-section analysis of Italian Neolithic and Copper Age pottery

The thin-section analysis of sherds provides an important source of information concerning the production and exchange of Neolithic and Copper Age pottery in Italy. It also acts both as a complementary method and a control in relation to more traditional (and to a certain extent more subjective) typological approaches to the fabric, form and decoration of pottery vessels. Thin-section analysis basically involves the identification and quantification of different types of mineral inclusions present in thin-sections of pottery sherds. The thin-sections, which are cut, ground and polished slices of pottery, with a thickness of about 0.03 mm, are mounted on glass slides,

and are examined first by eye and then through a petrographic polarizing microscope. Below, the work on thin-sections of Italian Neolithic and Copper Age pottery will be briefly reviewed, and the problems involved in such studies will be mentioned. A fuller survey and critique is provided elsewhere (Skeates in press a). Next, the information which these thin-section studies provide about the provenance of raw materials and the manufacturing processes involved in the production and exchange of pottery will be discussed, with the aim of formulating some general Italian-scale statements which can be applied to Neolithic and Copper Age pottery found in the Abruzzo-Marche region.

The first thin-section analyses in Italy were carried out in Milan by De Angelis during the 1950's, and then by Guerreschi and Mesturini in the 60's and 70's, with publications appearing in the journal Sibrium (De Angelis 1956-7, 1960; Guerreschi 1964-6; Guerreschi and Mesturini 1980-1). More recent analyses have been carried out in at least six other laboratories in Italy and Britain by a new generation of specialists (Agostini 1986-7b; Cremaschi 1983; D'Ambrosio 1987; Franchi and Pallecchi 1985; Mannoni 1973, 1980, 1981, 1983, 1984; Sfrecola 1987; Skeates in prep. b; J. Williams 1967, 1980). Such work has been undertaken on pottery from at least 24 different Neolithic and Copper Age sites in Italy. However, only two small-scale studies have been carried out on pottery from the Abruzzo-Marche region - on early Neolithic pottery from

Crocefisso [CH] (Agostini 1986-7b), and Copper Age pottery from stratum E in Grotta dei Baffoni (AN) (De Angelis 1960). In general only between one and forty sherds were thin-sectioned per assemblage, which is a small sample size when compared to the total numbers of sherds found on these sites and the much larger sample of 177 sherds from La Lagozza which was analyzed by Guerreschi and Mesturini (1980-1). Publications of Italian thin-section analyses also tend to be limited, for they rarely describe the methods and techniques employed, they lack detail and standardization, they use vague and imprecise terminology, and they seldom consider the limitations of thin-section studies (cf. Peacock 1970; D. Williams 1983).

Research questions structuring Italian thin-section analyses of Neolithic and Copper Age pottery fall into two main categories: raw material provenances, and manufacturing processes. Provenance studies attempt to identify the sources of the clays and fillers used to create the prehistoric pottery fabrics. Unfortunately a number of problems hinder such studies: the original prehistoric clay deposits may no longer exist, having been exhausted in antiquity, or they may be covered by more recent alluvial deposits; individual clay sources are notoriously difficult to pinpoint in Italy, due to the relative geological uniformity of the Apennine mountains which run along the length of the Italian peninsula; it is often difficult to distinguish between minerals which were originally present in the clay and those which were added

as filler; and studies are often limited to the coarse inclusions, for many clay minerals are too fine-grained to be identified in thin-section. The use of chemical analyses in conjunction with thin-sections should, however, help to alleviate these problems in the future.

Thin-section provenance studies of Italian Neolithic and Copper Age pottery indicate that, in general, the sources of the raw materials used to make pottery fabrics were essentially local in relation to the location of the sites where the pottery sherds were deposited. Clays found beneath or adjacent to settlements were often used exclusively, as at La Lagozza and Belforte di Gazuolo in Lombardia (De Angelis 1956-7; Guerreschi and Mesturini 1980-1), Monfenera in Piemonte (Mannoni 1973), and Crocefisso (CH) in Abruzzo (Agostini 1986-7b). At other sites a range of relatively local sources were exploited; four, for example, at Guadone and five at Passo di Corvo in Puglia (Mannoni 1980, 1983). Potters appear to have intentionally used different local clay sources for the production of different pottery fabrics, and seem to have been prepared to travel further in order to obtain finer clays. At Tiriacechia in Basilicata, for example, coarsewares were produced from clays found at the site itself, finewares were produced from clays found less than a kilometre to the north, and the finest 'figulina' fabrics were made from clays located a little further to the north (Mannoni 1984).

Raw materials were, however, imported to some sites. At Casatico di Marcaria in Lombardia there were no suitable local clays and so clay was transported over a distance of between 25 and 40 km from the nearest sources during the Neolithic (SMP phase) (Cremaschi 1983). On Lipari, in addition to the use of local sources, clay was imported to the island, probably from north-west Sicily, but the presence of local volcanic inclusions in the pottery fabrics, which were sometimes added as filler, suggests that the imported clay was locally mixed into pastes and manufactured into pottery (J. Williams 1967, 1980).

Thin-section studies suggest that very few finished pottery artefacts were actually exchanged at an inter-regional scale in Italy during the Neolithic and Copper Age. At the Neolithic site of Alba in Piemonte, for example, the 'figulina' pottery, which is often considered in northern Italy as an import from central Italian sites such as Ripoli, was much more closely related to the local very fine Miocene clay deposits than to clays of the Teramo province in Abruzzo where Ripoli is located (Sfecola 1987: 51). On the other hand, an example of a probable import (perhaps from a Chasseay site in Provence) is a 'Pan-pipe' handle with an unusual paste composition found in the proto-Lagozza levels at Isolino di Varese in Lombardy (Guerreschi and Mesturini 1981-1). At San Marco in Umbria only one out of the total of 20 thin-sectioned sherds stood out as a possible import. It was a fineware sherd with an unusually high percentage of calcite and grog and a low

percentage of quartz, and its surface was coated with a red slip or paint (Skeates in prep. b).

Thin-section analyses of Italian Neolithic and Copper Age pottery have also been concerned with investigating manufacturing processes, and in particular the various choices made and strategies used by potters concerning the selection and treatment of raw materials in the preparation of fabric pastes. In the early Neolithic levels at Arene Candide in Liguria, for example, two sherds contained clay that had been intentionally refined (De Angelis 1960), whereas at Alba and Passo di Corvo clays naturally containing fine inclusions were selected for the production of fine 'figulina' fabrics (Sfecola 1987; Mannoni 1983). Quartz was the most commonly used type of filler, and at La Lagozza quartz grains were obtained by smashing and pulverizing quartz pebbles (De Angelis 1956-7). However a wide variety of other materials were also used as fillers in Italian Neolithic and Copper Age pottery fabrics, such as grog, calcite, shell, and vegetable matter, with variations in their quantities from sherd to sherd and site to site. At the early Neolithic site of San Marco in Umbria clays may have been intentionally mixed with range of fillers in order to produce coarser and finer fabrics; but there was a lack of standardization in this, which led to a great variety of vessel pastes. Using the analogy of De Boer and Lathrap's (1979) ethnoarchaeological study of pottery production by the Shipobo-Conibo Indians of the Peruvian Amazon, this might indicate that pottery

manufacture at San Marco was a family-scale, non-specialist activity, and that pottery was produced, when the need arose, by a number of different potters who each had their own individual recipes for mixing the fairly limited range of clays and fillers (Skeates in prep. b). Impressed Ware from various sites in northern Apulia also appears to have been the product of household manufacture rather than the work of specialist potters (Whitehouse 1969: 274). Significant changes in paste preparation can be seen in the thin-sections of pottery from the Arene Candide cave deposits (De Angelis 1960; Guerreschi 1964-6; Guerreschi and Mesturini 1980-1). The early Neolithic Impressed ware pastes tended to be carefully prepared, through the selection of a suitably fine-grained natural clay deposit, or through the intentional refining of the clay, which limited the need for additional filler. By contrast, in the final Neolithic Lagozza levels, large amounts of coarse-grained quartz, calcite, schist, and grog temper were added to the clay, which implies a significant shift in the nature of pottery manufacture. Thin-section studies also confirm the visual impression that fine clay slips were applied to the surfaces of a small proportion of Neolithic pottery vessels in Italy. At Neto di Bolasse, for example, 8% of the sherds were slipped (Franchi and Pallecchi 1985), and at Tirlecchia slips were applied to a group of vessels with porous fabrics belonging to one particular clay type (Mannoni 1984).

A few general conclusions concerning the production and exchange of Neolithic and Copper Age pottery in Italy can be drawn from the thin-section analyses mentioned above. To begin with, it is evident that most of the pottery deposited on most sites was produced by non-specialists from locally available raw materials. Sometimes, however, raw materials were transported over distances of up to about 40 km to sites where suitable clay deposits did not exist. Finewares may have been exchanged between neighbouring sites within regions, but few finished pottery vessels appear to have been exchanged at an inter-regional scale. It is also notable that the probable imports identified by thin-section analyses generally appear to have been finewares, and so the typological approaches to pottery production and exchange employed below will focus upon this class of pottery.

b) Early Neolithic pottery

Radiocarbon dates from early Neolithic contexts in the Adriatic region indicate that the earliest pottery (accompanied by domesticated plants and animals) occurred first, and at roughly the same time, in north-west Greece and Apulia. Pottery use then spread northwards to Dalmatia, and finally to east-central Italy, including the Abruzzo-Marche region (see Fig. 118). The table below lists the earliest three acceptable radiocarbon dates for contexts containing early Neolithic pottery from each of the regions surrounding the Adriatic Sea (the reference numbers

correspond to those in Appendix 2).

Table 17: The earliest three acceptable C14 dates for the early Neolithic in different parts of the Adriatic region

N. W. GREECE

320. Sidari	6780 - 6186 Cal. BC (GXO-771)
321. Isfaka	6680 - 5740 Cal. BC (I-1959)
322. Sidari	6556 - 5820 Cal. BC (GXO-772)

APULIA

(Rejected: 283. Coppa Nevigata; 284. Casa S. Paola; 285. Coppa Nevigata. See below - p. 446-7.)

286. Mass. S. Tecchia	6672 - 6179 Cal. BC (Rome lab.)
287. Scamuso	6410 - 5960 Cal. BC (Gif-6339)
288. Mass. Giuffreda	6085 - 5882 Cal. BC (MC-2292)

DALMATIA and WESTERN YUGOSLAVIA

323. Obre 1	6213 - 5970 Cal. BC (UCLA-1605 I)
324. Gudnja Pećina	6160 - 6040 Cal. BC (GrN-10315)
325. Gospodska Pećina	6080 - 5650 Cal. BC (Z-579)

MOLISE

269. Monte Maulo	5630 - 5248 Cal. BC (OxA-651)
270. Monte Maulo	5410 - 5069 Cal. BC (OxA-652)
271. Monte Maulo	5323 - 4945 Cal. BC (OxA-653)

ABRUZZO-MARCHE

1. Villaggio Rossi	5730 - 5242 Cal. BC (BM-2250R)
18. La Maddelena	5640 - 5340 Cal. BC (R-643α)
2. Vill. Leopardi	5730 - 5240 Cal. BC (Pi-101)

EMILIA-ROMAGNA

61. C. di Risparmio	5740 - 5240 Cal. BC (Teledyne Inst.)
62. Forn. Cappuccini	5454 - 5148 Cal. BC (Bln-3372)
63. C. di Risparmio	5480 - 5001 Cal. BC (Teledyne Inst.)

Unacceptable C14 dates for the earliest Neolithic in Italy include two measurements from Coppa Nevigata and one from Casa S. Paola in Apulia. The Pisa laboratory measurement from Coppa Nevigata, which has never been fully

published, was carried out on a sample of shell, which is a particularly difficult material to date by the radiocarbon method. The other Coppa Nevigata measurement, BM-2557, was carried out on a small sample and produced a standard deviation of ± 320 , which is a particularly large margin of error. New and more reliable dates from Coppa Nevigata, OxA-1475 and OxA-1474, which were produced by the Oxford Radiocarbon Accelerator Unit, now place this site in the first half of the sixth millennium Cal. BC. (Hedges et al. 1989). The Casa S. Paola date, P-1999, was produced from a sample taken from deposits in Area B-2-2 which had accumulated in the bed of a flowing river; and, as the excavator pointed out, "it would be hazardous to draw chronological conclusions from such deposits" (Vinson 1975: 65).

The earliest Neolithic radiocarbon dates from the Italian regions flanking the Adriatic Sea indicate that there was a significant chronological 'break' between the first use of pottery in Puglia and its adoption in the central Adriatic regions of Molise, Abruzzo, Marche, and Emilia-Romagna. It is difficult to state precisely how long this 'break' lasted for, but the existing radiocarbon measurements suggest that pottery use began about 800 calendar years earlier in Puglia than in Molise, Abruzzo and Marche (and also about 450 calendar years earlier in Dalmatia). This phase corresponds with the period when simple Impressed Ware and small quantities of painted pottery were being produced on early Neolithic sites in

south-east Italy and Dalmatia.

Cassano (1985: 736-7), following Alexander (1978), plausibly suggests that this 'break' reflects the establishment of a stable frontier between the earliest Neolithic groups in south-east Italy using pottery and domesticates, and Mesolithic groups to the north. A frontier has been defined by Alexander both as a geographical area and a social process, and he draws a distinction between moving and static (or stable) frontiers:

"A 'moving frontier' exists until either all currently usable (in terms of existing technology) land is taken up, or until the limits of the climatic tolerance of plants and animals currently domesticated (or the physical boundaries of the region) are reached. ... It is then replaced, if the hunter-gatherers have survived, by a 'static' frontier in which further relationships develop between them and the farmers. This requires a variety of personal and communal adjustments by both farmers and hunter-gatherers".

(Alexander 1978: 14.)

The north-western edge of the flat and fertile Tavoliere plain may have formed the southern edge of such a static frontier zone, which possibly extended over the modern region of Molise. It is difficult to establish the nature of the social relationships which may have existed

between the south-east Italian early Neolithic groups and the east-central Italian Mesolithic groups located within and either side of this frontier zone. The east-central Italian Mesolithic is poorly defined chronologically, and there are unfortunately no published details available concerning Mesolithic sites in Molise and southern Abruzzo, although Barker (1976a: 68) mentions the existence of over 70 findspots where surface material likely to be of epipalaeolithic date was found during the Biferno valley survey. However it seems likely that some symbiotic relations existed across the frontier, as opposed to the active maintenance of hostile relations or complete isolation by the east-central Italian Mesolithic groups. For example, in the Mesolithic chert industry from Ripoli, which was recovered from a dark grey deposit underlying the later Neolithic cavity 1, there were six chert blades which measured up to 6 cm in length (Radmilli and Cremonesi 1963). These stand out in contrast to the microlithic chert artefacts which dominate the industry here and can be considered as Neolithic traits (S. Milliken pers. comm.), possibly adopted from the earliest Neolithic groups in south-east Italy. The rapid adoption of south-east Italian decorative motifs by early Neolithic potters on sites in lowland southern Abruzzo, following the initial adoption of pottery in this area (see below, p. 457), also points towards the presence of pre-existing links across the Molise frontier zone between the early Neolithic and Mesolithic groups.

A combination of both functional and symbolic potential would have stimulated the adoption and development of the earliest ceramics in the central Mediterranean (Chapman 1988). Arnold (1985: 128-44) provides functional reasons why pottery would have been useful in household contexts: it facilitates a wider range of cooking techniques than other traditional materials; it provides a more efficient way of storing water and keeping it cool in hot climates; it provides the potential for parasite-proof food storage; and it improves the taste of many cooked dishes by the absorption of juices in its porous walls!. Functional analyses of early Neolithic Impressed Ware from Dalmatia suggest that a large percentage of this pottery was suitable for use as cooking ware, in view of the spherical vessel forms, often with round bases, thick walls, and the large rock inclusions in the fabrics, all of which are traits which tend to increase a vessel's resistance to thermal shock (Chapman 1988: 16). Vitelli (1989) argues, on the other hand, that cooking pots only appeared during the middle Neolithic at Franchthi cave in southern Greece, and that the earliest pottery vessels may have been used for rodent-proof seed and grain storage.

Pottery vessels, through their surface decoration, would have also provided a new medium for symbolic expression. Some limited hypotheses relating to the symbolism of the earliest Mediterranean Impressed Wares have been proposed by a few authors, but there is clearly potential for more work to be carried out in this area,

beginning with a new and detailed study of the decorated pottery (cf. Barnett 1990, for Languedoc). Lewthwaite (1981a: 294-6), for example, has interpreted the earliest Cardial Impressed Ware vessels in the western Mediterranean as exchanged prestige artefacts with a significance similar to that of the later Beakers. However, these vessels have not been found predominantly in ritual contexts, thin-section work on early Neolithic decorated pottery from Italy (see above) points towards a pattern of local production and use, and the Beaker model seems far removed from the context of the earliest Neolithic pottery in the Mediterranean. Whittle (1985: 111), following Hodder's (1978) study of the active use of decorated pottery vessels in the maintenance of group identities during a situation of economic competition for basic resources between tribes located around Lake Baringo in northern Kenya, has suggested that pottery was an innovation which was variously adopted by Mesolithic groups in the western Mediterranean when their identity was threatened by the existence of neighbouring and competing Mesolithic or early Neolithic groups. This model, however, seems to be more applicable to the later Neolithic, when more notable regional differences in the production and decoration of ceramics emerged in Italy against a background of increasing settlement density and natural resource exploitation.

Some regional variation in the decoration of the earliest ceramics can be observed at various scales in the

Mediterranean. At the Mediterranean scale, Guilaine (1979) draws a distinction between the Impressed Wares of the Italian-Dalmatian and Franco-Iberian zones. Within the Adriatic region, the earliest Neolithic ceramics in the east-central Italian area (Abruzzo, Marche and Emilia-Romagna) can be distinguished from those found in south-east Italy and Dalmatia by the predominance of simple finger and fingernail impressions and by the absence of rocker shell impressions. Also within the Abruzzo-Marche region two weakly differentiated regional groups can also be defined: one in the lowlands of southern Abruzzo, and the other found further to the north in Abruzzo and Marche. The assemblage from levels V-III at Villaggio Rossi, located in the Chieti province of southern Abruzzo, exemplifies the former. It contained an unusually large quantity of sherds with incised decoration, and sherds decorated with fine triangular stab-and-drag incisions (Fig. 8.4), which can be most closely compared typologically to examples from early Neolithic assemblages in Apulia, Basilicata and Dalmatia (Ducci et al. 1986-7: 108). This connection between the earliest pottery in southern Abruzzo and the previously established pottery styles found to the south and east probably relates to pre-existing trans-frontier contacts between Mesolithic groups in southern Abruzzo and early Neolithic groups in south-east Italy, and indicates the direction from which the innovation of pottery manufacture and use first arrived. (The similarities between pottery in southern Abruzzo and Dalmatia do not, however, seem to indicate direct contacts

between groups in these two regions during the earliest Neolithic. Instead, they seem to relate to common links with the Puglian region.) On the earliest Neolithic sites located further to the north in Abruzzo and Marche, and further away from the Molise frontier zone, a relatively restricted and simple range of decorative motifs was adopted by the indigenous Mesolithic groups, along with other elements of the Neolithic 'package' (eg. domesticates and ground stone tools). At La Maddalena (AN), for example, decorative motifs comprised: fingernail impressions, large and small round and oval impressions, round point impressions, and parallel incised lines forming herringbone and V motifs (Fig. 7). All of these decorative elements can be paralleled in early Neolithic Impressed Ware assemblages from south-east Italy. The slight regional differences in the earliest pottery found in the Abruzzo-Marche region therefore seem to reflect a general fall-off (with increasing distance from Molise) in the influence of, and contacts with, the south-east Italian ceramic tradition, rather than the intentional establishment of regionally distinct decorative styles by indigenous Mesolithic groups in east-central Italy in order to maintain and enhance their identities.

Following the breaching of the Molise frontier zone by the 'package' of Neolithic innovations from south-east Italy, which took place at the earliest at about 5750 Cal. BC, knowledge of pottery manufacture and use spread rapidly northwards through the Abruzzo-Marche region to Emilia-

Romagna. At Fornace Cappucini near Faenza, for example, which has a radiocarbon date of 5454-5148 Cal. BC (Bln-3372) (Bagolini and Biagi 1987), the whole of the ceramic assemblage shows close similarities to the earliest Neolithic pottery from La Maddalena in the Marche region. Fabrics included coarse- and finewares, and there were no sherds of 'figulina'; vessel forms included large beakers, one with a flat heel base, flasks with a cylindrical neck, bowls, lugs and handles; and decorative motifs included finger, fingernail and triangular point impressions, all arranged without notable order, and vertical, oblique and horizontal incised lines, some of which met at angles and others of which formed herring-bone motifs (Antoniazzi et al. 1987). A similar Impressed Ware assemblage was also found at I Fienili near Misano Adriatico in the Forli province (Bagolini and Ghirotti 1980).

Regional diversity in decorative styles employed on ceramics, combined with evidence of continued and expanding links between regions, became more evident in the Adriatic zone during the later part of the early Neolithic and the beginning of the middle Neolithic, following the initial introduction of pottery (Evans 1987: 325). In the Abruzzo-Marche region the ceramic assemblages can now be divided into three regional variants, based upon geographical, chronological and typological factors - the coastal lowlands of southern Abruzzo, inland southern Abruzzo, and central and northern Abruzzo and the Marche region.

At the sites of Colle Sinello (CH), Crocefisso (CH), Fontanelle (PE), and Villaggio Rossi (levels II-I) (CH), located in the coastal lowlands of southern Abruzzo, ceramic assemblages now exhibit even stronger typological links with the pottery styles of south-east Italy and Dalmatia. Shared decorative elements (defined as type 2 decorative elements in Chapter 1) include complex incised motifs, minute impressions, stag-and-drag impressions, and shell impressed rocker and micro-rocker impressions. These can be compared especially closely with examples found in assemblages from sites located in the Tavoliere Plain in northern Puglia (eg. Guadone, Lagnano da Piede, Monte Aquilone, Masseria Casone), but also with examples from Molise (Monte Maulo), central Puglia (eg. Francavilla Fontana), Basilicata (eg. Rendina II, Tirlecchia), and Dalmatia (eg. Smilčić, Obre I, Tinj, Pokrovnik). Specific parallels between decorative motifs are provided by Geniola (1975: 143, 1982a: 59-64, 1982b: 18, 145-6) and Ducci et al. (1986-7: 106-7). Radiocarbon dates confirm that the type 2 decorative elements occurred in general earlier on sites in south-east Italy and Dalmatia than on sites such as Villaggio Rossi in southern Abruzzo (see table below):

Table 18. C14 dates for early Neolithic sites with type 2 pottery decorative elements in the Adriatic region

275. Rendina	6215 - 5650	Cal. BC	(LJ-4548)
323. Obre I	6213 - 5970	Cal. BC	(UCLA-1605 I)
328. Tinj	6120 - 5550	Cal. BC	(GrN-15236)
293. Lagnano da Piede	6090 - 5246	Cal. BC	(UB-2271)
326. Pokrovnik I	6080 - 5640	Cal. BC	(-)
276. Rendina	6080 - 5490	Cal. BC	(LJ-4551)
339. Tinj	6079 - 5075	Cal. BC	(GrN-15237)
333. Obre I	5980 - 5420	Cal. BC	(Bln-636)
277. Rendina	5840 - 5480	Cal. BC	(LJ-4549)
296. Lagnano da Piede	5740 - 5380	Cal. BC	(UCLA-2148)
338. Obre I	5730 - 5480	Cal. BC	(UCLA-1605 G)
3. V. Rossi, II-I	5730 - 5240	Cal. BC	(BM-2251R)
278. Rendina	5717 - 5220	Cal. BC	(LJ-4550)

In south-east Italy these decorative elements developed towards the end of the early Neolithic (characterized by evolved Impressed Ware) and at the start of the middle Neolithic (characterized by developing painted pottery styles), to use Whitehouse (1986: Table 1) and Lo Porto's (1987) terminology. This was a period of increasing regional diversification in pottery styles in southeast Italy. On the Tavoliere, for example, the Guadone, La Quercia, and Lagnano da Piede pottery styles might be regarded as corresponding to separate pottery production centres located in the north-west, central, and south-west parts of the Tavoliere respectively (Whitehouse 1986: 41-2). The spread of ceramic decorative elements from south-east Italy to southern Abruzzo at this time might therefore be considered to have been stimulated more by social developments in south-east Italy than by indigenous developments in the Abruzzo region. The great range of south-east Italian and Dalmatian style decorative elements existing in the ceramic assemblage from Fontanelle (PE),

located on the edge of the lower River Pescara plain just 4 km inland from the Adriatic coast, might even persuade us to regard this settlement as having been established by a small group of sea-borne south-east Italian immigrants. Type 2 decorative elements found at this site included: shell impressions, stab-and-drag impressions, small oval impressions arranged in pairs, square point impressions, minute zigzag and micro-rocker impressions, and one sherd decorated with straight brown painted bands and thin stab-and-drag impressions (Fig. 17.1-12) (Ducci et al. 1986-7). In the ceramic assemblage from levels II-I in the Area IA cavity at Villaggio Rossi, however, which is located further inland (13 km), the connections with the south-east Italian decorative styles are less strong, and there are greater links with the local Abruzzo-Marche decorative tradition (Geniola 1982b), which can be interpreted in terms of influences rather than immigrants.

In the coastal lowlands of southern Abruzzo the new type 2 decorative elements seem to have developed soon after the initial introduction of pottery into this area, for the radiocarbon date for levels II-I in the Area IA cavity at Villaggio Rossi, which contained these elements, is almost exactly the same as that for the underlying levels V-III which contained the earliest Neolithic style of pottery. This seems to point towards a rapid assimilation of influences from south-east Italy and, again, the existence of fairly strong pre-existing connections between southern Abruzzo and northern Puglia

via the Molise region.

Fewer south-east Italian decorative elements were adopted by potters in the inland areas of southern Abruzzo, and these were also adopted more slowly than on sites located on the coastal lowlands. For example, a few sherds decorated with shell impressions were found on sites in inland southern Abruzzo, in spits 26-21 of Grotta dei Piccioni (PE) and in the early Neolithic deposits at Cellitto (AQ) and Grotta Continenza (AQ), and all of these deposits can be dated to the more recent stage of the early Neolithic in Abruzzo (see Chapter 1). It seems unlikely that the Mesolithic/early Neolithic groups in these inland areas of southern Abruzzo actively rejected the adoption of the new south-east Italian ceramic styles, for a few type 2 decorative elements were actually employed here. It appears, instead, that there was a simple fall-off in the strength of south-east Italian influences and communication with these areas during the early Neolithic, which might be explained partly by the fact that such communication would have needed to have been maintained by overland travel rather than by more rapid and direct travel by sea.

Similarities between decorated pottery vessels also indicate that a few inter-regional links developed between the Impressed Ware groups in the inland areas of southern Abruzzo and the Sasso-Fiorano groups located to the west of the Apennines during this late stage of the early Neolithic. For example, flasks with horizontal strap

handles, one decorated with incised lines, from the early Neolithic deposits in Grotta Continenza (AQ) (Grifoni Cremonesi and Mallegni 1978: Figs. 2.2 and 3.3) can be closely compared to an example from spit 10 in Grotta dell'Orso near Sarteano in Tuscany (Grifoni 1967: Fig. 10.7). A few sherds decorated with impressions were also found in spits 13-9 in Grotta dell'Orso (Grifoni 1967: Figs. 3.14, 4.15). The lower Neolithic levels in the Grotta del Orso (spits 13-9) have a radiocarbon date of c. 5210-4859 Cal. BC, R-676 (Alessio et al. 1973), which correlates well with the time-span of the more recent stage of the early Neolithic in Abruzzo and Marche, c. 5350-4850 Cal. BC, to which the Grotta Continenza deposits belong.

In central and northern Abruzzo and in the Marche region only a few indirect influences from south-east Italy can be identified in the ceramic assemblages of the later stage of the early Neolithic. For example, single sherds of painted pottery were found at Capo d'Acqua (AQ) and Ripabianca (AN). This again supports the suggestion of a fall-off in contacts with, and the influence of, the south-east Italian region with increasing distance away from the Molise frontier zone. In general, the pottery from these northern sites indicates a local evolution in decorative motifs. There are, for example, strong similarities between decorative motifs found in the earlier early Neolithic ceramic assemblage from La Maddelena (MC) and the later early Neolithic assemblage from Ripabianca (AN) (compare Figs. 7 and 15).

Contacts continued to be maintained northwards along the Adriatic coast between Impressed Ware groups in Marche and Emilia-Romagna, and across the Apennines between groups in Marche and Umbria during the later stage of the early Neolithic. For example, the ceramic assemblages from Ospedale Nuovo near Imola in Emilia-Romagna (Bagolini and Von Eles 1978) and San Marco near Gubbio in Umbria (unpublished) exhibit numerous points of similarity to the pottery fabrics, vessel forms and decorative motifs found at Ripabianca (AN). The influence of the Impressed Ware style also spread further to the north at this time, with decorative elements being adopted by potters producing the Vhò and Gaban styles (Bagolini and Von Eles 1978: 42-6, Figs. 9-11).

By the end of the early Neolithic the use of pottery was firmly established at most sites in the Abruzzo-Marche region. An exception, however, may be the rock-shelter site of Grotta del Prete (AN), which is located at the mouth of the Sentino gorge 40 km inland from the Adriatic coast. Pottery was absent from layer 1 in the shelter, which was radiocarbon dated to 4937-4720 Cal. BC (R-644α) (Alessio et al. 1970: 602), a date which is comparable to the end of the early Neolithic or the middle Neolithic in the Abruzzo-Marche region. This layer also contained wild faunal remains and a Mesolithic or 'final Epigravettian' style lithic industry, with microlithic artefacts, backed blades

and points, endscrapers on blades and flakes, truncations, blades with notches or denticulated retouch, and a rectangular trapeze (Lollini 1964; Broglio and Lollini 1981; Bisi et al. 1983). The radiocarbon date from layer 1 in the Grotta del Prete is commonly ignored because it seems too recent for a context lacking pottery and containing a Mesolithic style lithic industry and wild faunal remains, but there are no sound reasons for rejecting it outright, and it should remain a possibility that Mesolithic groups continued to exist in relative isolation in the inland areas of northern Marche into the middle Neolithic period.

c) Middle Neolithic: Catignano painted pottery

The development of the Catignano painted pottery style in Abruzzo was clearly inspired by connections with the previously established 'red-painted ware' tradition of southern Italy, but it also exhibits a degree of continuity with early Neolithic pottery in Abruzzo, and can best be regarded as a regionally distinct style of evolved 'red painted ware'.

South Italian 'red painted ware' or 'pottery painted with broad bands' has been found particularly in Puglia and the Matera province of Basilicata, but also in Calabria, as at Grotta S. Angelo III near Cassano Jonio, and in Sicily (Whitehouse 1969; Frangipane 1975). Certain regional differences can be distinguished in the painted pottery

decoration. For example, painted pottery from Grotta Scaloria Bassa in northern Puglia can be differentiated from that found in layer IV in the Grotta Sant'Angelo III near Cassano Jonio in Calabria (Whitehouse 1969: 280). Chronologically, 'red painted ware' is present in southern Italy from an early stage of the early Neolithic, but more evolved styles appeared during the middle Neolithic, as at Grotta Scaloria and Passo di Corvo in northern Puglia, and it is to these that the Catignano style of painted pottery can be most closely related, both typologically and chronologically (Malone 1985).

Catignano painted pottery has in particular been compared to the evolved 'red painted ware' Passo di Corvo style found on sites in the Tavoliere (Radmilli 1971: 484). Vessels in fine 'figulina' fabrics, painted with broad red bands, were found at both type sites, and, more specifically, a few shared painted motifs can be identified, such as a row of semi-circles hanging from the rim on the interior of a vessel (Catignano - Fig. 22.10; Passo di Corvo - Tinè, ed. 1983: Tav. 106.495), and hanging triangles (Catignano - Fig. 23.3; Passo di Corvo - Tinè ed. 1983: Tav. 108.510(439)). Most notable, however, is the fact that a few sherds from each site were decorated with a distinctive 'negative' technique of painting (Catignano - Fig. 24.1-4; Passo di Corvo - Tinè 1972, (ed.) 1983: Tavs. VIII, 109, 110).

Radiocarbon dates suggest that the north Apulian Passo di Corvo painted pottery style preceded the south Abruzzan Catignano style, and it is therefore likely to have influenced the development of the latter in view of their typological similarities. Two radiocarbon dates from Villa Comunale on the Tavoliere (also with negative technique painting) suggest that the Passo di Corvo style began, at the earliest, between about 6100 and 6000 Cal. BC; and the date from the type-site of Passo di Corvo suggests that it continued up to, at the latest, about 4800 Cal. BC:

- 292. Villa Comunale, layer 8, transition between Masseria la Quercia and Passo di Corvo painted pottery styles - 6080-5240 Cal. BC (MC-2291).
- 290. Villa Comunale, layer 5, Passo di Corvo style - 5980 - 5490 Cal. BC (MC-2290).
- 305. Passo di Corvo - 5330 - 4790 Cal. BC (R-846).

A minimum date range of 4858-4715 Cal. BC can be indirectly assigned to the Catignano painted pottery style, which is the period between the late early Neolithic date from the Grotta dei Piccioni, 5480 - 4858 Cal. BC (Pi-46), and the early late Neolithic date from Ripoli, 4715 - 4340 Cal. BC (R-664) (see Chapter 1). This fits in at the end of the date range for the Passo di Corvo painted pottery style.

Tinè (1983: 177) has suggested that the similarities between the painted pottery found at Catignano and Passo di Corvo can be interpreted as the result of an immigration of people from the Tavoliere to the Abruzzo region following

an ecological crisis on the Tavoliere plain, but this seems particularly unlikely when the full range of pottery in the assemblages from both sites are compared, rather than just a few of the painted decorative motifs. For example, clear differences can be seen in other aspects of the pottery decoration: white paint and point impressions were characteristic elements in the decorative repertoire at Passo di Corvo, but were absent at Catignano; and at Catignano a much wider range of negative technique painted motifs were employed.

There are also close similarities between the painted motifs on pottery from the Grotta Scaloria Bassa deposits in northern Puglia (Tinè and Isetti 1975-80) and those found at Catignano. Broad red painted bands, and bands bordered by motifs in black obtained by a negative technique - the latter including fringed bands - can be seen on pottery from both sites (compare, for example, the fringed motifs from Catignano - Fig. 24.1-3 with those from Scaloria Bassa - Tinè and Isetti 1975-80: Fig. 9, 10.1-3,5). There are also a few shared vessel forms, such as painted flasks with four horizontal strap handles and a straight-sided inverted neck (Catignano - Fig. 22.6; Scaloria Bassa - Tinè and Isetti 1975-80: Fig. 7.2). However, the majority of vessel forms seem to be different, and (perhaps surprisingly) the radiocarbon date from Scaloria Bassa, 4470-4161 Cal. BC (R-349), seems to be much more recent than the minimum date range indirectly assigned to the Catignano painted style (4858-4715 Cal. BC).

The Catignano painted pottery style can also be regarded as partly a local development. For example, in the Grotta dei Piccioni sequence sherds of both painted and plain 'figulina' pottery increased steadily in quantity throughout the early and middle Neolithic spits, and this trend can also be seen when comparing early and middle Neolithic sites in the Abruzzo-Marche region more generally (see Chapter 1). Catignano painted pottery appears too in assemblages on middle Neolithic sites in Abruzzo in association with unpainted pottery which exhibits clear typological links with the preceding early Neolithic pottery tradition in the Abruzzo-Marche region (Pitti and Tozzi 1976; Tozzi 1977, 1982; and see Chapter 1). In addition, there is no evidence of the importation of middle Neolithic painted pottery from southern Italy to Abruzzo. However, both the decoration and the vessel forms of Catignano painted pottery do seem to stand out as novelties in Abruzzo, and relate above all to the south Italian 'red painted ware' tradition, and so Catignano painted pottery can perhaps best be regarded as a regional variant within that tradition.

'Figulina' painted pottery in the Catignano style was most probably manufactured at the site of Catignano, and may have been exported from there to middle Neolithic sites in the Abruzzo region (Fig. 26). No direct evidence of pottery manufacture was found during the excavations at Catignano, but more painted pottery was found on this site than on any other site in the Abruzzo-Marche region.

'Figulina' pottery fabrics were also notably more abundant at Catignano (17% of all sherds) than in the middle Neolithic levels of Grotta dei Piccioni (1%). Catignano style painted pottery has been found in particular on sites in the Pescara province of Abruzzo, including: Catignano; Villa Badessa, located just five kilometers down the River Nora valley from Catignano; possibly Grotta di Pescosansonesco, situated 15 km to the south-west; and Grotta dei Piccioni (including very similar negative technique fringe motifs) and possibly Grotta Oscura, located about 15 km to the south above the River Orta gorge. It has also been found in the L'Aquila province in two of the Lake Fucino caves, Grotta Continenza and Grotta S. Nicola, located 56 km to the south-west of Catignano; and in the Teramo province in Grotta S. Angelo, 52 km to the north-west.

Catignano style painted pottery was deposited in a number of cases in ritual contexts. For example, in the settlement at Catignano "an exceptional abundance of painted pottery" was found in Pit 9a, which also contained a human skeleton (Tozzi 1978: 109), and at Villa Badessa painted pottery vessels were found with the two human burials (C. De Pompeis pers. comm. 1988). It is interesting to note in relation to this that Catignano painted pottery has been found in four caves, and caves were often associated with ritual activities (see Chapter 5), including Grotta S. Nicola where Neolithic human remains were also discovered (Borzatti von Löwenstern 1962a).

Catignano style painted vessels, which are especially represented by bowls and flasks, may therefore have been characteristically employed (and perhaps even exchanged) during ceremonial occasions.

Trans-Appennine communications are indicated by the similarities between Catignano painted pottery in Abruzzo and early painted pottery found in the Pozzi della Piana caves in Umbria (Passeri 1970: 238) and Grotta di Monte Venere near lake Vico in Lazio (Delpino and Fugazzola Delpino 1987). Two painted vessels in a fine yellow-red fabric (not 'figulina') were discovered in the Galleria Gotica in the Pozzi della Piana. One was a globular 'olla' with four horizontal handles, which was decorated with light coloured triangles hanging down from the rim around the neck, and bands of lines forming geometric motifs arranged symmetrically around the body of the vessel (Passeri 1970: Fig. 6.4). The other was a flat-based globular vessel with a closed mouth and four large lugs placed around the body, which was decorated by a small lattice motif painted just under the rim (Passeri 1970: Fig 6.5). In Grotta di Monte Venere round based flasks with high cylindrical necks and four horizontal strap handles, made from a light coloured fabric (again, not 'figulina'), were decorated with brown painted motifs including angular bands on the body and filled triangles on the neck, and also by negative technique painting. Flasks of a similar form are characteristic of the Sasso group in Lazio, and have also been found at Catignano (compare, for example,

Delpino and Fugazzola Delpino 1987: Fig. 2.6 with Catignano, Fig. 17.6). As in Abruzzo, middle Neolithic painted pottery seems to have been deposited particularly in caves in Umbria and Lazio.

Radiocarbon dates suggest that middle Neolithic painted pottery, characterized by the use of the negative technique and by broad-band and triangle motifs, developed at roughly the same time on either side of the central Italian Apennines. Brown painted pottery seems to have been found only in the upper levels (3-1) of the Grotta di Monte Venere deposits (Delpino and Fugazzola Delpino 1975-80: 29), which have radiocarbon dates of 5474-4048 Cal. BC (R-1173), 4836 - 4510 Cal. BC (R-1174) and 4780-4510 (R-1169α) (Delpino and Fugazzola Delpino 1975-80). These correspond well with the estimated time-span for Catignano style painted pottery in Abruzzo.

Despite these typological, depositional and chronological similarities, there is no evidence of the exchange of painted pottery across the Apennines during the middle Neolithic, and it would seem that middle Neolithic painted pottery evolved locally in both regions. The fabrics used for painted pottery in the two areas are different, with a true fine yellow 'figulina' being used in Abruzzo and a coarser light coloured 'non-figulina' in Umbria and Lazio. These seem to have evolved from local potting traditions, with 'figulina' developing from the early to middle Neolithic in ^{the} Grotta dei Piccioni sequence,

and a plain version of the 'non-figulina' also occurring in the early Neolithic lower levels in Grotta di Monte Venere. The nature of trans-Apennine communication between groups during the middle Neolithic, as indicated by similarities in painted pottery decoration, form and function, should therefore be regarded as relating to ideas rather than imports.

d) Earlier late Neolithic: Ripoli painted pottery

Radiocarbon dates, typological comparisons and a revision of the chronology of the Neolithic in east-central Italy (see Chapter 1) indicate that the Ripoli style of trichrome painted pottery, which dates to the earlier part of the late Neolithic, developed in part from the preceding Catignano painted pottery style in Abruzzo, but was also influenced by strengthened contacts with southern Italy, and also by new trans-Adriatic contacts with Dalmatia.

It is important at this stage to define clearly what I mean by the Ripoli trichrome painted pottery style, for this has caused much confusion in the past, both in relation to chronology and exchange. At the type-site of Ripoli all of the trichrome painted pottery found can be described as 'Ripoli painted pottery' (even if, perhaps, there are also a few indistinguishable sherds of imported pottery here which really belong to the other trichrome styles of the Adriatic region). Ripoli painted pottery has been found here in cavities 2, 5, 8, 12, and 14, and in the

ditch (Cremonesi 1965; and unpublished material in Atri Museum). These contexts generally belong to Cremonesi's (1965, 1971-3) first and second chronological phases of the site, which have been radiocarbon dated by samples from cavities 6 and 12 to a maximum date span of 4780-4040 Cal. BC. The great quantities of trichrome painted pottery found at Ripoli suggest that such pottery was actually produced at or very near to this settlement site. For other sites, both in the Abruzzo region and further afield, I favour a strict and narrow definition of Ripoli painted pottery as: 'figulina' fabric pottery with trichrome painted decoration comprising zones of geometric decoration (generally parallel lines or filled triangles) bordered by a narrow band containing a row of dots and then by a broad red band (eg. Figs. 27.1,3,5, 28.1-3,5, 29.1-2, 30.1-2). Painted bands filled with dots, although commonly regarded as a typical Ripoli motif, do actually occur in conjunction with Capri style motifs on painted pottery vessels in south-west Italy (Bray 1966: 101-2), and should therefore not generally be used on their own to indicate the presence of Ripoli painted pottery. In addition, the Ripoli painted pottery style should be distinguished from the Fonti di S. Callisto style of painted pottery in the Abruzzo region, which probably dates to a slightly more recent period (the later part of the late Neolithic). The latter does exhibit some similarities to Ripoli painted pottery, in the use of dotted bands (Fig. 33.7) for example, but such motifs are rare, and it is not a trichrome style of painted pottery (only one sherd from this site had trichrome painted

decoration). Similarly there is no particularly strong reason to regard the single trichrome painted sherd, with a red band bordered by a narrow brown line, from spits 13-12 in Grotta dei Piccioni as Ripoli painted pottery.

Ripoli painted pottery is likely to have developed in part from the preceding Catignano painted pottery style in the Abruzzo region (Cremonesi and Tozzi 1987: 244-5; and see Chapter 1). Trichrome painted 'figulina' pottery is found at both type-sites, along with some generally similar vessel forms, such as the painted flasks. However, the decorative motifs employed are completely distinct; ^{and} there are a number of new vessel forms at Ripoli, such as the zoomorphic handled cups (Fig. 29), and the dishes set on hollow pedestal bases (Cremonesi 1965: Figs. 9.3 and 11.13), which have no links with earlier ceramic traditions in Abruzzo. The probable production centre of Ripoli also lies in the Teramo province, 54 km to the north of Catignano and the Pescara province where Catignano painted pottery was especially distributed.

More likely sources of inspiration for the Ripoli style of painted pottery can be found in the trichrome painted ceramics of Dalmatia and southern Italy. Below, the radiocarbon dates from Dalmatian and Italian contexts with late Neolithic trichrome painted pottery are listed according to pottery style and then age. (The reference numbers correspond with those used in Appendix 2, where full details of the samples are provided.)

Table 19. C14 dates for late Neolithic trichrome painted pottery in Dalmatia and Italy

DANILO (Dalmatia)

341. Gudnja Pećina, level 2 - transitional Impressed - Danilo	5611 - 5370	Cal. BC	(GrN-10311)
343. Gudnja Pećina, level 3, spit 19	5540 - 5340	Cal. BC	(GrN-10313)
344. Obre 1	5490 - 5240	Cal. BC	(UCLA-1605F)
345. Gudnja Pećina, level 3, spit 18	5480 - 5240	Cal. BC	(GrN-10312)
346. Pokrovnik I	5500 - 4901	Cal. BC	(Z-895)
347. Tinj-Podlivade	5620 - 4770	Cal. BC	(GrN-15238)
348. Obre 1, stratum 2	5340 - 4940	Cal. BC	(Bln-659)
349. Obre 2, stratum 1	5313 - 4905	Cal. BC	(Bln-639)
350. Obre 1, level 8	5240 - 5139	Cal. BC	(UCLA-1605H)
352. Obre 2	5230 - 4867	Cal. BC	(GrN-5683)
353. Obre 2	5240 - 4998	Cal. BC	(Bln-792)
354. Obre 2	5199 - 4780	Cal. BC	(UCLA-1605A)
355. Obre 2	5197 - 4780	Cal. BC	(GrN-5684)
356. Obre 2	5034 - 4785	Cal. BC	(GrN-5685)
357. Obre 2	5230 - 4520	Cal. BC	(LJ-2327)
358. Obre 2	4939 - 4725	Cal. BC	(GrN-5686)
359. Obre 2	5046 - 4613	Cal. BC	(Bln-657)
360. Obre 2	4900 - 4716	Cal. BC	(UCLA-1605E)
361. Obre 2	4934 - 4597	Cal. BC	(UCLA-1605C)
362. Obre 2	4936 - 4520	Cal. BC	(Bln-638)
363. Obre 2	4936 - 4520	Cal. BC	(Bln-656)
364. Obre 2	4940 - 4470	Cal. BC	(Bln-637)
365. Obre 2	4898 - 4369	Cal. BC	(Bln-790)
366. Obre 2	4790 - 4400	Cal. BC	(UCLA-1605B)
86. Grotta del Mitreo, layer 8	4780 - 4510	Cal. BC	(R-904α)
87. Grotta del Mitreo, layer 8	4790 - 4490	Cal. BC	(R-904)

SCALORIA ALTA (Apulia)

308. Grotta Scaloria Alta	5240 - 4847	Cal. BC	(LJ-4983)

ARENE CANDIDE (Liguria)

127. Caverna delle Arene Candide, level 12C	5050 - 4460	Cal. BC	(MC-755)
129. Caverna delle Arene Candide, level 12A	4940 - 4367	Cal. BC	(MC-753)

RIPOLI (Abruzzo)

7. Ripoli, cavity 12	4715 - 4340	(R-664)
8. Ripoli, cavity 6	4780 - 4040	(R-665)

FONTI DI S. CALLISTO and GROTTA DEI PICCIONI (Abruzzo)

- 9. Fonti di S. Callisto,
lower level 4470 - 4165 Cal. BC (R-1386α)
- 15. Grotta dei Piccioni,
spits 13-12 3780 - 3340 Cal. BC (Pi-49)

CAPRI-LIPARI (south-west Italy)

- 250. Lipari Acropolis 4227 - 3821 Cal. BC (R-366α)

The Danilo style of trichrome painted pottery, for which there are now 26 radiocarbon dates, was probably the earliest trichrome painted pottery style in the Adriatic region, and appears to have lasted over a maximum time span of c. 5600-4350 Cal. BC. (The validity of the early Danilo dates from Gudnja Pecina has been endorsed by Chapman 1988: 8-10.) In southern Italy, only single dates are available for the Scaloria Alta style (5240-4146 Cal. BC) and the Capri-Lipari style (4227-3821 Cal. BC). Hence little can be said about their chronological duration, although it seems likely that the real date for the Capri-Lipari style lies at the most recent end of its full time-span. Trichrome painted sherds found in Caverna delle Arene Candide can be dated within the range c. 5050 to 4350 Cal. BC. This date range is supported by Barfield's (1981: 35) observation that 'figulina' and painted pottery occur in northern Italy only in contexts dating to the Fiorano culture and the first phase of the SMP. (These north Italian trichrome sherds slightly pre-date trichrome painted pottery in central Italy, and so, if they are still to be seen as imports, a south Italian source now seems likely.) Seen in the context of these Dalmatian and Italian radiocarbon dates for trichrome painted pottery, the Ripoli style,

which dates to a maximum time span of 4780-4040 Cal. BC, emerges as a more recent development, particularly in relation to the Danilo dates, but also compared to the earliest possible dates for the Scaloria Alta style and the north Italian trichromes.

