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'MASSERIA QUATTRO MACINE'
— A DESERTED MEDIEVAL VILLAGE AND ITS
TERRITORY IN SOUTHERN APULIA: AN INTERIM
REPORT ON FIELD SURVEY, EXCAVATION AND
DOCUMENT ANALYSIS

Tutto il territorio si presenta infatti ripartito in abitati murati (le città e i castelli) e in abitati aperti (i casali), ma ignoriamo, anche a causa di una documentazione che è carente fino all'XI secolo, quale relazione di continuità o di rottura ci sia con la situazione insediativa del precedente periodo bizantino ... l'indagine archeologica, l'unica in grado di fornirci le risposte è assolutamente carente.

(Poso, 1988: 191, 193)

The 'Masseria Quattro Macine' project was conceived in 1992 with the intention both of providing a practical training ground for students of medieval archaeology at the University of Lecce, and of exploring the nature of the medieval countryside around Otranto, the key Byzantine port in southern Italy (Figs 1 and 2).

Following a five-day rescue operation in 1991, conducted by the writer for the Soprintendenza Archeologica at the site of Masseria Quattro Macine, Giuggianello (LE), it was decided to continue exploration of the area since the excavated remains and the documentary evidence both indicated the presence of a deserted medieval village. Very little is known archaeologically about medieval villages, deserted or otherwise, in southern Italy, and it was envisaged that a select programme of excavation and field survey of the village and its surroundings would provide a fundamental contribution to the understanding of rural settlement and land management in southeast Italy from late Roman times through to the present day.¹ This was especially desirable as Apulia was one of the longest surviving peripheral areas of Byzantine settlement in the western Mediterranean, finally falling to the Normans with the taking of Bari in 1071.

Over the last few years, much has been learnt about the town of Otranto and its long-distance contacts through rescue excavation that has revealed its rapid rise in significance under Byzantine rule and its demise in later times (Arthur *et al.*, 1992; D'Andria and Whitehouse, 1992; Michaelides and Wilkinson, 1992). However, despite a great deal of research on the iron age and classical periods, conducted principally by the University of Lecce, virtually nothing is known of its territory during late Antiquity and the Middle Ages. The Masseria Quattro Macine project's main objective is to redress this imbalance. Indeed, the project intends to come to grips with the debate as to whether the pattern of village settlement, which conditions the actual distribution of agrotowns, was established in Byzantine times or by the Normans. A further objective is to create a model for rural settlement research in southern Italy, partly by

¹ For a general, though slightly dated, overview of the questions of medieval villages in Italy, see Bussi (1980).