A certain degree of Dalmatian influence on the development of the Ripoli painted pottery style is suggested by the fairly strong similarities that exist between the trichrome painted pottery from Danilo sites in the eastern Adriatic and that from Ripoli, and also by the chronological precedence of the early Danilo radiocarbon dates. Korošec (1956: 318-20) and Bray (1966) have noted the affinities between: the fine light-coloured fabrics of painted pottery vessels found on Danilo sites and the 'figulinas' from Ripoli; the shared organizational schemes in painted decoration, comprising panels filled with dark geometric-linear patterns and bordered by black or brown bands; and certain vessel forms, in particular the painted cups (eg. Petrić 1978: T. IV). A small convex-sided painted 'figulina' bowl standing on a hollow pedestal base (Cremonesi 1965: Fig. 9.10), and a similar vessel in coarseware with incised decoration (Cremonesi 1965: Fig. 9.3), which both came from cavity 5 at Ripoli (ie. associated with Ripoli trichrome painted pottery), can also be compared closely to examples from Danilo sites (eg. Korošec 1956: Fig 10; Petrić 1978: T. II.5; Benac 1979: Sl. 25.8 and 26.2). Cremonesi (1965) has also remarked upon the similarities between certain impressed and incised motifs

on sherds from Ripoli and examples from Danilo sites, and has even claimed that four such sherds can be regarded as imports from Dalmatia (Cremonesi 1965: 130).

Few precise parallels, however, can be claimed to exist between the Danilo and Ripoli trichrome painted pottery styles; they can be distinguished technically and typologically, and there is no firm evidence of the trans-Adriatic exchange of painted pottery. Chemical and mineralogical analyses of clays and pottery fabrics from both sides of the Adriatic indicate that Danilo painted finewares contain higher quantities of aluminium trioxide and iron trioxide than those from Abruzzo (Korošec 1956: 319), and that the Danilo finewares were produced from high quality alluvial clays found in Dalmatia, but which are geologically similar to those used by the Ripoli potters in Italy (T. Kaiser pers. comm. 1989). The paint used on Danilo pottery is also of a darker colour than that used at Ripoli, which suggests differences in mineral components and firing conditions. The two styles can also be separated typologically. For example, only six out of the 22 general painted motifs illustrated by Korošec (1956: Fig. 9) can be paralleled at Ripoli.

Close similarities also exist between the Capri-Lipari style of trichrome painted pottery and Ripoli painted pottery. Capri-Lipari trichrome painted pottery seems to have been mainly restricted in its distribution to the south-west Italian islands of Capri and Lipari, but

probable sherds of it have also been found sporadically in Sicily, Calabria and Campania (Whitehouse 1969: 284). Vessels painted with trichrome linear motifs found in Grotta delle Felci on Capri have particularly close typological links with examples from Ripoli (compare Grotta delle Felci - Frangipane 1975: Fig. 14.1-6 with Ripoli cavity 12 - Figs. 27-30), and it seems likely that the use of the dotted band on what appears to be a Capri-Lipari painted vessel in Grotta delle Felci (Frangipane 1975: Fig. 14.5) was inspired by the presence of imported examples from Abruzzo (see below, p. 482). However, the distinctive Capri-Lipari flame motif is not found in Abruzzo. It is difficult to define the chronological relationship of the Capri-Lipari and Ripoli trichromes, but it seems likely that they were contemporary for at least a part of their duration.

Continued evidence of south-east Italian connections with fineware production in the Abruzzo region is provided not only by the general similarities between the Apulian Scaloria Alta style of trichrome painted pottery and that of Ripoli, but also by specific points of similarity between the Serra d'Alto and Ripoli styles of painted pottery. Serra d'Alto style painted pottery is, however, technically and decoratively distinct from the trichromes. It is considered as the most accomplished of all the south Italian Neolithic ceramics (Whitehouse 1969: 287), and was probably the most widely exchanged. It appears to have developed originally in central Puglia and the Matera

province, and to have expanded from this area during its later phases into southern Puglia, across into south-west Italy and Sicily, and also to the north.

Radiocarbon dates now show that Serra d'Alto was the earliest of the late Neolithic painted pottery styles in Italy, and that it was the most long-lasting. 11 radiocarbon samples date it to a maximum time-span of 5410-3350 Cal. BC:

Table 20. C14 dates for Serra d'Alto painted pottery in peninsular Italy

309. Ipogeo Manfredini, level 1 - early Serra d'Alto	5410 - 4680 Cal. BC (BM-2256R)
310. Ipogeo Manfredini, level 3 - early Serra d'Alto	5314 - 4534 Cal. BC (BM-2258R)
311. Ipogeo Manfredini, level 2 - early Serra d'Alto	5230 - 4402 Cal. BC (BM-2257R)
273. Colle del Fico	4900 - 4530 Cal. BC (OxA-654)
11. Fossacesia	4772 - 3780 Cal. BC (F-30)
274. Piano di Larino	4655 - 4340 Cal. BC (OxA-655)
259. Grotta del Santuario della Madonna, layer 6	4576 - 4246 Cal. BC (R-284)
315. Grotta di Cala Scizzo, level 1	4573 - 3384 Cal. BC (BM-2253R)
10. Fossacesia	4510 - 4000 Cal. BC (R-878)
317. Grotta 1, Cala Colombo, level 7	4457 - 3350 Cal. BC (BM-2302R)
316. Grotta 1, Cala Colombo, level 1	4340 - 3700 Cal. BC (BM-2260R)

Some precise typological similarities can be identified between Serra d'Alto and Ripoli painted pottery. These can probably be regarded as influences from the former on the latter, in view of the chronological primacy of the Serra d'Alto style of painted pottery over that of Ripoli, and the fact that Serra d'Alto pottery was imported into Abruzzo during the late Neolithic (see below, p. 478-9). For example, the 'windmill' motif, which is a characteristic Serra d'Alto painted motif (Bray 1966: Fig. 2.b), occurs on a few sherds at Ripoli in association with the classic Ripoli style dotted band motif (Fig. 27.5). The single-handled carinated cups from Ripoli with zoomorphic appendages on ribbon handles and painted decoration (Fig. 29; Dall'Osso 1915: 414; Rellini 1934: Fig. 17) can also be compared with Serra d'Alto painted cups with similar zoomorphic handles from southern Italy (Malone 1986: Figs. 15 and 24). However, they can also be distinguished in a number of ways: the rims of the cups are generally everted on the Serra d'Alto examples but inverted at Ripoli, and the carination occurs above the handle on the former but below on the latter; also, the Serra d'Alto handles are wider and thinner than the Ripoli cup handles, and the zoomorphic appendages are more modelled on the Serra d'Alto cups.

A few actual imports of Serra d'Alto pottery have been found on late Neolithic sites in Abruzzo. In spits 15 and 14 in Grotta dei Piccioni pieces of a globular vessel with a short neck were found, which had a typical Serra d'Alto

style tubular handle with an appendage, and painted decoration comprising typical Serra d'Alto motifs (Cremonesi 1976: 111, Fig. 21.11, 25.6). The brown surface colour of this 'figulina' vessel was also notably different from the colour of the other 'figulina' fabrics found in this cave (Cremonesi 1976: 198). A Serra d'Alto style rolled ribbon handle was also found at Pianaccio and is considered to be an import (Radmilli 1959: 895). No claims have been made for the presence of Serra d'Alto imports at Ripoli.

In summary, the development of the Ripoli style of painted pottery can be related in part to the preceding Catignano style of painted pottery in Abruzzo, but it was also influenced by strengthened contacts with southern Italy, which included the importing of a few examples of Serra d'Alto pottery, and by new trans-Adriatic contacts with Dalmatia.

There is evidence of the export of Ripoli painted pottery to 12 late Neolithic sites located both within and outside the Abruzzo region (Table 21 on p. 492 and Fig. 119). However, the scale of this exchange has commonly been over-estimated in previous studies. For example, Malone (1985: 127) claimed that Ripoli painted pottery had been found on some 40 sites in Italy. This seems to be the result of using an inappropriately broad definition of 'Ripoli painted pottery', and due to the fact that the Ripoli style is the best studied of all the trichromes in

Italy, with an extensively excavated and relatively well published type-site which has been the subject of archaeological investigations since about 1865. I believe that it is important to use a narrow and precise definition of 'Ripoli painted pottery' (see above, p. 470) in order to distinguish it from the other Italian late Neolithic pottery styles in areas outside the Abruzzo region, and I have therefore checked each of Malone's (1985) references to exports of Ripoli painted pottery, along with claims for its presence made by other authors (eg. Bray 1966; Barfield 1981).

In the Abruzzo region there are three sites with Ripoli painted pottery. Large quantities have been found at the type-site of Ripoli (TE) (Dall'Osso 1915; Rellini 1934; Cremonesi 1965). For example, I recorded 106 sherds of strictly defined 'Ripoli painted pottery' at Atri Museum which came from Cremonesi's (1965) excavations at Ripoli. Four sherds were found in the 'Ripoli levels' in Grotta dei Piccioni [PE] (Cremonesi 1976: Fig. 25.1-2,4-5), including two sherds from spit 15, one of which came from a flask. Precise parallels can be drawn between two of these and examples from Ripoli (Grotta dei Piccioni - Cremonesi 1976: Fig. 25.2 : Ripoli cavity 12 - Fig. 27.1; and Cremonesi 1976: Fig. 25.5 : Fig. 27.5). One sherd was found at Settefonti (AQ) (Mattiocco 1986: Fig. 13), along with others, decorated with linear painted motifs, which may also have been imported from Ripoli.

To the south-east, a wide-bodied Ripoli painted pottery flask was reconstructed out of about 10 sherds found in the upper level at Cala Tramontana on the Tremiti island of San Domino (Palma di Cesnola 1967: 367, Figs. 7.1 and 8.2). It can be compared to examples from Ripoli (Cremonesi 1965: Figs. 15.1 and 10.14). A few other sherds of Ripoli painted pottery were found in the upper level and on the surface of this site, including one from a flask. At least three sherds of Ripoli painted pottery have been found in Grotta Scaloria Alta located near the edge of the Gargano promontary in northern Puglia (Tinè and Isetti 1975-80: Tav. B.1-2; Winn and Shimabuku 1980: Plate VIII.A-B). Two of these can be closely compared to examples from Ripoli (eg. Winn and Shimabuku 1980: Plate VIII.B : Ripoli - Fig. 27.5). It is interesting to note that in the Camerone Quagliati trichrome painted pottery was only found in the vicinity of the graves (Winn and Shimabuku 1980: 16). One sherd of Ripoli painted pottery was also found at Contrada Ciccalento near S. Marco in Lamis on the edge of the Gargano promontary (Russi 1981: 343). In northern Basilicata, on the eastern edge of the Neopolitan Apennines, a sherd of Ripoli painted pottery was found at Leonessa di Melfi (Bianco and Cipolloni Sampò 1987: 311, Fig. 3.3) in association with Scaloria Alta style trichrome painted pottery.

In west-central Italy a sherd of Ripoli painted pottery was found at Il Fosso dei Due Ponti on Monte Abatone near Cerveteri in Lazio (Fugazzola Delpino 1987:

261, Fig. 4). Another unpublished example was found in Grotta Lattaia in Tuscany, to which Cremonesi has cited a parallel from Ripoli (Cremonesi 1965: 129, Fig. 14.7). In addition, Graziosi (1944) reported the presence of a sherd of Ripoli painted pottery with a dotted band motif in Grotta all'Onda in Tuscany, but Scaloria Alta trichrome painted pottery was also found here, and so this claim is open to an element of doubt.

Ripoli painted pottery has also been found at two sites along the Tyrrhenian coast of Italy. In Grotta delle Felci on the island of Capri the base of a Ripoli painted cup was found (Rellini 1923: 328-9, Tav. II.6), and in Liguria a sherd from the neck of a Ripoli painted pottery vessel was recovered from Caverna dell'Acqua (Amerano 1891: Tav. IX.1). The latter was decorated in a classic Ripoli style and can be closely compared to examples from Ripoli (eg. Figs. 27.5 and 28.1).

Ripoli painted pottery appears, then, to have been exported in small quantities, particularly in the form of flasks, but also in the form of the cup found at Grotta delle Felci. It is found most frequently outside the Abruzzo region (both in terms of numbers of sherds and sites) in the northern part of south-east Italy (Fig. 119). But it was also transported across the Apennines to sites in west-central Italy, and probably from there by sea to caves containing human remains located on the island of Capri and on the coast of Liguria. It was distributed

particularly within the geographical context of the trichrome painted pottery in Italy, being found at the trichrome type-sites of Scaloria Alta and Grotta delle Felci. By contrast, it has not been found in the Serra d'Alto homelands of central and southern Puglia and the Matera province, despite the import of Serra d'Alto painted pottery to sites in Abruzzo (but not Ripoli) during the late Neolithic. Although the probable production centre of Ripoli was located in northern Abruzzo there is no evidence of the export of Ripoli painted pottery further up the Adriatic coast to the neighbouring Marche region or to sites in north-east Italy. This tends to support Daniel and Evans's (1967: 5) suggestion that Ripoli was "a northern outpost of painted pottery", although small quantities of painted pottery may have been produced locally in northern Italy. Frangipane's (1975) conclusions concerning trichrome painted pottery in Italy are commendable: a complex picture exists in which fundamentally distinct 'cultures' shared an analogous trichrome painted ware but only limited direct contacts. Chapman's (1988) conclusions concerning painted pottery can also be reiterated: "The clear inference is the existence in the Adriatic zone and northern Greece of several broadly independent painted ware zones, whose partially overlapping styles and motifs are consistent with a low but regular level of contact and interaction" (Chapman 1988: 12-13).

It is important to attempt to interpret the meanings of the Ripoli painted pottery vessels in order to

understand how and why they were exchanged over relatively long distances at an inter-regional scale in Italy. Previous studies of Italian late Neolithic painted pottery vessels have tended to regard them as valuable and even prestigious exchange objects in their own right (eg. Barfield 1981: 32; Malone 1985). However such views concerning decorated pottery vessels have been criticized by Sherratt (1985: 83), particularly in relation to Bell Beakers, who takes the slightly extreme point of view that, "unlike items in prehistoric metalwork, which are usually objects in themselves, pots were containers for commodities. Whatever prestige attached to pottery is more likely to have been derived from the special nature of what was consumed from it rather than from any inherent value in the pots themselves." Chapman (1988) has also criticized the exchange-dominated viewpoint, and suggests that we should regard ceramics as both containers and information channels, whose fabric, form and decoration were linked to a wide range of social activities which included: storage, cooking, eating, drinking, feasting, gift-giving, food-sharing, and ritual.

From a functional point of view, Ripoli painted pottery vessels belong to a restricted range of forms, which comprises: necked flasks (especially), often with small lug-handles placed around the rim (possibly to facilitate sealing [Barfield 1981: 32]); single-handled carinated cups, sometimes with elaborated handles; and a few large hemispherical vessels, often with four small ring

handles placed around the body, and occasionally set on pedestal bases (Cremonesi 1965: Figs. 9.10 and 10.4). Flasks in particular seem to have been exported outside the Abruzzo region, which ties in with Barfield's (1981: 32) observation that 'figulina' vessels found in northern Italy mainly comprised narrow-necked jars, often with rim lugs. These vessel forms can probably be best interpreted as storage and serving vessels for liquids which were consumed; in other words, as components of drinking sets.

As with the middle Neolithic Catignano painted flasks and bowls, Ripoli painted vessels were often deposited in apparently ritual contexts. Half of the 12 late Neolithic sites in Italy with Ripoli painted pottery were caves, and in the Camerone Quagliati of Grotta Scaloria painted vessels were only found in the vicinity of the graves. These observations tie in with Malone's (1985: 135-6) assertion that Italian late Neolithic painted pottery in general was strongly associated with ritual contexts, particularly in central and northern Italy. The elaborately decorated Ripoli trichrome painted pottery vessels might therefore be regarded as ceremonial drinking sets, especially those found outside the production site of Ripoli.

A number of socially significant rules are likely to have governed the possession and use of such ceremonial drinking sets and their contents. We have already seen how the vessels were often deposited, and therefore probably

used, in ritual contexts. Human actions in such contexts are characteristically bound by explicit and communally recognized rules of behaviour; and, likewise, the food, drinks and containers used in ceremonial contexts, which are often employed as a source of symbolism and stimulation, are typically subject to restrictions and prohibitions. These govern both the kinds of food or drink used (including, for example, their ingredients, preparation, taste, quality, and rarity), and the status of the people entitled to consume them (including, for example, their sex, maturity and relationships) (Lewis 1980: 146-8).

These Ripoli vessels might therefore also have contained prescribed and special liquids. These could have been at least as important as the vessels themselves, and are likely to have contributed towards the production, use and exchange of the vessels. For example, the predominance of flasks amongst exchanged painted vessel types in Neolithic Italy is likely to relate more to their contents than to the vessels themselves. Similarly, it seems significant that cups, some with zoomorphic handles, were the most elaborately decorated of the painted vessels, for it was from these that the special liquids passed into the mouths of the people which used them. It is unlikely, however, that there was a direct relationship between the vessels' contents and their external form and decoration during the late Neolithic: Ripoli painted pottery could have been used for a variety of different liquids, both in

the different Italian regions where they were used and over the (maximum) 740 calendar years in which they were used. It is worth briefly discussing what these liquids might have been.

In Grotta Scaloria Alta in northern Apulia the special liquid collected in the late Neolithic painted vessels was stillicide water (Tinè and Isetti 1975-80). Large numbers of pottery vessels were found in this cave, either stuck to the floor of the cave by stalagmitic formations or encased in stalagtitic formations growing down from the roof (Tinè and Isetti 1975-80: Fig. 4). These vessels were clearly positioned to collect the stillicide water which dripped down from the roof, and were associated with a shallow rock-cut basin which was probably made for the same purpose. This water is unlikely to have been acquired for use as daily drinking water, but may well have been collected and drunk for the special properties that it was believed to have. In the late-final Neolithic Cala Scizzo cave in central Apulia another water pool was discovered, lined by stones, and located at the back of the cave (Geniola and Tunzi 1980). Whitehouse (1990) has named such apparently ritual practices in the Neolithic of southern Italy as 'the cult of abnormal water'.

Liquids with psychoactive powers may also have been consumed from the Ripoli vessels. Sherratt (1985, 1987, and 1991) has discussed the evidence concerning the production and use of psychoactive substances in prehistoric Europe in

some detail, and I shall simply mention a few of these which seem applicable to late Neolithic drinking in Italy. A narcotic infusion of opium poppy seeds (Papaver somniferum) is one possibility. Papaver seeds have^{been} found at the final Neolithic/early Copper Age lake-side settlement of La Lagozza in Lombardy (although it is not clear whether or not they are of somniferum), and it is generally believed that the opium poppy was domesticated in the West Mediterranean, perhaps as early as Impressed Ware times, and spread from there to other parts of Europe (Sherratt 1991). Merlin (1984: 136), however, suggests that it may have been introduced to Italy from the Swiss Foreland during the final Neolithic (but there is little evidence to support either view). Alcohol may also have been an important element in a wide range of possible drinks, including mead, beer and wine. Such liquid stimulants can induce a number of psychoactive effects, such as excitement, inebriation, hypnosis, phantasy, and euphoria, and such experiences are likely to have been deliberately sought in the course of a ceremony or religious ritual (Sherratt 1991).

It is difficult to establish the status of the people who were entitled to make use of the Ripoli drinking sets and their contents, but the individuality of painted motifs found on late Neolithic painted cups in Italy might suggest that these were used by specified individuals. The Ripoli painted pottery vessels and their contents may also have been employed within the context of ceremonial exchange at

an inter-regional scale in Italy. Such an exchange mechanism plausibly explains their presence in ritual contexts located as much as 465 km away from the probable production centre at Ripoli, for special drinks, such as alcoholic beverages, can be employed as social lubricants and agents of hospitality in the context of alliance formation (to which ceremonial exchanges are related) and the construction of social power (Sherratt 1991).

It is now possible to turn from the use and meanings of the Ripoli painted pottery vessels and their contents to an investigation of the uses and meanings of their trichrome painted style of decoration. Wobst's (1977) study of stylistic behaviour and information exchange provides a useful basis for this (cf. Malone 1985). Wobst argues that style can be viewed in terms of information exchange. The nature of the information or message which is transmitted by a particular style fixed in material form on an artefact (in this case the style of trichrome painted decoration found on late Neolithic 'figulina' vessels in Italy and Dalmatia) is likely to be relatively simple. Such messages can be grouped into general categories, which include: identification (eg. this flask contains a special liquid); authorship (eg. this flask and its contents were made by the Ripoli potters); ownership (eg. this flask and its contents belong to particular individuals); and prescription or proscription (eg. this flask and its contents are reserved for use in ceremonies by those particular individuals). The target group for these

messages is likely to be the 'socially distant' who are not in regular verbal contact with the senders but who are nevertheless in close enough contact to be able to decode the message, as opposed to the immediate household, close friends or relations of the senders, or the socially very distant. Such messages are especially exchanged in contexts where behaviour relates to processes of social integration and differentiation (eg. drinking of special liquids in ceremonial contexts in which inter-group alliances are being established), for "stylistic messaging defines mutually expectable behaviour patterns and makes subsequent interaction more predictable and less stressful" (Wobst 1977: 327).

The meaning of the Ripoli style of trichrome painted decoration on pottery vessels is likely to have been interpreted differently by groups in the Abruzzo region on the one hand, and on the other hand, by groups living in the regions to which it was exported. More specifically, Chapman (1988: 20), referring to the trichrome style of painted pottery in the Adriatic region, has plausibly suggested that the "specific decorational organization and motifs bear information integral to the local residence group, while the decorational style is more readily transferred to distant communities". This provides a useful explanation for the existence of both the distinctiveness of the different trichrome styles in Italy and Dalmatia (eg. the characteristic Ripoli use of geometric zones, generally containing parallel lines or filled triangles,

and bordered by a narrow band containing a row of dots and then by a broad red band) and at the same time their similarities (eg. the shared use of trichrome painted decoration organized into panels filled with dark geometric linear patterns and bordered by black or brown bands, found especially on cups and flasks made from fine light coloured fabrics). It is not possible to know what were the specific meanings of the Ripoli style as they were perceived in the Abruzzo region, in the settlement of Ripoli for example. Perhaps they related to locally produced special liquids which they contained, or to symbols employed locally in other media. At an inter-regional scale, however, the presence of the style on a vessel may well have been understood to indicate, along with trichrome painted vessels produced in other regions, that: the vessel was intended to contain a special liquid; the vessel (and possibly its contents) were made by a particular group of people; and that its use and contents were reserved for use by particular individuals in specific (possibly ceremonial) contexts.

In summary and conclusion, the development, production, use, and exchange of Ripoli painted pottery during the late Neolithic in Italy can be understood in relation to the expansion of an inter-regional communications network, which developed in Italy during the middle Neolithic (and elsewhere in Europe at a similar time). This network might have been both established and maintained by the holding of ceremonies in which specified

representatives from neighbouring groups met in special places such as caves to establish political alliances and exchange relations. The consumption and exchange of special liquids drunk from special-purpose vessels decorated in shared and commonly recognized styles would have enhanced the seriousness and importance such occasions, and at the same time would have alleviated some of the stress involved in such social encounters.

Table 21. Finds of late Neolithic Ripoli painted pottery in Italy

Site	Number of sherds
ABRUZZO	
Ripoli (TE)	Many (eg. 106 in Atri Museum)
Grotta dei Piccioni (PE)	4
Settefonti (AQ)	1 (?+)
TREMITI ISLANDS	
Cala Tramontana	12+
NORTHERN PUGLIA	
Grotta Scaloria Alta	3+
Contrada Ciccalento	1
NORTHERN BASILICATA	
Leonessa di Melfi	1
LAZIO	
Il Fosso dei Due Ponti	1
TOSCANA	
Grotta Lattaia	1
? Grotta all'Onda	1
CAPRI	
Grotta delle Felci	1
LIGURIA	
Caverna dell'Acqua	1

e) Later late Neolithic pottery in Abruzzo

A new style of painted pottery can be defined in the lower level at Fonti di S. Callisto (PE), which seems to differ significantly from the Ripoli trichrome painted pottery in Abruzzo. It is characterized by the use of red, brown or black bichrome painted decoration, which was applied in a variety of motifs (Figs. 33.3-10, 34.1-3, 35.2 and 8; Radi 1986-7). A radiocarbon sample from the lower level dates to 4470-4165 Cal. BC (R-1386a) (Allegri et al. 1987), which suggests that the painted pottery at Fonti di S. Callisto developed after the start of the production of Ripoli painted pottery (Ripoli cavity 12: 4715-4340 Cal. BC [R-664]). However, these two styles may have overlapped in time towards the end of the Ripoli painted pottery time-span (see Chapter 1).

Surprisingly, the development of the Fonti di S. Callisto style of painted pottery appears to have been influenced only slightly by the Ripoli style. Some similarities can be noted. For example, Ripoli style dotted band (Fig. 33.7) and linear motifs (Figs. 33.9-10 and 34.1) occur on painted 'figulina' pottery at Fonti di S. Callisto; the painted vessel forms found at both sites characteristically include flasks and bowls; and a sherd of trichrome painted pottery with a red band bordered by a black line was also found at Fonti di S. Callisto. However these similarities appear only as isolated elements at Fonti di S. Callisto, removed from the full context of

trichrome painted pottery.

Influences from the Serra d'Alto bichrome style of painted decoration in southern Italy appear to have played a much stronger part in the development of the Fonti di S. Callisto style. These can be seen both in the decoration and vessel forms found at Fonti di S. Callisto, although no actual imports have been identified here. For example, the painted chequerboard motif (Fig. 34.3) and bands containing wavy 'tremolo' lines (Figs. 33.3-4, 34.1, 35.2) are typical Serra d'Alto motifs (Whitehouse 1969: Fig. 9); and some of the 'figulina' bowl forms can be compared to examples from Cala Scizzo and Cala Colombo in central Puglia (Fig. 34.6 : Geniola, ed. 1977: Fig. 13.10; and Fig. 34.5 : Geniola and Tunzi 1980: Fig. 4.2). Both of these sites have been radiocarbon dated to the more recent half of the Serra d'Alto style's time-span (ie. they date to a maximum of c. 4575-3350 Cal. BC, whereas the Serra d'Alto style in general dates to a maximum time-span of c. 5400-3350 Cal. BC), and they tie in well with the radiocarbon date from Fonti di S. Callisto.

A small amount of painted pottery may have been exported from Fonti di S. Callisto to Grotta la Punta, which is located about 30 km away to the south-west. In spits 9-8 at the latter a sherd was decorated with a brown painted chequerboard (Cremonesi 1968: Fig. 16.3). It is unlikely to have been imported from southern Italy, for it was made from a 'figulina' fabric which differed from that

of the more likely Serra d'Alto imports found in these spits. These were made from a more orange fabric. However, they could have been imported from Fonti di S. Callisto, where chequerboard painted motifs were also employed (eg. Fig. 34.3).

Actual Serra d'Alto pottery appears to have been imported to two sites in Abruzzo during this later stage of the late Neolithic. In spits 9-8 of Grotta la Punta (AQ) three rim-sherds of a very fine orange fabric were found. They were each decorated with a thin brown painted line placed near to the rim, and can all probably be considered as imports from southern Italy. Two Serra d'Alto style curled ribbon handles, pierced by two vertical holes (Fig. 38.7-8), which were found at Fossacesia (CH) (Cremonesi 1973: 82), can also probably be regarded as imports.

The development of plain finewares during the later part of the late Neolithic in Abruzzo seems to have been influenced by contacts with the south Italian Diana-Bellavista pottery style. Ten sherds with a red burnished fabric were found in spits 9-8 of Grotta la Punta (AQ). They belonged exclusively to cups and ollas and were regarded as typical examples of Diana style pottery (Cremonesi 1968: 185). Vessels made from similar fine burnished fabrics with bright red burnished surfaces and tubular handles were also found in the 'Ripoli' levels of Grotta dei Piccioni (PE). Some were considered to have been

locally manufactured whereas others were regarded as Diana-Bellavista imports (Cremonesi 1976: 187 and 194). Ovoid vessel forms with spool handles from the lower level at Fonti di S. Callisto (eg. Fig. 35.5) also seem to have been clearly influenced by Diana-Bellavista prototypes (Radi 1986-7: 157). Chronologically the Fonti di S. Callisto radiocarbon date ties in well with the earliest radiocarbon dates for the Diana-Bellavista style in southern Italy (see list below).

Table 22. C14 dates for the Diana-Bellavista style of pottery in central and southern Italy

315. Grotta di Cala Scizzo, level 1	4573 - 3384 Cal. BC (BM-2253R)
317. Grotta 1, Cala Colombo	4457 - 3350 Cal. BC (BM-2302R)
316. Grotta 1, Cala Colombo	4340 - 3700 Cal. BC (BM-2260R)
251. Lipari Acropolis	4321 - 3360 Cal. BC (R-180)
39. San Rossore, Tuscany	4224 - 3780 Cal. BC (Pisa Lab.)
260. Grotta del Santuario della Madonna, layer 5	4040 - 3721 Cal. BC (R-283)
252. Contrada Diana	3790 - 3529 Cal. BC (R-182)
318. Grotta di Cala Scizzo, level 2	3640 - 2890 Cal. BC (BM-2254R)

(Sample BM-2259R [319 in Appendix 2] from level 1 in the Grotta 1 at Cala Colombo has been omitted because it seems to be much too recent, both in relation to the two other dates from the same context and when set against the other late Diana-Bellavista dates).

Early examples of grafitti or scratch decorated dishes may also have been imported into Abruzzo at this time (see below, p. 498-501).

The direction of inter-regional communications and exchange networks in Abruzzo during the later stage of the late Neolithic does not seem to have differed greatly from that of the earlier stage of the late Neolithic, for contacts were maintained with the Serra d'Alto style of painted pottery and with the other pottery traditions of southern Italy. However, the strength of such contacts and of exchange networks in general appears to have increased during this later stage, for actual imports of pottery can probably now be identified in the ceramic assemblages found at the few sites which can be dated to this period.

f) Final Neolithic/early Copper Age pottery in Abruzzo and Marche

It is difficult to define one particular dominant and characteristic fineware pottery style for the final Neolithic/early Copper Age period in the Abruzzo-Marche region. Below, therefore, the relations of some specific decorated vessel types and handle types are examined on various geographical scales in order to shed light upon the communication networks and exchange relations which existed at this time.

Fineware carinated dishes decorated with up to three rows of pastilles applied to their straight-sided and inverted necks, sometimes referred to as 'Ripoli Studded Ware', exemplify a fusion of local potting traditions with Italian scale inter-regional influences (Trump 1966: 66).

They were almost certainly produced on sites in Abruzzo and Marche, for they have been found relatively commonly within, and only rarely outside, this region. Examples are known from: Fossacesia [CH] (Fig. 38.2-3) (Cremonesi 1973: 82); Citta Sant'Angelo (PE) (De Pompeis 1978: 164-5); Cellitto (AQ) (Di Fraia 1970: 296, Fig. 3.1); Settefonti (AQ) (Mattiocco 1986: Fig. 16); Ripoli (TE), including sherds from the final Neolithic/early Copper Age cavity 9 (Dall'Osso 1915: 415; Rellini 1934: 31, 34, Fig. 19; Cremonesi 1965: 109, Fig. 8.7); Ciafone (AP) (Lucentini 1984-6: 489); and S. Maria in Selva (MC) (Lollini 1965: Tav. CXXV.1). Some were made in 'figulina', which was the standard fineware fabric in the Abruzzo-Marche region during the late Neolithic. Others were made in fine dark fabrics, including an example from cavity 9 at Ripoli, which became more popular throughout Italy during the final Neolithic/early Copper Age. In form and decoration these vessels seem related in part to pottery from northern and southern Italy, although there are no precise parallels for these dishes outside the Abruzzo-Marche region. For example, their form is similar to dishes of the Lagozza tradition in northern Italy (eg. La Lagozza - Radmilli, ed. 1978: Tav. XXX: 2), but the decoration with rows of applied pastilles can be compared more closely to examples from southern Italy (eg. Contrada Diana - Bernabò Brea and Cavalier 1960: Tav. XVI.2).

Dark burnished fineware truncoconical bowls with out-turned rims, known as 'piatti a tesi' or 'dishes with wide

brims', often decorated on the inside surface with a scratched band of hatched triangles running below the rim, are an example of a pottery type with an Italian scale distribution, but with notable regional variations in decorative motifs in north, central, and southern Italy (Fig. 120). The design for these vessels probably originated in Provence, because numerous examples have been found there in final Neolithic/early Copper Age Chassey contexts, almost all decorated with incised triangles (Guerreschi 1976-7: 475).

In Liguria examples of these dishes found in the Lagozza levels of the Caverna delle Arene Candide were either plain or decorated with a band of hatched triangles hanging down from the rim (Bernabò Brea 1956, Tav. XXXIX.6; Borrello 1984: Figs. 11.2, 17.1). In Lombardy and Emilia-Romagna they were generally plain and only one of them was decorated with scratched hatched triangles. Examples have been found at the following sites: Isolino di Varese, in the proto-Lagozza levels (Guerreschi 1976-7: 475, Tavs. LI.9273, XLIV.4599; Borrello 1984: Figs. 10.2, 11.3); Rocca di Manerba (Borrello 1984: Fig. 10.3); La Lagozza di Besnate (Borello 1984: Figs. 13.1, 14.3, 18.2); Monte Covo (Borrello 1984: Fig. 11.1); and Pescale (Borello 1984: Figs. 12.4, 17.4).

In central Italy the typical decorative motif is a band of scratched (sometimes red or white filled) cross-hatched triangles hanging down from the rim. Examples of

this type have been found in Grotta all'Onda in Tuscany (Borello 1984: Fig. 8.1) and at Norcia in Umbria (Calzoni 1939: 45-6, Fig. 5.2-3; Guerzoni 1984-5: Fig. 2.18-19). In Abruzzo they are known from Fossacesia (CH) (Cremonesi 1973: 82-3); Grotta dei Piccioni (PE) (spits 16-12) (Fig. 32.10; and Cremonesi 1976: Figs. 20.22-23, 25-27, 29; 28; 48.8; 50.6); Cellitto (AQ) (Cremonesi 1983: 136, Fig. 1.6); and Settefonti (AQ) (Mattiocco 1986: Figs. 12 and 14). In Marche they have been found at S. Maria in Selva (MC) (Lollini 1965: 311, Tav. CXXV.1) and possibly at Aquatina (AN) in stratum 6 (Lollini 1965: 312, Tav. CXXVI); and in north-west Campania an example with this type of decoration was found at La Starza (Trump 1963: Fig. 4b).

In Puglia the decoration is similar, but in double or triple rows, as at Macchia a Mare on the Gargano peninsula (Rellini et al. 1930-1: 126, Tav. VIII.2), and in Grotta della Trinità in the province of Lecce (Cremonesi 1983: Fig. 2.15). On Lipari a further regional variation in decoration can be seen, with the hatched triangles pointing up to the rim, on sherds from the Diana phase at the Castello (Bernabò Brea and Cavalier 1980: 485-490, Tav. CIII.1, 4-5) and at the late Diana site at Contrada Spatarella on Monte Giardina (Cavalier 1979: 88, Figs. 21.a, 23, 24.d-j).

The examples from the Abruzzo-Marche region, then, tie in at an Italian (and possibly even central Mediterranean) scale with the form of other dark burnished ware 'dishes

with wide brims', but only at a central Italian scale with the specific decorative motif of a band of cross-hatched triangles hanging down from the rim (with the exception of an example from Grotte de l'Eglise in the Var region in southern France [Borrello 1984: Pl. 1.123.1]). They do not need to be regarded as imports from northern Italy, although they can probably be regarded as being inspired by the Chassey-Lagozza potting tradition. If they were exchanged between regions at all, then it seems likely that this would only have taken place on a central Italian scale. The example from Cellitto, which belonged to a ceramic assemblage comprising a large quantity and wide range of other scratched motifs, can probably be regarded as locally manufactured.

Another example of north Italian Chassey-Lagozza influences in the Abruzzo-Marche region are the 'Pan-pipe' handles found in cavity 9 at Ripoli (TE) (Cremonesi 1965: Fig. 16.8) and at S. Maria in Selva (MC) (Lollini 1965: 314). These have been found to the north especially in Chassey contexts in Languedoc and Provence, but also in Lagozza contexts in northern Italy, such as stratum 10 in Caverna delle Arene Candide, the proto-Lagozza levels at Isolino di Varese, and Riparo La Romita in northern Tuscany (Guerreschi 1976-7: 476).

Chronologically, the Chassey-Lagozza pottery tradition in Italy (including Guerreschi's (1976-7) 'proto-Lagozza' phase) dates by radiocarbon measurements to a maximum time-

span of c. 4350-2650 Cal. BC (see Table 23, p. 503). This corresponds well with the time-span of the early-middle Copper Age in Abruzzo and Marche, c. 4200-2850 Cal. BC (see Chapter 1). The Chassey-Lagozza tradition also continued on into the later Copper Age in northern Italy.

Continuing influences from southern Italy on the pottery of the Abruzzo-Marche region can also be identified for the final Neolithic/early Copper Age. Distinctively shaped and decorated Serra d'Alto style handles made of 'figulina', which can probably be considered as imports, have been found at: Fossacesia (CH) (Fig. 38.7-8; and Cremonesi 1973: 82); Grotta dei Piccioni (PE), including a fragment from the final Neolithic/early Copper Age spit 13 (Cremonesi 1976: 88, Fig. 23.10); Cellitto (AQ) (Di Fraia 1970: 304, Fig. 2.3); Ripoli (TE), cavity 8 (Cremonesi 1965: Fig. 11.30-31); and Area Guzzini west (MC) (Percossi Serenelli and Silvestrini Lavagnoli 1988). Diana-Bellavista style vessels have also been found in Abruzzo and Marche. In spits 23-22 in Grotta Maritza (AQ) red monochrome fineware comprised 5% of the sherds in the pottery assemblage; and Diana style pottery was reportedly found in Grotta S. Angelo (TE) (Sorrentino 1978) and at Villa Panezia (AP) (Lucentini 1984-6: 474). A bowl with an S-shaped profile with a monochrome red surface (possibly achieved through the application of a slip) (Fig. 43.8), which was found in stratum 6 at Aquatina, might perhaps be regarded as an import from southern Italy, for it stands out as an exception against the locally produced coarse and

Table 23. C14 dates for the Chassey-Lagozza pottery tradition in Italy

38.	Neto di Bolasse -	4350 - 3700 Cal. BC (UD-184)
39.	San Rossore -	4224 - 3780 Cal. BC (Pisa lab.)
75.	Spilamberto -	4000 - 3540 Cal. BC (I-11817)
208.	Mosio -	4033 - 3790 Cal. BC (Bln-2977)
213.	Monte Colvolo, layer 20 -	4032 - 2927 Cal. BC (Birm-473)
140.	Arene Candide, level 12-13 -	3992 - 3781 Cal. BC (R-104)
209.	La Lagozza, 1b -	3950 - 3690 Cal. BC (R-338)
210.	La Lagozza -	3931 - 3350 Cal. BC (F-2)
211.	La Lagozza -	3771 - 3383 Cal. BC (R-337)
212.	La Lagozza, levels 15-30 -	3780 - 3360 Cal. BC (PI-34)
142.	Riparo l'Arma di Nasino, layer 8-63 -	3650 - 3340 Cal. BC (R-332)
214.	La Lagozza -	3640 - 3370 Cal. BC (R-78)
215.	La Lagozza, 1a -	3501 - 3100 Cal. BC (R-78α)
218.	Monte Colvolo, layer 13 -	3370 - 2340 Cal. BC (Birm-472)
147.	Grotta del Pertusello, layer 3 -	3340 - 2900 Cal. BC (R-155)
217.	Lagozzetta di Besnate -	3302 - 2910 Cal. BC (R-336)
148.	Riparo l'Arma di Nasino, layer 8C1 -	3257 - 2786 Cal. BC (R-314α)
150.	Riparo l'Arma di Nasino, layer 8C1 -	3040 - 2668 Cal. BC (R-314)

grey-blackish finewares which dominate the ceramic assemblage at this site. Diana-Bellavista influences on vessel forms can also be identified in the pottery

assemblages from the final Neolithic/early Copper Age cavities at Ripoli (cavities 3, 8, 9, and 11). For example, the fineware globular and ovoid vessels with internally positioned horizontal ring handles, decorated with an incised line that runs on to the exterior of the vessel, (Cremonesi 1965: 112, Figs. 9.4,6-8 and 11.23) are similar to examples from Contrada Diana on Lipari (Bernabò Brea and Cavalier 1960).

Strong trans-Apennine communication appears to have existed during the final Neolithic/early Copper Age in central Italy. For example, the ceramic assemblage from the site of Norcia in Umbria, which is located west of the Apennines but just 9 km from the modern Abruzzo-Marche border, can be closely compared to pottery from the Abruzzo-Marche region. Guerzoni (1984-5) has made numerous detailed typological comparisons of 37 pottery vessel and handle types found at Norcia with material from other final Neolithic/early Copper Age sites in Italy. 30 (81%) of these types could be closely compared to examples from Grotta dei Piccioni (PE) ('Ripoli levels'), Ripoli (TE) (phase 3 cavities), S. Maria in Selva (MC), Aquatina stratum 6 (AN), and Donatelli (AN). Pottery from Ripoli, which lies 60 km away from Norcia, could be compared especially closely to the assemblage from Norcia (Guerzoni 1984-5: 173) (22 [59%] of the Norcia types could be closely compared to examples from Ripoli).

Ceramic assemblages indicate that communication and exchange networks increased both in intensity and complexity during the final Neolithic/early Copper Age. This can be seen at various geographical scales. Within the Abruzzo-Marche region, it is difficult to identify clearly any examples of exchanged pottery, but there were certainly strong similarities between ceramic assemblages found on different sites (see Chapter 1), which suggests that good communication existed within this area. There does, however, appear to have been an increase in the local production of finewares on settlement sites, in contrast to the middle and late Neolithic pattern of a few major fineware production centres. The central Italian style of grafitti decoration on 'wide brimmed dishes' and the strong links between the Norcia assemblage and pottery in the Abruzzo-Marche region also suggest that good communication prevailed at an inter-regional level in central Italy.

On the Italian scale, too, exchange networks appear to have been strengthened. Northern and southern Italy, each with its own influential and distinctive pottery tradition (viz. Chassey-Lagozza and Diana-Bellavista) now appear to be more closely connected, especially via central Italy. For example, in the Abruzzo-Marche region new ceramic influences and imports from northern Italy are now found alongside the south Italian ones, and the number of similarities between the fineware from Abruzzo and Marche and that from the other Italian regions seems to have increased. Regional variations did, however, continue, as

can be seen in the different decorative styles employed on the dark burnished ware 'wide brimmed dishes' in Italy. These vessels stand out on an Italian scale as special ceramic artefacts because of their relative rarity, their fine fabrics, and their decoration. Perhaps, like the middle and late Neolithic painted vessels, their use was connected with the serving and consumption of special drinks or food. The widespread appearance of coarseware strainers (eg. Fig. 38.4) and of pouring spouts on pottery vessels (eg. Figs. 41.16 and 43.9) at this time, both in the Abruzzo-Marche region and elsewhere in Italy, might suggest that the production and consumption of special drinks was becoming an important activity.

Significant changes occurred in the production of fineware pottery vessels during the final Neolithic/early Copper Age in Italy. On one hand, the quality of the finewares improved, with well fired and finished dark burnished fabrics increasing in quantity against the more porous 'figulina', along with a few red slipped and burnished Diana-Bellavista style fabrics. These developments reflect technological improvements in paste preparation, control of firing conditions, and vessel finishing, and would have made fineware vessels more efficient and useful as containers. And on the other hand, a greater range of vessel forms appeared, and decoration was applied to fewer vessels, and to more restricted areas on vessels (particularly in a band around the rim). These developments might indicate that potters (and presumably

consumers) recognized increasingly that the fine fabrics and varied shapes of their fineware vessels were now worthy of attention, and that they no longer needed to be hidden behind a dense veneer of surface decoration (S. Hall, pers. comm. 1992). However, they may also relate to changing social contexts and to the new ways in which fineware vessels were used, displayed and examined within them.

Despite these general Italian developments in the production of fineware, in the Abruzzo-Marche region the fineware pottery industry may have declined in importance during the final Neolithic/early Copper Age, after its brief floruit during the late Neolithic with the Ripoli painted pottery. Few particularly distinctive pottery types were produced in the region, and there is no evidence of exports of Abruzzo-Marche finewares outside the region at this time, in contrast to the continued importance in it of the south Italian Serra d'Alto style, and the new and widespread influence of the north and south Italian Chassey-Lagozza and Diana-Bellavista styles.

g) Middle-late Copper Age

Due to the small number of sufficiently well published middle Copper Age pottery assemblages in Abruzzo and Marche, little can be said concerning exchange relations during the middle Copper Age in this region. The poor chronological definition of the middle Copper Age on an Italian scale also hinders inter-regional comparisons. It

does seem possible, however, at the intra-regional Abruzzo-Marche scale, to state generally that assemblages continued to exhibit broad similarities to each other, particularly in the range of decorative techniques employed, but that there was also a fair degree of inter-site variation. For example, from a comparison of the ceramic assemblages from spits 10-9 in Grotta dei Piccioni (PE) and the lower levels of the ditch at Le Conelle (AN), it appears that a similar range of general decorative techniques was used, including applied pastilles, finger impressions on rims and cordons, and a few scratches. But there were also some notable differences between them, in the use of impressed pastilles (rosettes) at Le Conelle, for example, and the regular roughening of vessel surfaces at the Grotta dei Piccioni.

Comparisons of the pottery assemblages from the upper levels of the ditch at Le Conelle (AN) in Marche and the Copper Age deposits at Ortucchio (AQ), 180 km away in Abruzzo, provide a useful insight into the nature and scale of intra-regional communication and exchange networks during the late Copper Age in the Abruzzo-Marche region. Puglisi (1965b), who was the first person to compare the material from these sites, noted the apparent homogeneity of their lithic, bone and pottery assemblages, and consequently suggested the existence of a single 'Conelle Ortucchio' culture group for the Abruzzo-Marche region. More recent comparisons (Cazzella 1987; Moscoloni pers. comm. 1988), on the other hand, have questioned the similarities between the material from these two sites and

have emphasized their autonomy.

Shared characteristics of the ceramic assemblages include the presence of: grey-black burnished fineware, which comprises about 14% of the pottery found in both assemblages; cups with ribbon handles (Figs. 50.4; 52.9-12; 53.1), necked jugs with ribbon handles (Fig. 54.1-2), and globular ollas with short necks (Fig. 54.4); and rows of little point impressions, sometimes white-filled and bordered by incised lines, arranged in a variety of geometric motifs (Figs. 48.7-9 and 49). Distinctive features at Le Conelle include the use of ovoid jugs with oblique-angled mouths (Puglisi 1959: Fig. 13), sometimes known as 'askoi', vessels with spouts (Puglisi 1965b: Tav. CXXXVII.5,8), and lunate handles (Puglisi 1965b: Tav. CXXXVI.2-3). Distinctive features at Ortucchio include the presence of bottle-shaped jugs with high necks and handles (Fig. 54.2), bowls with ornamental depressions on the carination, and large circular decorative impressions (Fig. 48.6).

The similarities and differences between the ceramic assemblages from these two sites, which were located 180 km apart, suggest that they were connected by effective communication networks, which enabled ideas concerning pottery design and manufacture to be shared between them, but that pottery was not actually transported and exchanged over this distance. There is, however, evidence of the very short-distance transport of pottery during the late Copper

Age in the Abruzzo-Marche region: a decorated sherd found in Grotta di Ortucchio (AQ), with incised bands containing parallel and intersecting rows of point impressions (Radmilli 1965a: Fig. 2), was almost certainly transported there from the settlement of Ortucchio, 2 kilometers away, where vessels decorated in the same style have been found (Fig. 49).

At the inter-regional scale precise similarities for specific pottery traits from middle-late Copper Age pottery assemblages in Abruzzo and Marche can in general only be found in the neighbouring regions. The Conelle-Ortucchio style of 'pungeggio' (little point impression) decoration, which is generally regarded as a distinctive Abruzzo-Marche regional trait (eg. Renfrew and Whitehouse 1974: 351), can be compared to examples from three sites located to the north in the neighbouring region of Emilia-Romagna (Bermond Montanari et al. 1988: 608). One of the jugs from the well at La Panighina was decorated with broad white-filled 'punteggio' bands running around its body (Morico 1988: Fig. 3); in the cave of La Tanaccia di Brisighella there were six sherds from carinated bowls with broad bands of 'punteggio' decoration, some of which were white-filled (Farfoli 1976: 179-184, Figs. 1.5,7,8 and 6.3,5-6); and at Pescale coarseware sherds with angular 'punteggio' bands were found (Malavolti 1951-5: Tav. XXV.14). A few sherds with 'punteggio' decoration have also been found to the west, at Acciaerie in Umbria and Cetona in Tuscany (Radi 1988: 373-6). Similarly, the distinctive bottle-shaped

flask with a handle from Ortucchio (Fig. 54.2) can be compared with a few similar examples from the neighbouring regions of Lazio and Tuscany. One comes from the cemetery of the Rinaldone group at Poggialti in the Fiora valley (Negroni Catacchio 1988: Fig. 12.1), and another was found at an unspecified site in the province of Arezzo (unpublished example in Arezzo Museum).

No Bell Beakers have been found in the Abruzzo-Marche region, and interestingly none have been found to the east of the Apennines or in the Adriatic basin (with the exception of those found on the Po Plain) (Barfield 1987a: 502). But some influence from this source may perhaps be seen in the more complex impressed and incised decorative motifs employed at Ortucchio (Sarti and Vigliardi 1988: 386). The latter (Fig. 49.12-14) can be compared in particular to the decorated Bell Beakers found in the tomb at Fosso Conicchio in northern Lazio (Ridgeway 1972: Plate XIa), which are thought, on stylistic grounds, to date to an earlier Bell Beaker phase in central Italy (Sarti and Vigliardi 1988: 387).

11. Less archaeologically visible commodities

Less archaeologically visible commodities such as food, livestock, textiles, and marriage partners are likely to have been exchanged within the Abruzzo-Marche region during the Neolithic and Copper Age. Food, for example, may have been exchanged between groups in order to cope with periodic scarcities (O'Shea 1981a). Only limited and indirect evidence is available concerning such exchange, but it is worthwhile summarizing this evidence. It is drawn, for the most part, from the conclusions of the previous chapter which was concerned with subsistence and settlement.

During the early Neolithic, domesticated crop plants (presumably in the form of seeds) and domesticated animals were imported from south-east Italy to the Abruzzo-Marche region, and were probably then dispersed gradually amongst indigenous groups by exchange. Most sites were probably fairly self-sufficient concerning the production and acquisition of foodstuffs at this time, but the evidence of ritual feasting from Grotta S. Angelo, and of sacrifice of domestic animals in Grotta Continenza, might suggest that slightly broader-scale food-sharing also took place at this time. Probable crop-storage silos were excavated in the middle Neolithic residential site at Catignano, which would seem to imply a certain degree of surplus production and later redistribution of crops. It also seems possible that fairly close relations would have been maintained between

related sites, such as Catignano and Villa Badessa, which could have taken the form of marriage alliances as well as the local exchange of foodstuffs.

The production and ceremonial consumption of special food and drinks may have increased during the late Neolithic. Faunal remains found in caves such as Grotta dei Piccioni and Grotta la Punta seem to point towards feasting, and special drinks could have been consumed during such occasions out of the Ripoli painted vessels. Live cattle and their secondary milk products may have developed as commodities of exchange at this time, for cattle breeding centers such as S. Agnese and Pianaccio emerged on the coastal lowlands. In addition, differences in body parts represented in faunal assemblages suggest that cattle meat may have been transported from sites such as these to the ritual 'Level of the Circles' in Grotta dei Piccioni. (Cattle bones were also deposited in one of the late Neolithic burial cavities in the cemetery at Ripoli.) Probable crop-storage silos can also be identified at the late Neolithic site of Ripoli.

A number of developments may have taken place during the final Neolithic/early Copper Age. Large and thickly plastered cavities at Fossacesia and Monte Tinello perhaps indicate an improvement of crop-storage facilities. Cattle continued to be of importance in the lowlands, and may have become significant items of exchange at this time. More generally, the scale of animal husbandry appears to have

increased at this time, and it may also have become more specialized. In relation to this, both live animals and their secondary products such as milk might have been exchanged more extensively at this time in the Abruzzo-Marche region. The expansion of settlement into previously marginal areas may also have necessitated an increase in the exchange of food surpluses. In addition, the appearance of clay 'spindle whorls' at this time may relate to the development of exchange in textiles.

The increase in the importance of wild plants and animals during the middle-late Copper Age might suggest a return towards self-sufficiency in the acquisition of foodstuffs. However, cattle continued to grow in importance. They are well represented at the defended site of Le Conelle, where they might have been regarded as valuable and even prestigious items, and perhaps protected from cattle raiders. The development towards a more specialized pastoralist economy at certain intermontane sites may also have led to the increased production and exchange of secondary products such as cheese at this time.

12. Conclusions

The scale of communication between groups located in the central Mediterranean region began to expand noticeably during the Mesolithic period (c. 10,000-5,500 BP). This is suggested by an accumulating quantity and range of evidence that indicates the long-distance transport, and perhaps

also exchange, of small quantities of raw materials and artefacts in Italy at this time. South Italian sites, for example, received obsidian from Lipari and chert from the Gargano peninsula; chert, Columbella sea shells, and probably also Sardinian obsidian, were transported over increasingly long distances in northern Italy; and in central Italy symbiotic relations probably developed between Mesolithic groups in the Abruzzo region and the earliest Neolithic groups in south-east Italy.

Following these early developments, the scale of communication and exchange expanded significantly in both Italy and the Abruzzo-Marche region during the early Neolithic (c. 5750-4850 Cal. BC in Abruzzo-Marche). Communication between groups located in different regions becomes more evident in the archaeological record (eg. the emergence of an Adriatic style of Impressed Ware), although this seems to have been generally restricted to neighbouring regions, with fairly simple patterns of fall-off in the number and intensity of connections between areas with increasing distance between them. An example is the rapid development of especially strong links between groups located in coastal southern Abruzzo and south-east Italy. There was also an increase in the scale of the inter-regional exchange of raw materials and artefacts compared to the Mesolithic. For example, obsidian, 'greenstone' axes, red ochre, and domesticates were now imported into the Abruzzo-Marche region. Only quite small quantities of generally subsistence-related, utilitarian

materials and artefacts were exchanged over long distances at this time, eg. 'greenstone' axes and obsidian imported into and exchanged within Abruzzo and Marche. But there may have been a slight increase in their quantities during the second part of the early Neolithic. Ideas and goods flowed in particular from south-east Italy to the Abruzzo-Marche region during the early Neolithic, in a sustained and apparently one-way flow, which perhaps ran especially along an Adriatic sea route. Thus south-east Italy was the source of ideas relating to early pottery use, manufacture, and decoration, crop growing and stock rearing, and ground-stone axe production and use. It was also the source of early domesticates, and possibly a little Lipari obsidian. Ideas and goods also flowed between early Neolithic groups in Abruzzo-Marche and west-central Italy via the Apennine mountains. Examples are similarities in pottery and imports of Palmarola obsidian and red ochre in Abruzzo-Marche. For Mesolithic groups in Emilia-Romagna, Abruzzo was the source of ideas relating to early pottery use, manufacture, and decoration.

Fairly efficient communication networks must have existed at this time within the Abruzzo-Marche region, especially between groups living in the same province. We can see this in the rapid spread of the use of pottery through the Abruzzo-Marche region, and in the emergence of provincial-scale variants in the style of pottery. Raw materials were mainly procured directly from local sources, and artefact production took place on a settlement and

probably also household scale (eg. local sources and working of chert, limestone and clay). However, small quantities of goods were also imported into, and dispersed throughout the Abruzzo-Marche region, although not necessarily evenly within it. This was done via exchange networks which connected both coastal and inland areas and southern and northern parts. Instances are the exchange of imported obsidian, 'greenstone' axes, sea shells, and red ochre within the Abruzzo-Marche region. A few lowland settlement sites may have emerged as nodes on exchange routes during the early Neolithic, eg. Villaggio Rossi for obsidian, and Ripabianca for obsidian and sea shells. Relative proportions of special-function imported goods appear to be slightly higher in cave sites than on settlement sites at this time. This probably relates to ritual practices in the former and may be indicated by greater proportions of obsidian and especially of red ochre in the Abruzzo caves, as well as the remains of feasts found in some of them. An overall impression of the early Neolithic economy in the Abruzzo-Marche region is one of a relatively undifferentiated and unspecialized system which, to a large extent, seems to have operated under a 'domestic mode of production'.

During the middle Neolithic (c. 4850-4700 Cal. BC in Abruzzo-Marche) there was a further increase in the scale of communication and exchange between the groups in the Abruzzo-Marche region and south-east Italy, as may be seen in the strong influence of the south Italian Red-painted

Ware tradition, and increased quantities of imported Lipari obsidian. Trans-Appennine communication and exchange also continued, indicated by similarities in painted pottery, and imports of Palmarola obsidian to Abruzzo-Marche, but there was a decrease in the number of links with Emilia-Romagna. In Italy as a whole there was an expansion in the exploitation of sources of raw materials for commodities which were exchanged on an inter-regional scale. For example, this is the period of the earliest evidence of flint and 'greenstone' quarrying in northern Italy. Yet the quantity of goods imported into the Abruzzo-Marche region at this time remained relatively small, as indicated, for example, by the quantities of obsidian deposited on most sites.

The exchange of goods within the Abruzzo-Marche region, however, increased in scale during the middle Neolithic, especially between groups located within the same province. An example is the exchange of Catignano painted pottery in the Pescara province. There also seems to have been a related decrease in the direct acquisition of raw materials from primary sources in the Abruzzo-Marche region at this time, eg. the lack of chert at Catignano despite the location of primary sources only 10 km away. The importance of particular lowland settlement sites acting as nodes on exchange routes also developed during the middle Neolithic. A good example is Catignano, which acted as a collection, use and possibly redistribution node for imported Lipari obsidian, and as a production and

export centre for painted pottery. Exchange within the Abruzzo-Marche region appears to have become more ceremonial in nature at this time, with greater quantities of fine artefacts with higher symbolic values being produced and exchanged, such as the Catignano painted pottery, and a fine shell bracelet at Villa Badessa. Also exchanged goods were often deposited in human burial and ritual cave contexts, such as the Catignano painted pottery deposited with human burials and in caves. It is noticeable, too, that generally higher ratios of obsidian to chert artefacts are found in cave deposits.

During the middle Neolithic, it is possible to see: the expansion of communication, and to a lesser extent of exchange, on an inter-regional scale; and the development of less utilitarian functions for certain categories of exchanged goods, and the possibility of ceremonial exchange, within the Abruzzo-Marche region. Taken together, all this might indicate the development of relations of balanced reciprocity between individuals and groups who were relatively socially distant. The use and reciprocal exchange of high quality and symbolically meaningful goods such as Catignano painted pottery may have served to reduce the social distance between the two parties and to seal agreements concerning issues such as peace and alliances established between them. Such exchanges would also have facilitated the continued and expanding exchange of more common, utilitarian, commodities such as chert, obsidian, and 'greenstone' (and possibly crop surpluses).

Developments which had been initiated during the middle Neolithic continued to a great extent during the late Neolithic (c. 4700-4200 Cal. BC in Abruzzo-Marche), but with some expansion in their scale. In Italy as a whole there was an increase in the quantity of goods being transported over long distances, seen for example in the growth of obsidian exchange. (This is also the time of the earliest evidence of permanent settlement on the source island of Lipari.) This development is not so evident in the Abruzzo-Marche region, eg. there was no further increase in the quantities of long-distance imports of obsidian or 'greenstone'. There was, however, a broadening and intensification of contacts between this region and others during the late Neolithic. Strong contacts were maintained with groups in southern Italy, especially those in the northern part of south-east Italy. We can see this in exports of Ripoli painted pottery, imports and the influence of Serra d'Alto painted pottery and Diana-Bellavista pottery, imports of Lipari obsidian, and the possibly related similarities of Ripoli to Capri-Lipari painted pottery. Trans-Apennine connections with west-central Italy and adjacent areas also continued and expanded, eg. the export of Ripoli painted pottery, and the importing of coral, triton shells, and red ochre. At this time too much stronger trans-Adriatic links developed with late Neolithic groups in Dalmatia, as shown, for example, by similarities between the Ripoli and Danilo styles of painted pottery. Related to this inter-regional expansion in communications and exchange was the development of a new

range of long-distance exchange items, which, at least when displayed in ceremonial or ritual contexts, would have had special functions and high symbolic values. Good examples are painted pottery containers, shell ornaments, and shell trumpets.

During the late Neolithic developments also continued in the production and exchange of artefacts within the Abruzzo-Marche region itself. Lithic assemblages indicate a further decrease in the direct acquisition of chert from primary sources and, related to this, the exchange of small quantities of chert taking place alongside the continued exploitation of local secondary sources. Lithic artefacts with more specialized functions also developed at this time. Thus there is an increased distinction between obsidian and chert artefacts, and the development of especially long retouched chert blades. Pottery fineware production and export centres continued to develop both in Abruzzo and in Italy during the late Neolithic, eg. Ripoli, and, to a lesser extent, inland at Fonti di S. Callisto in Abruzzo. Some production sites in Italy, such as Casatico di Marcaria in Lombardia, were importing fineware clays over distances of up to 40 km. Cattle, milk products, and crop surpluses may also have been exchanged at this time. An increased quantity and range of commodities with special functions and high symbolic values was also deposited in ritual cave contexts during the late Neolithic in the Abruzzo-Marche region. For example, the 'Level of the Circles' and the general 'Ripoli' deposits in Grotta dei

Piccioni contained a pink coral ornament, a triton shell trumpet, many perforated Pectunculus shells, red ochre, Ripoli and Serra d'Alto painted pottery, and Diana-Bellavista pottery; and spits 9-8 in Grotta la Punta contained imported Fonti di S. Callisto and Serra d'Alto painted pottery and Diana pottery.

Out of all of these developments seen in the archaeological record, the most significant seems to be the increased production, long-distance exchange, and deposition of commodities with high exchange and symbolic values but restricted, or specialized, use values - such as trichrome painted pottery, triton shell trumpets and ornaments. In conjunction with ceremonies or rituals, which were notably performed in caves (but probably also in residential sites), these artefacts may have been used and exchanged, under terms of balanced reciprocity, exclusively by and between selected individuals, such as emergent political leaders, who acted on behalf of the groups to which they belonged. As in the middle Neolithic, these ceremonies would probably have been concerned with the establishment of peaceful relations and alliances between socially distant groups. Exchanges of valuables would have been made between the various parties in order to reduce the social distance that existed between them, and special liquids and food may have been consumed in order to reduce the social stress inherent in such occasions. The main difference from the middle Neolithic period seems to be one of scale: these balanced reciprocal exchanges were probably

now made between even more socially distant groups, and so on an inter- as well as an intra-regional scale. This expansion in inter-community relations does not yet seem to have affected the scale of the inter-regional exchange of more utilitarian commodities, such as obsidian and 'greenstone' artefacts, whose quantities remained small on most sites in the Abruzzo-Marche region. However it might relate to a further expansion in exchange networks within the Abruzzo-Marche region, through which greater quantities of locally acquired utilitarian commodities, such as chert, were exchanged.

During the final Neolithic/early Copper Age (c. 4200-3200 Cal. BC in Abruzzo-Marche) the whole of Italy appears to have become unified by extensive communication and exchange networks. Yet regional variations continued to be exhibited by different artefact types, as is shown, for example, by the spread of early copper use throughout Italy, and the development of Italian-scale pottery styles. The scale of lithic raw material extraction and exchange increased markedly. We can see this, for example, in the increased scale of obsidian and chert/flint extraction and exchange in Italy as a whole, and in the increase in the quantity and range of Lipari obsidian artefacts imported into the Abruzzo-Marche region. The development of a greater range of less 'utilitarian', ornamental and symbolic commodities in the Abruzzo-Marche region was probably related to this expansion in communication and exchange networks, which were possibly becoming even more

ceremonial and diplomatic in nature. Examples of such artefacts are the ground-stone perforated miniature 'greenstone' axe from Fienili, and the exceptional 'greenstone' ring from Fossacesia, the first limestone maceheads and copper artefacts, and the finely worked shell ornaments. Significant changes also took place in the production and use of fineware pottery vessels in Italy, with a decrease in the inter-regional exchange of pottery, vessels becoming finer and less decorated, and a decline in the importance of the Abruzzo-Marche pottery industry on an Italian scale. The number of south Italian imports and influences flowing into the Abruzzo-Marche region reached a peak during this period, eg. the relatively high quantities of imported Lipari obsidian; the earliest copper in south and central Italy, possibly transported by sea; and the imports and influences of Serra d'Alto and Diana-Bellavista pottery. However, as in the early Neolithic, the archaeological record provides no clear evidence of goods travelling back in the opposite direction from groups in Abruzzo-Marche to those in southern Italy. Trans-Appennine contacts were strengthened further, as seen, for example, in similarities between crescentic shell pendants, and between pottery found at Ripoli and Norcia. Much stronger influences also began to be felt from northern Italy, such as imports of 'greenstone' axes and rings, and imports or influence of Chassey-Lagozza 'Pan-pipe' handles and scratch decorated bowls.

Within the Abruzzo-Marche region there was an expansion and improvement in the nature of production and exchange. This is evidenced by the increased scale and standardization of chert quarrying, production and exchange; the greater quantity of obsidian and sea-shells, which were more evenly distributed across the region, from the coast to inland areas; and by an increase in the range of rock types used for ground-stone axes. New site locations may have been chosen partly in order to overlook and even control important exchange routes. Examples are the Lipari Acropolis, Grotta Cola on a trans-Appennine route, and S. Maria in Selva overlooking an inland route running along the River Potenza. A greater number of settlements emerged as nodes and possibly redistribution centres on exchange routes, and it now seems possible to rank these into some kind of hierarchy. First there are lowland settlements, which have the greatest quantities and range of exchange goods and inter-regional links. Such sites include Ripoli, with the most obsidian and sea shells, and also Serra d'Alto pottery, 'Pan-pipe' handles, pottery links with Norcia, and stud decorated dishes; and Fossacesia, with much obsidian, and also copper, Serra d'Alto, stud and scratch decorated pottery. Then there are settlements located further inland, such as S. Maria in Selva, with much obsidian, and also copper, a 'Pan-pipe' handle, stud and scratch decorated pottery; Cellitto, with much obsidian, and also Serra d'Alto, stud and scratch decorated pottery; stratum 6 at Aquatina, with copper, Diana and scratch decorated pottery; and Settefonti, with

stud and scratch decorated pottery. The importance of caves as places for the ceremonial use and deposition of goods seems to have declined, and such activities might now have been transferred fully to the major lowland settlements (eg. the special deposits in cavities 9 and XXV at Ripoli).

The developments which began during the middle Neolithic in Italy reached a peak in the final Neolithic/early Copper Age. In this period inter-group communication and exchange expanded in scale to its greatest extent and intensity, and reached its highest level of efficiency. The expanded range of ornamental and symbolic artefacts found in final Neolithic/early Copper Age deposits probably relates to an increase in ceremonial activities, whose role would have included the establishment and maintenance of inter-group alliances. The deposition of these artefacts in less explicitly ritual contexts than during the late Neolithic (such as in settlement deposits, rather than with human burials or structured deposits in caves) perhaps suggests that the ceremonies in which they were used were becoming more political and less ritual in nature. Despite the apparent stability of exchange networks in Italy during the final Neolithic/early Copper Age, the evidence from the Abruzzo-Marche region seems to suggest a certain degree of imbalance on an inter-regional scale. Groups in the Abruzzo-Marche region received relatively large quantities of goods from others located in both southern and northern Italy, and yet there is no archaeological evidence of goods

returning in the opposite direction. It is, of course, possible, and perhaps likely that goods did actually return, but that they are archaeologically invisible (eg. domestic livestock - Sherratt 1982, or textiles). In addition, the production of certain classes of artefact appears to have been strongly influenced by those belonging to groups located outside the Abruzzo-Marche region. We may see this in the technological and stylistic influence of north Italian Lagozza and south Italian Diana pottery on local pottery production. This could possibly relate to a system of inter-group communication and exchange in which prestige (or influence) was beginning to play an increasingly significant role, and which more and more encouraged imbalance in reciprocal exchanges. This also seems to be apparent in the evidence from settlement sites in the Abruzzo-Marche region. By comparison with the late Neolithic, several changes can be observed. An increased number and possible hierarchy of settlements acting as nodes on exchange routes can be seen; ceremonial activities appear to have shifted from marginally located caves to settlement sites; and the location of certain settlements seems to suggest increasing control over the most important exchange. From all this, one might infer that inter-group relations were increasingly characterized by both economic and social competition, in which group prestige was becoming a progressively more important factor.

Long-distance exchange networks fell into decline during the middle Copper Age in Italy (c. 3200-2850 Cal. BC

in Abruzzo-Marche). In this period the exchange of obsidian, flint, and 'greenstone' decreased, and we can see the emergence of regional styles in copper-working. In Abruzzo-Marche connections were now only maintained with groups located in the immediately neighbouring regions of Umbria and Tuscany (eg. trans-Appennine copper imports and pottery similarities) and Emilia-Romagna (eg. similarities in pottery, ground-stone, and copper artefacts). The traditional links with southern Italy seem to have become severely restricted. At the same time copper artefacts became the most highly valued and dominant exchange goods in central Italy. (The value of cattle may also have increased significantly at this time.) There seems to have been some revival in inter-regional exchange networks during the late Copper Age (c. 2850-2050 Cal. BC in Abruzzo-Marche). There is, for example, an increase in the evidence of the long-distance exchange of ground stone artefacts. The nature of exchange seems to have altered again, with the development of a new range of valuable commodities. A good example is the development of new forms of ground-stone axes, with a distinction between imported perforated 'greenstone' axe-hammers used as work axes, and a few imported 'greenstone' knobbed battle-axes which, although possibly used, were probably also used as important items of display in ceremonial contexts. The use and exchange of such objects may now have been limited to, and controlled by, influential individuals or families (note, for example, the copper axes found in very similar burials at S. Rocco and Camerata). The power of groups in

the Abruzzo-Marche region to attract imports on an Italian scale appears to have become further weakened during the middle and late Copper Age. Thus only a limited quantity and range of copper artefacts were imported into Abruzzo-Marche, no Beakers were imported or produced here, and there seems to have been a greater use of lower value chert blade artefacts in graves in this region.

The scale of communication and exchange between groups in the Abruzzo-Marche region generally diminished during the middle and late Copper Age. Indications are the decline in sea-shell exchange; the insufficient supplies of chert at Ortucchio; and, despite a fair degree of intra-regional similarity in pottery assemblages, the existence of inter-site variations in pottery styles and a lack of evidence of pottery exchange, except over very short distances. There was, however, a corresponding expansion of resource exploitation and the production and exchange of functional artefacts on a local scale. Examples are the continuation, standardization and expansion of chert quarrying, with production and exchange at a local scale; the development of a new range of heavy-duty work axes, manufactured locally from locally available rock types; and the local working of copper in Grotta dei Baffoni. The number and range of exchange nodes decreased, but a few large settlements continued to act as major import, production and, possibly, redistribution centres, eg. Ortucchio, with 'punteggio' decorated pottery and imported shell and obsidian artefacts; and Le Conelle, with 'punteggio'

pottery and cattle, and imported copper and red chert artefacts.

The postulated large-scale system of reciprocal exchange, reached its peak during the final Neolithic/early Copper Age. It appears to have collapsed during the middle Copper Age, for there was then a marked decline in the scale of long-distance communication and exchange in both Italy generally and in the Abruzzo-Marche. The continued development of an increasingly unbalanced system of reciprocal exchange towards the extreme of negative reciprocity (which would have involved the full outbreak of inter-group hostilities and development of raiding), and the overstretching of an already extensive exchange network in the central Mediterranean, must have contributed to the collapse of this system of communication and exchange. However, these are but two relatively internal factors, and a fuller, more contextual, explanation of this collapse is suggested in the concluding chapter of this thesis.

Inter-regional communication and exchange revived during the late Copper Age in Italy, but apparently in a new form. Utilitarian commodities such as chert artefacts and 'greenstone' axe-hammers probably continued to be exchanged according to traditional mechanisms. But the association of valuables, such as copper axes and knobbed stone battle-axes, with individuals in graves, and the emergence of a few large settlements, such as Ortucchio and Le Conelle, acting as import, production, and possible

export centres, seem to indicate the development of new, more complex, and possibly even redistributive, exchange mechanisms in the Abruzzo-Marche region. They may now have pivoted upon the achievements of high status individuals or 'Big Men', who acquired valuables for themselves, not only as an indicator, but also as a source, of social status and prestige. However, if such a system did exist, then it seems clear that the late Copper Age 'Big Men' of the Abruzzo-Marche region were relatively unsuccessful in their diplomatic and entrepreneurial efforts, for they failed to attract significant quantities of valuables into the region. They were also unfortunate, for they lacked local sources of copper, and copper was probably the most valuable commodity at this time.

Turning back for a moment to reconsider this chapter, I should perhaps like to claim as my main achievement simply the presentation of a large body of data relating to networks of communication and exchange in the Abruzzo-Marche region - something which had not been attempted before. The data, of course, could be better in quality, but some clear and interesting patterns do emerge, which can be compared with those observed in other regions of the central Mediterranean. My reassessments of various models of exchange proposed by other prehistorians in relation to the Neolithic and Copper Age of the central Mediterranean, and my own concluding discussion of communication and exchange, should be regarded as an attempt (however simplistic) to do justice to the variety and complexity of

these data. Looking to the future: much more characterization work should be carried out on a greater range of materials; sampling and quantification of artefacts on excavations should be improved; the nature of trans-Adriatic contacts between Italy and Dalmatia from the Mesolithic to the Copper Age should be investigated in detail; and more advanced explanatory models concerning communication and exchange in the Neolithic and Copper Age of the central Mediterranean should be developed.

Table 24.Sites and their commodities mentioned in Chapter 4

Nb. The table excludes poorly dated sites, chert and pottery.

Key: O = obsidian, GSA = ground stone axes, SR = stone rings, M = stone maces, AH = perforated axe-hammers, BA = knobbed battle-axes, CU = copper, C = coral, P = pumice, R = red ochre, SS = sea shells.

Site	Commodities
EARLY NEOLITHIC	
Crocefisso (CH)	SS
Villaggio Rossi (CH)	O GSA SS
Colle Maggio (PE)	SS
Fontanelle (PE)	GSA SS
Grotta dei Piccioni (PE)	O GSA R SS
Villaggio Leopardi (PE)	GSA SS
Capo d'Acqua (AQ)	SS
Cellitto (AQ)	O
Ortucchio (AQ)	O
Colle S. Stefano (AQ)	O
Grotta Continenza (AQ)	O GSA R SS
La Valle (AQ)	O
Grotta S. Angelo (TE)	O
La Maddalena (MC)	O GSA
Ripabianca (AN)	O GSA SS
MIDDLE NEOLITHIC	
Catignano (PE)	O GSA
Grotta dei Piccioni (PE)	O SS
Villa Badessa (PE)	O GSA SR SS
Grotta Continenza (AQ)	O
Grotta S. Nicola (AQ)	O

LATE NEOLITHIC

Fonti di S. Callisto (PE)	O
Grotta dei Piccioni (PE)	O GSA SR R SS
S. Agnese (PE)	O
Grotta Maritza (AQ)	O
Pianaccio (TE)	O GSA SS
Ripoli (TE)	O GSA SR R SS

FINAL NEOLITHIC/EARLY COPPER AGE

Fonterossi (CH)	O GSA
Fossacesia (CH)	O GSA SR F SS
Grotta dei Piccioni (PE)	O GSA SR C SS
Piano d'Orta (PE)	O GSA SS
Cellitto (AQ)	O SR GSA
Grotta Cola II (AQ)	O
Mindoli (TE)	O GSA SS
Ripoli (TE)	O GSA SR M P
Rocciano (TE)	GSA
S. Giuseppe (TE)	GSA
Viale Kennedy (TE)	O
Ciafone (AP)	O
Fondo Coccia (AN)	SR M P
I Fossi (AN)	SS
Monte Tinello (AP)	O GSA
Area Guzzini west (MC)	SS
Capannacce (MC)	O
Colle Morico (MC)	GSA
S. Maria in Selva (MC)	O GSA CU SS
Aquatina (AN)	GSA SS
Coppetella (AN)	O
Donatelli (AN)	O
Fondo Coccia (AN)	GSA R
Fienili (AN)	GSA
S. Biagio (PO)	GSA
S. Lorenzo in C. (PO)	SS

MIDDLE-LATE COPPER AGE

Camerata (AQ)	CU
Grotta la Cava (AQ)	AH
Grotta Continenza (AQ)	AH
Salle (AQ)	CU
Grotta dei Piccioni (PE)	GSA AH
Ortucchio (AQ)	O GSA AH SS
Pescocostanzo (AQ)	O
Crocetta (TE)	GSA
Casone (MC)	GSA
Aquatina (AN)	GSA
Fabriano (AN)	GSA
Grotta dei Baffoni (AN)	CU
Le Conelle (AN)	AH CU
S. Rocco (AN)	CU
Vescovara (AN)	BA
S. Biagio (PO)	GSA AH CU
S. Lorenzo in Campo (PO)	AH

CHAPTER 5. MORTUARY PRACTICE

1. Introduction

This chapter is concerned with the identification of mortuary practices carried out during the Neolithic and Copper Age in the Abruzzo-Marche region and with possible ways of interpreting them. It is subdivided into an introduction, a central section describing and discussing the mortuary data for each chronological phase, and a conclusion. The mortuary data are described in detail in this chapter (rather than in the Appendices), because they are restricted in quantity and because they exhibit significant site to site variation which needs to be emphasized. In the introductory section, below, I begin by providing a definition of the term 'mortuary practice', and then turn to a review and critique of the main new methodological and theoretical approaches and ideas developed, by both anthropologists and archaeologists over the last decade, in relation to the study of mortuary practices. I have categorized these broadly under the headings: transformation processes in the archaeological record; ritual; and symbolic, structural and contextual approaches. It is easy to recognize, however, that these categories overlap with each other. I then provide a summary and critique of recent discussions of Italian Neolithic and Copper Age mortuary practice and ritual. Finally, I discuss the range and quality of the mortuary data for the Neolithic and Copper Age in Abruzzo-Marche.

a) Definition of 'mortuary practice'

'Mortuary practice' is not a particularly problematic term to define, at least on a general level. Basically, it can be taken to mean: the habitual, customary or traditional action carried out by the living in relation to the death or burial of human beings (Sykes ed. 1976: 710, 867). Not surprisingly, archaeologists, by concentrating upon the material aspects of culture, have tended to use this term in a more restricted way than social anthropologists, and have hence focussed their attention upon the practical treatment of the dead and their remains, paying less attention to the psychological and social implications of mortuary practice. Such an attitude has been traditionally encouraged within archaeology by those who believe in a 'ladder of inference' (eg. Hawkes 1954; Bartel 1982: 52), which places the study of religious institutions and spiritual life on the topmost rung, according to the view that only very limited amounts of information are observable or potentially inferrable from the archaeological record concerning these topics (in contrast to the study of settlement and subsistence, for example). Unfortunately, however, this restricted definition of, and approach towards, mortuary practice has led archaeologists to pay insufficient attention to the crucial role of the living in mortuary practice, and explains the need for Barrett's surprising but obvious remark that "the dead do not participate in their own funeral" (Barrett 1988: 31). Mortuary practice must be

seen, even by archaeologists, as a particular type of social practice, in which the living cope with the death and burial of members of society.

b) New archaeological approaches to mortuary practice

Recent methodological and theoretical developments in the archaeological study of mortuary practice seem to have emerged, quite closely, from the areas of concern pinpointed by Chapman and Randsborg at the end of the 70's in their major review of 'the archaeology of death': "the insufficiently explicit attention given to the formation and transformation of the archaeological record, the inadequate treatment of symbolism, the relative neglect of spatial patterning in the location of disposal areas and the absence of a regional perspective in the analysis of mortuary practices." (Chapman and Randsborg 1981: 23). More broadly, these developments relate to the establishment of a 'post-processualist' school of theoretical archaeology in Britain during the 1980's (eg. Hodder 1986: 147-170), although their roots can also be seen to lie in the systematic approaches towards the description and interpretation of mortuary practice developed by 'processual' or 'New' archaeologists during the 60's and 70's (eg. Binford 1971).

i) Transformation processes in the archaeological record

The first of these developments in the study of mortuary practice relates to a growing concern with identifying the various cultural and non-cultural processes involved in the transformation of the past 'systemic' context of human action into the present archaeological context, and, consequently, the need to establish a relevant 'middle-range theory' (see, for example, Schiffer 1976: 31-2). In mortuary studies this is gradually leading to: a more dynamic view of the systemic context, in which dying, death and burial are now seen as sequential phases in a lengthy mortuary process; a more detailed consideration of the differential preservation of aspects of mortuary practices in the archaeological context; and a rejection of assumptions that relatively straightforward links can be made between variations in mortuary practices and variability in the form and organization of social systems.

A few general models of the mortuary process in the systemic context, based upon a variety of ethnographic studies of death-related behaviour, have been presented to archaeologists by writers such as Humphreys (1981b) and Bartel (1982: 52-3). In these models, mortuary practice is seen as a lengthy physical and social process which, at least for analytical purposes, can be subdivided into a general sequence of distinct symbolic periods comprising dying, death and burial.

The first phase, dying, involves a number of social acts. The dying individual is, for example, set aside from many normal social relationships and becomes a focus of attention. The degree of attention received by the person about to die may vary according to their age, social status and perceived moral character, but generally at least a core group of family personnel participate in a death watch and make preparations for the subsequent biological death and burial. The dying person may also play an active part in this phase: naming successors, or carrying out specified ritual acts, for example.

The second phase, death, is more difficult to define, for there is wide cultural variation with regard to what is perceived as the moment of death - it does not always equate with our concept of biological death. Despite this, three important processes do normally take place, either during the process of dying or after death: certain culturally defined symbolic acts are performed, such as the preparation of the corpse, ritualized mourning, and visits of friends and relatives to bid farewell to the deceased; the social roles and property rights of the deceased are redistributed amongst the living; and, in certain societies, the cause of death is determined. The bereaved are faced with conflicting demands at this time: on the one hand, they are expected to share, in some sense, in the journey of the deceased away from society; and on the other hand they are involved in an intense social activity, including the reaffirmation of relationships, the

mobilization of resources for the entertainment of guests, and the legitimation of an altered social order. These conflicting demands are sometimes resolved by a division of labour, in which women are assigned those roles which involve the closest contact with the corpse and the most marked detachment from the activities of everyday life, leaving men to deal with the more public aspects of the funeral.

The third phase comprises burial, along with reburial, commemoration and the creation of monuments. Broadly speaking, this phase sees the physical and social transformation of what was a living person and is now a decaying cadaver into something permanent and stable. There is, of course, great cultural variety exhibited in this process, both in the treatment of human remains and in the nature and meaning of the associated rites. As Huntingdon and Metcalf point out:

"Corpses are burned or buried, with or without animal or human sacrifice; they are preserved by smoking, embalming or pickling; they are eaten - raw, cooked or rotten; they are ritually exposed as carrion or simply abandoned; or they are dismembered and treated in a variety of ways. Funerals are the occasion for avoiding people or holding parties, for fighting or having sexual orgies, for weeping or laughing, in a thousand different combinations."

(Huntingdon and Metcalf 1979: 1.)

Hertz's (1907) 'contribution to the collective representation of death' and Van Gennep's (1909) investigation of 'rites of passage' should, however, be mentioned, for they were amongst the first and most influential anthropological studies to see order within this variety, and, from the point of view of the archaeologist, to provide numerous ethnographic details concerning the nature and sequence of particular sets of burial rites.

Drawing mainly upon the funerary cults of Malayo-Polynesian-speaking peoples, Robert Hertz investigated the symbolic contrasts between the bones and the flesh of the deceased and the pattern of double burial rites, finding parallels between the state of the corpse, the fate of the soul of the deceased, and the mourning regulations imposed on the bereaved. He divided the burial phase into two stages, comprising an intermediate period, and the final burial ceremony. In the former, the decaying corpse is temporarily disposed of, the departed soul of the deceased is potentially malevolent and socially uncontrolled, and the mourners are separated from everyday life, often for several years. In the latter, the bones of the deceased are recovered and treated to a secondary and definitive burial, the soul of the deceased settles down and is incorporated into the society of the dead, and, through the final ceremony which celebrates the triumph of the collectivity over death, the living are liberated from their mourning.

Arnold Van Gennep divided 'rites of passage' (which include funerary rites, as well as puberty rites, initiation ceremonies, and marriages) according to a tripartite structure comprising rites of separation, liminality and incorporation, each of which were characterized by different forms of symbolism. Turner (1967, 1969) has, more recently, provided support for this scheme through detailed studies of ritual symbolism. The first phase is marked by rites of separation which signify the detachment of the individual or group from an earlier fixed point in the social structure, and/or from a certain 'state' (a set of cultural conditions). The second, 'liminal' phase is marked by rites of liminality. (The word liminal stems from the Latin limen which can be literally translated as 'threshold'.) During this phase normal social relations and rules are replaced by 'statuslessness' and ambiguity: "Liminal entities are neither here nor there; they are betwixt and between the positions assigned by law, custom, convention, and ceremonial" (Turner 1969: 95). The rites themselves are characterized by continuous reference to mystical powers, and by the presence of a rich variety of symbols. The former helps to provide a sense of timelessness and danger, and the latter tend to emphasize the ambiguous and indeterminate attributes of liminal situations and roles, especially through the reversal of the known order of things. The third phase involves rites of re-incorporation that emphasize a return to a (new) state of normality, order, stability and security following the process of transition.

This brief description of a generalized and normative model of some of the temporal, physical, social and symbolic aspects of the mortuary process (based broadly upon Humphreys 1981b and Bartel 1982: 52-3), was not presented here as a universally applicable analytical framework, and yet it clearly contains a number of important implications for the archaeological study of the systemic context of mortuary practice. To begin with, we clearly require detailed observation in the process of excavation in order to try to distinguish chronologically distinct phases of mortuary activity, and, in particular, to see if secondary burial rites have been performed. We must realize, however, that, even with fine-grained chronological resolution, what is archaeologically observable amounts to only a small part of the entire mortuary process. The earlier stages of dying and death are, for example, likely to be poorly represented if at all, for although important social activities take place at this time, the deposition of material symbols tends to be restricted to the final burial phase. This then limits, for example, the degree to which we can consider the development and resolution of socio-political discourses through the mortuary process (cf. Braithwaite 1984). From a social point of view, this consideration of the mortuary process reminds us that it is the mourners who are the active participants in the process, and suggests that the social position of the dying individual does not remain static even during death.

More specific ethnoarchaeological models of particular aspects of the mortuary process are fairly limited in number and scope, perhaps not suprisingly considering the great cultural variability exhibited by mortuary practices. One area of interest, however, has been in the differential preservation and visibility of aspects of mortuary practices in the archaeological record. Most importantly, perhaps, this appears to relate to the particular nature of the funerary rites performed in the systemic context. Barrett (1988: 32), for example, warns that we should not compare closely the practice of inhumation with those of secondary burial and cremation when considering mortuary symbolism. With inhumation, symbolism associated with the liminal transformation of the body may be carried over into the grave and thus preserved archaeologically (in the adornment of the corpse, for example). On the other hand, with delayed burial and cremation, the temporal and spatial separation of rites of incorporation from the earlier rites of liminality may be great enough to ensure that the symbolism associated with liminality is discarded by the time deposits finally enter the archaeological record. Similarly, O'Shea (1981b) describes differences in the archaeological visibility of different social divisions in late 18th and early 19th century cemeteries in the north-central American Plains due to the performance of different funerary rites. 'Horizontal' social divisions, such as descent group membership, were difficult to identify in the archaeological record, for they tended to be expressed in pre-interment rituals, body preparation and the inclusion

of mainly organic items as grave goods; whereas 'vertical' social divisions, such as ranking, were more visible in the archaeological record, because they were expressed in elaborate grave construction and the types and quantities of grave goods. Ucko (1969) cautions us, in relation to the differential deposition of funerary goods in graves, that the deceased's possessions or offerings to the deceased may be displayed at the grave during a funerary rite, but not actually deposited within it. The Lober of Ghana, for instance, do not place the deceased's weapons in the tomb with him, for they have already been placed near to him before burial, and by this symbolic action he is thought to take such weapons with him (Ucko 1969: 266). Finally, Henderson (1987) describes how human remains decay or are preserved at different rates, partly according to their treatment in different mortuary rites. Burial of the human corpse, for example, inhibits the process of decay, whereas exposure leaves the corpse more open to environmental factors of decay (such as humidity, temperature, and scavenging animals); and the deeper the burial, the better the preservation in general (due to restrictions in the aeration of the soil and in fluctuations in its temperature).

Post-depositional processes in the archaeological context are, however, also important factors to consider with respect to differential preservation. The chemistry, shape, size, density and age of human bones all affect their chances of survival (Henderson 1987). Less solid

bones, particularly ribs and vertebrae, are less likely to survive than limb bones and the larger phalanges, for example. Also fragmented ribs and some of the smaller phalanges may be lost because of defects in excavation technique (Cornwall 1956: 200-2). Environmental factors such as the geographical and geological nature of an archaeological site and the nature of the local fauna and flora are also significant factors. Bone preservation is, for example, generally worse in acidic soil conditions, particularly in relation to the bones of infants and juveniles (Gordon and Buikstra 1981). In the absence of detailed scientific analyses, a well preserved archaeological sample of human bones might therefore be recognized by the presence of relatively good numbers of these characteristically less durable bones.

Overall, then, it seems clear that we must consider a wide variety of potential cultural and non-cultural transformation processes which may have led to the creation of our archaeological deposits, and that we can no longer assume that the patterns of artefacts and features found on excavations provide a fossilized record of human behaviour. These points can be emphasized by considering a specific archaeological example - the scattered human bones found in Neolithic and Copper Age deposits, in cave and open sites, in the Abruzzo-Marche region. Brothwell (1961) and Jacobsen and Cullen (1981: 88-89) provide but a few of the possible explanations for the scattered nature of these bones, including: the performance of particular rites involving

the abandonment or exposure of the corpse, cannibalism, the deliberate destruction of the integrity of the corpse, delayed burial, the 'planting' of bones in accordance with concepts of fertility, or the removal and use of selected portions of delayed burials as ceremonial items; and the post-depositional disturbance of burials by natural or human agency, such as erosion, burrowing animals, pit-digging, building, levelling or ploughing.

ii) Ritual

Greater consideration of the ritual nature of much mortuary practice, particularly with reference to social anthropological studies, can be regarded as a second area of recent development in the archaeological study of mortuary behaviour (see, for example: Pader 1982; Garwood et al., eds. 1991). Basic debates, however, concerning the definition of 'ritual', both in the ethnographic and in the archaeological record, are still not fully resolved, and so it is to these, rather than to specific archaeological case studies, that I shall turn my attention below.

I personally find Lewis's (1980) social anthropological definition of ritual the most useful for archaeological application (but, for alternative definitions, see Gerholm 1988: 197). Lewis begins by pointing out that, as with the definition of what is and is not art, it is not possible to separate 'ritual' sharply from other kinds of action, such as custom, etiquette,

ceremony, and magic. Ritual can only be seen to differ from these activities in terms of degree along a continuum; although, having said that, it does seem possible (to me) to place some aspects of behaviour (such as the performance of rites of passage) at the more ritualistic end of the scale (Hodder 1982a: 172). Lewis considers ritual to be a special kind of performance, which, like a play, involves performers and performances, and sometimes (but not always) an audience. The latter comprises living people, and sometimes also ancestors and spirits. Ritual performances are characteristically recurrent and repetitive, and their order and sequence are also characteristically governed by rules. These rules are clear and imperative; they are communally learnt and recognized; they only apply to particular people, or to one type of person, in particular situations; and they provide ritual with its typical formality and apparent fixity. The use of a variety of stimuli give ritual an alerting quality, and an apparently arbitrary or irrational aspect:

"the aesthetic side of colour, noise and smell; the decorations, singing, the aromatic plants, the formality, stiffness or strangeness of gesture; and the tension translated by a great volume of excited chatter or by a constrained silence; or the very secrecy which I have mentioned in connection with penis-bleeding, the presence of esoteric or hidden knowledge, the irrationality or non-sense of what would seem arbitrary action" (Lewis 1980: 20).

This alerting quality of ritual helps to focus and intensify the attention of the participants. Rituals are often justified and made significant (less arbitrary) by reference to tradition or convention, and are often regarded as ancestral or divine (rather than human) inventions for the ordering of human conduct in certain social affairs. Finally, rituals can be regarded as essentially expressive: they produce expression, stimulation, and response through the use of conventionalized symbols (relationships of actions, objects, or words). They should not necessarily be considered as two-way communication, which implies the intended, unambiguous, and successful imparting of information through coded messages (although sometimes this may occur).