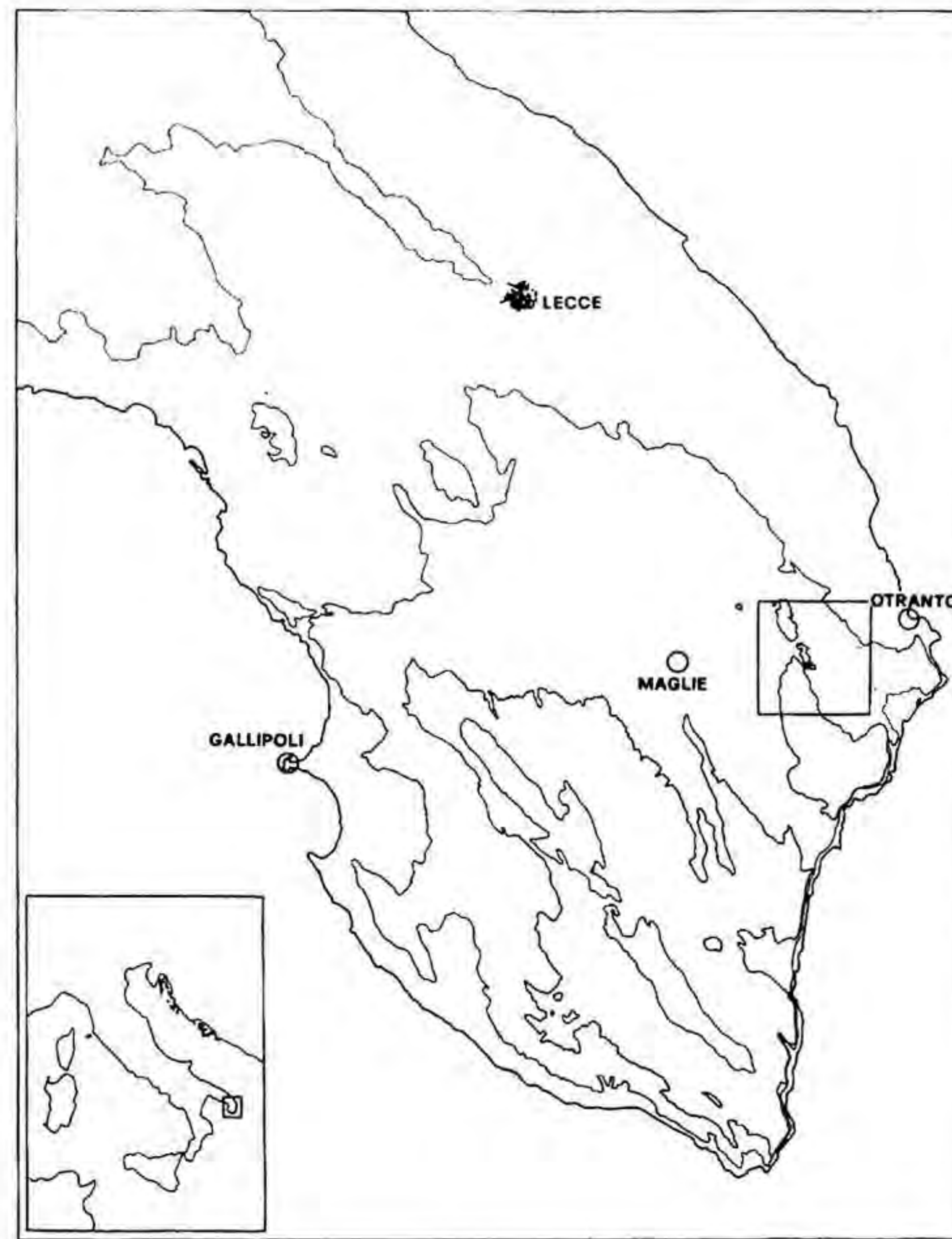


FIG. 1. The Salento. The area of Figures 2 and 29 is delimited. (Drawn by Michele Varchetta)

drawing on British experience in the archaeology of medieval villages and the landscape. Clearly the development of the land in medieval times cannot be assessed properly without detailed information relating to characteristic forms of settlement. For this reason four seasons of excavation (1992–5) have now been conducted at the deserted medieval village of Masseria Quattro Macine, complemented by three seasons of excavation (1993–5) at the somewhat earlier church of Le Centoportie nearby, now thought to be part of an early medieval monastery. This report intends to illustrate both the quality and quantity of information that the project has obtained, so far, as well as the potential of integration of various types of data, thus meeting the research objectives outlined above.²

² Though this report was first submitted in January 1995, it has since been possible to include some fundamental data deriving from the June–July 1995 season of excavations.

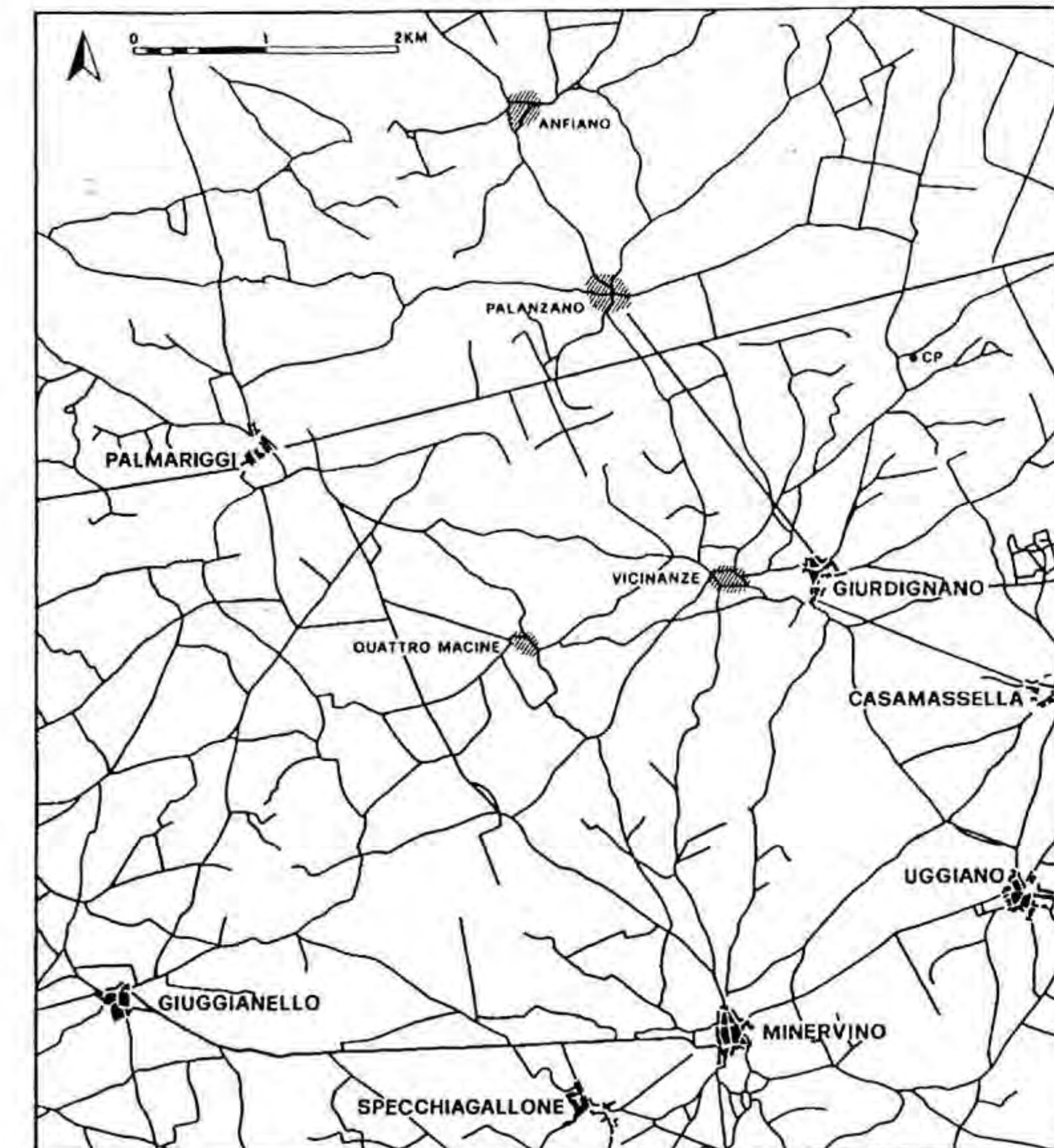


FIG. 2. Present-day road and track system around Quattro Macine. Deserted medieval villages are hatched, whilst surviving settlements are blacked in. CP = Le Centoportie. (Drawn by Sally Cann)

OTRANTO AND ITS HINTERLAND

The major centre around which the sample area gravitates is the coastal town of Otranto, founded as Greek *Hydrous* (on the site of an earlier settlement), lying on the east coast of the Salentine peninsula at the mouth of the small river Idro. Archaeology has been conducted there continuously over the past fifteen years by both the University of Lecce and the Soprintendenza Archeologica di Taranto. It seems that the town saw a particular moment of splendour under Byzantine rule, as a principal Italian gateway for the East. Indeed, it is the only site in Italy that has yielded locally produced amphorae for the exportation of surplus in the seventh century and, significantly, it possesses one of the few Byzantine cross-in-square plan churches in the western Mediterranean, the tenth-century San Pietro (Safran, 1992). Abundant Byzantine settlement is also present in the immediate hinterland of the town, especially along the Idro valley, where cave-dwellings and churches, the so-called *civiltà rupestre*, abound (Uggeri, 1974). The beginning of the end of Otranto's period of medieval hegemony may

be symbolized by the cathedral church for which it is justly famous, which bears a splendid mosaic floor built by the priest Pantalco in 1165.