Rituals are performed primarily in response to particular situations of stress, difficulty, or importance which occur in the social world (eg. the death of an individual). Such situations often also bring to the fore more fundamental social and cosmological concerns (including the definition of: cultural categories; social principles and roles; and ideologies, beliefs, and values), with which the rituals may also come to be involved.

Mortuary rituals can be regarded as those rituals which construct passages between life and death (Barrett 1988: 31). They include ancestor rituals and funerary rituals. The former establish the presence of ancestors in

rites concerned with the living, and amongst the places and symbols used may be funerary architecture and the bones of the dead. The latter can be regarded one of a series of 'rites of passage' (Turner 1969: 168-70), performed at the key moments of transition in the ritual subject's movement through life (ie. from birth to death) and social position (ie. from lower to higher status), and are specifically concerned with human burial.

Turning more specifically to the archaeological record, amongst the most explicit and influential statements concerning the definition of 'ritual' is that of Richards and Thomas (1984). They propose that, due to the characteristic use of highly formalized, rule-bound, and repetitive modes of behaviour in ritual (which involve not only words and actions, but also objects), ritual performances will lead to the deliberate deposition of highly structured and formalized patterns of material things in the archaeological record. They also suggest that, due to the highly symbolic nature of ritual, and in particular the use of 'dominant symbols' which sometimes help to order such performances, the material culture associated with ritual will itself be highly symbolic in nature.

Unfortunately, this definition, with its leanings towards a clear-cut distinction of 'sacred' and 'profane', does have its limitations. For example, domestic activity may also provide a highly structured mode of deposition,

and may share similar sets of symbols with ritual activity when the same general explanatory schemes are drawn upon to give the symbols meaning (Bourdieu 1977: 114-6). Recent archaeological discussions of this problem have tended to result in a situation of stalemate, in which ritual is claimed either to constitute a separate kind of behaviour, or to be an attribute of many different kinds of social action and therefore almost impossible to isolate materially (Garwood et al. 1991: vii). I do not propose any immediate solution to this problem, although I would suggest that the temptation to lead on from the latter view-point and claim that the study of ritual itself is pointless, probably owes more to failures of theory and methodology, and a wish to escape from the obligation to interpret (Garwood et al. 1991: viii). Numerous ethnographic studies indicate that ritual practices can play an important and central part in life (Hodder 1982a: 171); and that they may even be regarded as the decisive keys to understanding how people think and feel about the natural and social environments in which they live (Turner 1969: 6). Whether or not this is so strongly the case for prehistoric Italy, it does at least emphasize the importance of attempting to study ritual practices in the past.

Bearing these problems in mind, I shall therefore describe and discuss in terms of 'ritual' only those mortuary deposits which appear to lie, according to Richards and Thomas's (1984) criteria of structure and

symbolism, at the most overtly ritualistic end of the scale. I am prepared, for example, to describe as ritual those archaeological contexts in the Abruzzo-Marche region which have been relatively extensively excavated and well recorded, where human remains appear to have been deposited intentionally and in association with apparently structured and symbolic deposits (eg. the 'Level of the Circles' in Grotta dei Piccioni, the cemetery area in the middle of the Ripoli residential site, and the silo burial at Catignano—see below, p. 622-626 and 619). What I wish to avoid (unlike Richards 1988: 43) is the implication that all human remains are deposited ritually. By now it seems clear, at least for Neolithic Britain, but quite possibly Italy too, that only a small proportion of the population was formally buried in tombs; the rest of the population may either have been disposed of in less archaeologically visible ways, or they may simply have been abandoned without any performance of mortuary rituals, as occasionally in the ethnographic record (see Ucko 1969: 270; Kinnes 1975: 17). These points are particularly relevant both to the human remains (especially those of children) found scattered in deposits at residential and cave sites, and to the single human bones found in 'special deposits' in the residential area of the site at Ripoli.

iii) Symbolic, structural and contextual approaches

The third important area of recent development in the archaeological study of mortuary behaviour has been

concerned with the use of material symbols in mortuary practice. On a general level, the study of symbolism helps to bridge the analytical gap that exists between the description of mortuary deposits in the archaeological record and general discussions regarding the nature and status of death and mortuary practice in the systemic context of prehistoric societies (Richards 1988: 42); and, more specifically, it encourages archaeologists to take a different and more interpretative look at the material record. What follows is a general theoretical and methodological introduction to: the definition and interpretation of the meanings of material symbols; the structuralist analysis of symbols in archaeology, through the use of formal analysis and ethnographic analogies; and the contextual interpretation of material symbols, in relation to society and history.

The term 'symbol' refers to an object or situation in which a direct, primary or literal meaning also metaphorically evokes or designates another indirect, secondary or figurative meaning (ie. symbolic meaning) (Hodder 1982c: 11). Symbols most commonly occur in stylized patterns of activities, such as ritual, ceremonial, gift exchange, prescribed patterns of joking, taking an oath, eating and drinking together, acts of etiquette and various cultural traits that constitute the style of life of a group (Cohen 1974). This does not, however, restrict the potential for all material culture to be imbued with symbolic 'meaning' of one kind or another, according to

context (Garwood et al. 1991: vii). Indeed, ethnoarchaeological studies have revealed a wide range of material items that are used symbolically in a number of societies. Hodder (1982b: 121), for example, describes some of the material symbols used to preserve, reinforce and legitimate the distance between upper and lower groups in African kingdoms (identified by Dalton 1981), which include: size or shape of houses, construction of fences of distinct shape or materials, type of weapon, hair style, scarification, jewellery, metal collars, carrying of batons, wearing of official green or red, and the king's messenger carrying a rooster or wearing a state sword with a golden hilt. In the Baringo district of northern Kenya, items of self decoration and of ceremonial use are most commonly used as material symbols, whereas utilitarian items, such as drinking cups, eating bowls, stools, and the positions of hearths in huts, are used less frequently (Hodder 1982b). The meaning of material symbols is ambiguous and multiple, but structured according to principles, and contextual in relation to society and history (see below).

Social anthropologists such as Turner (1967), Lewis (1980) and Gerholm (1988) have emphasized that the meaning of symbols, particularly those employed in ritual practice, may be deliberately ambiguous, may involve multiple meanings understood differently in different spatial or temporal contexts, and distinctively by different groups of people, and may be intentionally inverted or subverted.

With reference to ritual symbolism, for example, Lewis states that:

"The ruling [of a ritual] is explicit but its meaning may be implicit; may be esoteric, or established for all to know, or forgotten and unknown; tolerant of interpretation on many levels and by many individuals, or intolerant of any but the single 'true' meaning established by tradition within that culture. The ruling is public, clear and social; its meaning may be so, or it may be indeterminate, private, various and individual." (Lewis 1980: 19)

Clearly, then, this places doubt upon the hope of identifying single unconditional meanings in material symbolism used in prehistoric contexts.

However, the meaning of a symbol is not arbitrary. It is relational. Symbols are structured in sets (eg. a grave assemblage) and according to symbolic and structural principles (eg. fertility:impurity, and nature:culture). We therefore have to examine symbolic systems as a whole, rather than consider their constitutive units in isolation; and, in order to understand this set of material symbols, we have to go beyond them and investigate the symbolic and structural principles upon which they are based (Hodder 1982b; Shanks and Tilley 1982b). Such an approach to the study of material symbolism, which can broadly be termed 'structural', has recently been adopted by a number of

archaeologists (see, for example, Hodder, ed. 1982). I do not intend to provide here in detail either a critique of structuralist theories or a discussion of current post-structuralist theories, although I do assume the reader to be familiar with both. (See, for example, Leach (1976) for a clear account of 'the logic by which symbols are connected - an introduction to the use of structuralist analysis in social anthropology', and Hodder (1982: 8-9, 1986: 47-49), Shanks and Tilley (1987b: 98-102) and Tilley (1990: 54-78) for post-structuralist archaeological critiques). Instead, I want to begin by concentrating upon the contributions of the 'high' structuralist method of formal analysis of symbolic codes and of structuralist anthropological models to archaeological studies of mortuary practice, before turning to a discussion of the contextual interpretation of material symbols, which is more characteristic of a post-structuralist approach within archaeology.

The structuralist analysis of symbols, according to Leach (1976), is the study of symbols and the nature of symbolization as a cognitive and communicative process. It assumes that all of the various non-verbal dimensions of culture (including material symbols) are organized in patterned sets so as to incorporate coded information in a manner analogous to the sounds, words and sentences of a natural language. The meaning of a symbol is thought to be generated through its contrasts with other symbols within this set. Binary coding is a commonly identified form of

contrast or convention. In our own society, for example, (at least traditionally), the colour symbolism of costumes and social roles can be regarded in terms of binary coding, with the following contrasts - white:black::bride:widow. Structuralist analysis therefore focusses upon the grammatical rules, logic or coded conventions which connect and govern symbols within a particular symbolic context, in an attempt to decode the messages produced as a result of expressive action (eg. funerary rites). Methodologically, this is characteristically carried out through abstract formal analysis of the 'code' or mode of communication.

In archaeological studies, symbolic codes have been formally analyzed through the spatial patterning and organization of many classes of data, including the symmetrical organization of pottery design motifs, the cellular structure of settlements, and the symmetrical and cellular design of tombs (Hodder 1986: 36-40). In studies of mortuary practice as a signifying practice, however, attention has mainly focussed upon the spatial patterning of (as it appears) intentionally deposited artefacts and features found within certain sites. Shanks and Tilley (1982b), for example, have searched for regularities, symbolic contrasts and boundaries in the spatial patterning of human bones deposited within Neolithic chambered barrows in Wessex, the Cotswolds and Scania in southern Sweden, and have identified contrasts between articulated and disarticulated skeletons, adult and immature remains, left and right parts of the body, and male and female remains.

Following on from this work, Thomas (1991) has considered the symbolic relations between both human remains and grave goods deposited in Neolithic and Copper Age burial contexts in Britain, identifying different 'dominant symbols' for the two different periods. 'Dominant symbols', whose meanings remain constant throughout the total symbolic system, are especially found within overtly ritual occasions, where they help to unify disparate significata around them, and to align the diverse expectations and interpretations of different participants in the performance (Turner 1967). Thomas suggests that during the Neolithic in Britain the monumental tomb itself acted as a focus of signification, with the human remains, carvings, animal bones, sherds and stone tools housed within it functioning as essentially secondary elements in the symbolic system. In Beaker burials, on the other hand, which occur in round barrows and flat graves, the focus of signification was the human body, for without the human body the symbolic system fails to function: the other material symbols in the grave do not relate directly to each other, and yet they derive meaning from the body around which they are placed.

Structuralist models of symbolic principles developed by social anthropologists have also contributed to archaeological studies of mortuary practice, particularly in the provision of general analogies with which to consider the organization and meaning of prehistoric symbolic structures. General cross-cultural ethnographic

analogies have to be treated with caution, of course, for although particular symbolic or structural principles may occur widely, they are actually used and emphasized in different ways in different societies. However, considering that the study of mortuary practices is primarily concerned with attitudes towards death and life, prehistorians have to fall back on them to a certain extent. This point has been accepted by a number of archaeologists (including myself) studying mortuary practices. The possibility of comparative generalization is treated with caution, but not explicitly ruled out, for example, by the contributors to the Humphreys and King (eds. 1981) volume on mortuary practices (Humphreys 1981b: 11); Shanks and Tilley (1982b: 134-5) rely upon it in their study of Neolithic body symbolism; and Hodder (1982), with reference to the general symbolic principles described below, states that, "these symbolic principles are found in most societies, and knowledge of them aids the particular case" (Hodder 1982b: 215).

One particularly widespread symbolic structure identified by social anthropologists in funerary practice is that of the transition from life (especially referred to in terms of the sexuality and fertility of people and/or animals and crops) to death and rebirth (Bloch and Parry 1982). Of special interest to the archaeologist, this structure is often represented through the symbolic medium of the human corpse. In societies which practice elaborate burial rites, a distinction may be drawn, for example,

between the transitory nature of the flesh and the durable nature of the bones, with the bones becoming a store of fertility and vitality once the flesh has corrupted. In China, for example, the bones of the ancestors, once disinterred and meticulously cleaned of the last vestiges of flesh, emanate a power which, if properly tapped, can promote the fertility of the descendants. Bones in China may therefore sometimes be planted in conspicuous locations for the living to gain some control over their natural environment (Watson 1982). Hertz's (1907) model of secondary burial likewise describes the way in which the transformation of the decaying corpse into bones, running in parallel with the rebirth of the deceased individual into the collectivity of the ancestors, provides a source for the continued fertility of the living (see above, p. 540). The intentional destruction of the human body also relates to the theme of life out of death, but with different particular social meanings in different societies. In Hindu mortuary rituals, for example, this practice relates to the dissolution of the fundamental units of society into an undifferentiated universe, the re-enactment of the creation of the whole universe and the regeneration of the cosmic order. For the Merina of Madagascar, the bones of the dead are crunched up all together in order to make the tomb into an ideal representation of group unity. In the Malagasy, Dobuan, Laymi and Lugbara cases, on the other hand, the destruction of the human body corresponds with attempts to shore up certain fundamental units of society and to give them a

permanent and transcendental value (Bloch and Parry 1982: 37-8).

It is important at this stage to acknowledge the criticisms of structuralism, especially if methodological elements of the approach (such as the analysis of structure, and the formal analysis of symbolic codes) are to be retained by archaeologists. To begin with, the structuralist approach is seen as being too positivist: the apparent rigour of the method and the 'hardness' of the data analyzed are illusory. One major problem, for example, is that of verification. Structures, because they are organizing principles, are not observable as such, and can only be reached by relative abstraction. Thus, in certain cases, structures could be said to emerge because the analyst is looking for them, trying to fit the data into some expected and hypothetical structural pattern. This criticism has been applied, for example, to Shanks and Tilley's (1982b) interpretation of ideology, symbolic power and ritual communication in Neolithic mortuary practices, which Thomas and Whittle (1986: 134) suggest "smacks somewhat of the assumption of the very features which one is setting out to demonstrate in the first place." Tilley has since then asked the same of Lévi-Strauss's binary mythemic logic: does it have any reality outside an active interpretative process, is it not forged and created by the analyst? (Tilley 1990: 55).

The second major criticism of structuralism, particularly voiced by archaeologists, is that it is not materialist enough. Non-verbal forms of communication, for example, do not necessarily directly mirror linguistic structures and forms of signification:

"Non-verbal communication through art, imagery and the metaphorical use of the body is both simpler and more complex than written or spoken language. The syntactic links are likely to be more explicit and fewer in number. Differences between right and wrong are likely to be more clear-cut than in speech acts. At the same time it is more complex in that it is likely to act in multidimensional channels."

(Shanks and Tilley 1982b: 134)

The third major criticism of structuralism, which also provides a way forward for the post-structuralist study of material symbolism, is that by assuming the existence of, and by placing emphasis upon, universally applicable unconscious principles of the mind, arbitrary signs and abstract codes, the active role of the individual and of material culture within particular dynamic socio-historic contexts are underestimated. For example, social actors are able, to a certain extent, to reflect consciously on their ideas and to create new rules or structures; the individual is not entirely subordinate to organizing mechanisms of the subconscious; and not everyone in society shares the same rules or structures and gives them the same meaning.

Post-structuralist approaches to structural analysis, exemplified by the work of Bourdieu (1977) and Giddens (1979), have consequently been broadly concerned with linking a theory of structure with one of social action and practice (Tilley 1990: 66). I do not intend to describe these new approaches in detail, but it does seem important to mention a few of the key elements of the theory of 'structuration' upon which they are based. First, a symbolic system is regarded as being inextricably linked to ideology, and second, societies are thought constantly to reproduce themselves and reinterpret their structuring principles in a progressive spiralling motion, referred to as 'structuration'. It is therefore seen as necessary to consider the broader social context of symbols, and the processes through which symbols are formed. It is also emphasized that the signs and rules by which they are formed are not simply a passive means of communication but that they play an active part in the reproduction of social systems. Likewise, individuals are seen as active agents, each of whom interprets the meaning of a symbol from different perspectives. Structuralist formal analysis of the code of communication therefore only provides a starting point in the full examination of symbols and their structuring principles.

The influence of these ideas upon archaeological studies of symbolism (and mortuary practice) has been highly significant, particularly through the development of a 'contextual' archaeology, which encourages a theoretical

concern with the role of material culture in the reflexive relationship between the structure of ideas and social strategies (see Hodder 1982a, 1986: 118-146, and Hodder, ed. 1987). A starting point in contextual archaeology is the assertion that material symbols do not simply reflect and express group identities and their competition, but that they are actively used in structuring and restructuring social, political and economic practices-reinforcing, emphasizing or masking certain aspects of information flow as part of ideologies which support, justify, legitimate or disrupt the adaptive strategies of groups within societies (including ethnic, age, sex, status, and family groupings) (Hodder 1982b: 125). Material symbols such as spears and calabash decoration are repeatedly used, for example, by younger men and women in their relations with the dominant older men in Baringo societies, to disrupt the dominant social order (Hodder 1982b). Following on from this assertion of 'symbols in action', the methodology for a contextual archaeology has been developed in which the function as well as the form of symbolic sets are considered in relation to their specific and changing socio-historic contexts. The uses, associations and forms of items selected for use as grave goods, for example, can be examined in both mortuary and non-mortuary contexts, in order to understand why those particular items were selected (out of the wide range of potential material symbols) as funerary symbols, and in order to consider their meaning as such - for grave goods, like other symbols, refer metaphorically to activities

which are actually structuring agencies within society. The uses, associations and forms of daggers in the north Italian Copper Age, for instance, can be examined through: the copper, stone and bone examples found in graves and, most recently, with a frozen body found in the Alps; the carved representations of daggers found on the surface of statue-menhirs and rock-outcrops; and possibly also through the dagger-like form of certain statue-menhirs and graves (see, for example, Barfield 1984). These daggers placed in the graves are likely to have referred metaphorically to the real-life activities of combat and/or hunting (Thomas 1991), but, more specifically, Barfield (1984) has argued that they symbolized the status of individuals as male adults. Structural ethnographic analogies are retained at a general level, but it becomes important to see how these general symbolic and structural principles are assembled together and integrated into specific social and economic strategies in different ways in each society. Common sense is also relied upon, in trying to ensure that the symbolic significances inferred by archaeologists 'make sense' within active social strategies (Hodder 1984: 66).

The adoption of a contextual approach has led to the rejection of New Archaeologists' direct correlations between the remains of mortuary practices and social organization. The New Archaeologists can be dealt with fairly swiftly here, for the theoretical position reached by them at the outset of the 1980's has been succinctly summarized by Chapman and Randsborg (1981), and extensively

criticized by Pader (1982) amongst others (eg. Shanks and Tilley 1987b: 42-45). Pioneering work by Saxe (1970) and Binford (1971) set out to investigate prehistoric social systems through the application of cross-cultural generalizations to mortuary data. It was argued, for example, that an individual's treatment at death reflects the position occupied by him or her in a status system in life, and that differences between individual interments reflect the type of status system participated in (eg. egalitarian or ranked) (Saxe 1971: 39). The age and sex structures of the population buried, the degree of hierarchical ranking and of socially defined distinctions within any rank level, and whether or not social positions were ascribed or achieved, were consequently inferred through the identification of artefacts symbolizing 'wealth' and 'status', the measurement of the effort expended on the dead (with greater expenditure supposed to correlate with higher rank), and the variety exhibited within the mortuary practices of particular groups. In one such study, Saxe (1970) suggested, for example, that the special funerary treatment of children or infants could be interpreted as evidence of a hierarchical social system, in which children were ascribed or inherited a status which they could not have yet earned in a system of ranking based primarily on age, sex and individual merit.

Ethnocentricity may go some way to explaining the New Archaeologists' attitude towards mortuary practice, for Western archaeologists often tend to make a fairly direct

connection between persons and things: seeing things as belonging to people, as property, symbols of personal status, and residues of personal life-histories (Humphreys 1981b: 8). However, their work was based primarily upon 'role theory' (Goodenough 1965), and it is this that has received the brunt of recent criticism. In role theory, briefly speaking, a number of different roles, forming an individual's social persona, are held to be enacted in different situations, with the roles changing according to whether they have been ascribed or achieved, and in terms of the time and place of enactment. These concepts can be criticized in a number of ways: people do not simply assume a number of prescribed and fixed roles and act in conformity with them - a person's role is negotiated and renegotiated in practice; it is people and recurrent social practices, not roles, that constitute society; and the concepts of role, social persona, and social structure are essentially descriptive rather than explanatory (Shanks and Tilley 1987b: 45). Since the late 70's, then, it has been widely accepted in mortuary studies that social divisions (such as status and rank) are not necessarily directly and unambiguously reflected in mortuary data (Chapman and Randsborg 1981: 14); and that mortuary practices often serve to idealize, distort or invert the social reality of roles and relations, particularly those about which there is concern (Okely 1979: 86; Hodder 1982a).

Early contextual studies of mortuary practice emphasized the active ideological use of material symbols

in funerary rituals to support, legitimate and conceal the position of a dominant political group, and to conceal that group's strategies and methods of maintaining social inequality, division and domination (eg. Shanks and Tilley 1982b; Parker Pearson 1982). The symbolic system of a funerary ritual was seen to be open to manipulation by a dominant group, who would try to ensure that a certain interpretation of it was favoured by the participants and the audience, particularly if it was performed at a time of political transition, so that they could structure and extend their forms of political hegemony. But Braithwaite (1984) noted, soon after, that, "It must be acknowledged that alternative discourses and meanings inhere in ritual and symbolic practices, both intentionally, as in the case of Zande secret societies, or unintentionally, through the contradictions and ambiguities of symbolic discourse and practice" (Braithwaite 1984: 95). More recent contextual approaches to mortuary practice have noted, more specifically, that much depends upon the expectations of the participants and audience and upon their response to, or 'reading' of, the symbolic 'code' or 'text' of a ritual performance (Barrett 1991: 7). Because the 'text' of the ritual is constructed and interpreted from a range of diverse and sometimes conflicting experiences, there need be no more than a minimal agreement on the readings of the text. The symbolic resources stored within a tomb or ritual cave, for example, would have revealed their meaning not simply through the 'logic' of their code, but through the interpretative assumptions that visitors to the tomb or

cave brought to bear upon the 'logic' or patterning of deposits. Furthermore, the meaning of the deposits would not have been static - it would have been constantly annotated and reworked by the visitors in their divination of its religious truths.

A recent alternative to the strictly ideological view of mortuary ritual emphasizes its politically discursive and subversive function (eg. Braithwaite 1984; Barrett 1988, 1991). In this new viewpoint, ritual performances are also seen as arenas for symbolic and social discourse, in which the dominant readings of the cultural order (along with its underlying relations of dominance and obligation) are exposed to scrutiny, questioning, and redefinition. This new approach follows Bourdieu (1979) more closely, for he suggests that not only does a symbolic system function as the projector of an ideological distortion of reality, but that it also functions as an instrument for the knowledge and construction of the objective world. Death, in particular, precipitates a requirement for the living to reconsider and renegotiate their own legitimate claims of social position and inheritance, with reference to the dead, the ancestors and the gods (Barrett 1988: 31). Death also provides a specific range of occasions and materials through which to carry out such a symbolic discourse on life - through the different treatments accorded to those whose lives have ended in different ways and at different stages of development, through theories about what happens in the after-life, and through the symbols used in funerary

rites or eschatology to express the contrast between life and death (Humphreys 1981b: 9-10). Secondary funerary rites, in particular, are thought to increase the room for manoeuvre in those aspects of funerary rituals which are concerned with renewing, re-legitimizing, or reorganizing relations between the living (Humphreys 1981a: 268).

Despite the importance of this most recent contextual approach to mortuary practice, there still remains the problem that the relationship between ritual discourse and socio-political discourse in other areas of society is neither simple nor direct. Ritual may function as an idealized model of how to act in the world which exists complementary to, but outside, the daily-lived world. Bloch (1986), for example, notes, in relation to the circumcision ritual of the Merina of Madagascar, that, "the ideas expressed in the circumcision ritual are isolated from normal discourse by the very nature of ritual communication, which places what it communicates in a hazy, non-discursive world, isolated from events and argument" (Bloch 1986: 195).

As well as focussing our attention upon the ideological and discursive context of mortuary practice, a contextual approach encourages us to understand mortuary practice as meaningful social action within specific historical conditions. It therefore promotes the study of changes in the practice and meaning of mortuary symbolism and ritual traditions over time. Such a study is

immediately complicated by the characteristically conservative nature of ritual. The repetition and formalization of ritual action, and the construction of an image of timelessness or of cyclical time in ritual communication, ensure that it changes more slowly than other forms of social action. As Bloch (1986) says,

"ritual transforms and reduces events so that they lose their specificity and re-represents these events vaguely as part of a timeless order. The image produced in the ritual can accommodate by this means a great variety of different specific events and make them appear the same. The ritual can thereby be repeated unchanged even if the specific events it represents are significantly different."

(Bloch 1986: 184)

However, a variety of approaches can be used to overcome this problem. From a formal point of view, modifications in the symbolic aspects of the ritual can be examined, including the appearance, disappearance, and reappearance of certain acts and objects, and their simplification and elaboration. Logistically, the number of people, the expense, and the length of time involved in the ritual can be analyzed; and, theoretically, transformations in the role of the ritual in relation to the social and economic system can be examined (Bloch 1986). The long-term historical perspective of the archaeologist is particularly relevant here, considering Bloch's (1986: 9-10) realization

that a time-span of 200 years was quite insufficient for studying the processes involved in the formation of the circumcision ritual of the Merina of Madagascar.

The basic process through which mortuary rituals are changed is one of transformation, which involves the elaboration and simplification of pre-existing ritual symbolism: "Everything depends on what went before in an endless sequence, and what came before creates potential pathways for what comes after" (Hodder 1988: 74). In some cases such transformation seems to be unintentional. Pader (1982: 38), for example, points out that exact replication of a ritual is rarely possible, especially in non-literate societies which maintain oral traditions of knowledge. In other cases, however, the changes appear to be more intentional. Bloch (1986: 162), for example, in his study of the circumcision ritual of the Merina, claims to "feel confident in believing that many of the originators of the changes in the ritual were conscious of the political implications of what they were doing, and that this motivated what they did." Transformations involving the mobilization and juxtaposition of traditional and alternative symbols, for example, may occur at conjunctions between changing social relations and the introduction of alternative authoritative discourses. Clearly, the leading actors in a ritual performance play an important part in this process. A ritual expert, for example, may marginally reshape the form and content of the cultural symbols employed at each new performance, in harmony with his own

visions (Barth 1987). But rituals are not usually the work of one author: they are the result of a diversity of individual contributions made over long periods of time (Gerholm 1988: 200).

Seen in this light, general cross-cultural explanations of mortuary practice retain little value, for they describe the particular in terms of the general, which ultimately makes for a uniform and uninteresting past as we move from one study to the next (Barrett 1988). Examples of such general explanations include: Binford's (1971) application of various ethnographic tests to support the cross-cultural generalization that social complexity will be matched by mortuary complexity; Renfrew's (1976) concept of ancestral tombs being established as territorial markers and social foci in segmentary societies and a context of population stress; and R. Chapman's (1981) prediction that interment in cemeteries or monuments will emerge in periods of imbalance between society and critical resources. A contextual approach, by contrast, accepts the diversity and relative instability of mortuary practices (Ucko 1969: 273), allows mortuary rites and sites their specificity, and encourages interest in the structural variations between different societies (in their competition and access to resources, for example - Hodder 1984: 66).

Methodologically, a contextual approach encourages archaeologists to pay even greater attention to the spatial dimensions of mortuary practice, particularly in relation

to the social use of space in ritual. Ritual is concerned with the demarcation of boundaries between elements of the social world (Turner 1969), and so the spatial organization of material symbols in ritual contexts (including the boundaries established between people, places, and things) may be used indirectly to emphasize certain structural classifications and divisions in society (such as divisions based upon age and gender, or divisions between the living and the dead). Such spatial patterning in mortuary ritual can be expected to be exhibited in the archaeological record on various geographical and conceptual scales, particularly within and between overtly ritual deposits where the patterning is relatively accessible. On a regional scale, the establishment of sacred places can be considered in relation to the mapping and organization of the landscape, which in turn may relate to the definition of social groups. Ucko (1969: 270-1), for example, notes the use of different burial places for different social categories, particularly babies and children, in various ethnographic situations. Amongst the Shona, for instance, babies and other children were buried near to flood water and away from the rest of the population; and among several Ghanaian tribes, children were placed at crossroads, which were regarded as places of dispersal that helped to scatter the potentially annoying habits of individuals who were, by their age, still only incipient human beings. The spatial context of an individual site may also become an arena for social strategy and action, through the restriction of access to, and the focussing of attention upon, certain

parts of it by means of pathways, clearances, enclosures, and special deposits (Turner 1977). In Krahó eschatology (ie. doctrine of death), for example, the dead are either kept outside the social space of the village or they are confined to the domestic sphere. In both cases they are excluded from the society of the living, which is ideally conceptualized as ceremonial and has as its main theatre of action the central place of the village (Carneiro da Cunha 1981: 165). From the archaeological record, Thomas has suggested that in terminally-chambered tombs in the Cotswold-Severn area the spatial patterning of human remains was used to emphasize certain structural divisions within a local community, specifically those relating to gender and age differences (Thomas 1985: 552). Megalithic tombs in northern Europe have also been interpreted in relation to the social control of ritual knowledge and power - through the restriction of public access to, and visual knowledge of, the mortuary deposits housed, and the rituals performed, within them (see, for example, Thomas and Whittle 1986).

In many ways, then, a contextual approach seems appropriate to the study of mortuary symbolism and ritual. There are, however, certain outstanding problems with this approach that deserve mention. First, this approach (like many others) relies upon the somewhat arbitrary definition of, and imposition of meaning upon, initial analytical categories in the archaeological record. Hodder (1982b: 221), for example, analyzes similarities and differences

between three 'types' of sites, comprising 'settlement', 'burial' and 'ritual'/henge sites; he then 'finds' evidence of the special distinctiveness of the boundaries between settlements, burials and henges; and finally infers from this the special distinctiveness of the boundaries between life (settlements), death (burials) and ritual (henges). But, it is difficult to regard his initial analytical categories as discrete units: ritual, for example, can be seen to exist in varying degrees along a continuum in each of these contexts. A second problem involves establishing a reliable social context for the interpretation of mortuary practice in prehistoric studies, particularly without reference to mortuary data, for "We cannot proceed by analyzing the organizational form of mortuary data to reveal the form of the social system, and then use the form of the social system to explain the form of the burial data". (Barrett 1988: 30). A third and related problem is that a contextual approach makes severe methodological and interpretative demands upon the available archaeological data, and that the latter cannot always bear the weight of interpretation being placed upon them. This is particularly relevant to the interpretation of the remains of mortuary rituals, which, Bloch (1986: 195) suggests, are generally only capable of carrying simple and general messages. Shanks and Tilley's (1982b) interpretations of Neolithic mortuary practice can, for example, be criticized in this way. They suggest that:

"the principles according to which the human remains were placed within the tombs formed part and parcel of the reproduction of power relations, designed to secure the misrepresentation of the arbitrary nature of these relations and secure the reproduction rather than the transformation of the social order, to mystify the contradictions existing between two major structuring principles upon which these societies were ordered, the symmetry of kin relations and the assymetry of power/political relations" (Shanks and Tilley 1982b: 151).

It is highly questionable, however, that we can draw distinctions in the archaeological record between intentional misrepresentation rather than representation, and mystification rather than clarity, and that it is useful to do so even on a theoretical level (Thomas and Whittle 1986: 134).

c) Recent discussions of Italian Neolithic and Copper Age mortuary practice and ritual

Only a few general articles concerning Italian Neolithic and Copper Age mortuary practice and ritual have been published during the 1980's and early '90's (eg. Barker 1981a; Grifoni Cremonesi 1984; Barfield 1984, 1985; Malone 1985; Dottarelli 1984-7; Whitehouse 1981a, 1990; Skeates 1991a), and these vary greatly in their analytical perspectives. However, given the growing interest in this

topic in studies of Mediterranean prehistory (eg. Renfrew, ed. 1985; Chapman 1988), and the focus of this chapter upon it, I shall describe and discuss these articles in some detail below (in chronological order of their publication, and in relation to, first, the Neolithic, and then the Copper Age).

Barker (1981a: 168-9, 183-6), in his general synthesis of central Italian prehistory, suggests that the burial evidence indicates a degree of social ranking amongst certain later Neolithic societies. In particular, he claims that the 'outstanding display' seen in the clothing and equipment of a few buried individuals is indicative of people of high status and prestige equivalent to that of a 'Big Man'. An important example of this, he claims, is the burial of a man found in a side-chamber in Grotta Patrizi, Toscana: his body was surrounded by a ring of rocks and boulders; three hare bones were found under his skull, which had been trepanned; a bone point lay on his chest (perhaps originally having held his cloak or tunic in place); and a group of fine pottery vessels, flint blades and a grindstone fragment, were found nearby (Patrizi et al. 1954). This example certainly seems to indicate the special mortuary treatment of an individual during the later Neolithic in central Italy, but it does not necessarily have to be seen as the burial of someone of high status. As has been pointed out above (pages 564-5), and emphasized for Italian prehistory by Barfield (1984), we cannot assume the existence of a direct relationship

between grave goods, personal possessions and social status. Even if this were the case, the artefacts found in association with the Grotta Patrizi man hardly represent an 'outstanding display' within the context of the late Neolithic in Italy, and evidence of exchange in central Italy points towards the possible emergence of individuals of 'Big Man' status only at a much later date - at the end of the Copper Age (see Chapter 4).

Grifoni Cremonesi's (1984) article avoids social issues, but usefully focusses attention upon the archaeological record of mortuary practice and 'cult' in prehistoric Italy. She suggests that the remains of ritual or 'cult' activities can be distinguished in the archaeological record through the recognition of recurrent special features that are especially found in association with human remains, and which stand out as extraordinary in comparison to the remains of 'normal' domestic activities. Examples of these from central and southern Italy include: the long-term use of particular caves; the creation of special deposits in and around pits and circles of stones; the cremation of human remains; the use of red ochre; the intentional breakage of artefacts; and the deposition of vessels around and beneath stalagmites, and of up-side-down vessels, vegetable offerings, and skeuomorphs of objects in clay, bone or stone. She suggests that these features can be understood in relation to the existence of a spiritual complex comprising the concepts of death and fertility, but takes this interpretation no further, due to her awareness

of the problems of interpreting ritual or 'cult' practice in the archaeological record, and her caution concerning the use of historical and ethnographic analogies. My only serious criticism of Grifoni Cremonesi's valuable article is that her interpretations might have been expanded had she attempted to locate these special features within specific social and historical contexts in prehistoric Italy, rather than emphasizing their long-term historical continuity.

Malone's (1985) article on 'pots, prestige and ritual in Neolithic southern Italy' highlights the ritual use of many cave sites in Neolithic southern Italy; notes the deposition of a particularly wide range of goods imported over long distances, such as decorated fineware, at such sites as a result of ritual practice; and suggests that the maintenance of long-distance exchange networks in Neolithic southern Italy involved a variety of symbolic actions, including gift exchange and participation in ritual performances. These are important, broadly acceptable, basic points, but they require much greater discussion, which Malone, unfortunately, does not provide in this article. She does not, for example, distinguish between 'ritual', 'burial' and 'symbolic' sites. She also appears to assume, perhaps somewhat prematurely, that all cave sites with Neolithic deposits found in them were used for ritual activities, and that, because exotic items were deposited in ritual contexts, gift exchange must have occurred within the context of ritual performances.

Whitehouse's (1990) article on cult in the Neolithic of central and southern Italy uses an even broader perspective to define a Neolithic 'cult complex' in the central Mediterranean, which was centred upon peninsular Italy and Sicily, and which reached its maximum development during the 5th millennium Cal. BC (ie. middle-late Neolithic). Within this core area, she identifies four types of relevant cult site in the archaeological record: (1) large natural caves, frequently with multiple chambers and galleries, located in hidden and relatively inaccessible places, and often containing remarkable natural water-related features (eg. Pozzi della Piana in Umbria); (2) smaller natural caves, rock shelters and crevices used for burial and other cult purposes, some of which appear to have been artificially modified (eg. Grotta 1 di Cala Colombo in Puglia); (3) rock-cut tombs; and (4) other artificial rock-cut structures, not apparently designed for burials (eg. the hypogeum of Santa Barbara at Polignano a Mare in Puglia). She identifies a variety of activities that were practised at these sites, including: burial, 'more macabre rituals', deliberate depositions of food and special artefacts, fire- and water-related activities, and wall painting. She then gathers evidence of three main themes with which the cult may have been concerned. The first is a 'secrecy theme', which is suggested by the characteristically secret nature of the cult sites (with their underground situation, hidden location, difficult access, restricted space, and darkness). The second is a 'hunting cult', which is suggested by, for example: the

large number of hunting scenes represented naturalistically in the cave paintings in Grotta di Porto Badisco in Puglia (involving one or more archers and various animals, possibly including red deer, feral goats and dogs); the red deer antlers around the edge of the chamber of the Santa Barbara hypogeum in Puglia; and an antler associated with the burial of the man in Grotta Patrizi in Lazio. The third theme is a 'cult of abnormal water', which is suggested by the close association of Neolithic features and deposits in caves with underground water features, including stalactites, stalagmites, and stillicide water, and steam and bubbling water (although the antiquity of the latter have not yet been firmly established). Whitehouse then interprets these three themes, using a structuralist approach in which their oppositions are emphasized (ie. (sun)light, domesticated animals and rain water), as elements of a fertility cult, that was concerned with ensuring the health and productivity of crops, stock and people in early farming communities. Finally, she proposes an interpretation of the social function of the various cult practices in Neolithic southern Italy, this time using a Marxist perspective, which emphasizes the relations of power between different interest groups in society, and by drawing upon a number of specific ethnographic analogies. She sees them, generally, as rites of passage (which were performed in spatially restricted and secret places). But, more specifically, in the case of the large cave sites, she interprets them as initiation rites for young males into successive stages of secret, powerful and dangerous

religious knowledge, which took place within the context of a secret male sect. These rites and the sect are thought to have been used by men, particularly older men, as a means to maintain their hold upon political power, and to exercise control over women and younger men. The cave paintings from Grotta Porto Badisco are thought to support this interpretation. At this site about 100 juvenile handprints were found on the roof and walls of zone VIII; male hunting scenes are common; far fewer females are represented in the paintings, and 'clear' representations of females are only found in zone III nearest to the entrance; and, as one moves further into the cave, the figurative motifs decline and the 'abstract' ones appear more frequently.

Whitehouse's article is certainly stimulating, but it also attracts a number of points of criticism. To begin with, her use of a traditional structuralist approach can be questioned (see above, p. 560-1), (even though the answer of a fertility cult that she obtained from it is quite appealing). Due to this approach, she imposes excessively rigid analytical categories upon the data. She draws a sharp and somewhat artificial division, for example, between cult sites and settlement sites, which are not only simplistically equated with the secular/culture sphere and the sacred/nature sphere, but also sub-divided according to a table of 'structural contrasts' (ibid.: Table 1), which are thought to be "structured and meaningful" (ibid.: 24). Some of the binary oppositions

listed in the lower half of this table can be questioned, even on the basis of the archaeological data. The contrast between settlement:cult sites :: domesticated:wild animals, for example, does not appear to be supported by existing archaeological evidence from Neolithic Abruzzo and Marche. Here, faunal assemblages from ritual cave sites do comprise higher proportions of wild animal bones than residential sites located on the coastal lowlands, but they do not comprise higher proportions than residential sites located at similar or greater distances inland from the coast, which suggests that the proportions of wild animal bones found at ritual cave sites relate more to their geographical location than to their role as sacred places. Doubt can also be thrown upon this contrast using Whitehouse's own data (*ibid.*: Table 2), which show that as wide a range of wild animal species are found on settlement sites as in ritual deposits in Neolithic southern Italy.

Whitehouse's socio-political interpretation especially should be regarded with caution. To begin with, she assumes the widespread existence of a 'cult', which, although broadly can be taken to mean 'a system of religious worship' (Sykes, ed. 1976: 249), more specifically implies membership of, and a high degree of commitment to, an organization (Bullock et al. 1988: 194). I would question whether ritual practice and religious belief were so well defined, organized and prescribed during the Neolithic. She also seems to assume that all religious ritual is used to express and reinforce relations of authority, without

considering the potential ambiguity of rituals, and their potential openness to questioning and change.

A recurrent criticism I have of this article is that it underestimates variety and promotes a normative and generalizing view of the nature and role of ritual practice and religious belief in Neolithic southern Italy. This is partly due to Whitehouse's heavy reliance upon ethnographic analogies, which are used in a check-list fashion, but is especially caused by her lack of a detailed consideration of the material deposits from the cult sites (including the human remains, artefacts, features and their symbolism) and of their place within local social, economic and historical contexts.

My own discussion of why certain caves in the Abruzzo region were chosen as places for the performance of Neolithic rituals (Skeates 1991a: 127-9) can also be partly criticized for the same reasons, although I did at least describe the local context in the form of Neolithic settlement patterns. Generally, and most hypothetically, I suggested that certain natural features of the caves (including their durability as structures, their well-delimited, medium-small, size and shape, their darkness, and their stalagtitic formations) lent themselves to ritual performances, for they potentially provided stable and well-defined spatial arenas, with a sense of 'otherness' and a source of non-artificial material symbolism. I also suggested that many of them were recurrently chosen as

places for the performance of rituals, due to a sense of long-term tradition that surrounded the caves and the rituals that were performed within them. But most specifically, and perhaps also most demonstrably (in relation to the contemporary settlement patterns), I suggested that the 'liminal' locations of these particular caves, on the margins of the Neolithic settlement landscape, encouraged the performance of rituals within them - especially rites of transition, which are important in defining social and spiritual boundaries. (Other aspects of this article, including a description of chronological and spatial patterns in Neolithic ritual practice in the Abruzzo region, are referred to in greater detail below, and so will not be repeated here.)

Turning to the Copper Age, Whitehouse (1981a) provides a fairly traditional description of the typology, distribution, burial rites, and chronology of megaliths and rock-cut tombs in the central Mediterranean, and discusses their Mediterranean-scale relationships, especially with regard to their origins. The article ends well by emphasizing the diversity of these sites and by promoting the detailed analysis of individual monuments and groups of monuments in relation to their local contexts.

Barker (1981a) usefully summarizes the burial evidence for the traditionally-defined Italian Copper Age groups of Remedello, Gaudio and Rinaldone, and (following Renfrew and Whitehouse 1974) successfully rejects the old immigrant

model used to explain the origins of Copper Age groups in Italy. The latter relied upon over-emphasizing the similarities in grave goods and collective burial rites between Italy and the eastern Mediterranean, and the significance of round-headed individuals found in Italian burials. Less successfully, Barker again tries to read social ranking into the mortuary data, this time in relation to the 'rich' and 'poor' graves found within Gaudio cemeteries, and especially in relation to the large numbers of child and juvenile bones found in the Gaudio cemetery at Buccino, which he interprets as evidence of the ascription of status at birth (Barker 1981a: 187). Both of these suggestions are open to doubt, for "no scale of wealth clearly emerges when grave goods are compared within cemeteries" (Barfield 1985: 169), and no direct relationship can be assumed to exist between social status and burial practices (see above, p. 564-5).

Barker's general data concerning the Rinaldone group in west-central Italy are of particular relevance and interest to this thesis (1981a: 75-77 and Table 7), although some of his interpretations of them can again be questioned. He notes, for example, the spatial association of different Rinaldone burial types with different geographical features, including the characteristic distribution of trench graves in alluvial valleys, rock-cut tombs especially in areas of soft volcanic 'tufa', and cave burials in the limestone hills, and suggests that this variation in burial types was conditioned entirely by

geological factors (ibid.: 75). Superficially this may be so, but cultural and historical factors must surely also have played a part in the definition and distribution of burial types, as Barfield (1985) has shown for the Copper Age in northern Italy. Major concentrations of Rinaldone burial sites have been found around the ore deposits of the Colline Metallifere, and in the Fiore valley. Barker points out the relatively small size of excavated Rinaldone burial sites. The largest of these is the type-site at Rinaldone with its eight burials, but most sites consisted of only one or two graves. Using the data from Barker's Table 7, the average number of burials found at a total of 28, excavated and quantified, special-purpose and cave burial sites in the whole of Copper Age central Italy is 2.4. The 415 quantified 'grave goods' found at a total of 46 Copper Age burial sites in central Italy comprised: 62% flint arrowheads (of barbed and tanged form); 14.5% copper axes and blades (most of which were found in graves located around and to the south of the Colline Metallifere ore deposits); 12% pottery vessels (generally of a symmetrical flask or bottle form, and without surface decoration); 6.5% flint daggers; and 5% stone battle axes and maces. Other artefacts occasionally found in graves include: broken daggers, wristguards, spindle whorls, antimony buttons, copper awls, stone pendants, a flint scraper, animal bones, and bone and shell objects.

Barfield has made a number of useful contributions to the study of Copper Age burial practices in Italy,

especially in the north (Barfield 1983, 1984, 1985, 1991). In his examination of regional patterning in Italian Copper Age burial practice (Barfield 1985), he broadly defines three major burial traditions: collective delayed burial in small caves and rock shelters in the north-west of the region (especially in mountain areas, and including sites assigned to the Civate group); individual direct burial in trench or cist graves and cemeteries (including Remedello) in the north-east (especially on the plains, and including the Po valley); and collective direct burial in rock-cut tombs in the Rinaldone and Gaudo areas to the south. He does point out, however, that variations do exist, both in grave goods and in burial rites, within these traditions. He interprets the differences between the two north Italian traditions in relation to cultural, rather than environmental, factors (including ethnicity, political organization and attitudes towards death). This is partly suggested by the clear differences that are also found in the range of artefacts found in association with the burials of the two traditions, with flint or copper daggers consistently being found in association with males in individual burials, and few daggers, but numerous beads and necklaces, being found in association with collective burials. It is also suggested by the evidence of local continuity in the mountain/collective/delayed burial tradition with later Neolithic Chassey/Lagozza burial practices, and by the fact that individual burial is frequently found outside the plains area, in the Pre-Alps to the east of Lake Garda.

Barfield (1985) places a good methodological emphasis upon the closer examination of burial rites in the archaeological record, especially in order to distinguish between primary and delayed or secondary deposition of human remains. He suggests, within the context of collective burial practices in Italy, for example, that the majority of Gaudio rock-cut tombs in southern Italy contain primary deposits, whereas many of the north Italian caves contain secondary deposits of human bones, mixed as a result of delayed deposition of the body. He notes, however, that certain aspects of delayed burial practice are likely to be archaeologically invisible. In the field, Barfield has provided even finer details of the mortuary process through his excavations of a Copper Age cemetery in Riparo Valtanesi at Manerba, on the edge of lake Garda (Barfield 1983, 1991). Here, at least seven stages of development were recognized in the sequence of construction and destruction of four rectangular burial chambers, which had pebble or stone slab floors and wooden walls, and were associated with stone platforms, hearths and a cremation trench. A wide range of human remains, artefacts, animal bones, and plant remains was recovered through careful excavation. Special finds included: steatite, marble, copper and shell beads (which remained relatively well articulated as necklaces, in contrast to the mixed human remains), and the carbonized remains of cherries (Cornus mas), vetches or broad beans (Vicia), grain and deadly nightshade (Atropa belladonna).