Much of the Salento is occupied by small agro-towns, most of medieval foundation, which appear to represent but a fraction of the small nucleated settlements or villages (*casali*) that existed in the later Middle Ages, if not before.³ Quattro Macine is just one of these settlements, and the *masseria* (farm) to which it has given its name was probably constructed around the fifteenth century and partially overlies the site of the deserted medieval village. This part of Italy is relatively flat karst limestone country, though it is crossed by a series of tongue-like ridges, running for a number of kilometres, called *serre*. Indeed, Quattro Macine itself lies on the top of an homonymous *serra*, between 104 m and 105 m above sea level, which drops down towards Giurdignano, Otranto and the sea to the east and towards the small agro-towns of Giuggianello, Palmariggi and Poggiardo/Vaste to the west. To the immediate south lies Minervino. All were medieval *casali*, and all are present-day municipal centres, save for Quattro Macine, which was abandoned towards the end of the Middle Ages. Much of the land of the *serre* is traditionally devoted to the cultivation of olives and, all told, may be considered relatively poor, with many limestone outcrops and shallow soil cover. Other crops include wheat, tobacco and some fruits. The soil itself is often the typical iron-rich red *terra rossa*, frequently with bauxite inclusions that have encouraged quarrying. Though perhaps relatively depressed in Roman times, when some olive oil was exported, archaeology is tending to suggest that the territory was well settled in Byzantine times.⁴ Historical texts tell us that it continued to represent one of the key areas of Byzantine domination in Italy up until the Norman conquest of the eleventh century. So long-lasting was the domination and so strong the rapport with the East, that even today some communities preserve a Greek vocabulary.

The territory contains remains of various unexplored settlements and traces of ancient land use, dating from prehistoric times to the present day, including dolmens, the enigmatic stone menhirs, a Roman centuriation grid, the late Roman/early Byzantine church of Le Centoposte, a large middle Byzantine settlement at Giurdignano with its particularly fine cave-church, and a very well preserved complex of olive presses at Minervino, dating from the sixteenth century. Many remains, however, are not dated or are subject to debate, particularly those cut into or constructed of the local limestone without clear association with datable artefacts. Indeed, the sheer abundance of various qualities of limestone has led to the development of a distinctive dry-stone architecture, and the stone is found used for all manner of rural features.

Amongst the most enigmatic limestone monuments are the abundant menhirs or uprights which are generally considered to be of bronze age date

³ On the characteristics of *casali*, see the definition of Martin (1993: 282–9), based principally on the written sources.

⁴ Numerous small concentrations of fifth- and sixth-century pottery are coming to light in a field survey, at times associated with other ceramics that may be early medieval, though at present difficult to date with certainty.

(Whitehouse, 1981). These are often well over 2.0 m in height and are usually rectangular in section and well cut, sometimes with recessed summits intended to support some further object. One example, at Diso, is in the form of a 'T'. None have been found in close association with prehistoric artefacts, whilst they are frequently sited near medieval cemeteries or churches, and often bear incised crosses. A particular concentration lies around Giurdignano, and one fallen example, close to the deserted medieval village of Quattro Macine, lies in a property known since at least 1752 as '*la croce caduta*' (the fallen cross), at the side of a field containing what appears to be early medieval pottery. It is possible that they, too, are an integral and contemporary part of the medieval landscape under study, perhaps similar in function to the Irish high crosses and the Armenian *katchkars*, and will be treated in a later study. Other common and ambiguous remains include *carraie*, field walls and *specchie*. The *carraie* are essentially ruts in the limestone provoked by the continuous passage of wheeled traffic, and together with the numerous stone field walls, they will only be datable if found in stratigraphic association with other, datable, features. This is one of the reasons why the project is paying a great deal of attention to landscape stratigraphy. The *specchie*, on the other hand, are enormous accumulations of generally unworked stones which have in the past received interpretations varying from pre-Roman tumuli to Norman mottes. Despite the partial excavation of some examples during the last century, none has ever produced enough datable material to resolve their chronology.