Useful points of criticism are provided by Barfield concerning the social interpretation of mortuary practices. He criticizes Renfrew (1973b) and Barker (1981a), for example, by noting that neither delayed burial nor single inhumation rites can be seen by themselves as necessarily reflecting a stage in the evolution of social complexity, and that differences in the richness of grave goods in burials cannot necessarily be regarded as a reflection of social ranking (Barfield 1985). He notes, for example, that only a few specific instances of ranking, perhaps similar to that of 'Big Man' status, can be inferred from north Italian Copper Age grave goods (Barfield 1984). These include the five particularly rich graves at Remedello, and the rich burial from Villafranca Veronese with its silver pectoral, copper halberd and single arrowhead. Otherwise, Barfield argues, the 'rich' grave goods relate either to wealth redistribution, in the case of collective burials, or to sex and age groupings, in the case of single burials. Daggers deposited in graves, for example, are likely to have symbolized status as adult males, rather than prestige or power. Barfield (1983: 123) also considers it unlikely that a relationship existed between burial monuments and territory in Italy, with tombs symbolizing territorial possession as has been suggested for Neolithic Britain, since Italian cave burials and rock-cut tombs present almost no exterior monumental aspect. Unfortunately, criticism can be turned upon Barfield with respect to his assumption that all grave goods, including copper and flint daggers, were the personal possessions of the individuals

with whom they were buried (eg. Barfield 1985: 163, 165). This may be so, but other explanations do exist. It is possible, for example, that particular items, especially those which functioned as powerful material symbols (such as the daggers), were taken out of circulation in exchange networks and ostentatiously deposited in graves (and even deliberately destroyed, in the case of the broken daggers found in graves at three Rinaldone burial sites - Barker 1981a: Table 7) by the relatives of the deceased, within the context of on-going socio-political discourses.

d) Introduction to the data

A wide range of archaeological data is available concerning Neolithic and Copper Age mortuary practice in the Abruzzo-Marche region, which characteristically varies greatly between different spatial and chronological contexts. Identified human remains include both males and females, and their ages range from old adults, to adults, juveniles, children, and infants. Evidence of their original treatment includes bone-fragmentation and cremation, as well as both primary and secondary inhumation in articulated, disarticulated and re-articulated positions. They have been found, so far, at three different categories of site: residential sites, cave sites and special-purpose burial sites; and within these sites, they have been found in a variety of contexts. At residential sites, human remains have been found: on the surface, as a result of recent ploughing activities (eg. S. Agnese [PE]);

scattered within the general settlement deposits (eg. Borgo Tufico [AN]); deposited in post-holes, pits and larger cavities (eg. Catignano [PE]); and buried in special-purpose graves, which, in one case, are found together in a group that forms a distinct cemetery area (ie. Ripoli [TE]). At cave sites, human remains have been found: deposited on the culturally sterile deposits overlying the cave floor (eg. Grotta a Male [AQ]); placed in niches along the cave walls (eg. Grotta la Cava [AQ]); randomly scattered within the cultural deposits (eg. Grotta Maritza [AQ]); deposited on the surface of stratigraphically distinct layers within the cultural deposits (eg. Grotta Continenza [AQ]); and deposited in artificially dug pits within the cultural deposits (eg. Grotta S. Angelo [TE]). The special-purpose burial sites, all of which date to the Copper Age, range in size from relatively large cemeteries, comprising up to at least seven graves with at least 14 individuals buried in them (eg. Cava Koch [MC]), to small sites comprising a single grave and just one individual (eg. Camerata [AQ]). The forms of the graves found at these special-purpose burial sites include: shallow graves (eg. Vescovara [AN]); deeper oval cavities, a few of which were provided with access ramps (eg. S. Giovanni [AN]); and rock-cut tombs (eg. Camerata [AQ]). Human remains have been found in varying degrees of association with: deposits of artefacts (including pottery vessels and sherds, and lithic, copper, shell and bone artefacts); animal and plant remains; and artificial features (including hearths, pits and 'circles' of stones). The spatial structure of these

deposits ranges from apparently random scatters of material, some of which may have resulted from the more recent disturbance of the archaeological deposits (eg. Grotta Maritza), to apparently in situ and intentionally structured deposits (eg. the 'Level of the Circles' in Grotta dei Piccioni).

Despite the wide range of these data, their quantity and quality remain limited, perhaps especially due to the present state of archaeological research and publication in the Abruzzo-Marche region, but probably also as a consequence of prehistoric mortuary practice. To begin with, the quantity of the data appears to be fairly small, particularly for certain chronological phases. For example, human remains have only been found at 10% (30) of the total 291 known Neolithic and Copper Age sites in the Abruzzo-Marche region. This figure may rise in the future, particularly if more extensive area excavations are carried out on prehistoric sites, but it might not rise significantly if, as seems possible, most (even nearly all) bodies were disposed of in ways which have left no archaeologically surviving and identifiable traces. The data appear even less representative as a sample when the different modes and probabilities of discovery of different types of mortuary deposit are considered. The majority of the Copper Age special-purpose burial sites in the region, for example, have been accidentally discovered through non-archaeological activities such as quarrying (eg. Cava Koch [MC]), forestry work (eg. Arciprete [AQ]) and the digging

of vine trenches (eg. Vescovara [AN]); whereas most of the human remains found on residential sites and in caves have been found as a result of intentional archaeological excavations. These problems clearly restrict the degree of confidence with which Neolithic and Copper Age mortuary practice here can be interpreted.

Specialist reports on the human bones have been produced for only eight Neolithic sites out of the total of 37 Neolithic and Copper Age sites with human remains, and all of these were produced before the 1980's (ie. Grotta S. Nicola - Borzatti von Löwenstern 1962a; La Maddelena and Ripabianca - Corrain and Capitanio 1968; Grotta S. Angelo-Radmilli 1975; Grotta dei Piccioni - Radmilli et al. 1978; Grotta Continenza - Grifoni Cremonesi and Mallegni 1978; the woman buried with the dog at Ripoli - Parenti 1957; and the skull from Villaggio Rossi - Mallegni in: Geniola and Mallegni 1975). In these reports individual body parts are generally identified and broken bones are generally noted. The sex of certain diagnostic bones is sometimes specified, although this occasionally lies open to doubt, particularly in the case of the fairly undiagnostic child skulls from Grotta dei Piccioni. The age of certain diagnostic bones is also sometimes specified. General age categories range from 'old adult', to 'adult', to 'juvenile' or 'young person', to 'child', and 'infant'; but these terms are often used without reference to specified age ranges, and may have been used in different ways by the four different specialists who produced the reports. This clearly limits

the reliability with which the ages of individuals can be compared from site to site within the Abruzzo-Marche region, or with more detailed reports from other areas of Italy. Where specific age ranges are provided: 'old adult' means 50-55 years at Villaggio Rossi; 'juvenile' or 'young person' means between c. 20 and 14 years at Grotta la Cava and Grotta S. Angelo; 'child' means between 10 and 3 years at Grotta Continenza, Ripabianca, Grotta dei Piccioni, Grotta la Cava, and Grotta S. Angelo; and 'infant' means 3-4 months at Grotta dei Piccioni. The distinction between 'adult' and 'juvenile' is particularly unclear, for no specified age ranges are provided for any of the remains classified as 'adult', and the designation as 'juvenile' for the individual from Grotta S. Angelo aged c. 20 years seems too old for a juvenile. In addition, only one of the reports includes any palaeopathological information (ie. Radmilli et al. 1978: 195-6), and this relates only to the teeth. Clearly, then, there is a need for an up-to-date re-study of the human remains found in the Abruzzo-Marche region, but for the purposes of this thesis I have had to rely cautiously upon these older reports.

The general lack, or poor quality, of published written details, plans and photographs of the contexts of discovery of these human remains (including the features, deposits and artefacts found in association with them) seriously limits the degree to which specific contextual interpretations of mortuary practices can be made of them.

Almost none of the original published plans and photographs, for example, were sufficiently clear to reproduce in this thesis. (For the originals, see: the early Neolithic child in the Grotta dei Piccioni - Radmilli et al. 1978: Figs. 1 and 3; the Grotta Continenza cremations - Grifoni Cremonesi and Mallegni 1978: Fig 1.1-2; the Villaggio Rossi skull - Geniola and Mallegni 1975: Fig. 2b; the Catignano woman and child - Tozzi 1982: plan; and Pitti and Tozzi 1976: Fig. 2c; the 'Level of the Circles' in Grotta dei Piccioni - Cremonesi 1976: Figs. 46-47; Ripoli cemetery - Rellini 1934: Fig. 2; Dall'Osso 1915: 395, 427; Area Guzzini East burial - Percossi Serenelli and Silvestrini Lavagnoli 1988; Via Duomo 109 burial - Lollini and Capitano 1970: Tavs. I-II; Cava Koch cemetery - Galli 1941: Tavs. I-II, 1947-50: Tavs. I-IV; and Grave 4 at Vescovara - Annibaldi 1951-2: Tav. I). There are, however, a few relatively well published reports, that provide a sufficiently detailed combination of descriptive text, plans and photographs, for the excavators' original interpretations to be checked, and for new patterns to be constructed out of the data. In addition, there is one of these for each chronological phase of this thesis, except for the late Copper Age (ie. Geniola 1982b for the early Neolithic burial at Villaggio Rossi; Pitti and Tozzi 1976 and Tozzi 1982 for the middle Neolithic burials at Catignano; Cremonesi 1976 for the late Neolithic 'Level of the Circles' in Grotta dei Piccioni; Rellini 1934 for the late Neolithic-final Neolithic/early Copper Age cemetery at Ripoli; and Percossi Serenelli and Silvestrini Lavagnoli

1984-6 and 1988 for the middle Copper Age burial at Area Guzzini East).

Published descriptions of the treatment of the human remains do actually provide sufficient details in general. This is probably due to the fact that finds of human remains usually generate a fair degree of excitement and interest amongst archaeologists, in contrast to some other categories of archaeological data. Evidence of bone cremation, for example, is probably always described when it exists. The degree of articulation and the positioning of articulated skeletons are sometimes described in the text, although such descriptions can generally only be fully understood when they are accompanied by photographs. Quantification concerning numbers of individuals found is also sometimes provided, especially in those cases where the relatively intact remains of only a few individuals were discovered.

Records of the precise location of human remains found within the excavated portions of sites are generally not that clear, especially in the case of scattered human remains. An example of a good report, in this respect, is that produced for the area excavations at Catignano [PE] (Tozzi 1982). By using the text and site plan from this report in combination, it is possible to identify clearly the location of the pit and post-hole which contained the remains of an adult and child, and to consider their location in relation to the long-houses found at the site

(Fig. 94). Less satisfactory reports have been provided for Grotta Continenza [AQ] and Ripabianca [AN] (Grifoni Cremonesi 1985; Corrain and Capitanio 1968), where tantalizing descriptions of the spatial arrangement of the human remains are provided in the text, but without any supporting site plan to make full sense of these details. An example of a particularly poor report is that from La Maddalena [MC] (Corrain and Capitanio 1968), which provides no details of the location of the human remains within the excavated areas of the site.

The forms of particular features within which human remains were found are also sometimes difficult to imagine on the basis of those descriptions which lack accompanying plans or sections. This is particularly true when the terms 'grave', 'tomb', 'cavity' and 'pit' are used without supporting details. In a few exceptional cases, however, details of both the features and their stratigraphies are provided. An example is Geniola's (1982b) description of the shape and fill of the cavities at Villaggio Rossi, particularly cavity IA, within which human remains were deposited in layers and in small pits and ditches dug into the sides and fill of the cavity.

The contextual relationship of the human remains to 'associated' deposits, artefacts and features remains problematic, even for the better excavated and recorded sites, particularly in terms of chronology. Sequences of deposition of the material remains of mortuary practices

are especially difficult to establish, even where relatively detailed stratigraphies exist. In the Neolithic caves in Abruzzo, for example, where the mortuary deposits appear to have accumulated slowly, and as a result of a variety of depositional processes, in both pits and strata, it is difficult to separate out initial mortuary deposits from the possible secondary reworkings of, and additions to, those deposits. In contrast, the Copper Age burials found at special purpose burial sites in the Abruzzo-Marche region appear to have been refilled quite rapidly and sealed from further cultural transformation processes. But this does not alleviate the problems of comparing different graves found within cemetery sites, particularly when the majority of individual grave assemblages have not been recorded with a standardized degree of detail, and when possibly only small portions of these cemeteries have been excavated.

e) Chapter structure

The structure of the remainder of this chapter is similar to that of the previous ones. The whole span of time is subdivided initially into chronological phases: early Neolithic, middle Neolithic, late Neolithic, final Neolithic/ early Copper Age, middle Copper Age, and late Copper Age. For each phase there are two sub-sections, one entitled 'sites' and the other 'discussion'. In the former, a list is provided of the sites where human remains have been found, then a detailed description is given of the

range and treatment of human remains found at these sites, and their associated deposits, artefacts and features. For the human remains, where published details exist, aspects considered in this section include: the number of individuals represented, and their age and sex; the body parts represented, and their degree of articulation, fragmentation, or cremation; and their positioning in relation to artefacts and features. The locations of these sites are also described, particularly those of the cave sites and special-purpose burial sites whose selection might have been strongly influenced by ritual considerations (rather than subsistence requirements, for example). In the discussion sections, patterns in the data are identified, especially those of a spatial nature, and these are interpreted with reference to the themes presented in the introduction to the chapter, including: the mortuary process, variability in the mortuary record, ritual, the uses and meanings of material symbolism, the transformation of mortuary practice, and socio-political and historical contexts.

2. Early Neolithic

a) Sites

Human remains have been found on seven early Neolithic sites in the Abruzzo-Marche region: Fonterossi [CH], Villaggio Rossi [CH], Grotta dei Piccioni [PE], Grotta

Continenza [AQ], Grotta S. Angelo [TE], La Maddalena [MC], and Ripabianca [AN]. Four of these are residential sites and the other three are cave sites (Fig. 121).

At Fonterossi [CH], the incomplete skeleton of an adult female was found in an oval pit beneath Neolithic settlement deposits (Rellini 1914, 1932). The pit, which measured 1.5 m in length, was cut into a natural deposit of sand and clay, and was irregularly ringed by blocks of limestone. The body was laid out with flexed legs and the arms were placed close to each other. Body parts included the skull, the left humerus, the femurs, a tibia, the fibulae, and foot bones. Three unretouched flakes of chert were also found in the pit. The precise stratigraphic relationship between the pit and the settlement deposits is unclear, as is the date of the settlement deposits, but the humerus was recently radiocarbon-dated to 5630-5248 Cal. BC [2-sigma] (OxA-1958) (Hedges et al. 1990: 212), which places the burial in the earlier part of the early Neolithic.

Disarticulated human remains were found in four of the early Neolithic cavities at Villaggio Rossi [CH] (Geniola and Mallegni 1975; Geniola 1982b). The skull of an old woman, aged between 50 and 55 years, was found in a small pit dug into the base of cavity IA. Other human remains were found throughout the fill of this cavity, sometimes in pits or in a little ditch, and in level III fragments of human bone were found mixed with a group of animal bones.

Unspecified human remains were also found in cavities IBB1, IIIA, and IE4. The latter contained a shallow layer of burnt and cemented bone (which could be human and/or animal) sandwiched between two layers of dark soil.

The partly articulated skeleton of a child was found at the bottom of the Grotta dei Piccioni cave deposits [PE] (Radmilli et al. 1978). It lay crouched on its left side, on a layer of sterile stones at the base of the cave. A piece of red ochre and a grindstone stained with red ochre were also found in this level. Grotta dei Piccioni is a large, single-chambered, cave, and is located at about 275 m above sea level on the top edge of the Orta gorge (Plate 3). Outside the cave there is a sheer 100 m drop down to the bottom of the gorge (Plate 2). The River Orta, which flows through this gorge, runs down from the Maiella mountains to the lowland River Pescara, which lies 4 km away. Today a narrow path leads along the top edge of the gorge to the cave, but the latter remains hidden from view until a distance of a few hundred metres. (The cave is named after the numerous pigeons that inhabit it.)

A large quantity of human remains have been found in the early Neolithic spit d of Grotta Continenza [AQ] (Grifoni Cremonesi and Mallegni 1978; Grifoni Cremonesi 1984, 1985, 1987). A group of four intact pottery vessels containing, and covered by, cremated human bones was found in a niche situated along the west wall of the main chamber. One of these vessels, which was smeared with clay

and covered by two sherds, contained the cremated remains of a four year old child. Another contained some red ochre and the cremated remains of a child aged about eight years. The pile of cremated bone which covered the group of vessels is thought to have come from an adult female. Other intact vessels were found further along the west wall of the cave, and a pile of red ochre and a small pit were also found near to this wall. Non-cremated human remains were found elsewhere in the cave, both in the main chamber and in the subsidiary chamber. These included the remains of about 15 adults and 17 children. The remains of one of the children were found in a niche in the central wall, and those of another were found in a pit. The articulated remains of two sheep and a dog were also found in spit d in Grotta Continenza, along with stone-paved areas, hearths, clay-lined pits and shallow ditches, but very few other animal bones or lithic and bone artefacts were found. Grotta Continenza is a medium-sized cave, with two chambers and a low ceiling, from which hang numerous stalactites (Plate 12). It is located at 700 m above sea level on the northern side of Monte Alto, about 50 m above the southern edge of the Fucino basin (Plate 11), over which it provides extensive views. (The cave was named after a shepherd called Continenza whose flocks were, until recently, kept in the entrance to the cave.)

Human remains dating to the early Neolithic have been found in the back of the central chamber of Grotta S. Angelo [TE] (Radmilli 1975). Groups of other human bones

were found elsewhere in this cave during the 19th century (Rosa 1871; Strobel 1886: 163-4), in the inner chamber, for example, but their dating is unclear. The human remains from the central chamber were found in four pits, which belonged to a group of nine pits. The pits measured between 0.4 and 0.8 m in diameter, and between 0.2 and 0.8 m in depth. They were filled first with stones, and then with burnt human and animal bones, sherds, and lithic and bone artefacts. Burnt bones and sherds were also found on the compacted soil surface around the pits, and a few of these sherds were re-fitted to some of those found in the pits. It is evident that not all of the pits were dug at the same time, for one pit cut into the fill of another. The human remains from pit A included a scapula and a rib belonging to a male aged about 19-20 years; a tibia fragment and a clavicle from an individual aged about 14 years; and two clavicles from individuals aged 3-4 years and 5-6 years respectively. Pit D contained skull fragments, a mandible, three vertebrae, six bones from the thorax, six ribs, and three fibulae belonging to more than one individual aged 18-20 years, and a jaw fragment from an individual aged six years. Pit G contained the femur of an individual aged 14-16 years, and a phalange from an individual aged about 20 years. Pit H contained a mandible from an individual aged about seven years. Remains of children and juveniles were also found on the soil surface around the pits. Only a few bones per individual were deposited in the pits, but a wide range of body parts were represented overall, including a small phalange. Half of the human bones were clearly burnt,

but no patterns emerge in relation to which body parts were burnt.

There is some distinction between the contents of the pits with and without human remains. The four pits with human remains also contained a wide range of artefacts, faunal and plant remains, and relatively large numbers of sherds. The five pits without human remains, on the other hand, appear to have had more specialized contents. Pit E, for example, contained only sherds of fine 'figulina' pottery, and pit I contained only pig bones. Of the animal bones found in the pits, meat parts predominate in general, but there was a possible concentration of cattle head parts (and perhaps also sheep/goat and pig head parts) in pit H. About 100 carbonized wild apple pips (Malus sylvestris) were found in the bottom of pit G.

Grotta S. Angelo is a large cave, and can be entered via at least two short passages, which lead to the central chamber (Plate 24). This covers an area of about 230 m², has a high roof, and is now used as a chapel dedicated to the Archangel Michael. This chamber leads on in turn to the extensive and high-roofed 'Grotta Oscura', which, as its name suggests, is particularly dark. The cave is located close to a number of modern geographical boundaries. It lies at a height of 600 m above sea level on the side of the Montagna dei Fiori, about 100 m above the upper section of the River Salinello, and half a kilometre down-stream from the point where this river emerges from a gorge in the

mountains (Plates 23 and 25). It is also located at a distance of about one kilometre up-stream from the boundary between the innermost modern agricultural zone and the start of the wooded mountain zone.

At La Maddalena [MC] adult human remains were recovered from unspecified areas of the residential site (Corrain and Capitanio 1968). These bones included: an incomplete cranium, a mandible, scapulae fragments, four vertebrae, a sacrum fragment, rib fragments, a right humerus, femurs, and tibiae.

At Ripabianca [AN], the remains of four adults were found in three 'graves', the remains of a child were found scattered over the site, and the remains of a child were found in plough-soil to the south of the site (Corrain and Capitanio 1968). The south-west grave contained the remains of an old adult male, including fragments of the cranium, mandible, sternum, scapulae, clavicles, vertebral column, ribs, humeri, radii, ulnae, femurs, tibiae, and fibulae. The south-east grave contained the remains of an adult female, including fragments of the cranium, facial bones, mandible, numerous vertebrae, clavicles, scapulae, ribs, humeri, radii, hand bones, ulnae, femurs, tibiae, fibulae, and foot bones. The third grave contained the remains of an adult male, including a fragmented cranium, fragments of all of the long bones, shoulder bones, vertebrae, ribs, hand and foot bones. This grave also contained cranial fragments belonging to another individual. The scattered

remains of the child, aged 8-10 years, included fragments of the cranium, mandible, shoulder bones, ribs, vertebrae, humeri, ulnae, radii, and femurs.

b) Discussion

There are various ways in which these data can be categorized: chronologically, and according to mortuary rite and site type (and location). Patterns in the data emerge in relation to each of these categories, but few of these patterns can be correlated from category to category. This suggests, first, that these categories might be artificial, and, second, that the variety and individuality of the mortuary practices performed at the seven sites mentioned above should be emphasized.

Chronologically, these sites can be assigned, with a fair degree of reliability, either to the earlier part of the early Neolithic (ie. Villaggio Rossi, Fonterossi and La Maddalena), or to the later part (ie. Grotta dei Piccioni, Grotta S. Angelo and Ripabianca) (see Chapter 1). On the basis of this division, one can note that the earliest Neolithic human remains have so far been found exclusively on residential sites, but that for the later part of the early Neolithic they have also been found in cave sites. This pattern might indicate the new significance of cave sites as places for the performance of mortuary rituals during the later part of the early Neolithic, but it might simply reflect the current state of archaeological research

in the Abruzzo-Marche region, with caves containing mortuary deposits that date to the earliest Neolithic still waiting to be discovered. I am tempted to favour the former interpretation, especially considering the evidence of the growing importance of cave sites for mortuary practices during the middle and late Neolithic (see below, p. 618-37), but clearly a greater sample of early Neolithic cave deposits in the region needs to be excavated and closely dated for this hypothesis to be 'tested'.

The sites can also be categorized according to the types of mortuary rites performed at them, as suggested by the varying nature of the mortuary deposits found. Relatively simple primary burial rites appear to have been performed at three of the sites. At Fonterossi and Ripabianca, for example, the fairly complete and articulated skeletons of a few adults were buried in graves, at least sometimes in a flexed position, with few or no associated artefacts; and in Grotta dei Piccioni the fairly complete, articulated and crouched skeleton of a child was placed on the floor of the cave, apparently without any directly associated deposits of artefacts or animal bones. The scattered remains of children found across the residential site at Ripabianca might indicate the practice of a second type of mortuary rite at this site, that was perhaps restricted to the remains of children, but they might equally have resulted from a variety of non-cultural transformation processes (see

above, p. 544-5). Unfortunately, none of these suggestions can be checked due to the poverty of details provided by the excavation report for this site.

Cremation and/or delayed burial rites appear to have been performed at three other sites. At Villaggio Rossi and Grotta S. Angelo, groups of disarticulated and mixed human bones, which were frequently broken and sometimes cremated, were deposited in or around small artificial pits or shallow ditches. In Grotta S. Angelo, the human remains belonged to numerous individuals, but although a wide range of body parts were represented, only a few bones per individual were deposited in the pits. Feasting may have comprised an element of the mortuary rites performed at these two sites, for hearths and ash lenses were found around the pits, and the pits also contained deposits of ashes, animal bones (predominantly meat parts at Grotta S. Angelo), plant remains, sherds, and lithic and bone artefacts.

Cremated human remains were also found in Grotta Continenza, but the deposits that surrounded them indicate the performance of a different set of mortuary rites to those suggested for the previous two sites. The cremated remains of individuals were placed separately in or around whole pottery vessels, for example, rather than mixed together with each other in pits; and few animal bones and artefacts were found here, apart from the articulated skeletons of two sheep and a dog. Some of the

distinctiveness of the rites performed in Grotta Continenza, and particularly the apparent lack of evidence of feasting, might be explained by the restricted size and shape of the cave, with its small chambers, low ceiling and numerous stalactites, compared, for example, to the much larger space provided by Grotta S. Angelo. However, the distinctions might also reflect differences in the history, culture and religious beliefs held by early Neolithic groups living in the inland intermontane Fucino basin (where Grotta Continenza is located) compared to groups based on the Adriatic lowlands (where the other sites are situated). Cultural links with early Neolithic groups situated to the west (as opposed to the eastern lowlands of Abruzzo), for example, are indicated by the close similarities between the pottery flask, with its horizontal strap handles and decorative motif of incised lines, deposited in Grotta Continenza, and one found in spit 10 in Grotta dell'Orso in Tuscany (see Chapter 4, p. 459).

Whatever the precise nature of the mortuary rites performed at these three sites with evidence of cremation and/or delayed burial, the mortuary deposits found at them appear to have resulted from a longer and more elaborate process than that which led to the creation of the primary burials. The repeated performance of mortuary rites at these sites is indicated, for example, by: the existence of numerous, superimposed, stratigraphic units and layers containing human remains in the cavities at Villaggio Rossi; the digging of one of the group of pits into the

fill of another in Grotta S. Angelo; and the large numbers of individuals (at least 12 in Grotta S. Angelo, and over 32 in Grotta Continenza) represented by the human remains found at all three sites. It is tempting to draw a general analogy between these recurrent early Neolithic rites and the 'calendrical' or 'seasonal' rites repeatedly performed at well-delineated points in the annual productive cycle by numerous ethnographically observed societies (Turner 1969), but, not surprisingly, detailed studies of chronology and seasonality have not been carried out in the Abruzzo-Marche region, either for these early Neolithic mortuary deposits, or for contemporary residential sites, in order to 'test' this suggestion. A more elaborate, and perhaps ritualized, mortuary process is also indicated at the three sites (with evidence of cremation and/or delayed burial) by the wider range of features, artefacts and possible material symbolism found at them in association with the human remains (although it should be noted that these sites were better excavated and recorded than those sites with primary burials). The human remains themselves, and in particular the skull, provide possible examples of important, if not dominant, material symbols employed at these sites, for, in addition to their disarticulation, and frequent fragmentation and cremation, they were also accorded special treatment in their final deposition. For example: pits with human remains contained a greater range of artefacts, animal bones and plant remains than those without in Grotta S. Angelo; the cremated remains of three children were kept in special pottery containers in Grotta

Continenza; and a skull was placed in a special pit in the bottom of cavity IA at Villaggio Rossi. (Fragments of a skull were also placed in the grave of an articulated individual found at Ripabianca.)

Site type (and location) provides a third category for the analysis of the seven early Neolithic sites with mortuary remains, which can be divided into residential sites and cave sites. Few details can be provided concerning the former, due to the generally limited scale and quality of excavation and recording carried out at them. It is difficult, for example, to establish the precise location of the pits and cavities which contained human remains within these residential sites, for no house structures or other spatial arrangements of features have been clearly identified at them. Similarly, it is unclear whether the burial cavities were intentionally dug as graves, or whether they were reused features which had previously served, for example, as storage pits. Despite these limitations, it seems fair to claim that the mortuary practices performed at these residential sites took place in relative proximity to the context of daily domestic life, and that they took place within a more open and public context than those performed within cave sites.

The status of cave sites as a distinct and meaningful analytical category seems to be supported by the apparently exclusive use of red ochre as a symbol in mortuary contexts within them during the early Neolithic in Abruzzo. Red

ochre was found, for example, in one of the vessels containing the cremated remains of a child in Grotta Continenza, and a pile of it was also found nearby. In addition, a piece of red ochre and a grindstone stained with it were found in the spit overlying the skeleton of the child laid on the floor of Grotta dei Piccioni. It is interesting to note the historical significance of the use of red ochre as a symbol in mortuary contexts in cave sites in Italy during the Upper Palaeolithic and Mesolithic (see Chapter 4), although it is difficult to establish the particular relevance of this historical tradition to the early Neolithic uses and meanings of red ochre.

The three cave sites can be sub-divided into two groups according to their geographical location, size and the position of the mortuary deposits within them. The first group comprises Grotta dei Piccioni and Grotta S. Angelo. These two caves are located in similar positions: in somewhat hidden places, high above river gorges, near to the boundary between the mountains (Maiella and Apennine) and the lowlands, and on the edge of the early Neolithic lowland settlement zone (Fig. 121, Plates 2, 3, 23 and 25). In addition, both of these caves contain relatively large spaces, which could potentially have acted as arenas for large gatherings of people - perhaps at least fifty people at any one time. However, the somewhat hidden and peripheral locations of these caves, and the deposition of mortuary remains towards the back of the main chamber in both cases, might suggest that access to the deposits and

to the rites performed in association with them was restricted to a smaller audience. Grotta Continenza comprises the single member of a second group of early Neolithic cave sites used for mortuary practices. It appears to be located slightly closer to the early Neolithic inland settlement zone, which locally comprised the floor of the intermontane Fucino lake basin, for it lies 50 m above the floor of the basin, and between seven and eight kilometers away from the contemporary residential sites at Ortucchio and Colle S. Stefano (Fig. 84). Access to the cave may, however, also have been restricted, for it is fairly well hidden from view from the basin floor, and, as a rock-shelter, with a small pair of chambers and a low ceiling, only a small number of individuals could have occupied it at any one time. The cave is also distinguished by the fantastic stalactites which hang from its roof. As in Grotta Scaloria in Puglia (Tinè and Isetti 1975-80), these may have provided a source of non-artificial (natural) material symbolism, which might have been referred to in the mortuary rites performed within the cave.

I think that we should, and, to a certain extent, can, say something about the general religious and cultural issues with which some of these early Neolithic mortuary practices in the Abruzzo-Marche region may have been concerned. Clearly, this step makes strong demands upon the available data, which are limited in quantity and patterning, and becomes highly speculative when taken too

far. It also relies, partly, upon the application of general models developed by structuralist anthropologists in recent social contexts. Still, if regarded as hypotheses, I do believe that the following simple suggestions have some value.

To begin with, I suggest that the emphasis upon food and possible feasting in the mortuary rites performed repeatedly at Villaggio Rossi and in Grotta S. Angelo might reflect a recurrent concern with the fertility of the living and of subsistence resources critical to the reproduction of the community (see Bloch and Parry 1982). This theme could be represented in: the animal bones mixed with human remains in the pits and cavities at both sites; the predominance of meat parts amongst these animal remains in Grotta S. Angelo; and the remains of wild fruit found in pit G in this cave. Leading on from this, perhaps one could even go so far as to apply the general structural principle (identified by social anthropologists) of the passage from life (including sexuality and fertility) to death and rebirth to the mortuary rites performed at these two sites, which involved cremation and/or delayed burial (see Bloch and Parry 1982).

With regard to the use of certain cave sites for early Neolithic mortuary practices, it should be mentioned that the former were sometimes located in 'liminal' places, and the latter sometimes involved the deposition of possible sacrifices and offerings, and that this might reflect a

concern with the inhabitants of the 'Other World'. The locations of Grotta dei Piccioni and Grotta S. Angelo, in particular, might be described as 'liminal', for they were situated in somewhat hidden places, that lay along the edge of the mountains on a number of geographical (and possibly cultural) boundaries. Anthropological studies suggest that rituals, and in particular rites of transition, are commonly performed in 'liminal' places, which are often considered to be the point of contact or transition between the supernatural and profane worlds. Such places are characteristically bounded or enclosed, and the liminal scene is "usually framed in a sacred enclosure, cave, temenos, or other sequestered site" (Turner 1977: 38, my emphasis). The establishment of these two caves as sacred places, and the rituals performed within them, may therefore have been partly concerned with the definition of boundaries between 'This World' and the 'Other World'. More specifically, they may have played a part in the cultural remapping and reorganization of lowland landscape that took place during the early Neolithic against a background of significant changes in the patterns of human subsistence and settlement in the lowlands. The articulated remains of two sheep and a dog found in Grotta Continenza provide the best example of a possible sacrificial offering in an early Neolithic cave site in the region, but the cremated plant, animal and human remains from Grotta S. Angelo and Grotta Continenza might also have been burnt as offerings. Radmilli et al. (1978: 180-1) even suggest that the child found in the bottom of Grotta S. Angelo could have been

sacrificed, and perhaps left there as a kind of foundation deposit. Leach's (1976) suggestion that many societies direct their fears (of death, for example) towards the inhabitants of the Other World, along with sacrifices and offerings, in the hope of receiving reciprocal benefits, provides one possible explanation for such practices.

As regards the social function of these mortuary practices, I suggest that the living people who buried their dead at Villaggio Rossi, Grotta S. Angelo and Grotta Continenza, may have coped with the death and burial of members of their societies, and with the associated threats of death and economic misfortune, by expressing a simple message of group unity (and continuity) in their rites of cremation and/or delayed burial. The disarticulation, breakage, cremation and mixing of bones belonging to different people, especially carried out at Villaggio Rossi and Grotta S. Angelo, might, for example, be interpreted as an attempt to obliterate traces of the dead person as an individual, to break down all internal social divisions and to emphasize the unity of the living group (cf. Bloch 1971; Shanks and Tilley 1982b: 150-1; Thomas 1985: 553). The possible association of feasting and food-sharing with these mortuary practices may also have enhanced a message of unity amongst the living. Whether or not this message was the reflection of a social reality or the expression of an ideal, it makes sense within the social context of increasing settlement formation and fissioning during the early Neolithic.

The context of death may also have been used towards the end of the early Neolithic to emphasize certain structural divisions in society based upon age (eg. group membership and status), especially in lowland communities, between elders and the young (including juveniles and children). This might be represented by the differences in the mortuary treatment of adults and young people in and between some of the residential sites and cave sites located in or along the edge of the lowlands. At the residential sites of Fonterossi and Ripabianca, for example, articulated burial in graves and cavities appears to have been reserved exclusively for adults, and at Villaggio Rossi, it was the skull of an old adult that received special treatment by being placed separately and intact in a pit at the bottom of cavity IA. The remains of children, on the other hand, came to be scattered throughout the settlement deposits at Ripabianca, and deposited predominantly, if not exclusively, in the cave sites of Grotta dei Piccioni and Grotta S. Angelo.

3. Middle Neolithic

a) Sites

Human remains have been found on three middle Neolithic sites in the Abruzzo region: Catignano [PE], Villa Badessa [PE], and Grotta S. Nicola [AQ] (Fig. 122). The first two are residential sites, and the third is a

cave site.

At Catignano [PE], the articulated skeletons of an adult and a child were found in reused pits dug into the settlement deposits (Pitti and Tozzi 1976; Tozzi 1978, 1982). The crouched skeleton of the adult was found in a bell-shaped cavity (pit 9a) which may have previously been used as a crop-storage silo (see Chapter 3). The cavity contained a homogeneous fill of ashes, which suggests that it was filled in one go, as well as a painted pottery vessel, sherds, pieces of charcoal, and organic material. The cavity formed one of a group of cavities surrounding a long-house (Fig. 94). The child's skeleton, by contrast, was found in a post-hole (pit 39) located at the front corner of one of the long-houses. A broken grey bowl was found next to the head of the child, who was just a few years old.

At Villa Badessa [PE] two individuals were buried with painted pottery vessels (De Pompeis pers. comm. 1988), and at Grotta S. Nicola [AQ] excavations in stratum A2 produced human remains including four parietals, the mandible of an adult, and a tibia (Borzatti von Löwenstern 1962a). It is not entirely certain that the latter date to the middle Neolithic, for although the lower part of stratum A2 dates to the middle Neolithic, the upper part dates to the final Neolithic/early Copper Age. Grotta S. Nicola is a relatively small and narrow cave, which is located on the southern side of the Fucino lake basin (Plate 13, Fig. 84).

b) Discussion

Clearly these data are limited, but, compared to the early Neolithic, a few extra details emerge concerning the mortuary process at residential sites, and some patterns of continuity and change in mortuary practice can also be discerned. The area excavations at Catignano revealed, for example, that at least some human remains were buried right in the centre of this residential site, close to two long-houses, in a disused silo and a post-hole. Continuity in the treatment of human remains is particularly evident during the middle Neolithic, although one new development in mortuary symbolism is the recurrent deposition of pottery vessels as grave goods at lowland residential sites. Human remains continued to be deposited in similar ways at lowland residential sites and in one inland cave site. At the former, individual, articulated and predominantly adult skeletons continued to be buried in cavities; and in Grotta S. Nicola, disarticulated groups of bones were deposited. This cave has a number of features in common with the early Neolithic ritual cave site of Grotta Continenza: they are both small caves; they are situated in partly hidden locations, 50 m above, and just a few hundred metres away from, the southern edge of the floor of the Fucino basin; and they lie just 2 km away from each other (Fig. 84). (Grotta S. Angelo was too poorly excavated and recorded to determine the processes by which the human remains found in it came to be scattered.)

The distinction between the treatment of the remains of adults and children may have been maintained, and even elaborated, at Catignano during the middle Neolithic. The two categories continued to be buried in slightly different physical and spatial contexts, with the former in a disused silo between the two houses, and the latter in a post-hole at the front corner of one of the houses. They were also provided with slightly different types of pottery vessels as grave-goods, with the adult accompanied by Catignano-style painted fineware, and the child by a plain grey vessel. Such distinctions in the use of spatial and material symbolism in mortuary practices might have, again, contributed to the definition of real or ideal differences in group membership and status between adults and young people. The use of a crop-storage silo as a burial place at Catignano might also indicate a continued concern in mortuary practice with the fertility of the living and their subsistence resources, if its use can be regarded as symbolic rather than simply convenient.

4. Late Neolithic

a) Sites

Human remains have been found on four late Neolithic sites in the Abruzzo region: S. Agnese [PE], Grotta dei Piccioni, spits 15-14 [PE], Ripoli [TE], and Grotta Maritza [AQ] (Fig. 123). Two of these are residential sites, and

two are cave sites.

At the lowland residential site of S. Agnese [PE], two fragments of a human cranium and femur were found by field survey work on the surface of the site (De Pompeis 1978).

In spits 15-14 of Grotta dei Piccioni [PE], the remains of an infant and three children were found in the 'Level of the Circles' (Cremonesi 1976; Radmilli et al. 1978; Skeates 1991a). The 'Level of the Circles' comprised a line of 11 groups of stones (described by the excavator as 'circles'), measuring 30-80 cm in diameter, which lay on a large flat shelf of rock situated close to the back wall of the cave (Fig. 124). Articulated bones from the upper half of the infant, aged about three or four months, were found within the first group of stones (circle 1), at the southern end of the line. They included fragments of the skull, vertebral column, shoulder-girdle, arms, and pelvis. Disarticulated bones from an 8-9 year old child were found around circle 11, at the other end of the line of stone 'circles'. These remains included the mandible, five vertebrae, five ribs, and fragments of the shoulder-girdle, pelvis, arms, and legs. Two fragmented skulls, neither thought to belong to this first child, and both aged between 4 and 6 years, were also found near circle 11, close to a small niche in the back wall of the cave. One of these was fairly complete, but the other comprised only part of the brain case and face.

The shallow soil deposited around the stone 'circles' was blackened and contained charcoal and ashes, whereas the soil found elsewhere in the cave was browner with fewer signs of burning. A large quantity of animal bones, sherds, and lithic, bone, and shell artefacts were deposited both in and around the 'circles' of stones, and they exhibit clear spatial patterning in relation to the child remains. Overall, one can distinguish two major concentrations of animal bones and artefacts at each end of the line of 'circles', close to the child remains, and a smaller concentration in the middle of the line (Fig. 124.2). In more detail, there is a notable decrease from north to south in numbers of whole vessels, and a corresponding increase in numbers of sherds (Fig. 124.3). This might be interpreted as evidence of intentional pot-smashing in the southern part of the area. There was also a distinctive group of unusual artefacts located around circle 11, close to the main group of child remains. This included: a red painted triton shell (Triton nodiferum) with its apex cut off and a small suspension hole drilled through its lip; 11 bird humeri (mostly of duck) and one hare metatarsal, each with a red coloured pellet of clay at the distal end (or traces of this); six clay weights; a half-drilled round and flat pebble; and a group of five intact fineware pottery vessels. The latter included three bowls and two flasks; and one of these bowls had been placed upside-down on one of the flasks to act as a lid.

All body parts were represented in the bones of the major animal species, though there was a predominance of meat parts amongst them, and only meat parts were noted for the minor species, with the exception of one hare mandible. Combined with the general evidence of burning around the 'Level of the Circles', and the predominance of bowls in the ceramic assemblage from this part of the cave, this emphasis upon meat parts can probably be taken as evidence of feasting. At least five ovicaprids, three pigs, and one cow were represented in the faunal assemblage, and a few red and roe deer bones were also present.

At the lowland residential site of Ripoli [TE], a cemetery area was identified which comprised a row of nine ditches, containing skeletons, running in a north-east to south-west direction across the centre of the site (Fig. 97) (Dall'Osso 1915; Rellini 1934; Parenti 1957). Four of the ditches (1, 2, 10, and 11) can probably be assigned to the late Neolithic, on the basis of the artefacts found in them - in particular the painted pottery; and four can probably be assigned to the final Neolithic/ early Copper Age (see below, p. 638).

Ditch 1 was a triangular cavity in plan, with a length of 7 m and a depth of 0.5 m, and contained the remains of at least 10 individuals. Three crouched adult skeletons were found along the eastern side of the ditch: the first lay on its left side, with its head pointing to the south and its feet to the north, its arms folded on its chest and

its hands placed near to its mouth; the second and third skeletons also lay on their left sides, with their heads to the south and feet to the north. The head of the second skeleton rested on top of the legs of the third. Another skeleton was found near to the north wall of the ditch, lying on its right-hand side. The remains of four more individuals were found in the centre of the ditch: the first was disarticulated, and the other three had articulated lower body parts (pelvis, femurs, and tibiae). Two other groups of human bones were discovered elsewhere in this ditch. Finally, an oval pit, measuring 1.8 m long, was found in the bottom of the ditch. It was filled with dark soil, charcoal, pottery (coarse and plain and red-painted figulina), cattle bones, boars' tusks, and grindstones.

Ditch 2, which was rectangular in plan, was 10 m long, 2.1 m wide, and 0.8 m deep, and contained the remains of at least eight individuals. These were found at three different levels in the ditch. At the lowest level, at a depth of about 0.4 m, two crouched skeletons were found, one of which lay on its side, with its head pointing to the south. In the middle level, the crouched skeleton of an adult woman, lying on her left side, with her head to the south and the feet to the north, was found near to the wall of the ditch, with the articulated skeleton of a dog lying at her feet. A flexed skeleton, lying in the opposite direction, was also found at this level, along with two groups of disarticulated bones, one of which included a

skull. In the upper level, a crouched skeleton was found which lay on its side, with its head to the south and its feet to the north.

Ditch 10, which measured 15 m in length and 2.5 m in width, contained 14 articulated skeletons. They were found at different depths, and some were crouched, but one was supine. Sherds of red coarseware and yellow figulina were also found in this ditch. Finally, ditch 11, which was an oval cavity measuring 4 by 2.5 m, contained two poorly preserved adult skeletons, and, at the bottom, the skeleton of a child. Three sherds of coarseware were also found in this cavity.

19 fragments of human bone were found scattered in spits 28-24 of Grotta Maritza [AQ] (Favati Vanni 1963; Grifoni and Radmilli 1964). Identified bones comprised: two temporals, one from a woman; the jaw of a 15 year old; three mandibles, one aged to seven years, another to 7-8 years, and the other assigned to an adult man; a vertebra; two ulnae, one from an adult female; and two calcanea. Spits 28-24 also contained a succession of hearths, interspersed between layers of blackened soil and stones. Grotta Maritza is a small cave, and is located at about 685 m above sea level on the southern edge of the Fucino lake basin, about 30 m above the basin floor (Plate 10). It is fairly well hidden from sight, but provides an extensive view outwards over the Fucino basin.

b) Discussion

As with the early Neolithic, it is important to begin by emphasizing the significant degree of variation that appears to exist in the treatment of human remains found at these late Neolithic sites. This variation is particularly evident between the better excavated and recorded mortuary contexts of Ripoli and Grotta dei Piccioni.

At Ripoli at least 34 individuals were buried in the four late Neolithic ditches. Primary burial of articulated bodies was the dominant mortuary rite performed here. Bodies were generally laid in crouched or flexed positions on one side, and the head was usually orientated to the south with the feet to the north. There is, however, one example of a body laid in a supine position, and another example where the orientation of the body is inverted, with the head pointing to the north and the feet to the south. At least five groups of disarticulated bones were also found in ditches 1 and 2. The three groups found in ditch 1 might comprise bones taken from the upper half of the skeletons of three individuals found in the same ditch whose lower body parts only remained in articulation, although sufficient data are not available to check this suggestion. The remains of adults predominated in the Ripoli ditches, although the skeleton of a child was found at the bottom of ditch 11. 'Grave goods' were generally represented by coarse and fineware pottery, including some red painted figulina; but the articulated skeleton of a dog

was also found at the feet of an adult woman in ditch 1, and a special, burnt, deposit of sherds, cattle bones, boars' tusks and grindstones was found in a pit in the bottom of ditch 1. The ditches appear to have been gradually filled, for distinct groups of human remains were found in different levels in them, and in different parts of the same level. The possible resorting of primary burials in ditch 1 might indicate that the human remains continued to be relatively accessible after their deposition in the ditches, although it is unclear whether or not they remained open to view. The location of the ditches in a row across the centre of the large residential site at Ripoli, suggests, on the one hand, the existence of a specially defined cemetery area, but, on the other hand, a relatively open and accessible burial place which was tied quite closely (at least spatially, if not conceptually) to the daily, domestic life of the residential site.

The mortuary deposits found in the 'Level of the Circles' in Grotta dei Piccioni can be contrasted in a number of ways to those found at Ripoli. To begin with, they can be differentiated according to the degree of detail with which they were published. The excavation report for the 'Level of the Circles' provides, for example, more detailed evidence of the spatial patterning of the mortuary deposits in this context. It reveals a structured and, presumably, deliberately deposited set of deposits, whose spatial arrangement appears to focus

attention upon the human remains. The deposits comprised: a line of 11 groups of stones; human remains lying at the southern and northern ends of this line; two major concentrations of animal bones and artefacts situated at each end of the line, close to the human remains, and a smaller concentration in the middle of the line; a distinctive group of unusual artefacts located at the northern end of the line, adjacent to the main group of human remains; and a notable decrease from north to south in numbers of whole vessels, and a corresponding increase in numbers of sherds (Fig. 124). The published details of the excavation of the 'Level of the Circles' also allow the identification of a range of possible activities that may have been carried out in addition to the burial of human remains in this context. Feasting, for example, is perhaps indicated by: the predominance of meat parts amongst the animal bones; the general evidence of burning around the 'Level of the Circles'; and the predominance of bowls in the ceramic assemblage found in this part of the cave. Intentional pot-smashing in the southern part of the 'Level of the Circles' might also be indicated by the increasing numbers of sherds and decreasing numbers of intact vessels found here, compared to the northern part of this context.