Though modern agricultural, demographic and tourist expansion is now seriously starting to take its toll, the territory is still fairly well preserved both as a natural and as an historic landscape.

LE CENTOPORTE

Of the numerous late Roman and early Byzantine rural sites (fifth-sixth centuries) in the hinterland of Otranto, one, Le Centoposte, was picked out for detailed study on account of the splendid condition of its church.

The site of Le Centoposte, in the present-day territory of Giurdignano (map sheet IGM Muro Leccese F. 214 II NE), is visible as the ruins of a monumental church of east mediterranean type, crowning a slight limestone knoll at 56 m above sea level (Figs 3–5). The late Adriano Prandi, who conducted the only recent architectural survey of the building, excavated at the site, but did not produce a report.⁵ One of his trenches was probably located in our area IX, whilst another old excavation is still visible as a pit within the apsidal area of the church. However, elderly inhabitants of Giurdignano recount that the site was also burrowed into so as to extract tiles that could be ground down as an ingredient for mortar, and clandestine excavations are recorded from the last

⁵ The brief account of the church given by Prandi (1961) should be used with caution, especially as concerns the relationship between churches depending on Basilian and Benedictine monastic orders.

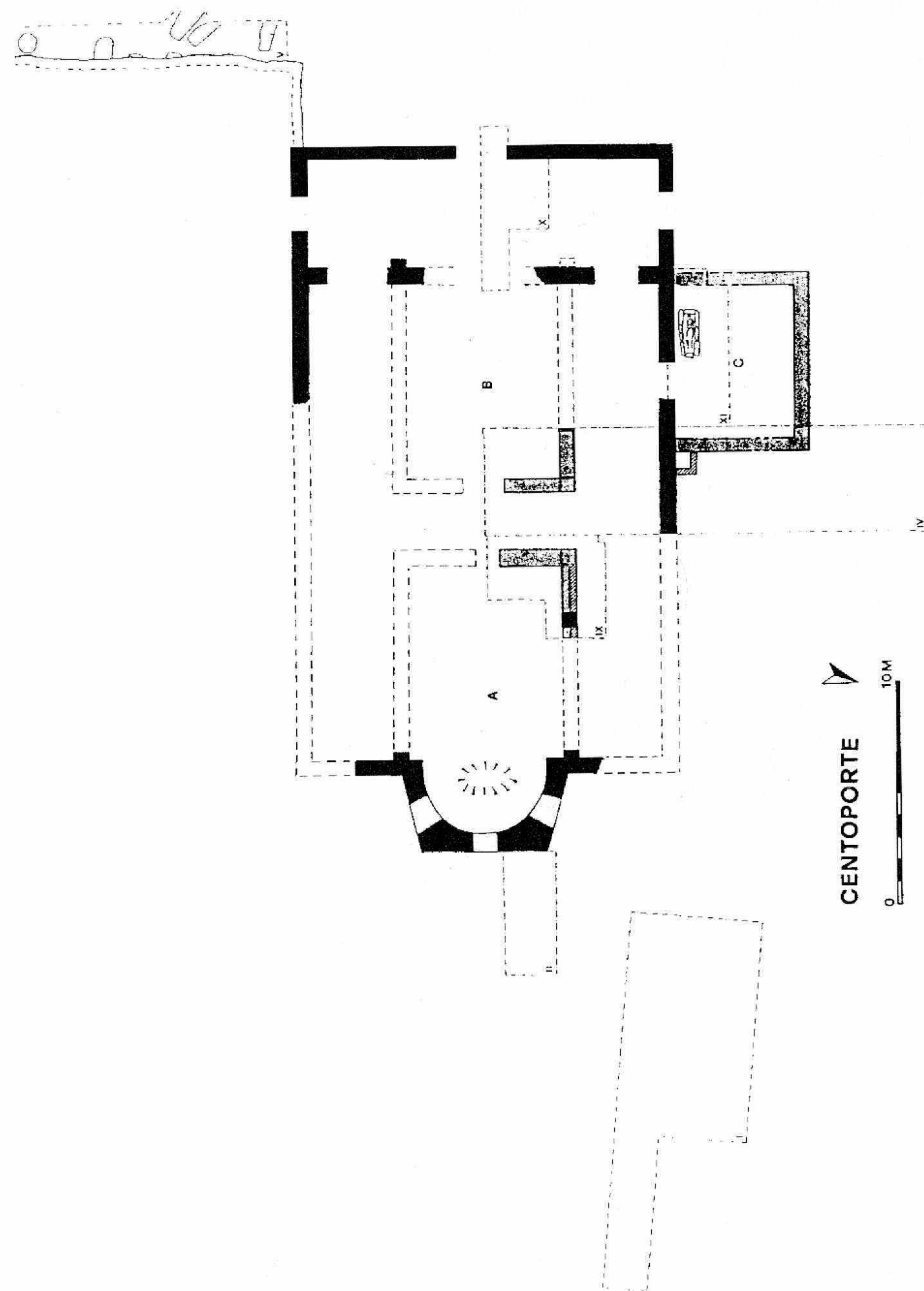


FIG. 3. Le Centoportre. Site plan, with excavated areas in Roman numerals. Period 1 walls are in black, whilst period 2 walls are in grey.
(Drawn by Paul Arthur)

century, no doubt stimulated by the tale that the discovery of a coin hoard at the site helped pay for the erection of the bell-tower at Giurdignano (De Giorgi, 1882: 286–7).⁶

There is as yet little evidence to indicate the church's surrounding context which, we imagine, could have been a late Roman settlement. Indeed, four test-pits dug in the field to the east (areas III and VIII) and south (areas VII and XII) of the church, although indicating that the area was used in the late fifth or sixth century, revealed little sign of substantial occupation. Despite abundant pottery, including Late Roman C ware from Phocaea, African Red Slip ware D, African and eastern mediterranean amphorae and coarsewares found in plough-soil, particularly concentrated to the