The 'Level of the Circles' in Grotta dei Piccioni and the cemetery at Ripoli can also be contrasted according to: their site types and locations, the location of the mortuary deposits within these sites, and the material contents of their mortuary deposits. The location of Grotta

dei Piccioni can be described as 'liminal' in relation to the late Neolithic settlement zone on the lowlands, which remained similar to that of the early Neolithic (see above, p. 615-6); and within this cave, the late Neolithic mortuary deposits lie at the back of the main chamber, hidden from view from the cave entrance. These features contrast strongly with those of the cemetery at Ripoli, which lies in a relatively visible and public place, in the middle of a residential site. As regards the contents of the mortuary deposits, the remains of fewer individuals were deposited in the 'Level of the Circles' compared to the cemetery at Ripoli (four and at least 34 individuals respectively), and in the former the remains belonged exclusively to children and an infant (compared to the predominance of adults at Ripoli). In addition, all of the human remains found in the 'Level of the Circles' were disarticulated, apart from the fragmented bones from the upper half of the infant, which suggests that delayed burial may have been the dominant rite here (in contrast to primary burial in the Ripoli cemetery). Although certain types of artefact and animal species were found in both contexts (including sherds and grindstones, and the bones of cattle, pigs and dogs), a wider range was found in the 'Level of the Circles' (including stone, bone and shell artefacts, and the bones of ovicaprids, red and roe deer, wild cat, hare, fox and marten). The triton shell and the 12 bones with clay pellets found in the area of circle 11 actually stand out as unique artefacts within the entire context of the Neolithic and Copper Age in the Abruzzo-

Marche region. Considering that they were also both tinted with red paint, and that they were found adjacent to the main group of human remains, it is tempting to suggest that they were elements of a special set of ritual paraphernalia, used (or at least deposited) at this site.

The triton shell, with its apex cut off and a small suspension hole drilled through its lip, was probably used as a trumpet. This view is based upon formal analogies with Classical and more recent ethnographic examples of shell trumpets from Italy, all of which have their apexes intentionally removed (Cremonesi 1976; Skeates 1991b). It is unlikely, however, that it was used simply as a musical instrument. Experimental studies and ethnographic observations show that end-blown triton shell trumpets produce only a limited range of notes - one or two harmonics (Picken 1975: 552); and the nature of their sound has been described, more subjectively, as loud, braying and unmusical (Jackson 1917). The sound produced by the example from the 'Level of the Circles' therefore probably acted as a signal: evoking emotions, announcing simple messages, directing and impelling people and gods to action. The shell itself may also have acted as a visual symbol, considering its suspension hole and red painted surface. A number of other examples of triton shell trumpets have been found in Neolithic contexts in Italy, often in caves, and almost exclusively in association with human remains (Skeates 1991b). Although these trumpets may not have been blown in the places where they were deposited, it is

tempting to agree with Mosso, who suggests that "the fact that they are found near human bones gives reason to suppose that even in neolithic times these shells were sounded with a religious signification" (Mosso 1910: 363).

Looking at the late Neolithic mortuary deposits as a whole (not that the sample of four sites is that much of a whole), general continuity can be identified with early and middle Neolithic mortuary practices in the region. The same range of site types and locations, for example, was used for the deposition of human remains, including: lowland residential sites, an intermediate cave site and an inland cave site located in the Fucino basin. In fact, Grotta dei Piccioni was previously used as a burial site during the early Neolithic (although apparently not during the middle Neolithic). Primary and delayed burial also continued to be practiced, with the former again occurring especially on lowland residential sites; and the latter, which was characterized by the deposition of disarticulated human remains along with hearths, ashes, sherds and animal bones, occurring predominantly in the cave sites, but perhaps also in ditch 1 in the cemetery at Ripoli.

More specific changes in mortuary practice can also be discerned, especially in mortuary symbolism, although it is interesting to note that most of these changes seem to have evolved out of earlier practices. Ritual contexts became slightly better defined during the late Neolithic. Comparing the mortuary remains found at Ripoli with those

from middle Neolithic Catignano, for example: both were found in the centre of relatively large residential sites, but those at Ripoli had been deposited in a group of special-purpose burial ditches, whereas those at Catignano were found in a disused silo and post-hole. This might perhaps be interpreted as an early attempt to redefine and distance mortuary practices from the context of daily domestic activities at residential sites in the lowlands. Age distinctions continued to be maintained in the treatment of human remains at sites located in or along the edge of the lowlands, although these appear to have become even more clear-cut during the late Neolithic, with the remains of only one child being found in the Ripoli cemetery, and exclusively children and an infant being found in the 'Level of the Circles' in Grotta dei Piccioni. A few human skulls continued to receive special mortuary treatment during the late Neolithic, with skulls being deposited separately in the 'Level of the Circles' and possibly also in ditch 2 in the Ripoli cemetery, as in the early Neolithic, when an isolated skull was deposited in a pit in cavity IA at Villaggio Rossi and another was placed in one of the graves at Ripabianca. However, the deposition of a pair of skulls in the 'Level of the Circles' might indicate an attempt to intensify the power of this symbol through duplication (cf. Green 1991). The articulated skeleton of the dog found in ditch 2 of the Ripoli cemetery can be compared to the articulated dog skeleton found in the early Neolithic mortuary deposits in Grotta Continenza, although the former was now much more closely associated

with a particular human individual, being placed at the feet of a woman. Painted pottery vessels continued to be deposited with primary burials as grave goods in the late Neolithic cemetery at Ripoli, as in the graves at middle Neolithic Catignano and Villa Badessa, but new decorative motifs were now employed - which might be regarded as an elaboration of pre-existing material symbolism. New, and unique, symbols were deposited in mortuary contexts during the late Neolithic, including the triton shell trumpet and the bird and hare bones with a clay pellet stuck onto one end found in the 'Level of the Circles'. However, perhaps even these referred back to past ritual practices, through the traces of red (? ochre) paint which they carried, which might be seen as a continuation of the long-term tradition of using red ochre as a symbol in mortuary contexts in caves in central Italy. The painting of these artefacts with red paint might have aided their establishment as authentic ritual symbols and as elements of a special set of ritual paraphernalia. Likewise, perhaps the other changes identified in late Neolithic mortuary practice in the region, which more clearly exhibit continuity with earlier practices, may have been justified by appeals to tradition (see Hobsbawm 1983).

A few, more general (and, admittedly, more speculative) interpretations of these late Neolithic mortuary practices might also be proposed. To begin with, the early Neolithic concern with the inhabitants of the 'Other World', which was suggested by the use of 'liminal'

cave sites for mortuary practices, and the deposition of possible sacrifices and offerings in these caves, may have continued to play a part in the rituals performed in Grotta dei Piccioni during the late Neolithic. Hints of the 'Other World' are suggested in this cave by: the transitional location of the cave, which might be described as 'liminal' (see above, p. 630); the group of five intact fineware vessels found near to circle 11, and in particular the flask covered by a bowl, which might have comprised or contained offerings; and the triton shell trumpet, which, if blown in this context, might have acted as a signal to occupants of the 'Other World'. Radmilli (1975: 181) goes so far as to claim that the remains of the children, and in particular the infant, found in the 'Level of the Circles' were deposited there as human sacrifices during the propitiatory rites of an earth fertility cult. It is tempting to suggest that a concern with death and fertility may have continued to be expressed in late Neolithic mortuary practices, but the interpretation of human sacrifice should perhaps be replaced here by that of delayed burial. If the former were the case, then one might have expected the human remains to have been better articulated and more body parts to have been represented for each individual, as in the case of the articulated dog and sheep skeletons found in Grotta Continenza and Ripoli ditch 2.

Distinctions between adults and children also appear to have been maintained in the mortuary practices performed

by lowland communities during the late Neolithic, although presumably within a different social context to that of the early Neolithic. Differences can be seen in the mortuary treatment of adults and children between the residential site at Ripoli, situated in the coastal lowlands, and the cave site of Grotta dei Piccioni, which is located on the inland edge of the lowland settlement zone. At the former, the remains of adults were buried almost exclusively in the cemetery, with the exception of one child out of a total of at least 33 adults; whereas in the cave, only the remains of children and one infant were found. Both sets of mortuary deposits might have been created by the same, or a similar, late Neolithic lowland society. (This is possible, considering that painted pottery from Ripoli was found in the general late Neolithic deposits in the cave, and considering the proximity of the cave to the lowland settlement zone). If so, then these two opposing burial patterns might be seen as complementary to each other. Moreover, the context of death may have been used again to emphasize certain (actual or ideal) age-based structural divisions in society, with primary burial in lowland residential sites being generally restricted to elders, and delayed burial in caves located along the edge of the lowlands being restricted to children and infants. This suggestion should not be taken any further at the moment, especially since it is based upon evidence from just two sites. I therefore admit reservations concerning my direct and specific reading of the deposits in the 'Level of the Circles' in terms of the performance of initiation rites

involving the passage of children from one social status to another (Skeates 1991a). Clearly the rites performed in the cave differ from the funerary rituals performed at the Ripoli cemetery, with respect to the accessibility of the mortuary deposits and cave, for example, and to aspects of the material remains found in it, but it is not possible to discuss the precise nature and social function of these rites given the quantity and quality of data currently available.

5. Final Neolithic/early Copper Age

a) Sites

Human remains have been found at six final Neolithic/early Copper Age sites in the Abruzzo-Marche region: Cellitto [AQ], Grotta Maritza [AQ], Grotta S. Nicola [AQ], Ripoli [TE], Borgo Tufico [AN], and Grotta dei Baffoni [AN] (Fig. 125). Three of these are residential sites, and the other three are cave sites.

At Cellitto [AQ], two human skull fragments and a premolar were found in the upper stratum and on the surface of the site (Di Fraia 1970). In Grotta Maritza [AQ], a few scattered fragments of human bone possibly come from spits 23-22 (Favati Vanni 1963), along with sherds, lithic artefacts and hearths (Grifoni and Radmilli 1964).

Four of the ditches in the cemetery at Ripoli [TE] (ditches 4, 5, 7, and 9) can probably be assigned to the final Neolithic/early Copper Age on the basis of the artefacts found in them, particularly the black burnished pottery and arrowheads (Dall'Osso 1915; Rellini 1934). Ditch 4, which was a circular cavity measuring 2.5 m in diameter and 0.85 m deep, contained a disarticulated skeleton, much black burnished pottery, and some large grindstone fragments. Ditch 5, another circular cavity measuring 2.6 m diameter and 0.4 m deep, contained an incomplete and disarticulated skeleton at the base, and two stone discs and arrowheads in the fill. Ditch 7 contained a group of three crouched skeletons: one lay on its right side, and another on its left side, and one lay above one of the others. A black fabric cup was found near to these skeletons. Finally, ditch 9 contained four skeletons: two were crouched, and the other two were supine. Light and dark coloured sherds and two arrowheads were found in the fill above.

Four of the final Neolithic/early Copper Age cavities in the residential part of the site at Ripoli (cavities XXV, 8, 9, and 11) also contained very small numbers of human bones. A human tibia was found in cavity XXV, along with an assemblage of lithic artefacts (flakes and blades, arrowheads, and a mace-head), three bone awls, perforated sea shells (many Pectunculus, and also some Triton and Ostrea), and many sherds (including much coarseware, high cylindrical cups and large plates in figulina, and two

sherds in a dark fabric (Rellini 1934). Cavity 8 produced two fragments of a temporal; cavity 9, a metacarpal; and cavity 11, a mandible fragment and an ulna. Cavities 8 and 9 also contained large quantities and a wide range of sherds, stone, baked clay, bone and shell artefacts, and animal bones. Cavity 11, on the other hand, contained a similar, but much more restricted assemblage, comprising: sherds, which came especially from plain truncoconical bowls; a few lithic artefacts, including a core, two notched pieces, an end-scraper and one ground-stone artefact; and a few animal bones belonging to the three main domesticated species and to deer (Cremonesi 1965).

At Borgo Tufico [AN] scattered human remains were found over the residential site (Silvestrini 1977; Alianiello 1982-3). In Grotta S. Nicola [AQ], excavations in stratum A2 produced human remains, including four parietals, the mandible of an adult, and a tibia (Borzatti von Löwenstern 1962a). It is not entirely certain that these date to the final Neolithic/early Copper Age, for although the upper part of stratum A2 dates to the final Neolithic/early Copper Age, the lower part dates to the middle Neolithic (Borzatti von Löwenstern 1962b). Some human remains were also found in stratum F in Grotta dei Baffoni [AN], which possibly dates to the final Neolithic/early Copper Age (Radmilli 1953, 1956a).

b) Discussion

These data are characterized by their poor quality. They generally comprise scattered human remains found in poorly defined and recorded archaeological contexts, with the exception of the discoveries at Ripoli. None of these contexts can be chronologically assigned without a degree of uncertainty to the final Neolithic/early Copper Age, and few details concerning formation and transformation processes in the archaeological record are available for any of them. It is not possible, therefore, to provide detailed comparisons for any of these contexts. All that can really be discussed here is the evidence of continuity and change exhibited by these mortuary deposits when compared with those previously described for the early-late Neolithic periods.

General conservatism is evident in the continued use of basic depositional contexts for human remains, and in the general nature of the mortuary rites performed in these contexts. The cemetery situated in the middle of the residential site at Ripoli continued to be used during the final Neolithic/early Copper Age. Primary burial of corpses, again generally laid in crouched positions on one side, and more occasionally in supine positions, continued to be practised here as the dominant rite. Some groups of disarticulated human remains were also deposited in the ditches, perhaps as a result of delayed burial, and pottery sherds and a few grindstones continued to be deposited as 'grave goods'. The creation of 'special' mortuary deposits in possibly disused cavities situated in the residential

area of this site, generally comprising a few disarticulated human bones, accompanied by sherds, lithic, bone and shell artefacts, and animal bones, can also be compared to a similar practice at the lowland residential site of Villaggio Rossi during the early Neolithic (see above, p. 601-2). Disarticulated and scattered bones were also found in two caves in the inland Fucino basin which had previously been used for the deposition of human remains during the Neolithic. One general change in mortuary practice during the final Neolithic/early Copper Age, which really reflects changes in the settlement pattern rather than a significant change in mortuary practice, is the deposition of human remains at some of the new residential and cave sites established in inland intermontane areas in the region. Scattered human remains were found, for example, at Cellitto in the Fucino lake basin, and at Borgo Tufico and Grotta dei Baffoni along the upper section of the Esino river valley.

More specific changes in mortuary practice can be identified at the residential site of Ripoli, located in the coastal lowlands of northern Abruzzo. The burial ditches in the cemetery here became smaller and rounder during the final Neolithic/early Copper Age, covering an average area of 5m² (as opposed to an average of 23m² during the late Neolithic), and being predominantly circular in form (compared to the triangular, rectangular and oval forms of the late Neolithic). Smaller numbers of individuals and quantities of human bones were deposited

both in the cemetery ditches and in the residential area cavities. In the cemetery, the final Neolithic/early Copper Age ditches contained an average of about two individuals per ditch (whereas the late Neolithic ditches contained an average of about nine individuals per ditch) (Table 24). In the residential area, only one or two bones were found in each of the four cavities that contained human remains (compared, for example, to the large quantities found in the cavities at the early Neolithic residential site of Villaggio Rossi). Changes also took place in the range of artefacts deposited in these mortuary contexts. Plain, black burnished, pottery vessels, including a cup, replaced painted 'figulina' vessels as the predominant fineware in the cemetery ditches, and these were now accompanied by chert arrowheads (in ditches 5 and 9, and in cavity XXV), and larger stone artefacts (including stone discs in ditch 5, and a mace-head in cavity XXV).

I would like to suggest that some of these changes in the nature of mortuary practice at Ripoli were of social relevance. To begin with, the decrease in the numbers of individuals and quantities of human bones being deposited in special mortuary contexts at Ripoli during the final Neolithic/early Copper Age might be significant, especially in the case of the cemetery. Here, the attention of audiences would have focussed upon the remains of a more restricted group of deceased adults, buried together in smaller numbers and in smaller graves, and perhaps also on rarer occasions. It might also be significant that none of

the new types of 'grave good' found in the ditches and cavities with human remains at Ripoli were deposited exclusively in mortuary contexts, either at this site or at other final Neolithic/early Copper Age sites in the Abruzzo-Marche region (in contrast to Italian Neolithic triton shell trumpets, for example). Black burnished fineware and arrowheads are characteristic finds at most final Neolithic/early Copper Age sites in the region, and stone discs and mace-heads have been found in the general settlement deposits at a few residential sites (including Ripoli, Cellitto and stratum III at Fondo Coccia). These artefacts generally originated during the late Neolithic, but became much more numerous and widespread during the final Neolithic/early Copper Age. It seems possible, then, that when these artefacts were displayed and deposited in the mortuary contexts at Ripoli, they referred symbolically to certain aspects of daily life and social practice. The arrowheads, for example, may have referred to the increasingly important final Neolithic/early Copper Age activity of hunting. Finally, the increase in the range, and possibly in the quantity, of artefacts deposited in mortuary contexts at Ripoli during the final Neolithic/early Copper Age might be of social significance, for it might indicate a greater use of material symbolism in the mortuary rites in order to fix the 'message' or meaning of the performances. Such 'messages' may have had multiple and ambiguous meanings, and would have been expressed against a background of continuity and tradition in mortuary practice. However, they would not have been

arbitrary, and quite possibly referred to the contemporary social context at Ripoli. More specifically, they may have referred to the real or ideal status of a restricted group of recently deceased adults and/or the ancestors, either as hunters, warriors, elders, senior members of local clans or lineages, and/or as members of an élite. Whether or not this particular suggestion is correct, I do believe that mortuary practice became closely integrated with new forms of social practice at residential sites in the lowlands during the final Neolithic/early Copper Age, and that funerals developed as increasingly important contexts for socio-political display and discourse.

6. Middle Copper Age

a) Sites

Human remains have been found on seven middle Copper Age sites in the Abruzzo-Marche region: Area Guzzini East [MC], Casone [MC], Cava Koch [MC], Via Duomo 109 [MC], S. Giovanni [AN], Grotta Maritza [AQ] and Grotta dei Baffoni [AN] (Fig. 126). The first two are lowland residential sites, the middle three are special-purpose human burial sites, and the last two are cave sites.

A human skeleton was found in an oval pit, with straight sides and a flat base, situated on the edge of the residential site at Area Guzzini East [MC] (Percossi

Serenelli and Silvestrini Lavagnoli 1984-6: 382; 1988) (Fig. 127). It lay crouched, on its left side, with its head pointing to the west and its feet to the east, and its hands were positioned in front of its face. Two broken but complete pottery vessels lay next to the skeleton: one was a two-handled globular vessel with a neck, and the other was a carinated vessel with a round base. A second pit, of similar shape and size, lay next to this first one, but no bones or artefacts were found in it. Human remains were also found at the residential site of Casone [MC] (Pigorini 1879: 198-9, 1880: 29), but no further details are available concerning them.

A special-purpose cemetery site was discovered at Cava Koch near Recanati [MC] (Galli 1941; Rellini 1941; Galli 1947-50). The site lies in the Potenza valley, 1.75 km away from the residential site of Area Guzzini East which has just been mentioned above. The remains of at least 14 individuals were buried here in at least seven pits. These pits were dug into a compact yellowish-grey clayey soil, and were overlain by a burnt layer containing charcoal. Pit 1, which measured 1.04 m by 0.74 m, contained the skeleton of an adult male. He lay on his right side, with his head to the east, his right hand placed under his cheek, and his left hand lying along the side of his body; and a broken conical coarseware bowl lay near to his head. Pit 2, which measured 1.3 by 0.5 m, contained the skeleton of an adult female. She lay on her left side, with her head pointing to

the east, and her hands placed in front of her face. Sherds from an ovoid vessel in a blackish fabric lay near to her head. Pit 3 contained the skeletons of two juvenile males. They lay 20 cm apart; one lay on his right side with his arms flexed and his hands placed together under his chin, and the other lay on his right side, with his left hand placed under his cheek, and his right hand extended down the side of his body. A single-handled flask and a biconical vessel, both in coarseware, lay near to the head of one of the two skeletons. Pit 4 contained two articulated skeletons and a pile of disarticulated bones. The first skeleton was that of an adult, possibly male. It lay on its right side, with its head pointing to the east, its legs flexed, and its hands placed under its chin. A truncoconical bowl which contained a chert side scraper lay near to its head, and an arrowhead lay under its mandible. The second skeleton may have been that of a juvenile. Its face lay against the ground, its legs were flexed, and a broken truncoconical vessel in a coarse blackish fabric lay near to it. The pile of bones, which possibly belonged to one individual, was stacked with the long bones at the bottom, then the pelvis and mandible, and the skull almost at the centre of the pile. Pit 5 contained the skeleton of a juvenile, possibly a female. It lay on its right side, with its head pointing to the east and its legs flexed; and a biconical pottery vessel lay near to its head. Pit 6 contained the skeleton of an adult: the body was flexed, the head pointed to the east. A round-based coarseware vessel with a handle was also found in this pit. Pit 7 lay

at a height of about 0.6 m above the others, and contained the skeleton of an adult. Its head pointed in a north-easterly direction, its legs to the south-east, its left hand touched its head, and its right hand lay over its left arm. Many other human bones, including four skulls, were found in unspecified contexts at this site.

Another special-purpose human burial site was discovered at Via Duomo 109 [MC], 2 km away from Cava Koch (Lollini 1968: 413; Lollini and Capitanio 1970). Two oval cavities were found here next to each other. One contained the skeletons of two adult males, both placed with their heads to the east, and accompanied by two dark burnished ware vessels (one of which was globular with a neck and two vertical tubular handles), a long retouched blade (13.6 cm long), and four arrowheads. The other cavity contained brown soil, a few animal bones (sheep/goat and dog/wolf), and a piece of worked chert.

A third middle Copper Age special-purpose cemetery site was discovered at S. Giovanni [AN] on the Camerano hill (Lollini 1974: 250-1; Lollini 1975: 385; Lollini 1978: 95-6). Five cavities with access slopes were found here, each containing human remains and pottery vessels. The latter included two flasks with lug handles, round bases, and high necks, and four carinated round-based bowls.

Spits 21-20 of Grotta Maritza [AQ] contained the following human remains: the humerus and tibia of a child

or juvenile; a calcaneum, supposedly from a female aged 16-17 years; and the radius, fibula, calcaneum, and astragalus of one or more adults (Favati Vanni 1963; Grifoni and Radmilli 1964). A pit and a hearth with stones were found in these spits. Human remains were also found in stratum E of Grotta dei Baffoni [AN] (Radmilli 1953; Radmilli 1956a). This stratum contained greyish soil and stones, stalagmitic crusts, and a few hearths.

b) Discussion

These seven sites, all except one of which lie fairly close to each other along the border between the provinces of Macerata and Ancona (see Fig. 126), can be broadly placed into two groups according to their geographical locations and the general mortuary rites performed at them. At a more detailed level, however, numerous variations can be seen between these sites: in their type and location, and in the nature of the mortuary deposits found at them.

The first major group comprises three inland sites with finds of scattered bones: Casone, which is a residential site that lies along the middle section of a major river valley in the inner lowlands; and Grotta Maritza and Grotta dei Baffoni, which are cave sites located in an intermontane basin and valley respectively. No published details are available for the mortuary deposits found at these sites.

The second group comprises four sites located along the lower sections of major river valleys in the coastal lowlands, with a predominance of articulated burials accompanied by pottery vessels in graves (Area Guzzini East, Via Duomo 109, Cava Koch and S. Giovanni). Within this group, Area Guzzini East and Via Duomo 109 are the most clearly linked, both geographically and materially. They lie just 3.75 km apart along the River Potenza valley, and both sets of mortuary deposits comprised a pair of flat-based, oval, cavities dug next to each other: the first contained human remains and a pair of pottery vessels - one of which was a two-handled globular vessel with a neck; and the second was relatively empty. In addition, the arrowheads deposited in the Via Duomo burial are almost identical to those found in the settlement deposits at Area Guzzini East, except that the former are less broken and slightly larger. Despite these similarities, however, a few differences can be discerned between these sites when they are looked at more closely. They differ in terms of site type, for Area Guzzini East is a residential site, whereas Via Duomo 109 appears to be a special-purpose burial site. Their precise locations also differ, particularly in terms of their height above, and proximity to, the Potenza river bed. Area Guzzini East lies on Holocene deposits in the river valley, 8 m above and 600 m away from the river bed; whereas Via Duomo 109 lies on the edge of a Pliocene hill which overlooks the river valley, 75 m above and 1.5 km away from the river bed. Finally, a few extra features were identified in the mortuary deposits at Via Duomo 109 which

were not found at Area Guzzini East, including: two inhumed individuals rather than one, and a long retouched blade and arrowheads in the first cavity; and a retouched flake and a few animal bones in the second cavity.

The special-purpose burial site at Cava Koch can be closely compared to these two sites both geographically and materially. It lies between Area Guzzini East and Via Duomo 109 in the River Potenza valley, in a relatively intermediate position in relation to the river bed (about 8 m above and 1 km away from it); and crouched and articulated skeletons, lying on one side, were again found here, along with pottery vessels, and in one case an arrowhead. In addition, one or both hands of the deceased were often placed near to their faces, as at Area Guzzini East; and the heads of the bodies were orientated to the east, as at Via Duomo 109. However, a number of differences can also be identified between Cava Koch and the other two sites, particularly in their mortuary deposits. Unlike the first two sites, Cava Koch can be described as a cemetery, for it comprised at least seven pits with human remains, as opposed to the single burial pit found at each of the other sites. In fact, Cava Koch appears to have been a relatively large cemetery on a central Italian scale, compared to other Copper Age cemeteries in central Italy (see Barker 1981a: Table 7). In addition, no second, relatively empty, cavities were found next to the cavities containing human remains; pottery vessels were generally deposited singly rather than in pairs; and no globular vessels with a neck

and two-handles, which were characteristic of the other two sites, were deposited there. Considering the proximity of Cava Koch to Area Guzzini East and Via Duomo 109, these differences in the form of mortuary practice at Cava Koch might be considered as symptoms of diachronic rather than synchronic variation, with Cava Koch being earlier than the other two sites, although this is difficult to prove given the poor chronological definition of these and other sites assigned to the middle Copper Age.

The other special-purpose burial site, S. Giovanni, exhibits general similarities to the three Potenza valley sites. It lies only 15 km to the north, in a similar location to that of Via Duomo 109, at 187 m above sea level, on a spur on the side of a Pliocene hill, 1.4 km away from the bed of the River Aspio. As at the other sites, human remains and pottery vessels were deposited at S. Giovanni, but, although no precise details have been published for this site, it differed from them at least in the provision of the burial cavities here with access slopes.

A certain degree of continuity in mortuary practice can be defined for the middle Copper Age in the Abruzzo-Marche region. Scattered bones, associated with hearths and groups of stones, were again deposited at inland residential and cave sites; and the primary burials found on the lowland sites can be closely compared to final Neolithic/early Copper Age mortuary practices at Ripoli.

Cemeteries continued to be established, as at Cava Koch and S. Giovanni; deep burial pits and cavities continued to be dug; there was again a predominance of articulated and especially crouched or flexed skeletons, along with a few piles of disarticulated bones (as in Pit 4 at Cava Koch); there was again a predominance of adult individuals (although juveniles were also buried at Cava Koch); and a similar range of grave goods was deposited, characterized by pottery vessels and occasional lithic artefacts, including arrowheads.

Transformations of the spatial and symbolic aspects of mortuary practice also continued to take place during the middle Copper Age. Following the creation of a distinct cemetery area in the middle of the late Neolithic residential site at Ripoli, mortuary contexts now shifted away from the centre of such sites. The burial at Area Guzzini East was placed on the edge of the residential site, and new special-purpose burial sites were established outside residential sites. However, these new burial sites still maintained close links with the residential sites, both spatially and symbolically. Cava Koch and Via Duomo, for example, were located quite close to the roughly contemporary middle Copper Age residential site at Area Guzzini East (at distances of 1.75 and 3.75 km respectively), and although their locations might have been marginal in relation to a permanently settled and cultivated area in the Potenza valley, they do not appear to be as distinctively 'liminal' as the Neolithic

transitional cave sites (eg. Grotta S. Angelo, see above, p. 616).

Changes can also be seen in the numbers of individuals being buried together in the same context at sites in the coastal lowlands, and in the age and sex of individuals being given full, formal, burial rites at these sites. Even fewer individuals were deposited together per burial context, with an average of 1.4 individuals being found together in the middle Copper Age, as opposed to 2.3 in the final Neolithic/early Copper Age cemetery ditches at Ripoli, and at least 8.6 in the late Neolithic cemetery ditches at this site (Table 25, p. 690). Adults continued to predominate amongst those individuals being formally buried, and children continued to be excluded from formal burial, but a significant number of juveniles now also received this treatment during the middle Copper Age (out of a total of 13 aged individuals, seven were adults, four were juveniles, and none were children). Both males and females continued to be buried formally, but males appear to predominate now: out of a total of eight sexed skeletons, six were male, and two were female.

From a symbolic point of view, burials, and in particular their grave goods, became more structured and formalized during the middle Copper Age at sites located in the coastal lowlands. Grave goods were placed closer to the human remains, and especially to the head. Pottery vessels, for example, were laid close to the bodies in Area Guzzini

East, and next to the heads at Cava Koch, and an arrowhead was found under the mandible of one of the individuals buried in Pit 4 at Cava Koch. This evidence contrasts with that from ditches 5 and 9 in the final Neolithic/early Copper Age cemetery at Ripoli where the 'grave goods' were found in the fill of the ditches lying above the human remains. The disarticulated human bones found in Pit 4 at Cava Koch were rearranged and stacked in a more clearly discernible order than the piles of bones found in the Ripoli cemetery (with the long bones at the bottom, the skull in the middle, and the pelvis and mandible at the top). In addition, the deposition of arrowheads might have been specifically restricted to the burials of a few adult males (ie. Via Duomo, which contained two adult males, and Pit 4 at Cava Koch, which contained the remains of an adult ? male and a ? juvenile).

The increased use of spatial and material symbolism in mortuary practices carried out at sites in the coastal lowlands during the middle Copper Age might again be interpreted in terms of an attempt to focus attention upon, and to fix the meaning of, the funerary rites. Burial locations were more clearly defined, away from the centre of lowland residential sites; an even more restricted group of deceased adults and juveniles, possibly male, received formal burial rites; and specially selected grave goods, characterized by pottery vessels and arrowheads, were arranged with increasing formality around the bodies of the deceased. I would also argue that, despite the potential

simplicity, multiplicity, ambiguity, and traditional nature of the meanings expressed by these material deposits, they quite possibly referred to the contemporary social context. They may, for example, have been concerned with the definition of (real or ideal) social principles and positions, and, in particular, those concerning a restricted group of recently deceased adults and juveniles, who were perhaps especially (but not exclusively) male. The increased use of spatial and material symbolism in mortuary practice might also point towards the existence of increasing social instability on the coastal lowlands of central Marche during the middle Copper Age, for: social advertisement in death ritual may be expressly overt where changing relations of domination result in status re-ordering and consolidation of new social positions (Thomas 1991). This makes sense within the context of an increasing shift of settlement away from the coastal lowlands of Abruzzo and Marche during the Copper Age.

7. Late Copper Age

a) Sites

Human remains have been found on 10 late Copper Age sites in the Abruzzo-Marche region: S. Ruffino [AQ], Grotta la Cava [AQ], Grotta Continenza [AQ], Grotta a Male [AQ], Arciprete [AQ], Camerata [AQ], Villa Potenza [MC], S. Rocco [AN], Vescovara [AN], and Via Marconi [AN] (Fig. 128). The

first one is an inland residential site, the next three are cave sites, and the last six are special-purpose human burial sites (either cemeteries or single graves). Artefacts that are characteristically found in the late Copper Age (ie. chert arrowheads, daggers of chert and of copper, and polished stone axe-hammers) have also been collected from the surface at a further seven sites, and may derive from human burials: Salle [AQ], La Badia [TE], Villa Ripa [TE], Gaglianovo [MC], Moje [AN], Senigallia [AN], and Fosso Betellico [AN]. It should, however, be noted that no human remains have so far been found at these sites.

An unspecified group of human remains was found at the residential site of S. Ruffino [AQ], which is located on the southern edge of the Fucino lake basin (Letta 1983: 110; D'Ercole 1984: 371) (Fig. 84).

In Grotta la Cava [AQ], the disarticulated remains of two children, aged between six and seven years, were found in a niche along the side wall of the cave. A rock appeared to have been placed over them. A few bones from a juvenile aged about 17 years were also found scattered in the cave deposits (Tozzi 1962). The cave is located on the southern edge of the Fucino lake basin, below the limestone Monte Praticelle (Fig. 84).

Human remains were found in stratum 2 in the central zone of Grotta Continenza [AQ] (Grifoni Cremonesi and

Mallegni 1978). The stratum was composed of compacted grey soil and ashes, and post-holes were found in it, as well as sherds of coarseware, clay weights, and an axe-hammer. As has been described above (p. 603, Fig. 84, Plates 11-12), the cave, which is low and which contains numerous stalagmites, is located on the southern side of the Fucino lake basin, about 50 m above the basin floor.

A few poorly preserved human bones were found in Grotta a Male [AQ] (Pannuti 1969; Peroni 1969). They overlay a sterile deposit of stones at the base of the cave, and were found in association with sherds of black fineware belonging to a high-necked jug with a handle and an olla with a slightly squashed body. The cave is located at 950 m above sea level, about 65 m above the upper Raiale stream, and below the Serra la Malecoste mountain, which lies on the southern side of the Gran Sasso mountain range.

A single grave containing human remains and chert arrowheads was found at Arciprete [AQ] (Grifoni Cremonesi pers. comm. 1986). The site lies on the edge of a wide valley which is situated on the southern side of the Fucino basin, between about one and two kilometres away from the Neothermal lake edge (Fig. 84).

A rock-cut tomb was found at Camerata [AQ] (Pigorini 1888: 134-5, 193; Colini 1898: 212). It was sealed by pieces of rock and contained a human skeleton, 18 arrowheads (Fig. 129.14-18, 130.1-10) arranged in a crown

around the head of the individual, and a bone adze and a copper flat axe (Fig. 77.4) placed in the middle of the grave. The site lies somewhere in or around a small Pleistocene basin, which is situated near to the mouth of a long gorge that runs through the Simbruini mountains (Plate 21). It also lies close to the modern border between Abruzzo and Lazio, 72 km inland from the Tyrrhenian coast, and 103 km inland from the Adriatic coast.

Another 'tomb' was found near to Villa Potenza [MC] (unpublished material in Bologna Museum). Its contents included two arrowheads (Fig. 137.24-5) and a polished stone axe (Fig. 146.2). The site could lie either in the valley of the River Potenza or on the Pliocene hills that flank it.

A single grave was discovered at S. Rocco [AN] (Bevilacqua 1874: 7; Pigorini 1897: 98; Colini 1898: 216). It contained a human skeleton whose head faced to the east, and an assemblage of goods which had been placed half way along the body on its left side. The latter comprised three chert blades, one of which measured 17 cm in length (Fig. 147.4), a chert dagger or lance head (Fig. 139.6), 26 chert arrowheads (Figs. 139.7-13, 140, 141.1), a copper flat axe (Fig. 77.3), and a clay spindle whorl. The site lies near to a stream on the side of the Pleistocene Monte S. Vito hill, 100 m above sea level, and 9 km inland from the Adriatic coast.

A special-purpose cemetery site was found at Vescovara [AN] (Annibaldi 1951-2). Rescue excavations identified five graves which contained a total of six individuals. The first grave contained a skeleton, whose head was turned to the north-east, and which was accompanied by eight chert arrowheads, a notched chert dagger, and a knobbed axe-hammer with a shaft-hole. The second grave contained another skeleton whose feet touched the head of the individual in the first grave. The third grave contained two superimposed skeletons, both of which were orientated to the east. The fourth grave contained a single skeleton whose body was extended, with its head resting on its right side, and orientated to the east. A fragmented bone comb was found above its left hand. In the fifth grave a single skeleton was found which lacked the lower leg bones. The site is located at 100 m above sea level by a small stream on the side of the Pliocene Osimo hill, 11 km inland from the Adriatic coast. A group of three finely made arrowheads (Figs. 138.16 and 139.1-2), found somewhere in the area around Osimo, may also have come from the Vescovara cemetery site or from another human burial site located nearby (unpublished material in Perugia Museum).

A cavity burial was discovered at Via Marconi [AN] (Lollini 1978: 79; Cazzella and Moscoloni 1988: 366). The cavity was furnished with access ramps and contained 'Rinaldone type goods'. The site is located somewhere on the Pleistocene Loreto hill, between about 100 and 175 m above sea level, 4 km inland from the Adriatic coast.

A possible rock-cut tomb was found at La Badia [TE] (Rosa 1871: 503, 1874: 190-2). It was reported to be an artificial cavity with an opening from above (which ties in with the oven-shaped type of rock-cut tomb, which was the most common form of rock-cut tomb during the Copper Age in Sicily and the Italian mainland - Whitehouse 1981a: 106), and it contained a chert 'lance'. It was dug into Pleistocene deposits on the east side of the Abbadia hill, which lies at about 160 m above sea level, 8 km inland from the Adriatic coast.

A notched chert dagger found on the surface near Villa Ripa [TE] might perhaps have come from a late Copper Age human burial context (Rosa 1871: 503; Colini 1910) (Fig. 76.3). Villa Ripa is located between about 500 and 650 m above sea level, on a Miocene hillslope above the River Salinello, on the edge of the Montagna dei Fiori (Fig. 92). It also lies 26 km inland from the Adriatic coast.

Similarly, an assemblage of surface finds, including a notched chert dagger and 11 arrowheads, from Gaglianovo [MC] might indicate the presence of a late Copper Age burial in that area (Piangatelli 1970; unpublished material in S. Severino Museum). Gaglianovo lies at about 350 m above sea level on a hill above the Fosso Grande stream and the River Potenza, 40 km inland from the Adriatic coast.

An assemblage of large lithic artefacts found near Moje [AN], including a knobbed axe-hammer with a shaft-

hole, polished axes, two arrowheads (Fig. 138.13-14), and a 19 cm long chert dagger, could quite possibly have come from a late Copper Age burial site (Strobel 1881: 130; Colini 1892: 157-8; Annibaldi 1951-2: 111; Puglisi 1959: Fig. 9; and unpublished material in the Pigorini Museum). Moje is located at about 115 m above sea level by the River Esino, 23 km inland from the Adriatic coast.

A large stone battle-axe with a shaft hole from Senigallia [AN] on the Adriatic coast might possibly have come from a late Copper Age human burial context (Strobel 1881: 130; Colini 1892: 170). The same applies to an assemblage of lithics, that included some 'large weapons', from the Fosso Betellico [AN], which runs from Monte Conero to the River Aspio, between 1 and 4 km inland from the Adriatic coast (Bevilacqua 1874: 9). This possibility also applies to two notched daggers, one of chert and the other of copper (Figs. 76.1 and 77.2), found in undefined locations near Salle [PE], which lies at about 450 m above sea level, near to the upper end of the Orta gorge and below Monte Morrone, 38 km inland from the Adriatic coast (Radmilli 1981: 380; unpublished material in the Pigorini Museum).

b) Discussion

Out of the 10 late Copper Age sites with human remains, two distinct regional groups can be identified on the basis of site location and, to a lesser degree, site

type (Fig. 128). The first group comprises the special-purpose burial sites located on the side of interfluvial hills, at heights of 100 m above sea level or more, in the coastal lowlands of central Marche (ie. S. Rocco, Vescovara, Via Marconi and Villa Potenza). Despite the similarity of the specific locations of these sites, variations exist between them, particularly in terms of their precise site type. Vescovara, for example, can be described as a cemetery comprising five graves, whereas at S. Rocco only a single grave was found. The burials at these sites are, however, partly unified: by the fact that only a single individual was generally buried in each grave; and by their grave goods, which often included arrowheads, and sometimes also daggers and axes, but no pottery vessels.

The second group comprises those sites with human remains located inland, around the edge of the Apennine mountains, in the L'Aquila province of Abruzzo. They exhibit an even greater degree of variation than the first group, both in site location and in site type. Geographically, they can be sub-divided into: the four sites located along the southern edge of the intermontane Fucino lake basin (Arciprete, Grotta la Cava, Grotta Continenza and S. Ruffino); Camerata, which lies even further inland in a small intermontane basin at the foot of the Simbruini mountains; and Grotta a Male, which is located at 950 m above sea level on the southern side of the Gran Sasso mountain range, about 10 km away from the

extensive L'Aquila basin. In terms of site type, these sites vary even more: S. Ruffino is a residential site; Grotta la Cava, Grotta Continenza and Grotta a Male are cave sites; and Arciprete and Camerata are special-purpose burial sites - the former comprising a simple grave dug into the soil, and the latter comprising a rock-cut tomb. The distinction between the cave sites and the special-purpose burial sites is supported by the different types of artefacts typically found at them in association with the human remains. In the cave sites, sherds of coarse- and fineware are characteristically found with the human remains, sometimes augmented by a relatively wide range of other artefacts, including stone axe-hammers, clay weights and a spindle whorl, a chert flake and a grindstone, and domestic animal bones. Grave goods found at the two special-purpose burial sites, on the other hand, are characterized by arrowheads, and although a copper flat axe and a bone adze were found at Camerata, pottery vessels were not found at either site. The differences between these two types of burial site might be chronological, with the cave sites and their pottery being earlier, but, considering the similarity of the special-purpose burial sites to those found on the coastal lowlands during the late Copper Age, it seems more likely that these differences were both broadly synchronic and culturally significant.

Diachronically, general evidence of continuity and conservatism in mortuary practice can be seen in the three

inland cave sites during the late Copper Age. The presence of disarticulated human bones in each of these caves can be connected to the long tradition of depositing scattered human remains in caves, which stems back at least to the early Neolithic in the Abruzzo region. The deposition of the remains of children and a juvenile in a niche in Grotta la Cava, along with animal bones and artefacts, is similar to the early Neolithic ritual deposits found in Grotta Continenza (see above, p. 603), which was itself reused as a burial site during the late Copper Age. The human remains deposited on top of the basal layer of sterile stones in Grotta a Male can also be compared to the placing of the remains of an infant on similar deposits in the bottom of Grotta dei Piccioni during the early Neolithic (see above, p. 602). However, it should be emphasized that these similarities are general, and that the chronological gaps between the instances of similar practices are long.

More specific evidence of the transformation of middle Copper Age mortuary practices during the late Copper Age can be seen in the mortuary remains deposited at the special-purpose burial sites throughout the region. There was a further slight decrease in the average number of individuals deposited together in the same burial context: one individual was found at Camerata, one at S. Rocco, and one in each of the five graves at Vescovara, with the exception of grave 3, which contained two superimposed skeletons. These numbers provide an average of 1.1 individuals per burial context during the late Copper Age,

as opposed to 1.4 individuals during the middle Copper Age (Table 24). In addition, special-purpose burial sites comprising just one grave and individual became the norm during the late Copper Age (eg. Camerata and S. Rocco), although a cemetery comprising at least five graves developed at Vescovara. Primary burial, suggested by articulated and complete skeletons, appears to have become fully established as the dominant burial rite at such sites, although the lower leg bones were missing from the individual found in the fifth grave at Vescovara. The positioning of grave goods in relation to the human body became even more elaborate. In the tomb at Camerata, for example, the arrowheads were arranged in a crown around the head of the body; in grave 4 at Vescovara, a fragmented bone comb was found above the left hand of the deceased; and at S. Rocco, the assemblage of goods was placed half way along the left side of the body. Pottery vessels appear not to have been deposited as grave goods at these special-purpose burial sites, although arrowheads continued to be recurrently deposited in graves, and in increasing numbers. During the middle Copper Age an average of 2.5 arrowheads were found per grave which contained arrowheads (ie. four at Via Duomo, and one in pit 4 at Cava Koch), whereas during the late Copper Age an average of 10.8 arrowheads were deposited per grave containing arrowheads (ie. 26 at S. Rocco, 18 at Camerata, eight in grave 1 at Vescovara, and two at Villa Potenza). The range of other goods deposited in graves at special-purpose burial sites also increased significantly at this time. These especially

included large axes, blades and daggers made of copper or stone, of which at least the copper axes and knobbed stone battle-axes appear to have been deposited exclusively in graves during the late Copper Age, but also included an adze and a clay spindle whorl.

Some tentative social interpretations of the mortuary practices performed at these special-purpose burial sites might be proposed, first, in relation to the spatial patterns formed by them on a regional scale, and then in relation to the material symbolism employed within them. The area covered by the group of late Copper Age special-purpose burial sites in the coastal lowlands, along the border between the provinces of Macerata and Ancona in central Marche, overlaps fairly closely with the concentration of special-purpose burial sites which were established for the first time during the middle Copper Age in the coastal lowlands between Camerino and Recanati, just to the south of Ancona (compare Figs. 126 and 128). This coincidence is surely significant, and might again reflect the existence of growing social instability within this area (see above, p. 655). The novel location of the rock-cut tomb at Camerata, near to the mouth of a long gorge that runs through the Simbruini mountains (Plate 21) (and also close to the modern border that separates the east-central Italian region of Abruzzo from the west-central Italian region of Lazio), might also relate to late Copper Age political discourse. In this case, the tomb's establishment may have related to territorial claims over

newly settled land in the interior of the region, and, considering the copper flat axe found in the tomb, to the control of an important exchange route between west and east central Italy through the Apennine mountains. The burial in Grotta a Male, which is located at 950 m above sea level on the southern side of the Gran Sasso mountain range, might also be interpreted as a kind of foundation deposit in a newly occupied area and geographical zone, and as a ritual marker of newly defined cultural and social boundaries (between the relatively domesticated world of the L'Aquila intermontane basin and the wild, dangerous and less familiar world of the higher Apennine mountains, for example). However, all of these suggestions are difficult to support in detail.

The major developments seen in the use of material symbolism at the special-purpose burial sites during the late Copper Age might also be understood with reference to socio-political factors, particularly if we assume that these developments were actively and intentionally brought about by individuals and groups within society (see Hodder 1982b), and that they took place within a context of increasing socio-political discourse surrounding the death and burial of certain members of society (cf. Barrett 1988, 1991). Greater symbolic emphasis was placed upon the body of the deceased individual at such sites, in the mortuary deposits and probably also during the associated funerary rituals. This was achieved through: the primary burial of usually just one individual at a time, often at sites

comprising just one grave, pit or tomb; and the elaborate positioning of grave goods in relation to the human body, which acted as a dominant symbol, unifying the meanings of the various material symbols surrounding it (Turner 1967; Thomas 1991). Greater attempts to fix the symbolic meaning of these burials appear to have been made, by increasing the quantity, range and positioning of selected grave goods, and by decreasing the degree to which the human remains were re-sorted and re-buried following primary burial. Weapons dominate the grave assemblages: especially arrowheads, but also large axes and daggers. The latter may have been essentially ceremonial in function, but it still seems likely that all of these weapons provided some sort of basic reference to the real-life activities of hunting and combat. Ostentation may also have begun to play a significant part in the funerary rituals performed at these special-purpose burial sites during the late Copper Age, with the display and deliberate burial of a new range of possibly ceremonial and probably valuable items, such as the copper axes found at Camerata and S. Rocco. More specifically, and speculatively, such mortuary rites may have focussed upon the real or idealized identity of the recently deceased individual, possibly as a warrior and/or as a hunter (ie. the classic Copper Age 'warrior burial' interpretation - see, for example, Peet 1909), or as an adult man (see Barfield 1984), or as a person with a status similar to that of a Melanesian 'Big Man' (see Pospisil 1963). The rites, and in particular their ostentation, may also have been intended to emphasize the status of the

deceased persons' living relatives as members of a successful, powerful, influential and wealthy social group.