southeast of the church following deep ploughing in 1995, no ancient contexts came to light, perhaps partly because of destruction through agriculture. Some stratigraphy may be preserved in areas where the natural bedrock is deeper, and a geophysical survey is planned in the hope of locating it. Alternatively, it is feasible that settlement lay at a slight distance from the church, perhaps sited on limestone bedrock with minimal soil cover so as to avoid occupying valuable agricultural land. Indeed, the cemeteries around the church seem to be placed in areas where the bedrock, at least now, is totally exposed. If this was so, we may hope to identify house platforms, though none has yet been found. The settlement context of the church therefore remains, at present, unexplained.

PERIOD 1

The original church was of basilical form, 30 m in length, with a nave and two aisles. Its slightly raised apse to the east has a polygonal outer face formed by three sides of an octagon, perforated by three large windows, whilst four smaller arched windows once opened out of the wall rising above the apse (Figs 4 and 5). An exonarthex to the west still displays a central and two lateral entrances, whilst another door opens out from the end of the southern aisle, presumably to the diaconicon. There is no indication whatsoever of an atrium preceding the exonarthex, despite its presence in various analogous churches, and the supposition of its existence by Prandi (1961: 113). The aisles were separated from the nave by an arcade, clearly visible in photographs taken before the last major collapse of the monument during a storm in November 1961 (Fig. 4). The building seems not to have possessed galleries over the aisles as did some of its parallels, and thus presumably had a clerestory illuminating the nave. The façade, rising above the exonarthex, housed three large arched windows, separated from each other by simple columns and capitals, now lost or buried amongst the rubble. The church is built of large limestone blocks in the apse and at other critical structural points, and of much smaller irregular cemented blocks elsewhere. The ashlar masonry is reused from a Hellenistic building, probably public, as is shown by a series of deeply incised mason's letters in Greek

⁶ Late Roman and middle Byzantine coins have indeed been found frequently around the site.



FIG. 4. Le Centoportore. The basilical church seen from the southeast, prior to the collapse of 1961. Note the blocking in of the façade windows. (Photo courtesy of the Museo 'Sigismondo Castromediano', Lecce).

(Jurlaro, 1982).⁷ Two simple crosses are carved on one of the blocks of the southern pier of the triumphal arch and another appears towards the outside northern corner of the apse.

Architecturally, the building is rather similar to the monastic church of Saint John Stoudios, Constantinople, founded in 463, and Saint Mary in the Chalkopratiae, near Hagia Sophia (Van Millingan, 1912; 35–61; Matthews, 1971). In plan, particularly because of the polygonal apse and basilical form, it also resembles a number of other urban churches such as the Eleona on the Mount of Olives and both Saint Stephen's and the church of Gethsemane, Jerusalem, Saint Theodore's at Jerash, the elaborate Justinianic cathedral at *Iustiniana Prima* (Caricin Grad), and others at Nicopolis (Bulgaria), Gortyna (Crete), Laodicea, Hierapolis of Phrygia and Çatiören in Cilicia (Turkey). Most of these early churches with polygonal apses are dated, some of them reliably, to the second half of the fifth and the first half of the sixth centuries, with the

⁷ These are being studied by Prof. Mario Lombardo.



FIG. 5. Le Centoportore. Apse exterior and excavation area II. (Photo by P. McCulloch)

notable exception of the Eleona, built under Constantine, though perhaps later modified. The latest example representing this type of church in Constantinople was Saint Mary in the Blachernai, constructed under Justin I (518–27). Examples appear in a modified form also in Merovingian France (Verzone, 1954).⁸ In Italy, the closest ecclesiastical parallels for the apse appear to be the churches of Saint John the Evangelist, Syracuse (Agnello, 1978–9), and the Chiesa di Zitone, Lentini (Orsi, 1942), both in southeast Sicily. The only Italian site with a similar form of apse that has been excavated in recent years is that at Quota San Francesco, in Calabria (Avetta, Marcelli and Sasso d'Elia, 1991). In this case the apse appears to be part of a hall, possibly of a rich Roman villa apparently largely constructed in the fourth century, though a later date for the apsed hall might be considered. In Apulia, other churches with similar apses are the smaller antique church of Sant'Eufemia at Specchia Preti and the parish church of Specchiagallone, not far from Le Centoportore and said to be of seventeenth-century origin.⁹ Despite attempts to date Le Centoportore to the eleventh-twelfth

⁸ Verzone has also explained the apse form as a practical expedient facilitating roofing with tegulae that could be arranged in triangular segments, and doing away with buttresses to support the weight of the half-dome.

⁹ The supposed polygonal apse for the church of Santa Marina at Muro Leccese is spurious, based on a misinterpretation of cut limestone bedrock visible behind the standing semicircular apse.