8. Summary and conclusions

During the Neolithic (c. 5750-4200 Cal. BC), general long-term continuity in mortuary practice can be seen in: the range of contexts used for the deposition of human remains; the range of rites performed, and some of the material symbols employed, in these contexts; and the possible reference of some of these rites to the theme of death and fertility.

Human remains were deposited at both residential and cave sites throughout the Neolithic. At the former, which are located along major river valleys in the coastal lowlands, the human remains were found in special-purpose graves or re-used pits and cavities, and in the general settlement deposits; and in the latter, which can be divided into transitional caves (located between the mountains and the lowlands, on the edge of the lowland settlement zone), and inland caves (located along the southern edge of the Fucino lake basin), the human remains were found on top of or buried within the general cave deposits. Continuity in practice is particularly evident at the cave sites. Grotta dei Piccioni, for example, was used as a burial site during the early and late stages of the Neolithic, and continued to be visited during the middle

Neolithic. The three Fucino caves (Grotta Continenza, Grotta S. Nicola and Grotta Maritza), which were used consecutively as burial places during the three phases of the Neolithic, can also be closely compared, for they are all: small caves; situated in partly hidden locations, 50 m above, and just a few hundred metres away from, the southern edge of the floor of the Fucino basin; and located just a few kilometres away from each other.

A fairly standard range of mortuary rites appear to have been performed at these sites during the Neolithic, including: primary burial, cremation and/or delayed burial, and possible bone-scattering. Primary burial rites, involving the inhumation of fairly complete and articulated bodies, often in a flexed position, were generally accorded to selected adults, especially at residential sites. An exception, however, is the early Neolithic burial of a child in the bottom of Grotta dei Piccioni. Cremation and/or delayed burial rites, which are indicated by deposits of disarticulated and sometimes burnt human remains, found in association with pits, hearths, ashes, sherds and animal bones, were more characteristically performed in the cave sites, although they were also occasionally performed in residential sites, as suggested by the deposits found in the Villaggio Rossi cavities and ditch 1 in the cemetery at Ripoli. Such rites probably involved a longer and more elaborate mortuary process than the primary burials, and may, in cases such as Grotta S. Angelo, have involved feasting. A third rite, performed at

residential and cave sites during the Neolithic, may have involved the scattering of human remains over the surface of sites, although it is equally possible that a variety of less intentional and non-cultural processes led to such depositional patterns.

Certain material symbols appear to have been recurrently employed in mortuary practices throughout the Neolithic, including: the human skull, red ochre and dogs. A few skulls appear to have received special treatment in their final deposition, as at the early Neolithic sites of Grotta S. Angelo, Villaggio Rossi and Ripabianca, and in the 'Level of the Circles' in Grotta dei Piccioni and possibly also in ditch 2 in the Ripoli cemetery during the late Neolithic. Red ochre dating to the early Neolithic has so far been found exclusively in mortuary contexts in cave sites, such as Grotta Continenza and Grotta dei Piccioni, and it was possibly also painted onto the late Neolithic triton shell trumpet and the clay-covered ends of the bird and hare bone artefacts found in the 'Level of the Circles' in Grotta dei Piccioni. These examples tie in with a long ritual tradition involving the use of red ochre in mortuary contexts in caves, which dates back to the Upper Palaeolithic in Italy. Articulated skeletons of dogs were also deposited in mortuary contexts during the Neolithic, at early Neolithic Grotta Continenza, and in ditch 2 of the late Neolithic cemetery at Ripoli. However, such continuity in material symbolism should not be over-emphasized, considering ethnographic observations of the

characteristically conservative nature of ritual practice and symbolism, and the changing specific meanings of particular symbols in different historical and social contexts (see, for example, Bloch 1986). It might be significant, for example, that the late Neolithic dog from Ripoli was placed much closer to the body of a particular individual than the example from Grotta Continenza, or that two similar, and relatively intact, skulls were deposited together in the late Neolithic 'Level of the Circles' in Grotta dei Piccioni, in contrast to the single fragmented examples deposited at sites during the early Neolithic.

The theme of death and fertility may also have been repeatedly expressed through the use of certain aspects of material symbolism in Neolithic mortuary contexts, especially during the early and middle stages of the Neolithic. The emphasis upon food and possible feasting in the early Neolithic mortuary rites performed at Villaggio Rossi and in Grotta S. Angelo, for example, might reflect a recurrent concern with the fertility of the living and of subsistence resources critical to the reproduction of the community (see Bloch and Parry 1982). The re-use of a crop-storage silo as a burial place at Catignano might also indicate a continued concern with death and fertility during the middle Neolithic.

Such evidence of long-term continuity in mortuary practice during the Neolithic can, however, only be taken so far, for variation is perhaps the most characteristic

feature of the mortuary data belonging to this period. Such variation is both synchronic and diachronic; it is exhibited in mortuary deposits, site types and site locations; and it is particularly evident between lowland residential and inland cave sites, although also between individual sites within these two categories.

At Neolithic residential sites located in the coastal lowlands, primary burial is the dominant mortuary rite represented archaeologically. It was characterized by the inhumation of fairly complete and articulated bodies in graves, pits and cavities. The bodies were generally placed in crouched or flexed positions on one side, although there is one example of a body lying in a supine position in ditch 10 in the late Neolithic cemetery at Ripoli. Adults in particular were accorded this rite, although the primary burial of an infant was found in a post-hole at middle Neolithic Catignano, and a child was buried in the bottom of ditch 11 in the Ripoli cemetery during the late Neolithic. Other mortuary rites were occasionally performed at these sites, including: cremation and delayed burial at early Neolithic Villaggio Rossi; possible bone-scattering at early Neolithic Ripabianca; and secondary burial in ditches 1 and 2 in the late Neolithic cemetery at Ripoli.

There was a gradual development in the quantity and range of goods deposited in graves on residential sites during the Neolithic. During the early Neolithic, possibly no grave goods were deposited, with the unlikely exception

of the three unretouched flakes of chert found in the burial pit at Fonterossi. The first well-defined and recurrently deposited grave goods appear during the middle Neolithic, in the form of painted and plain pottery vessels. These continued to be deposited with primary burials during the late Neolithic, but a new range of vessel forms and decorative motifs, which are also found in the general settlement deposits, were now employed. Additional, and more occasional, late Neolithic grave goods found in the Ripoli cemetery included: the articulated skeleton of a dog which was placed at the feet of a woman in ditch 1; and a special, burnt, deposit of sherds, cattle bones, boars' tusks and grindstones in a pit in the bottom of ditch 1.

Formal burial rites appear to have been performed in the centre of residential sites throughout the Neolithic. This implies that they were carried out close (at least spatially, if not conceptually) to the context of daily domestic life, and that they may also have been relatively open and public performances. The area excavations at the middle Neolithic site of Catignano, for example, revealed the burials of two individuals in a disused silo and a post-hole, right in the centre of this residential site, close to two long-houses. The mortuary deposits at Ripoli, likewise, appear to have been located in the centre of the late Neolithic residential site. However, here they comprised a more clearly defined cemetery area, formed by a row of five special-purpose burial ditches, which might

perhaps be interpreted as an early attempt to redefine and distance mortuary practices and ritual from the context of daily domestic activities at lowland residential sites.

The mortuary rites performed at cave sites, and the associated material symbolism employed in them, seem to have become increasingly distinct from those carried out at residential sites during the Neolithic. During the early Neolithic, there were some overlaps in the types of mortuary rite performed at these two categories of site. Cremation and delayed burial, for example, which were generally restricted to cave sites, were performed at the early Neolithic residential site of Villaggio Rossi. Red ochre, however, has been exclusively found in mortuary deposits in early Neolithic cave sites, such as Grotta Continenza and Grotta dei Piccioni, and supports the definition of cave sites as a distinct and meaningful analytical category, even at this early stage. More clear-cut distinctions seem to have developed during the middle Neolithic, with formal primary burials being deposited on the residential sites, and scattered human remains being deposited at the cave site. It was during the late Neolithic, however, that the greatest distinctions appear to have been exhibited materially between the mortuary rites performed at cave and residential sites, if the differences between the mortuary deposits found in the 'Level of the Circles' in Grotta dei Piccioni and in the cemetery at Ripoli can be taken as representative. The remains of fewer individuals, which belonged exclusively to

children, were deposited in the 'Level of the Circles'; delayed, as opposed to primary, burial appears to have been the dominant rite here, as is suggested by the predominance of disarticulated and fragmented human remains; and a wider, more elaborate and unusual, range of artefact types and animal species was found in the 'Level of the Circles'. The latter included a triton shell trumpet and 12 bird and hare bones with clay pellets found in the area of circle XI. All of these were tinted with red paint, and they stand out as unique artefacts within the entire context of the Neolithic and Copper Age in the Abruzzo-Marche region, which makes it tempting to suggest that they were elements of a special set of ritual paraphernalia, used (or at least deposited) in this cave.

Feasting and the deposition of sacrifices and/or offerings may have been characteristic features of some of the mortuary rites performed in caves during the Neolithic. The best example of possible feasting comes from the early Neolithic deposits in Grotta S. Angelo, where animal bones, belonging especially to meat parts of the carcass, and wild fruit pips, were deposited in pits, along with human remains. Possible examples of sacrifices and/or offerings are perhaps most clearly represented by the articulated remains of two sheep and a dog found in the early Neolithic mortuary deposits in the Grotta Continenza, and the group of five intact fineware vessels found near to circle XI, especially including the flask covered by a bowl found in the late Neolithic 'Level of the Circles' in Grotta dei

Piccioni.

Various features of Grotta dei Piccioni and Grotta S. Angelo encourage the description of these caves as 'liminal' places. Anthropological studies indicate that caves are often regarded as liminal places, which lie at the point of contact or transition between the supernatural and profane world, and that rituals, especially rites of transition, are commonly performed in them (Turner 1977). Grotta dei Piccioni and Grotta S. Angelo both contain Neolithic ritual deposits; they are both situated in somewhat hidden places on the inland edge of the Neolithic lowland settlement zone; and they are both located on a number of important and similar geographical boundaries—high above deep river gorges, near to the edge of the mountains and the dense inland Neothermal forest. The establishment of these two caves as sacred places, and the rituals performed within them, may therefore have been partly concerned with the definition of boundaries between 'This World' and the 'Other World'. More specifically, they may have played a part in the cultural remapping and reorganization of the lowland settlement landscape that took place at the start of, and during, the Neolithic, against a background of significant changes in the patterns of human subsistence and settlement in the lowlands.

These two caves differ slightly from the three caves situated in the Fucino basin where mortuary practices also took place during the Neolithic (ie. Grotta Continenza,

Grotta S. Nicola and Grotta Maritza). In the Fucino caves, for example, the remains of adults are well represented, and there is less evidence of feasting, especially in the relatively well excavated early Neolithic levels in Grotta Continenza. Such differences might partly have been brought about by local geological features, for the smaller sizes and more restricted shapes of the Fucino caves made them less suitable for feasting, and their relative proximity to contemporary residential sites in the Fucino basin may have encouraged their use as burial places for adults as well as children and juveniles. However, these differences in mortuary practice might also reflect differences in the history, culture and religious beliefs of communities living in inland areas of the Abruzzo region during the Neolithic.

A simple message of group unity (and continuity), relating to the threats of death and economic misfortune, may have been emphasized in the rites of cremation and/or delayed burial performed in cave sites and at the residential site of Villaggio Rossi, especially during the early Neolithic. The disarticulation, breakage, cremation, and mixing of bones belonging to different people, might, for example, be interpreted as an attempt to obliterate traces of the dead person as an individual, to break down internal social divisions, and to emphasize the unity of the living group (cf. Bloch 1971; Shanks and Tilley 1982b: 150-1; Thomas 1985: 553). The possible association of

feasting and food-sharing with these mortuary practices may also have enhanced a message of unity amongst the living. Whether or not this message was the reflection of a social reality or the expression of an ideal, it seems to make sense within the social context of increasing settlement formation and fissioning, particularly during the early Neolithic.

The context of death may also have been used repeatedly throughout the Neolithic to emphasize certain (actual or ideal) age-based structural divisions in the society of lowland communities (such as group membership and social status), especially between elders and the young. This is suggested by the differences in the mortuary treatment of adults and young people in and between some of the residential sites and cave sites located in or along the edge of the lowlands. During the early Neolithic, for example, formal, primary burial in graves and cavities at residential sites appears to have been reserved exclusively for adults; and in the delayed burial rites performed at Villaggio Rossi, the skull of an old adult was treated specially by being placed separately and intact in a pit at the bottom of cavity IA. The remains of children, on the other hand, came to be scattered throughout the settlement deposits at Ripabianca, and deposited predominantly, if not exclusively, in the cave sites of Grotta dei Piccioni and Grotta S. Angelo. This distinction may have been maintained during the middle Neolithic at the residential site of Catignano, where not only were the remains of an adult and

an infant buried in slightly different physical and spatial contexts (with the former in a disused silo between the two houses, and the latter in a post-hole at the front corner of one of the houses), but they were also provided with different types of pottery grave-goods (with the former accompanied by Catignano-style painted fineware sherds, and the latter by a plain grey vessel). Age distinctions continued to be exhibited in mortuary practices during the late Neolithic. The remains of only one child were found, for example, in the Ripoli cemetery (compared to a total of at least 33 adults), and the remains of children and an infant were found exclusively in the 'Level of the Circles' in Grotta dei Piccioni. If both sets of mortuary deposits were created by the same, or a similar, late Neolithic lowland society (which is possible, considering that painted pottery from Ripoli was found in the general late Neolithic deposits in the cave, and considering the proximity of the cave to the lowland settlement zone), then these two opposing burial patterns might be seen as complementary to each other.

Turning to the Copper Age (c. 4200-2050 Cal. BC), general continuity can be seen in the nature of mortuary practices performed at sites in the coastal lowlands, especially during each of the three phases of the Copper Age when seen in relation to each preceding chronological phase. During the final Neolithic/early Copper Age, for example, human remains continued to be buried at residential sites, and in accordance with rites similar to

those performed during the late Neolithic. The cemetery at Ripoli, for instance, continued to be used, and the primary burial of corpses (which were laid in crouched positions on one side, and more occasionally in supine positions, and accompanied by pottery sherds and a few grindstones), continued to be practised here as the dominant rite. During the middle Copper Age, despite the establishment of special-purpose burial sites, continuity with the final Neolithic/early Copper Age (and the late Neolithic) is still evident. Cemeteries continued to develop; deep burial pits and cavities were still dug; there was again a predominance of articulated and especially crouched or flexed skeletons in mortuary contexts, along with a few piles of disarticulated bones, which generally belonged to adults; and a similar range of grave goods were deposited, including pottery vessels and occasional lithic artefacts such as arrowheads. Despite some fairly significant transformations, these features also continued into the late Copper Age at the group of lowland burial sites, which were again located in the interfluvial hills near to the border between the provinces of Macerata and Ancona.

Important changes in material and spatial aspects of mortuary practice, are, however, an important feature of the Copper Age in the coastal lowlands. Graves, for example, generally appear to have been sealed more rapidly during the Copper Age compared to the Neolithic (with the exception of the middle Neolithic silo-burial at Catignano). The highly patterned deposits found in the late

Copper Age rock-cut tomb at Camerata, for instance, which included a group of 18 arrowheads placed in a crown around the head of the deceased person, and which were sealed over by pieces of rock, probably only remained open to view and re-sorting for a relatively short period of time. In contrast, the human remains found interspersed throughout numerous, superimposed, stratigraphic units and layers in three of the cavities at early Neolithic Villaggio Rossi, and to a lesser extent in the late Neolithic ditches in the cemetery at Ripoli, are indicative of a more extended mortuary process, which on some occasions involved the delayed burial of human remains.

Changes also took place in the use of grave goods, with an expansion in their range, and a closer positioning of them in relation to the body of the deceased. During the final Neolithic/early Copper Age, Neolithic painted 'figulina' vessels were replaced by plain black burnished pottery vessels as the dominant fineware in the Ripoli cemetery ditches, and they were now also accompanied by chert arrowheads and larger stone artefacts. During the middle Copper Age, a similar range of artefacts continued to be deposited in graves, but they were now placed much closer to the human remains, and especially to the head. There are also slight indications at this time that arrowheads were exclusively buried with adult males, as at Via Duomo. Even greater changes in the use of grave goods took place during the late Copper Age. The quantity and range of goods deposited in graves expanded significantly

(to include: large axes, blades and daggers made of copper or stone, numerous arrowheads, a bone adze and comb, and a clay spindle whorl), and these goods were placed even closer to and more elaborately around the human body.

Decreasing numbers of individuals and quantities of human bones were buried together in the same context at sites in the coastal lowlands during the Copper Age (Table 25, p. 690). Significant changes also took place in the location of mortuary deposits in relation to lowland residential sites, particularly during the middle Copper Age. For example, new special-purpose burial sites were established outside, and a few kilometres away from, contemporary residential sites in the lowlands; and, at the residential site of Area Guzzini East, two individuals were buried on the edge of the site, as opposed to the centre which appears to have been the norm during the Neolithic.

These transformations in the use of spatial and material symbolism in Copper Age mortuary rites performed at sites in the coastal lowlands might be understood in terms of increasing attempts to focus the attention of audiences at funerals upon the mortuary deposits and their intended 'message' or meaning. This suggestion is based upon the assumption that material symbolism was, to a certain extent, actively and intentionally used as an expressive medium by individuals and groups within Copper Age societies, particularly during ritual performances (see Hodder 1982b). During the final Neolithic/early Copper Age,

attention was focussed at the Ripoli cemetery upon the remains of a more restricted group of deceased adults, who were buried together in smaller numbers, in smaller graves, and perhaps also on rarer occasions, but with a wider range of accompanying grave goods, compared to the late Neolithic. Following this, during the middle Copper Age, attention was further focussed upon the remains of an even more restricted group of deceased adults and juveniles. They were buried in more clearly defined spatial contexts, away from the centre of residential sites, and accompanied by specially selected grave goods, which were arranged with increasing formality in the graves. These developments reached their peak during the late Copper Age, when even greater efforts appear to have been made to fix the symbolic 'message' of the funerals. This was attempted, I suggest, through: burying even fewer individuals in any one context; increasing the quantity, range and positioning of selected grave goods; and decreasing the degree to which the human remains were re-sorted and re-buried following primary burial. In particular, a greater symbolic emphasis was placed upon the body of the deceased individual on such occasions, through the primary burial of usually just one individual at a time, often at sites comprising just one grave, pit or tomb; and through the elaborate positioning of grave goods in relation to the human body, which acted as a dominant symbol, unifying the meanings of the various material symbols surrounding it (Turner 1967; Thomas 1991).

The 'messages' expressed through the use of this mortuary symbolism during the Copper Age are likely to have been simple, may have had multiple and ambiguous meanings, and would have existed against a background of continuity and tradition in mortuary practice. They would not, however, have been arbitrary, and quite possibly referred to the contemporary social context. The arrowheads found in increasing numbers in graves throughout the Copper Age, and the large axes and daggers introduced during the late Copper Age, can generally be interpreted as weapons, and may have provided some sort of basic reference to the real-life activities of hunting and warfare. With respect to this, it is particularly interesting to note that the recently discovered frozen corpse, which was found on the Italian side of the Austro-Italian border south of Innsbruck, and which has been radiocarbon dated to the late Copper Age, was accompanied by artefacts including 14 arrows, a flint dagger and a copper axe, which may have comprised part of his hunting equipment (Keys 1991).

More specifically, and speculatively, such mortuary symbolism may have been concerned with the definition and negotiation of social principles and positions, which could either have been real or idealized with respect to the individuals who were actually buried. The social position of children and infants, for example, may have continued to be expressed during the Copper Age through their exclusion from formal primary burial rites in the lowlands. During the final Neolithic/early Copper Age and middle Copper Age,

the social status of a restricted group of recently deceased adults and/or the ancestors, either as hunters, warriors, elders, senior members of local clans or lineages, or members of an élite, for example, may have been expressed by mortuary symbolism. And during the late Copper Age, mortuary symbolism may have focussed upon the social identity of the recently deceased individual, possibly as a warrior and/or a hunter (see, for example, Peet 1909), or as an adult man (see Barfield 1984), or as a person with a status similar to that of a Melanesian 'Big Man' (see Pospisil 1963). The ostentatious display and deliberate burial of a new range of imported and probably valuable items, which began at this time, may also have been performed to emphasize the status of the deceased persons' living relatives as members of a successful, powerful, influential and wealthy social group. In addition, such growing social advertisement during the later stages of the Copper Age might reflect the existence of increasing social instability (see Thomas 1991), particularly on the coastal lowlands of central Marche where a concentration of special-purpose burial sites is known, and where settlement patterns show signs of decline, if not desertion, towards the end of the Copper Age. Whether or not these specific suggestions are accurate, I do believe that mortuary practice became closely integrated with new forms of social practice in the lowlands during the Copper Age, and that funerals were transformed into increasingly important contexts for socio-political display and discourse.

Continuity with the Neolithic is a characteristic feature of mortuary practices performed in inland areas during the Copper Age. Human remains, for example, continued to end up in residential and cave sites throughout the Copper Age - disarticulated and scattered, and often associated in the caves with hearths, pits and groups of stones. More specific evidence of continuity in practice can also be found, although in these cases it seems unlikely that the continuity was directly intended or perceived. Grotta Continenza and Grotta Maritza in the Fucino basin, were, for example, both used for the deposition of human remains during certain phases of both the Neolithic and the Copper Age. Similarly, the deposition of the remains of children and a juvenile in a niche in the back wall of Grotta la Cava during the late Copper Age can be closely compared to the deposition of the remains of a child in a niche in the central wall of Grotta Continenza during the early Neolithic.

A few changes did occur, however, in mortuary practices in inland parts of the region during the Copper Age, most notably including the establishment of special-purpose burial sites. These are clearly distinguished from the mortuary deposits found at inland residential and cave sites by the burial rites indicated and the range of artefacts found at them, although they bear close resemblances to the special-purpose burial sites established on the lowlands of both east and west central Italy. In the caves, for example, sherds of coarse- and fineware were

characteristically found with the scattered human remains, in addition to a relatively wide range of other artefacts, including stone axe-hammers, clay weights and a spindle whorl, a chert flake and a grindstone, and domestic animal bones. At the special-purpose burial sites, on the other hand, primary burials were often accompanied by a much more restricted range of artefacts, which characteristically included arrowheads, as well as a copper flat axe and a bone adze at Camerata. The differences between these mortuary contexts are unlikely to be chronological, and can best be explained in relation to their local contexts. The burial in Grotta a Male, for example, which is located at 950 m above sea level on the southern side of the Gran Sasso mountain range, might be interpreted as a kind of foundation deposit in a newly occupied area and geographical zone, and as a ritual marker of newly defined cultural and social boundaries (between the relatively domesticated world of the L'Aquila intermontane basin and the wild, dangerous and less familiar world of the higher Apennine mountains, for example). The establishment of the rock-cut tomb at Camerata, on the other hand, near to the mouth of a long gorge that runs through the Simbruini mountains (Plate 21), may have related to territorial claims over newly settled land in the interior of the region, and, considering the copper flat axe found in the tomb, to the control of an important exchange route between west and east central Italy through the Apennine mountains.

Looking towards future studies of mortuary practice in the Abruzzo-Marche region in particular, and Italy in general, a number of practical suggestions can be made. A greater sample of mortuary data is required, perhaps especially from early Neolithic cave deposits and residential sites in order to solve some unanswered questions. Careful excavation is necessary in order to investigate mortuary processes and their fine-grained chronological sequences, including the wide range of cultural and non-cultural processes leading to the scattering of human remains. New, detailed, specialist studies should be carried out on all of the human remains found so far, including the individual disarticulated remains found scattered across residential sites, particularly with respect to age and sex determinations. Finally, the quality of some publications needs to be improved, with fuller written details, and clearer and more numerous plans and photographs, especially of the finds-contexts of the human remains.

Table 25. Numbers of individuals found together in late Neolithic - late Copper Age burial contexts in the Abruzzo-Marche region

<u>Period</u>	<u>Site</u>	<u>Context</u>	<u>Individuals</u>	<u>Average</u>
LN	Ripoli	Ditch 1	10+	8.6+
		Ditch 2	8+	
		Ditch 10	14	
		Ditch 11	3	
FN/ECu	Ripoli	Ditch 4	1	2.3
		Ditch 5	1	
		Ditch 7	3	
		Ditch 9	4	
MCu	Area Guzzini East	Cavity	1	1.4+
		Pit 1	1	
	Cava Koch	Pit 2	1	
		Pit 3	2	
		Pit 4	2+	
		Pit 5	1	
		Pit 6	1	
		Pit 7	1	
	Via Duomo	Cavity	2	
LCu	Camerata S. Rocco Vescovara	Tomb	1	1
		Grave	1	
		Grave 1	1	
		Grave 2	1	
		Grave 3	1	
		Grave 4	1	
		Grave 5	1	

Table 26. Neolithic and Copper Age sites in the Abruzzo-Marche region with finds of human remains and mentioned in Chapter 5

Early Neolithic

Residential sites (4): Fonterossi (CH), Villaggio Rossi (CH), La Maddalena (MC), Ripabianca (AN).

Cave sites (3): Grotta dei Piccioni (PE), Grotta Continenza (AQ), Grotta S. Angelo (TE).

Middle Neolithic

Residential sites (2): Catignano (PE), Villa Badessa (PE).

Cave site (1): Grotta S. Nicola (AQ).

Late Neolithic

Residential sites (3): S. Agnese (PE), Ripoli (TE).

Cave sites (2): Grotta dei Piccioni (PE), Grotta Maritza (AQ).

Final Neolithic/ early Copper Age

Residential sites (3): Cellitto (AQ), Ripoli (TE), Borgo Tufico (AN).

Cave sites (3): Grotta Maritza (AQ), Grotta S. Nicola (AQ), Grotta dei Baffoni (AN).

Middle Copper Age

Residential sites (2): Area Guzzini East (MC), Casone (MC).

Cave site (1): Grotta dei Baffoni (AN).

Special-purpose human burial sites (3): Cava Koch (MC), Via Duomo 109 (MC), S. Giovanni (AN).

Late Copper Age

Residential site (1): S. Ruffino (AQ).

Cave sites (3): Grotta la Cava (AQ), Grotta Continenza (AQ), Grotta a Male (AQ).

Special-purpose human burial sites (6): Arciprete (AQ), Camerata (AQ), Villa Potenza (MC), S. Rocco (AN), Vescovara (AN), Via Marconi (AN).

CHAPTER 6. CONCLUSION

1. Introduction

This final chapter has three main aims. The first is to pull together the four major topics of research, along with their associated data, which have been considered as fairly discrete entities in the preceding chapters of this thesis (ie. the Neothermal environment, subsistence and settlement, communication and exchange, and mortuary practice during the Neolithic and Copper Age in the Abruzzo-Marche region). I have tried to incorporate as much information as possible, but, for the sake of brevity and of the fluency of the text, I have had to be selective, and have therefore concentrated upon the major patterns and developments identified in the archaeological record. I have also placed a slightly greater emphasis upon intra-regional spatial variations in the archaeological record than in previous chapters, between groups based in the lowlands and in inland areas, for example, and between southern and northern parts of the region, for these broad differences emerge more clearly when all of the data are drawn together. The second aim of this chapter is to pull together the various discussions and interpretations presented in the preceding chapters, and to add to them, particularly from a socially deterministic perspective. I have been influenced here by the theoretical perspective and framework provided by a group of Marxist economic anthropologists and archaeologists, including Friedman and

Rowlands and Barbara Bender (see below, next paragraph). I should emphasize, however, that alternative approaches could have been chosen here (see Hodder 1986), and that this choice therefore reflects, to a certain extent, my own personal and political prejudices. The third aim of this chapter is to point out some of the key areas which require future archaeological research. These have been selected primarily with reference to gaps in the existing body of data rather than to new topics of research.

Friedman and Rowlands' (1977) model of a 'tribal system', which has been expanded by Barabara Bender (1978, 1981, 1985), integrates archaeological data and anthropological theory to provide a widely applicable and dynamic model of social reproduction. The system is characterised by a socially-determined set of relations of production. The basic unit of production and exchange is formed by the local lineage, which comprises a small number of households. It is largely self-sufficient, conforming broadly to Sahlins's (1972) 'domestic mode of production', although it also produces surpluses to cover social obligations within a larger network of social relations—the ceremonial and alliance system. Within the latter, relations between local lineages are defined by ceremonial exchange and by the formation of alliances, particularly at matrimonial and funeral ceremonies. It is a competitive system, in which local lineage food surpluses are converted into prestige, status and obligations (initially on behalf of the lineage, and later on behalf of emergent chiefs),

especially through the provisioning of community feasts to which neighbouring lineages are invited, but also through the giving and control of marriage partners and of valuable gifts. It is also an expansive system, in which growing demands upon local production are transmitted to the local labour force via individuals in authority, and in which alliance and exchange relations are continually extended into a wider region.

The following sections are structured, as in the preceding chapters, according to the five chronological phases established in the first chapter (ie. early Neolithic, middle Neolithic, late Neolithic, final Neolithic/early Copper Age and middle-late Copper Age). I would have liked to replace them at this stage with a calibrated radiocarbon chronology, in order to avoid the somewhat arbitrary chronological divisions that they impose (which were, however, useful as analytical categories in the earlier chapters). This has not been possible, given the relatively small number of radiocarbon dates from the region, but in this chapter greater reference is made, at least, to broad spans of calendar years.

2. Early Neolithic

a) The Mesolithic-Neolithic transition in the south-west Adriatic region

The present pattern of radiocarbon dates for the earliest Neolithic in the central Mediterranean provides a useful starting point from which to begin to observe the Mesolithic-Neolithic transition in the Abruzzo-Marche region (see Sargent 1985; and also Table 16 and Fig. 118). The pattern shows that during the seventh millennium Cal. BC the Abruzzo-Marche region, as well as the northern part of the Adriatic zone, were by-passed by an initial wave of Neolithic innovations, which spread from the east, via north-west Greece, to coastal parts of south-east Italy, Sicily, Corsica and southern France. A break of about 800 years followed between the start of the Neolithic in the south-east Italian region of Puglia and its start in the east-central Italian regions of Abruzzo, Marche and Emilia-Romagna. This break might be filled by future radiocarbon dates, or it might actually reflect the establishment of a stable frontier zone between the earliest Neolithic groups in south-east Italy and Mesolithic groups to the north (Cassano 1985), but, either way, it clearly indicates a significant slowing, during the late seventh millennium in the rate at which Neolithic innovations spread northwards along the western side of the Adriatic.

The early primacy of south-east Italy over the Abruzzo-Marche region is not particularly surprising. Since south-east Italy lies further south than the Abruzzo-Marche region, it was probably closer to early maritime exchange routes crossing the northern half of the Mediterranean during the seventh millennium. For example, the pattern of earliest radiocarbon dates for the Neolithic in the central Mediterranean suggests that a major east-west route may have followed the northern Mediterranean coastline, connecting north-west Greece to south-east Italy, Sicily, Corsica and southern France, but by-passing the central and northern Adriatic region. Evidence is also accumulating of the import of small quantities of obsidian to a few sites in south-east Italy at this time, (probably from Lipari). In addition, Mesolithic societies and economies in south-east Italy may have been more outward-looking and receptive to innovations than those found to the north. Crop cultivation and animal husbandry, for example, might have been adopted rapidly in south-east Italy in order to help stabilize or enhance existing systems of subsistence, perhaps especially by resolving recurrent summer food crises (Lewthwaite 1986: 63-4). The latter could have become critical as a result of both environmental and social factors, including: the extensive coastal land loss that occurred in the southern (but not the central) part of the Adriatic zone following a rise in sea levels during the early post-glacial (Shackleton et al. 1984), and perhaps also the growing demands for food surpluses to support increasingly large and sedentary

coastal communities.

Why the 'Neolithic package' was delayed in its northward transmission is a more difficult question. Part of the answer probably lies in the limited access of Mesolithic groups in the Abruzzo-Marche region to early exchange networks in the southern Adriatic, and perhaps also in their limited interest in them. A more precise answer, however, might be found through further research in the coastal lowlands of southern Abruzzo and Molise. Key transitional sites are so far lacking from this area, but a number of early Neolithic sites are at least known, at Colle Sinello in southern Abruzzo and along the lower Biferno valley in Molise, for example. We desperately need radiocarbon dates for these sites.

Existing radiocarbon dates, supplemented by comparisons of pottery decoration from around the Adriatic, do show, however, that eventually, at about 5750 Cal. BC, south-east Italy became the donor region which provided the Abruzzo-Marche region with its early Neolithic package of concepts and commodities. (Similarities between decorated pottery from early Neolithic sites in Dalmatia and early Neolithic sites in southern Abruzzo seem to be only indirect and mediated through shared contacts with south-east Italy.) Molise could have acted as a filter zone between these two regions, but they may also have been connected more directly via maritime routes running along the Adriatic coast, especially between the Tavoliere plain

and the coastal lowlands of southern Abruzzo. An expansion in the, by now, well-established southern Adriatic exchange network, first to Dalmatia, then to east-central Italy, must have facilitated this first major transmission of Neolithic culture to the Abruzzo-Marche region. However, the small-scale immigration of agriculturalists over short distances by boat from northern Puglia (especially including the apparently densely populated Tavoliere plain) to Molise and southern Abruzzo should not be entirely ruled out. This is suggested, in particular, by the close similarities between the Guadone-style pottery found on early Neolithic sites in these areas and that found on contemporary sites in south-east Italy. If immigration did occur, then it need not necessarily be considered as a stressful process, particularly if one emphasizes the reciprocal exchanges which probably took place between the immigrant and indigenous populations, and which quickly led to the blurring of differences between these groups in the archaeological record.

b) The spread of the earliest Neolithic in the Abruzzo-Marche region

The chronological and spatial patterns formed by the earliest radiocarbon dates for sites with Neolithic pottery in the Abruzzo-Marche region suggest that certain elements of the 'Neolithic package' spread quite rapidly throughout the Abruzzo-Marche region following their initial introduction (Figs. 4 and 18). The dates form a fairly

tight chronological cluster around 5750 Cal. BC, and yet, spatially, they come from sites scattered throughout the region. La Maddalena is perhaps the most surprising of these, for it is located well inland in central Marche, and yet it produced sherds of Adriatic style Impressed Ware, bones of domestic animals, and a radiocarbon date as early as that from Villaggio Rossi (which is located on the coastal lowlands of southern Abruzzo, much closer to the early Neolithic donor region of south-east Italy). The imprecision of the radiocarbon dates must of course be taken into account, but, at least relatively speaking, the rate at which the earliest Neolithic spread across this region was still rapid.

Considering the low probability of large-scale immigration into the region during the early Neolithic, this patterning in the evidence has certain implications for the nature of Mesolithic groups in Abruzzo and Marche. It points, for example, towards the pre-existence of a fairly efficient and widespread network of communication and exchange linking indigenous Mesolithic groups throughout the region. It also suggests that at least some aspects of the 'Neolithic package' were readily accepted and adopted by those people (eg. Impressed Ware and domestic animals), despite the lack of evidence of 'mixed' or directly superimposed Mesolithic and Neolithic sites in the region. The increased evidence of sedentism (or of the potential for sedentism), seen in the archaeological record at certain riverine and lacustrine sites in the Abruzzo-

Marche region during the Mesolithic (eg. Ripoli and Ortucchio), ties in with this suggestion, for it can be regarded as an important social and economic pre-adaption which would have facilitated the spread of the Neolithic in the Abruzzo-Marche region, particularly the spread and adoption of novel agricultural practices.

Spatially, however, a certain degree of 'fall-off' can be seen in the range and quantity of Neolithic traits appearing at the earliest Neolithic sites in the region, particularly with increasing distance inland, and to the north of, the coastal lowlands of southern Abruzzo. The latter appear to have acted as a filter zone, with sites such as Crocefisso absorbing a wide range of Neolithic traits from south-east Italy (most notably the Guadone style of pottery decoration), but transmitting them only selectively to the recipient zones of inland and northern Abruzzo and the Marche region (Fig. 4). In order to describe this spatial variation in more detail, an initial distinction can be made between the earliest Neolithic sites found in the lowlands of Abruzzo (eg. Crocefisso, Villaggio Rossi, Fonterossi, Villaggio Leopardi and Colle Maggio) and those found further to the north, on the lowlands of Marche (eg. Monte Colombo), and inland, in the intermontane basins, depressions and valleys of Abruzzo and Marche (eg. Ortucchio, La Maddalena and Campo Sportivo). The first group can then be sub-divided further.

Evidence from the group of sites in lowland Abruzzo suggests that a fairly well established Neolithic way of life was followed at them. More specifically, subsistence and settlement data also suggest that a previously established south-east Italian agricultural system was transferred, with limited adaptation, to those parts of the lowlands of Abruzzo where the local environment (and possibly also the economy and society of the local population) required only a degree of modification, and where the system could be easily adopted and imposed. The south-east Italian wheat-dominated crop complex, for example, which may have been cultivated on light and well drained soils overlying small outcrops of crosta in the Tavoliere plain (Sargent 1983a), appears to have been transferred to the lowlands of Abruzzo, where it was grown on well drained brown soils on Pleistocene hills, using a similar range of agricultural tools and facilities. Early Neolithic settlement in the lowlands of Abruzzo was likewise confined to fairly restricted habitats, which characteristically comprised ecotonal locations on Pleistocene hills, flanking major rivers and streams, in a not too densely wooded zone lying below an altitude of about 200 metres above sea level.

Differences can be seen between these lowland sites in Abruzzo, particularly with increasing distance inland from the Adriatic coast, in the range and quantities of south-east Italian influences and imports found at them. These differences might simply be explained in terms of immigrant

versus indigenous populations, but perhaps more significantly they might reflect differing degrees of access to a well-established network of communication and exchange in the southern Adriatic (which emerged, archaeologically, with the exchange of small quantities of obsidian during the Mesolithic, and developed with the trans-Adriatic transmission of the Neolithic package during the seventh millennium Cal. BC), from which a major new branch stretched northwards along the Adriatic coast during the sixth millennium Cal. BC.

Crocefisso, which lies at a distance of 10 kilometres inland from the coast, on the edge of the Pescara river valley, exhibits the most similarities with south-east Italy. For example, type 2 decorative elements on pottery (eg. complex incised motifs) predominated here, exhibiting fairly clear links to sites such as Guadone in south-east Italy, whereas type 1 elements (eg. simple impressed and incised motifs), which probably developed locally in the Abruzzo-Marche region during the early Neolithic, do not appear to have been used at this site (compare, for example, Figs. 17.1-12 and 5.5-10). The pottery was, however, manufactured from local raw materials (Agostini 1986-7b). This site has the strongest claim to be regarded as a settlement founded by a small group of immigrant agriculturalists from south-east Italy.

Three kilometres further inland, Villaggio Rossi exhibits greater evidence of local adaptation and links

with indigenous inland groups. Abruzzo-Marche style impressed and incised pottery appears to have been found here exclusively in the bottom of the large cavity in Area IA, which might suggest that the site was founded by an indigenous group (Figs. 8-9). Certainly links with indigenous inland groups to the west are suggested by the sourcing of pieces of obsidian to Palmarola, which lies off the west coast of central Italy (Oddone et al. 1990). Type 2 south-east Italian Guadone style decorative elements were then added to the Abruzzo-Marche style pottery in the upper levels of the large cavity. This might suggest a strengthening of links between Villaggio Rossi and the more south-east oriented coastal lowland groups at a later stage (Figs. 10-12). It should be noted, however, that these suggestions rest heavily upon the stratigraphy of just one cavity, which has not been published with great clarity.

Even further inland, between 13 and 21 kilometres away from the coast, the early agricultural sites at Fonterossi, Villaggio Leopardi and Colle Maggio exhibit even stronger indigenous elements. Despite the presence of a few sherds of early 'figulina' fineware at Villaggio Leopardi, which might reflect a certain degree of south-east Italian influence upon pottery manufacturing techniques, all of the decorated pottery sherds from these sites conformed to the type 1, simple impressed and incised, Abruzzo-Marche, style, which can be broadly regarded as a local development. The relative scarcity of clear south-east Italian cultural influences at these sites can be explained

by their location: in the inner part of the Abruzzo lowlands, and along tributary rivers and streams which provided only limited access to the main lines of communication and exchange which ran along the Adriatic coast and up the major river valleys.

Turning to the group of earliest Neolithic sites found to the north, on the coastal lowlands of Marche, and inland, in the intermontane basins, depressions and valleys of Abruzzo and Marche, there is much stronger evidence of continuity with Mesolithic subsistence and settlement patterns, and, more generally, of the continuation of an indigenous population. Significant changes did, of course, take place, but to a lesser degree than on the lowlands of Abruzzo. New settlements were established, but, in general, they lay not far from previous Mesolithic ones (eg. Fig. 86). Neolithic ceramic and lithic technologies were adopted, but not the complex Guadone style of pottery decoration. Domestic animals were now herded, although hunting, fishing, fowling and, perhaps especially, gathering remained important subsistence activities. Cereal cultivation was probably also practised, but perhaps only to a limited extent. In addition, the south-east Italian system of crop cultivation may have been adapted into a ground-water system of horticulture in this area (cf. Sherratt 1980), in which more barley and less wheat were grown on fine-grained, water-retentive, soils situated much closer to the bottom of river valleys. Overall, then, indigenous northern and inland groups appear to have

adopted only selected elements of the Neolithic farming package from coastal groups, and to have assimilated them into their own stable, broad-spectrum, system of subsistence.

The Abruzzo lowlands seem to have comprised the main donor region in this phase of the Mesolithic/Neolithic transition. They probably also acted as a filter zone, particularly with respect to the transmission of supplies of domestic stock and seeds. Sheep bones, for example, comprised a much higher proportion of the faunal assemblage at Villaggio Leopardi in the Abruzzo lowlands (44%) than at La Maddalena inland in Marche (15%). Although this probably reflects the existence of a less densely forested environment around Villaggio Leopardi, it might also relate to the differential access of these two sites to networks of exchange bringing initial supplies of domestic breeding stock from the southern Adriatic zone. Trans-Appennine connections between inland groups and the west of Italy are also hinted at by the bladelet of obsidian found at Ortucchio, but, unfortunately, this piece has not yet been sourced. More precise data are also required concerning the early site at Monte Colombo, near Ancona, on the coastal lowlands of Marche, where simple Impressed Ware and lithic artefacts were found during an excavation at the beginning of this century (Dall'Osso 1915). Information concerning its chronological and cultural relationship to sites found further to the south, on the coastal lowlands of southern Abruzzo, and further inland, in the intermontane valleys of

the Marche region, would be very useful and interesting with regard to the origins and spread of the Neolithic in Marche. It would also add to our knowledge of the Mesolithic/Neolithic transition in the region of Emilia-Romagna, which lies to the north, where early sites, including Fornacce Cappucini and I Fienili, have produced pottery and radiocarbon dates closely comparable to those from La Maddalena.

c) Early Neolithic society and economy

The Mesolithic/Neolithic transition saw, to varying degrees throughout the Abruzzo-Marche region, a further increase in sedentism and the initial establishment of local food production. Archaeological deposits found at early Neolithic residential sites seem (from a general and poorly quantified perspective) to be more substantial than those found at Mesolithic sites, although they still seem small, with their surface remains extending today over areas of about 3300 and 5000 m² at Fontanelle and Colle S. Stefano. A new range of features is also found at these residential sites, including a few large cavities and numerous smaller pits (Figs. 88-90.B). The largest cavities, which measure up to 56 m², have traditionally been interpreted as pit-dwellings, although (as in other areas of Europe) the evidence is far from conclusive. The smaller pits, on the other hand, might be interpreted as quarries for clay daub (but not those cut into gravel deposits) or as plant-food storage pits, with secondary

functions as fire pits, refuse pits and graves. Fragments of plaster, some with branch impressions, have also been found on at least half of the early Neolithic open sites in the Abruzzo-Marche region, and might be interpreted as the remains of wattle-and-daub structures.

Evidence of early agriculture is found, in varying quantities and combinations, throughout the region during the early Neolithic. In general, crops are likely to have been grown in small, intensively cultivated, fixed plots, situated close to residential sites (Halstead 1980; Sherratt 1980). Soil fertility in these plots could have been maintained by: the initially high and durable edaphic potential of the soils selected for early agriculture in the Mediterranean; the cultivation of nitrogen-fixing pulses alongside cereal crops; the dumping of domestic refuse on the plots; and the seasonal penning of sheep on the plots in order to manure them. More specifically, crops might have been cultivated on significantly different types of soils in Abruzzo and in Marche (assuming that crops were cultivated close to residential sites), for sites in lowland Abruzzo tend to be located near to well-drained soils, on Pleistocene hills, at least 30 metres above the nearest river valley, whereas sites in lowland Marche tend to be found much closer to wetter soils, on Pleistocene and Holocene terraces, lying close to the bottom of the river valleys. This distinction might form part of a broader contrast between southern and north Italian crop cultivation systems, but might also reflect the varying

degree of influence exerted by a pre-existing, Mesolithic, riverine pattern of settlement in the lowlands of Abruzzo and Marche.

Plant foods would have dominated the human diet, as in the Mesolithic, but herded and hunted animals would have provided more socially and ritually important supplies of meat, which might especially have been obtained and consumed on special occasions (Cranstone 1969). The remains of domestic ovicaprids (especially sheep), pigs and cattle are found on early Neolithic sites throughout the region (Table 2). Relatively high proportions of ovicaprids have been found in the lowlands, where the existence of a relatively open wooded environment presumably favoured their rearing in significant numbers. However, ovicaprid bones also comprised 68% of the domestic animal bones found at Colle S. Stefano, in the inland Fucino lake basin, which might also relate to the local existence of relatively open environmental conditions in that area. Cattle bones were numerically much less important than either ovicaprid or pig bones on sites throughout the region, but, in terms the meat-weights represented by them, they were very important, comprising as much as 51% of the total meat supply at Colle S. Stefano (as opposed to sheep which comprised only 12%). In contrast to the lowlands, a significant proportion of the animal bones found on inland sites belonged to wild species. At La Maddalena, for example, red deer bones comprised almost 25% of the total number of animal bones found there. Red and roe deer were the most commonly hunted

wild animal species in the region, but wild pig, wild cat and red fox were also fairly well represented in bone assemblages. (The latter two might have been valued, in particular, for their fur.) Fishing and fowling continued to be practised, most notably in the Fucino basin, where the bones of brown trout and of water birds, especially coots, have been found at Colle S. Stefano.

The shift towards greater sedentism and early food production in the Abruzzo-Marche region would have been accompanied by changes in the social and economic organization of local groups (Bender 1978), and probably also by changes in members' attitudes towards their groups. Direct and unambiguous material evidence of such changes is, of course, impossible to find, but the remains of a few of the early Neolithic mortuary rituals performed in the Abruzzo-Marche region do appear to express some sort of concern with these issues. At sites such as Villaggio Rossi and Grotta S. Angelo, for example, the disarticulation, breakage, cremation and mixing of bones belonging to numerous different people, and the association of food and feasting with these mortuary rites, might be interpreted, broadly, as an attempt to express, in the face of death, a (possibly idealized) picture of the unity, identity and fertility of the living group (cf. Shanks and Tilley 1982: 150-1; Bloch and Parry 1982). In contrast to these developments, however, settlement fissioning, resulting from intra-group conflicts, may have continued throughout the early Neolithic, leaving archaeological evidence of

pairs of sites located about 3.5 kilometres away from each other (such as Villaggio Leopardi and Colle Maggio), and undermining attempts to establish larger and more socially constrained communities.

Residential groups, based at one residential site or at a pair situated close to one another, and perhaps separated from each other by forested areas, were probably fairly self-sufficient with respect to providing for their basic subsistence requirements. Recent thin-section analyses of early Neolithic pottery in central Italy, for example, suggest that potters used local clays at Crocefisso (Agostini 1986-7b), and that potting was a family-scale, non-specialist, activity, which was practised when the need arose, as at S. Marco in Umbria (Skeates in press a). A broad analogy can probably be drawn here with Sahlins's (1972) 'domestic mode of production', in which the household, comprising one or more houses and their occupants, forms the focus of labour and production.

There is, however, evidence of small-scale inter-group communication and exchange during the early Neolithic in the Abruzzo-Marche region. Firm evidence is provided, for example, by the obsidian bladelets and cores found at ten early Neolithic sites distributed across the region (Fig. 110). On average, only about six small pieces of obsidian were found at each site, and at Villaggio Rossi obsidian comprised only 0.3% of the total number of lithic artefacts. It was, however, all imported into the region

and exchanged throughout it. The majority probably travelled across the Apennines from Palmarola (reaching as far as Villaggio Rossi on the Adriatic coast), but smaller quantities probably also came along an Adriatic coastal route from Lipari (as at Faenza Cappuccini in Emilia-Romagna) (Oddone et al. 1990). Certain sites, such as Villaggio Rossi and Ripabianca on the coastal lowlands and Colle S. Stefano on the edge of the Apennines, stand out in the archaeological record as nodes of consumption along these routes: attracting larger supplies of obsidian than other sites, and locally distorting the Italian-scale pattern of a fall-off in quantities of obsidian found with increasing distance from the sources. This might be explained by their proximity to the main lines of exchange, but might also relate to the local social pre-eminence and influence of groups based at them.

A variety of possible mechanisms of exchange would have ensured this flow of early commodities into the region and between groups based within it, and, although the archaeological record provides little help, it is tempting to imagine, with the aid of ethnographic analogies, what these might have been. Commodities invested with a high degree of symbolic meaning, for example, such as the sea-shell ornament found at Ripabianca, might have been regarded as valuables, and might therefore have been exchanged with a certain degree of ceremony, and on special occasions, as gifts between members of different groups. Exchanges involving more utilitarian raw materials and

tools, such as obsidian bladelets and cores, 'greenstone' axes, breeding stock and seeds, might, on the other hand, have been more commercial in nature, involving some bargaining for example, although such exchanges probably still functioned under the general principle of reciprocity. This type of exchange might have been made between relatives, allies or exchange partners, rather than between complete strangers, and might again have occurred most commonly on special occasions when members of two groups met together to establish alliances and to perform rituals together (Skeates in press b).

d) Transformations towards the end of the early Neolithic

The scale of inter-group exchange practised in and around the Abruzzo-Marche region appears to have expanded slightly towards the end of the early Neolithic, during the late sixth and early fifth millennia Cal. BC, with, for example, larger (although imprecisely documented) quantities of obsidian being deposited at sites such as Colle S. Stefano and Ripabianca. Distinctions still emerged, however, between sites and across the region in the degree to which a new wave of south-east Italian influence was felt and adopted. The strongest south-east Italian influences can be seen at Fontanelle, in the coastal lowlands of Abruzzo, where a wide range of type 2 or Guadone-style decorative elements were used on pottery, including rocker and micro-rocker shell impressions, stab-and-drag impressions, and incised slashes combined with

brown painted bands (Fig. 17.1-12). Similar decorative elements were also used, but less frequently and for the first time, on pottery found on sites located further inland in the Abruzzo region, including Grotta dei Piccioni, which lies on the edge of the lowlands, and Colle S. Stefano, Cellitto and Grotta Continenza in the intermontane Fucino basin. Further to the north, in the Marche region, such influences were not felt, and neither did local stylistic developments take place. Decorative motifs employed on pots at Ripabianca, for example, remained very similar to those used during the earliest Neolithic at La Maddalena (compare Figs. 15-16.3 and 7.1-5). However, groups in northern Marche do appear to have exerted an influence at this time over the newly established Neolithic group at S. Marco in Umbria, who adopted their Adriatic style of impressed and incised decoration.

Another development which took place towards the end of the early Neolithic was a growth in the significance of cave sites as places for the performance of rituals. Special mortuary deposits, characterized by the presence of human remains and traces of red ochre (and, in some cases, also the remains of feasts and sacrifices), were established in each of the three cave sites that are known to have been occupied at this time. The diversity of these deposits and of the mortuary practices which led to their creation (and even the cultural traditions and religious beliefs which influenced these) should not be

underestimated. However, Grotta dei Piccioni and Grotta S. Angelo share a number of distinctive features, and deserve a special mention. They both lie in hidden and transitional locations, high above river gorges, near to the boundary between the mountains and the lowlands, and on the edge of the early Neolithic lowland settlement zone (Figs. 87 and 91-92, Plates 2-3 and 23-26). These caves fit well into Turner's (1977) category of 'liminal' places used in rites of transition, and it is tempting to suggest that their 'liminality' was perceived and exploited symbolically by early Neolithic groups, perhaps to express concepts relating to the definition of boundaries between 'This World' and 'The Other World'. A predominance of bones belonging to children and juveniles was also found in these two cave sites. This contrasts with the evidence from certain early Neolithic residential sites in the lowlands (ie. Fonterossi, Ripabianca and Villaggio Rossi), where special mortuary rites, including the burial of human remains in graves and cavities, appear to have been reserved for a few adults. These distinctions in the mortuary treatment of adults and of children and juveniles (which are admittedly based upon a very small archaeological sample of the total number and possible range of early Neolithic mortuary deposits and practices) might suggest that the context of death was also used, particularly towards the end of the early Neolithic, to express and even to promote certain age-based structural divisions in lowland society (Skeates 1991a).

3. Middle Neolithic

The middle Neolithic in the Abruzzo-Marche region is, at the moment, a poorly defined chronological phase. Stratigraphically, the position of middle Neolithic pottery has been firmly established between the early and late Neolithic layers in the deep sequences in Grotta S. Angelo and Grotta dei Piccioni. There are, however, no reliable radiocarbon dates for middle Neolithic sites in the Abruzzo-Marche region, and so, for the moment, it can only be assigned, with reference to the existing gap between early and late Neolithic radiocarbon dates, to a relatively short period between about 4850 and 4700 Cal. BC. In addition, its existence basically relies upon finds of diagnostic, Catignano-style, pottery, which are so far restricted in their distribution to a pair of residential sites in the lowland province of Pescara and six cave sites situated elsewhere in the Abruzzo region (Fig. 93). A middle Neolithic phase cannot, therefore, be established in Marche. (This also applies to the late Neolithic, with regard to Ripoli painted pottery.) Clearly this situation is unsatisfactory, but I do believe that, from an analytical perspective, the middle Neolithic represents a useful chronological phase, through which the transition between the earlier and later stages of the Neolithic can be examined in greater detail than was possible before its definition. In the future, more radiocarbon dates must be obtained for this phase, especially from the key site at Catignano, and more relevant open sites need to be

discovered, but for the moment we should simply make the most out of the available data.

One major development which appears to have taken place during the middle Neolithic in Abruzzo was the emergence of a few relatively large sites, most notably at Catignano, as social and economic centres. The data are, of course, extremely limited, but surface remains found over an area of between about 20,000 and 30,000 m² at Catignano suggest that this site was as much as five times larger than the early Neolithic sites found at Fontanelle and Colle S. Stefano. Excavations revealed that relatively substantial quantities of obsidian were imported to, and used at, this site. Pieces of obsidian comprised 5% of the total number of lithic artefacts found there (1697 lithics), which is a significantly higher proportion than that identified at Villaggio Rossi (0.3% of 4933 lithics), which actually stood out in the archaeological record of the early Neolithic for its relatively large quantity of obsidian. In addition, a new and distinctive style of painted pottery was used (and probably produced) at this site.

The emergence of a centre such as Catignano can be explained with reference to both subsistence and social factors. Food production appears to have been stabilized during the middle Neolithic at well placed sites such as Catignano, where polyculture, involving a wide range of interdependent cereal and pulse crops, was probably

integrated with stock-keeping to form a relatively stable, generalized, and locally adapted agricultural system, which was further supplemented by the gathering of wild fruits, nuts and seeds and the hunting of wild animals. This system would certainly have catered for the basic subsistence requirements of the people who lived there. It might also have been fortunate enough to produce occasional food surpluses. These might have occurred not only as a result of fortuitous good harvests, but also due to a growing emphasis upon the breeding of meat-producing cattle (cattle bones comprised 30% of all animal bones found at Catignano compared to 12% at early Neolithic Villaggio Leopardi, which lies not far away in the Pescara province). Within a competitive inter-community ceremonial and alliance system such as that proposed in the introduction to this chapter (see above, p. 693-4), these local food surpluses might have been converted into community prestige and status, especially through the provisioning of community feasts to which neighbouring lineages were invited, and also through supplying less successful neighbouring communities with food at times of scarcity or crop failure (O'Shea 1981a).

At the same time aspects of material culture might have been actively employed at Catignano in order to enhance the internal identity and unity of the resident group, and possibly also to establish it as a distinct and possibly dominant community in relation to neighbouring groups in the region. A new style of painted pottery (ie.

Catignano painted pottery), for example, whose distinctive and specific decorative organization and motifs might have been particularly meaningful to the local group (Chapman 1988), was employed in a number of contexts in and around Catignano (Figs. 21-25). Sherds of it were deposited in large quantities in the general 'domestic' deposits at the type site, but it was also displayed and deposited (for the first time during the Neolithic in Abruzzo), in the form of more complete vessels, in the graves of a few adults at Catignano and Villa Badessa. In addition, the symbolic value of this pottery seems to have encouraged its transport or exchange over distances of up to 55 km to be deposited in cave sites situated to the south-west and north-west (Fig. 93).

More generally, the middle Neolithic saw a further slight expansion in communication and exchange in Abruzzo, particularly between local groups and those situated to the south-east in northern Puglia. In fact one might claim, on the basis of obsidian analyses, pottery studies and settlement patterns, that a third new wave of south-eastern influences swept across the Abruzzo region at this time. Larger quantities of Lipari obsidian found their way into the Abruzzo region, for example, and to Catignano in particular, presumably via a maritime exchange route along the south-east Adriatic coast, although the existence of a trans-Apennine route remains a possibility. The development of the Catignano style of painted pottery also points towards broad influences from south-east Italy, where the

'red-painted ware' tradition was already well established. Settlement nucleation, which seems to have occurred in the northern part of the Tavoliere plain at about the middle of the sixth millennium Cal. BC (Delano Smith pers. comm. in Whitehouse 1981b: 162), and which probably led to the emergence of outstanding residential and ceremonial centres such as Passo di Corvo, might also have influenced the change in middle Neolithic settlement patterns seen in Abruzzo during the first half of the fifth millennium Cal. BC. However, it seems unjustified to suggest that the social and economic developments which took place in the Abruzzo region during the middle Neolithic were entirely dependent upon or emulous of those which occurred earlier in south-east Italy. At Catignano, for example, it must ultimately have been local social and economic strategies that led to the establishment of a stable and productive subsistence economy, the creation of a new and distinctive style of red painted fineware, and to the attraction of larger quantities of exotic commodities to the site.

4. Late Neolithic

More new residential sites emerged as successful nodes of production and exchange, and as regional aggregation centres for settlement and ceremonial, in certain parts of the lowlands of Abruzzo during the late Neolithic, between about 4700 and 4200 Cal. BC. Along the neighbouring Vibrata and Salinello river valleys in northern Abruzzo, for

example, a local florescence seems to have occurred during the late Neolithic, in which at least two large new sites were established at Ripoli and Pianaccio, as well as two smaller ones at S. Donato and S. Maria a Vico (Fig. 83). The site at Ripoli is, archaeologically at least, the most outstanding of these, for excavations revealed a relatively large and well-defined cemetery in the centre of the settlement, and large quantities of a new and distinctive style of painted fineware, which might have been produced there for both local use and for export (Figs. 27-31).

This further emergence of local centres can partly be explained by a consideration of geographical factors. These might have included the differential access of lowland communities to good subsistence resources (particularly good arable and grazing land) and to major exchange routes (especially those which ran along the Adriatic coast from southern Italy). However, it might also be explained with reference to social factors. Community elders and representatives, for example, participating in an expanding inter-community alliance and exchange system, might have encouraged, through the use of a combination of personal exhortation and ritual symbolism, the production of food surpluses at well-placed sites. When large surpluses of crops or stock were produced, either as a result of these demands or fortuitously, they might have been used to provision socially and ritually important inter-community alliance and ceremonial gatherings. Such occasions might then have been exploited by the participants for political

and material gain, with the hosts, in particular, attracting exotic commodities, dependent people and status to their communities as a result of their generosity.

The enactment of socio-political strategies such as these might explain why, for example, greater distinctions were made in mortuary deposits between the treatment of certain adults (generally with primary burial in lowland residential sites) and the treatment of a few children and infants (generally with delayed burial in caves situated on the edge of the lowland settlement zone), for these might have been manipulated by community leaders to emphasize the (actual or ideal) social position of children as juniors (as opposed to elders), who could have comprised an important additional source of labour at this time. Such strategies might also explain why the breeding and consumption of prestigious, meat-producing, cattle expanded further at some of the largest lowland sites during the late Neolithic, against a general background of stability, continuity, local adaptation and consolidation in basic subsistence practices. At S. Agnese, for example, where general surface remains extended over a large area of about 38,000 m² (compared to 20,000-30,000 m² at middle Neolithic Catignano), cattle bones comprised 42% of the total number of animal bones found there (compared to 30% at Catignano).

A few cave sites situated along the edge of the lowland settlement zone continued to be used for special purposes during the late Neolithic, alongside these social

and economic developments in the lowlands (Fig. 96). Grotta dei Piccioni is the best studied of these caves, but other examples include Grotta S. Angelo and Grotta di Pescosansonesco. The former appears to have been used for a number of different purposes during the late Neolithic. The build-up of 0.85 m deep archaeological deposits in spits 17-14 in this large cave, which contained a similar range of artefacts and animal bones to that found normally on residential sites (although fewer cattle bones than S. Agnese - 10% compared to 42% cattle bones, and more wild animal bones - 25% compared to five percent), suggests that it was used as a residential shelter by small groups of people. It could have been lived in throughout the year, but, perhaps more probably, it was occupied seasonally, by groups of people drawn from nearby residential sites in the lowlands, who could have used it as a base for hunting, herding and gathering expeditions, and/or as a place of ritual seclusion away from the rest of society. The special deposits found in the 'Level of the Circles' also suggest that the back of the cave was used, occasionally, as a place for the performance of rituals (Fig. 124). The deposits comprised groups of stones, animal bones and artefacts which were arranged in a spatial and symbolic structure about three groups of human remains, and the rites that led to their creation seem to have involved feasting, intentional pottery smashing and perhaps even the sounding of a shell trumpet. More generally, the wide range of imported commodities found in the late Neolithic

deposits in Grotta dei Piccioni, suggest that it was used as a repository for special, meaningful and valuable objects, which could have belonged to one or more local communities. Such commodities included: sherds of Ripoli- and Serra d'Alto-style painted fineware; a pink coral ornament; perforated Pectunculus shell ornaments; two small pieces of red ochre; and a red-painted, end-blown, triton shell trumpet, with a suspension hole drilled near to its lip.

Late Neolithic communities situated in the interior of the Abruzzo region followed a more conservative and independent route of development during the fifth millennium Cal. BC, compared to communities settled in the lowlands. Residential sites, for example, including Cellitto, Fonti di S. Callisto and Settefonti, remained in the same areas as those settled during the early Neolithic (eg. Fig. 84). Wild species continued to make up a high proportion of the animal bones found at certain inland sites, especially at Fonti di S. Callisto, where red deer bones comprised 29% of the animal bones found there. Rituals also continued to be performed in a traditional manner at cave sites such as Grotta Maritza. Towards the end of the late Neolithic, however, a late, but somewhat original, style of painted pottery was developed at Fonti di S. Callisto (Figs. 33-35), which might reflect the growing importance of this site as a local socio-economic centre, and as a well placed node of communication and exchange that was situated near to the junction of a number

of major rivers.

On a central Mediterranean scale, late Neolithic communities in the Abruzzo region continued to be less innovative and outward looking than groups situated in southern Italy. For example, the former remained tied to traditional patterns of influence and exchange, which connected them to groups in south-east and west-central Italy, and established only weak or short-lived relations with groups situated to the north and east. They also failed to attract larger quantities of obsidian and 'greenstone' artefacts into the region. This might have been due to their having little of outstanding inter-regional economic value to offer as exports at this time, such as abundant supplies of special raw materials or major technological innovations. However, the community based at Ripoli provides a exception to this rule, for it did succeed in exporting some of its distinctively painted fineware cups and flasks to groups situated to the south, in the northern part of south-east Italy, and to the west, in west-central Italy and Liguria (Fig. 119). Admittedly, Ripoli painted pottery was a late and relatively short-lived development in the history of trichrome painted pottery in the central Mediterranean, and only small quantities of it actually appear to have been exported. However, its development and export do suggest that the community at Ripoli was successful in breaking into the well-established southern Adriatic exchange network, and in strengthening alliances and contacts with groups situated

across the Apennines to the west. Moreover, this social and economic success was sustained, for Ripoli continued to flourish as a major centre during the final Neolithic/early Copper Age.

5. Final Neolithic/early Copper Age

Despite some clear evidence of continuity with late Neolithic practices, major developments took place in the Abruzzo-Marche region in subsistence strategies, social organization, settlement and exchange during the final Neolithic/early Copper Age, between the late fifth millennium and the end of the fourth millennium Cal. BC. From a general perspective these might best be explained as responses to escalating socio-economic and ecological pressures upon restricted local subsistence resources, and especially upon those in the lowlands, which began during the late fifth millennium Cal. BC (ie. towards the end of the late Neolithic and the start of the final Neolithic/early Copper Age). For example, by the end of the late Neolithic a threshold of settlement may have been reached in key parts of the lowland settlement zone such as the Vibrata valley, following a 1500 year long process of settlement infilling. Social demands upon production (of food surpluses and commodities), however, which might have been made by community leaders wishing to participate more fully in expanding and increasingly competitive alliance and exchange systems, probably continued and may even have

increased at this time. These demands, combined with increasing numbers of cattle in the lowlands during the late Neolithic, may have placed a significantly greater degree of pressure upon the fertility of old-established arable and grazing land. In particular, the middle and upper parts of fluvial terraces and hills in the coastal lowlands might have been affected, for, from the middle Neolithic onwards, residential site locations shifted off them and into the bottoms of the major river valleys. In addition, the climatic shift to the 'Sub-boreal phase', which began to develop during the fourth millennium Cal. BC, and which involved a slight decrease in temperature, drier conditions and possibly also climatic fluctuations, is likely to have accentuated these pressures further.

More specifically, new subsistence strategies, including diversification, intensification and specialization, were adopted alongside old ones (such as food storage and adaptation to local environmental conditions), which led to the emergence of a variety of subsistence economies in different parts of the region. (Incidentally, these strategies, although performed within an entirely different social context, bear close resemblances to those pursued by Mesolithic groups in the Abruzzo-Marche region, some two and a half thousand years earlier [see Chapter 3].) Throughout the region, for example, diversification led to a significant increase in the consumption of wild foods. Studies of faunal remains show that the average proportion of wild animal bones found

on lowland sites increased from 7% during the late Neolithic to 19% during the final Neolithic/early Copper Age, and from 23% to 37% on inland sites. A wider range of wild species was also exploited, with 13 different species being identified at Ripoli and eight at Coppetella (Tables 5-6).

In old-established settlement zones, including the lowlands and the inland Fucino lake basin, intensification led to an expansion in the scale of traditional subsistence practices. Woodland clearance and stock grazing, for example, may have increased significantly in these areas during the final Neolithic/early Copper Age. Food storage may also have increased in scale and quality at certain residential sites in the lowlands, such as Fossacesia, where a large cavity, which covered an area of 98 m² and which was sealed along one of its sides by a 15 cm thick layer of plaster and sherds, might have served as a silo for plant foods. Fishing probably also increased in scale in the Fucino basin, where large numbers of clay 'net weights' were found for the first time at Cellitto.

At some sites in the lowlands, early attempts might also have been made to exploit cattle, sheep and goats for their secondary products. At the coastal lowland site at Coppetella, for example, the majority of cattle were killed off at relatively old ages (ie. as adults), possibly due to the importance of their secondary products, such as traction power and milk; and further inland, at the inner

lowland sites at Piano d'Orta and S. Maria in Selva, one half of the cattle were killed off at young, 'economic', ages, probably for their meat, while the other half were kept as older adults, probably for breeding, and possibly also for their secondary products. Sheep and goats decreased in importance in the lowlands during the final Neolithic/early Copper Age, and most of them were killed off young, presumably for their meat. However, at S. Maria in Selva about half of the sample of 89 aged ovicaprid bones were found to be over four years, and a third of these were over eight years, which suggests that a significant proportion of them might have been kept as a breeding stock, which in turn implies the potential for milking. Such interpretations should, of course, be supported by sex data, which are lacking for most of the faunal assemblages in the Abruzzo-Marche region (including those just mentioned). These data might be compared with, for example, the firmer indications of breeding and milking that come from sites of the final Neolithic Pfyn and Cortaillod cultures in Switzerland. These date to between about 3800 and 3500 Cal. BC, and high percentages of cattle and ovicaprids survived to maturity, of which the majority were female (Sherratt 1983). The appearance of plate-shaped ceramic sieves at a few residential sites in Abruzzo, and elsewhere in Italy, during the final Neolithic/early Copper Age might also reflect the development of small-scale milk processing at this time (although alternative functions for these sieves can be suggested).

In contrast to the lowlands, the proportions of ovicaprids found on inland sites continued to increase during the final Neolithic/early Copper Age, reaching an average of 40% of the animal bones found on these sites. This probably relates to the importance of sheep (which comprised the majority of the ovicaprids at Piano d'Orta and Aquatina) as producers of manure in agriculturally marginal areas in the Mediterranean region (Lewthwaite 1981b). It might also relate, to a lesser extent, to a revival in the exploitation of the mountain zone during the final Neolithic/early Copper Age (which is hinted at by higher altitude sites such as Grotta Cola II).

More generally, adaptation and specialization are characteristic features of local subsistence strategies in inland parts of the region. For example, distinctions became more marked between faunal assemblages found on different inland sites. At Berbentina and Cellitto, for instance, bones of ovicaprids dominated the faunal assemblages (about half and about two-thirds of the total number of animal bones found at these sites), whereas at Aquatina the bones of domesticated pigs dominated the assemblage (half of all animal bones), and at Cava Giacometti a high proportion of wild animal bones were found (almost a third of all animal bones). The establishment of a new range and a large number of small, non-residential, sites, especially in newly occupied parts of the inlands such as the Camerino-Sassoferato basin,

also points towards the practice of more specialized subsistence activities in these areas, including herding, hunting and forest-clearance.

These developments in subsistence production were probably accompanied by changes in the organization and division of labour, although, as is evident throughout the archaeological record at this time, changes occurred against a background of continuity in late Neolithic practices. The subsistence roles of men and women, for example, might have been more closely defined. This is perhaps hinted at by the two female figurines found at Fonti di S. Callisto and Cellitto (Mattiocco 1981; Irti 1979b) (Fig. 148). Unfortunately, these two examples were found on the surface of these sites, but considering that the upper levels at both of them date to the final Neolithic/early Copper Age, the figurines can probably also be assigned to this period. They are of particular interest because Neolithic figurines occur only rarely in Italy (compared to the Balkans, for example), and because they are the earliest examples of figurines found so far in the Abruzzo-Marche region. They both appear to be female, with their arms crossed under their breasts, and both have plump forms. (Similar figurines have been found in disturbed Neolithic deposits in Grotta delle Arene Candide and Grotta della Pollera in Liguria - Graziosi 1973: Figs. 115a-c and 116a-c.) The symbolism of female figurines is, of course, extremely difficult to interpret, but it seems over-cautious not to suggest that these examples might have

referred to female fertility. Furthermore, a broad analogy might be drawn with later Neolithic female figurines in south-east Europe, which Hodder (1990), using a more rigorous contextual approach, suggests referred to, and were employed in, discourses concerning the role of women in society and, more specifically, in productive activities.

The mortuary deposits found in the cemetery at Ripoli also point towards attempts to define more closely the identity of a restricted group of recently deceased adults and/or ancestors during the final Neolithic/early Copper Age, particularly through the use of material symbolism. Compared to the late Neolithic, fewer human remains, belonging to fewer individuals, were buried together in smaller groups and in smaller graves, and perhaps also on rarer occasions. The range, and possibly also the quantity, of grave goods, on the other hand, increased, which might be interpreted as an attempt to fix, through the use of material symbolism, the 'message' or meaning of mortuary rituals. More specifically, new types of grave goods were buried in the Ripoli graves, including black burnished fineware, arrowheads and mace-heads. These might have referred symbolically to increasingly important actual or idealized aspects of social and economic practice in daily life, such as drinking, hunting and fighting. They might also have referred to the actual or idealized social status of the deceased individuals, as hunters, warriors, elders, senior members of local clans or lineages, or as members of

an élite. More certainly, these mortuary deposits indicate that at Ripoli funerals were becoming increasingly important contexts for socio-political display and discourse.

In conjunction with these developments in subsistence economies, social organization and social discourse, settlement patterns in the region also developed significantly (Fig. 100). As in other parts of Europe, settlement broke out of the tight constraints which had previously tied it closely to watercourses, spreading to a wider range of often drier and less fertile soils (Sherratt 1981). New sites were established in a number of previously peripheral geographical zones in the Abruzzo-Marche region, including: the coastal hills; the interfluvial hills situated to the north of the lowland Tronto valley; the inner lowlands; the intermontane depressions and valleys, especially in Marche; and the mountains. Some of these areas had previously been occupied during the Mesolithic and early Neolithic, but elsewhere, in the Camerino-Sassoferato depression, for example, such evidence is lacking.

The process of colonization which this change in settlement pattern implies probably took place on a small scale. It is likely to have been slow, for example, considering the long time-span of the final Neolithic/early Copper Age, which dates to between about 4200 and 3250 Cal. BC. The distances moved by groups could also have been

small. It is tempting to suggest, for instance, that the group of nine new sites found to the north of the River Tronto in the Ascoli Piceno province were established by immigrants from residential sites in the Vibrata and Salinello valleys, which lay, at most, only 18 km to the south in the Teramo province. The latter area could potentially have provided sufficient numbers of immigrants, for large sites and a relatively high density of settlement existed there during the late Neolithic; and similarities can be identified between excavated features and artefacts found on sites dating to the final Neolithic/early Copper Age in these two areas.

In addition, neither a substantial investment in labour, nor a novel agricultural technology seem (or need) to have been involved at the beginning of this colonization process. Palaeoenvironmental studies indicate, for example, that tree clearance did not take place to any significant extent in the newly settled and densely forested inland parts of central Italy during the final Neolithic/early Copper Age (in contrast to the old-established settlement zones, where the scale of woodland clearance increased significantly). This evidence is supported by studies of stone axes in the Abruzzo-Marche region, which show that neither proportions of 'greenstone' axes (which may have been special-purpose woodworking tools) nor quantities of other types of axe increased in lithic assemblages during the final Neolithic/early Copper Age. Furthermore, the scratch plough or ard is unlikely to have reached inland

areas of the Abruzzo-Marche region at this time. The earliest evidence of the use of the plough in Italy (which comes in the form of plough marks found beneath Neolithic cist graves at Saint Martin de Corleons in northern Italy) dates to between 3600 and 3000 Cal. BC (Sherratt 1983: 91), which corresponds with the second (rather than the first) half of the final Neolithic/early Copper Age in the Abruzzo-Marche region; and at the inland site at Aquatina, cattle were killed off young, presumably as producers of meat rather than of traction power.

As in other parts of the central Mediterranean, the final Neolithic/early Copper Age in the Abruzzo-Marche region also saw a major expansion in exchange, and links with neighbouring regions were strengthened significantly at this time. From southern Italy there flowed larger quantities and a wider range of Lipari obsidian artefacts, a few vessels of Serra d'Alto and Diana-Bellavista style pottery (as well as their stylistic influences on local potting traditions), and perhaps also the early copper awl which was found at Fossacesia, all probably via a well-established Adriatic coastal route. Much stronger influences also began to be felt from northern Italy at this time, with larger quantities of 'greenstone' axes and rings, Chassey-Lagozza style 'Pan-pipe' pottery handles and scratch-decorated 'wide brimmed dishes' appearing at sites in the region. Trans-Appennine contacts were also strengthened, as can be seen in the similarities between artefacts found on sites situated either side of the

mountains, including crescentic shell pendants, scratch-decorated 'wide-brimmed dishes' and early copper objects.

Looking more closely at the commodities themselves, imports of obsidian increased in quantity (to an average of 21.5 pieces per site where obsidian has been found), and in the range of artefact types (including a lunate point, a 'beak' and a graver), and they became distributed more widely across the region (Fig. 113). Fine quality chert began to be quarried at sites in the Apennines, such as Torre Beregna, and was probably exchanged within the region. This may have taken place on a large, but localized, scale, for evidence from residential sites in the region shows the appearance of more standardized blades and bladelets, longer blades and a new range of large blade-based artefacts at this time, and also a decrease in the primary production of chert artefacts (to an average ratio of 4% cores against 96% flakes and blades). A wider and more distinctively ceremonial range of valuable artefacts were also produced and exchanged at this time, including: well-fired, dark burnished, fineware vessels, some of which comprised scratch-decorated 'wide brimmed dishes'; spouted vessels; long blade-based chert daggers, javelins or lanceheads; early limestone mace-heads; a miniature 'greenstone' axe/pendant; a 'greenstone' ring; crescentic shell pendants; and perhaps also small copper ornaments.

Even more sites now emerged as successful nodes of production and exchange. Among these, major sites located in the coastal lowlands, including Ripoli and Fossacesia, which were established during the late Neolithic and which continued to exist during the earlier part of the final Neolithic/early Copper Age, have produced the greatest quantities and range of imported commodities and inter-regional links. This was probably due to the strengthening of pre-existing exchange relations between residents of these sites and communities situated to the south, along the old-established Adriatic coastal route. Ripoli, in particular, continued to flourish as a pre-eminent economic node during the fourth millennium Cal. BC. Stud-decorated ceramic dishes, for example, which may have been produced here, exhibit stylistic links with potting traditions in northern and southern Italy. Relatively large quantities of imported artefacts were also found here, including obsidian (90 pieces), sea shells, sherds of Serra d'Alto pottery and Lagozza style 'Pan-pipe' handles. Major centres located further inland have produced slightly smaller, but still significantly large, ranges and quantities of imported goods. At S. Maria in Selva, for example, which lies along the middle section of the Potenza river valley, much obsidian was found, as well as some pieces of early copper, a 'Pan-pipe' handle, sherds of stud- and scratch-decorated pottery, and a high-proportion of (probably locally produced) cattle bones. At Cellitto, in the Fucino basin, numerous sherds of a distinctive, and probably locally produced, style of scratch-decorated pottery were also

found, along with many pieces of obsidian, and sherds of Serra d'Alto and stud-decorated pottery.

New, more numerous, and more overt, displays of material symbolism appear in the archaeological record at many of these major sites, at the same time as they decline in the traditional ritual cave sites, which suggests that the former took on an even greater role as social and ceremonial centres during the final Neolithic/early Copper Age. The majority of valuable commodities dating to this period, for example, were found at residential sites rather than at special cave sites, and at Ripoli, where relatively extensive excavations have taken place, they were found in graves in the cemetery and in at least two 'special deposits'. The graves appear to have been more closely defined symbolically during the final Neolithic/early Copper Age (see above, p. 642-3). The two 'special deposits' contained large quantities of valuable artefacts: cavity 11 contained 59 pieces of obsidian, as well as some human bone fragments; and cavity XXV contained a large number of perforated sea shells, as well as arrowheads, a mace-head, bone awls, coarse- and fineware vessels, blades and flakes of chert and a human tibia. More overtly ritual items, some of which were new, were also deposited primarily, if not exclusively, at residential sites at this time. These include the red ochre found at Fondo Coccia, and the new female figurines and pintadera fragment found at Fonti di S. Callisto, Cellitto, and Coppetella. The ditch surrounding the residential site at Ripoli (which

measured 7.5 metres wide at the top and 3.5 metres deep) might also be added to this collection of examples, although it has not yet been securely dated (Fig. 98). Symbolically, it might have been intended to mark the site off, to both outsiders and residents, as a special place (ie. as a social, political, ceremonial and economic centre); and functionally it might have been dug to protect the residents and their valuable resources from raids, particularly within the context of increasing social and economic competition in the lowlands.

The growth of exchange and the further development of major residential sites as social and ceremonial centres within the region might have been caused, primarily, by the continued existence of an expansive and increasingly competitive inter-community alliance, ceremonial and gift-exchange system. However, they were facilitated by the major developments in production and settlement which took place between the late fifth millennium and the end of the fourth millennium Cal. BC in the Abruzzo-Marche region. The new economic strategies which were adopted at this time (probably as a result of growing socio-economic and ecological pressures upon subsistence resources in old-established Neolithic settlement zones) appear to have succeeded, both in providing enough food for subsistence requirements, and in meeting, to a certain extent, growing social demands for larger surpluses to provision ceremonial activities and to be used as valuable gifts. The colonization of a wide range of previously peripheral

geographical zones in the region, and the establishment of locally adapted and partly specialized economies within these areas (elements of which included shepherding and the quarrying of chert, for example), might also have encouraged greater exchanges between divergent communities settled throughout the region (cf. Sherratt 1976: 559; 1984: 125).

6. Middle-late Copper Age

Exchange networks on an inter-regional scale in the central Mediterranean appear to have collapsed temporarily during the middle Copper Age, during the late fourth and early third millennia Cal. BC. Exchanges of obsidian, for example, declined throughout Italy at this time, and in the Abruzzo-Marche region the flow of imports of obsidian and 'greenstone' appears to have dried up entirely. No simple explanation can be found for this recession, certainly within the Abruzzo-Marche region. However, it is tempting to suggest that the major changes in settlement patterns which took place during the fourth and early third millennia Cal. BC in central and southern Italy were particularly influential factors in disrupting traditional long-distance networks of communication and exchange. The widespread shift of settlement towards the interior of the Italian peninsula and away from the coastal lowlands, for example, may have led to the decline of major coastal exchange routes in central and southern Italy, which had

comprised a major artery for obsidian exchange networks during the Neolithic.

Long-distance exchange networks revived in Italy during the late Copper Age, over the last three-quarters of the third millennium Cal. BC, but in a slightly new form (both spatially and materially). From a spatial perspective, old links between the Abruzzo-Marche region and south-east Italy via Adriatic coastal routes became severely restricted, whereas overland networks of exchange, which were oriented towards the west and north, were strengthened. This must relate, at least in part, to the emergence and growing influence of the (traditionally defined) Rinaldone and Remedello cultures in those areas. For example, similarities with the local Conelle-Ortucchio style of 'punteggio' decoration and the distinctive bottle-shaped flask with a handle found at Ortucchio are most clearly found to the north and west, at a few sites in Emilia Romagna, Tuscany, Umbria and Lazio, rather than in southern Italy; and clear late Copper Age trans-Apennine links are revealed by the chemical composition, typology and distribution of copper artefacts, as well as by the typology of stone weapons and some of the mortuary deposits, found in the Abruzzo-Marche region. Changes can also be seen in the nature of the commodities exchanged over long distances in Italy during the late Copper Age, most notable of which was the emergence of a new range of carefully crafted and highly symbolic valuable artefacts. These included finely shaped and polished 'greenstone'

knobbed battle-axes and copper axes and daggers, which have so far been found in the Abruzzo-Marche region exclusively in graves or as surface finds (Figs. 116 and 77.2-4).

Despite this widespread revival in long-distance exchange during the late Copper Age, communities in the Abruzzo-Marche region appear to have exerted a weaker influence over long-distance exchange networks in Italy at this time, both in relation to the preceding final Neolithic/early Copper Age and in relation to late Copper Age groups located elsewhere in Italy. For example, only a limited quantity and range of artefacts made from copper, which was probably the most valuable commodity at this time, were imported into the Abruzzo-Marche region; large 'greenstone' artefacts were only attracted into the northern part of the region; and no Bell Beakers appear to have been imported or produced here (although examples from northern Lazio may have influenced the more complex impressed and incised decorative motifs employed at Ortucchio, which lies inland, near to the regional border between Abruzzo and Lazio - Fig. 49). A major factor behind this weakness must have been the lack of direct access by communities in the Abruzzo-Marche region to sources of valuable raw materials, which now included copper and 'greenstone', which were exploited by well-placed local communities to produce valuable and prestigious commodities (cf. Sherratt 1984: 127).

Only a few major residential sites emerged as important nodes of production and exchange during the middle-late Copper Age, although they do seem to have become larger, more powerful and longer-lasting centres than earlier examples. These included the defended site at Le Conelle and the massive lake-side site at Ortucchio, where surface remains were found over areas of 45,000 m² and 144,000 m² respectively, and where similar (although distinguishable), regionally-distinct, ceramic assemblages were found. Both of these sites also continued to be occupied during the Bronze Age, and both were located in inland parts of the region. The source of the strength of these sites probably lay partly in their subsistence economies, which made use of a wide range of previously under-exploited subsistence resources (especially lacustrine and forest resources) that were both locally available and suited to intensive exploitation, and partly in their proximity to and control over trans-Appennine exchange routes, along which flowed valuable and prestigious commodities during the late Copper Age. The construction of the tomb at Camerata, which lies near to the mouth of a long gorge that runs through the Simbruini mountains, linking the west- and east-central Italian regions of Lazio and Abruzzo, might have related in part to discourse concerning the control of one such important trans-Appennine exchange route.

In the old-established settlement zone in the coastal lowlands, changes in settlement patterns, which had begun

during the final Neolithic/early Copper Age, continued to develop (Figs. 100 and 105). Population continued to shift here: completing the desertion of the lower interfluvial hills and adding to the colonization of the interior of the region. However, a significant proportion of sites remained there (31% of all known sites in the region, including 10 residential sites), and new residential sites were established in wetter places best-suited to crop cultivation, either on the higher interfluvial hills or further towards the bottoms of major river valleys (at an average height of 8 m above the river beds). These changes in settlement patterns were probably brought about by a combination of growing ecological and socio-economic pressures (although new environmental and subsistence data are required in order to quantify these pressures more precisely). The Sub-boreal climatic phase, for example, with its slight decrease in temperature and drier conditions, became more fully established at this time. This change might have made vegetation and soils on drier terrain (such as the lower interfluvial hills) ecologically precarious and, in certain places (such as newly cleared areas and those areas where open ploughed fields existed), vulnerable to degradation, particularly through soil erosion. Socio-political instability and competition over local resources, which are hinted at by the relatively large number of special-purpose human burial sites found in certain parts of the coastal lowlands (central Marche in particular, where six such sites were found, especially in the area between Camerano and Recanati), with their

symbolic emphasis upon social advertisement and weaponry, may also have encouraged people to move away from this area (Figs. 126 and 128).

Different developments took place in the inland intermontane Fucino basin, which also comprised an old-established settlement zone (Fig. 84). Here, site patterns indicate a florescence during the middle-late Copper Age, particularly along the south and east sides of the lake basin, where three lake-side residential sites were found, along with five cave sites containing middle-late Copper Age deposits, one special-purpose human burial site and one axe-hammer find-spot. Of these sites, Ortucchio (see above, p. 896) became established as a regionally important social and economic centre. More intensive and specialized exploitation of certain local resources provided a basis for this local florescence. Abundant and locally available wild sources of food, for example, including fish and red deer, were exploited increasingly by the occupants of these sites, through net-fishing and hunting. Cores of sediments from west-central Italian lakes also suggest that further forest clearance took place in inland basins in central Italy during the third millennium Cal. BC, leading to the creation of more extensive (but still localized) areas of arable and grazing land. This occurred, perhaps significantly, soon after the introduction of the cattle-drawn scratch plough or ard to Italy (see above, p 734).

In the newly occupied areas of the inner lowlands and the inland intermontane depressions and valleys, the colonization process, which began during the final Neolithic/early Copper Age, was consolidated during the middle-late Copper Age. Site patterns reveal a strong degree of continuity in the intermontane depressions and valleys, particularly in the intermontane valleys of the Ancona province where middle-late Copper Age deposits directly overlay final Neolithic/early Copper Age deposits at three out of the four excavated residential sites (Aquatina, Cava Giacometti and I Fossi) and also in one cave site (Grotta dei Baffoni). The patterns also reveal an increased exploitation of the inner lowlands, where the number of sites (most of which were lithic survey sites and find-spots rather than residential sites) grew from 18 to 29% of the total number of sites in the region (Figs. 100 and 105). This increase was particularly marked on the interfluvial hills, in the inner lowlands, which today receive the highest quantities of rainfall in the region, and which during the third millennium Cal. BC might have comprised an important agricultural zone. In fact a local florescence may have occurred in part of this zone, along the Acquaviva stream, which lies to the north-east of Arcevia, where a group of three middle-late Copper Age residential sites (including the outstanding defended site at Le Conelle - see above, p. 741) and an isolated axe-hammer were found within a few kilometres of each other (Fig. 103).

Environmental and subsistence data are limited for the inner lowlands and intermontane valleys during the third millennium, but part of the stability and success of groups based in this area might have been based upon an increase in the scale of forest clearance and upon the early use of the cattle-drawn plough. Pollen diagrams from west-central Italy, as well as the appearance of a new range of heavy work-axes in the archaeological record of the Abruzzo-Marche region, suggest that during the third millennium Cal. BC more extensive (although still localized) areas of forest were cleared, especially on the inland hills lying above an altitude of 500 m above sea level. At the same time, proportions of cattle bones increased markedly, and at the expense of the bones of ovicaprids and wild animals, in faunal assemblages at a number of important inland residential sites, including Aquatina and Cava Giacometti. Large numbers of cattle bones were also found at Le Conelle. These developments took place, perhaps significantly, soon after the date of the earliest evidence of ploughing in Italy, which comes from the Valle d'Aosta and dates to between 3600 and 3000 Cal. BC (Sherratt 1983: 91; see above, p. 734). If the cattle-drawn scratch plough or ard was used by farmers in inland parts of the Abruzzo-Marche region during the third millennium Cal. BC, it would have helped them substantially (compared to Neolithic hoe cultivation): increasing their ability to prepare land by a factor of up to four or more, increasing the productivity of good land, and making 'economic' the cultivation of a range of poorer quality soils (Sherratt 1983). We should

not, however, overlook the potential importance of cattle as valuable and prestigious possessions in their own right, and as producers of large supplies of meat, which were surely feasted upon at important centres such as the site at Le Conelle, where large numbers of their bones were found.

Subsistence economies in the newly occupied inland parts of the region remained diversified, however, and during the middle-late Copper Age there was a further increase in the exploitation of wild resources in this area. At Le Conelle, for example, nine different species of wild animal were hunted, and in the middle Copper Age levels in Grotta dei Piccioni abundant remains of carbonized acorns were found, which ties in with widespread evidence from elsewhere in the western Mediterranean of an increase in their consumption during the third millennium Cal. BC (Lewthwaite 1982a). Seasonal exploitation of natural resources in the mountain zone also appears to have increased slightly at this time in the Abruzzo-Marche region. Stock, for example, may have been grazed on summer pastures on the Pescocostanzo 'altipiano', hunting was probably carried out in the area of Fiastra, and chert quarrying probably continued at Torre Beragna. The special mortuary deposit placed in the bottom of Grotta a Male, which lies at an altitude of 950 m above sea level on the southern side of the Gran Sasso mountain range, might also relate to a growing concern with the definition and control of resources in the mountain zone.

More generally, mortuary practices found throughout the Abruzzo-Marche region were transformed during the middle and late stages of the Copper Age. Full formal burial rites carried out at residential sites and at special-purpose burial sites, for example, became increasingly restricted now, with the remains of only a few adult and juvenile males being buried together in increasingly small numbers. (These patterns need to be confirmed, however, by more extensive and more reliable studies of the age and sex of Copper Age human remains found in the Abruzzo-Marche region, and in other parts of Italy.) Material symbolism also seems to have been used increasingly during these rites in order to 'fix the meaning' of the mortuary deposits. Such deposits were, for example, established in increasingly well defined places, away from the centre of residential sites, and human remains were left in them in increasingly articulated and standardized positions. A specific, but expanding, range of increasingly valuable and ostentatious artefacts, especially weapons, were also displayed and arranged with increasing proximity and formality around the body of the deceased. During the late Copper Age, the latter might eventually have emerged as a dominant symbol in the mortuary rites: unifying the meanings of the various material symbols which surrounded it (Turner 1967; Thomas 1991).

The 'meanings' expressed by these mortuary deposits and their transformations could potentially have been

multiple and ambiguous, but it seems likely that their creation and material symbolism related, at least in part, to socio-political discourses surrounding the death of certain members of society. From a general and long-term perspective, for example, the mortuary deposits might have played a part in discussing and defining (with reference to the deceased person) the social and economic positions of emergent groups within society, which might have been divided increasingly on the basis of gender in addition to age. This makes sense within the context of the development of increasingly diversified and specialized subsistence activities within the region during the fourth and third millennia Cal. BC, which might have required a greater sexual division of labour. From a closer perspective, however, the mortuary deposits seem to have focussed attention increasingly upon the identity of a few deceased adult male individuals, some of whose living friends and relatives may have wished them to be remembered as successful hunters and/or warriors and/or as influential and wealthy individuals with a role and status similar to that of a Melanesian 'Big Man' (see Pospisil 1963). These suggestions again make sense within the context of broader developments seen within the region during the fourth and third millennia Cal. BC, including an increased reliance upon wild animals as a source of food, and increasing socio-economic competition and conflict over basic subsistence resources and valuable commodities. Clearly, a greater quantity and quality of data and research are required in the Abruzzo-Marche region before suggestions

such as these can be made with any real sense of assurance. However, taking the archaeological record as it stands today, I hope that these, and the other interpretative suggestions made in this final chapter, will contribute to on-going debates concerning the Neolithic and Copper Age not only in the Abruzzo-Marche region, but also in Italy and the central Mediterranean.