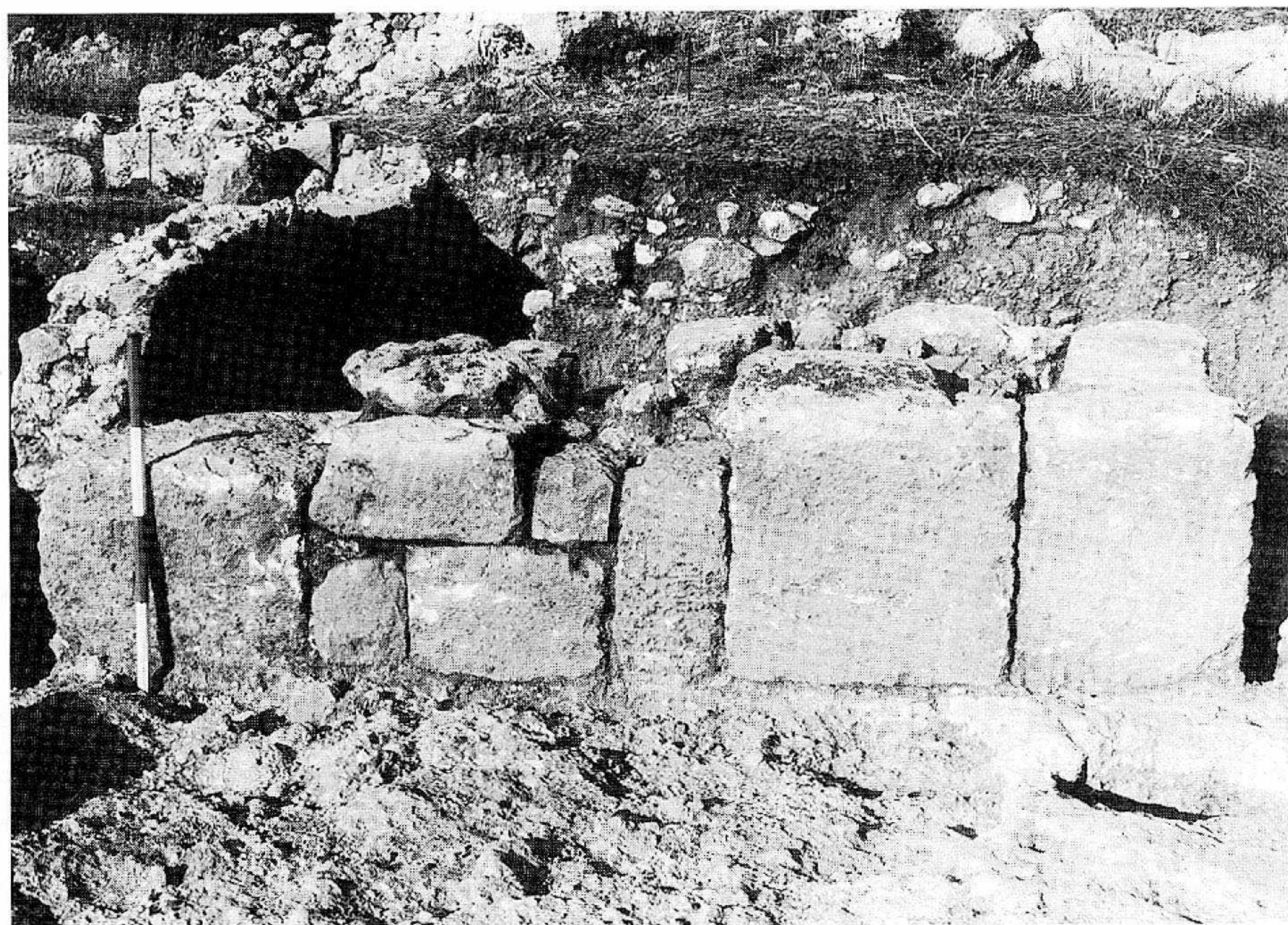


FIG. 6. Le Centoport. Façade of period 2, building A. The entrance is to the right. (Photo by Paul Arthur)

centuries and link it to the famed abbey of San Nicola di Casole, near Otranto, the discovery of several sherds of a single amphora of type Late Roman 1 (from Cilicia or Cyprus), found as bedding between two blocks of the triumphal arch, strongly support a dating of the church to the same general period as the parallels discussed above.¹⁰

It is curious that the construction of the church may never have been completed. There are no traces of wall decoration, *in situ* or otherwise, nor of a distinct floor above the very rough natural limestone surface, though the latter was partly levelled both by cutting and by infilling with white mortar. If the church was completed, it must later have been very thoroughly stripped of all its fittings and decorative elements.

PERIOD 2

The original church was totally overhauled during the early Middle Ages. Within the abandoned nave, two buildings were erected (Fig. 3), using the blocked-in arcades of the nave as side walls, with entrances, opening out from walls erected

¹⁰ For San Nicola di Casole, see Parlangeli and Parlangeli (1951), and for the tradition that links Le Centoport with the abbey, see De Giorgi (1882). The amphora type is described by Peacock and Williams (1986: 185–7, class 44).



FIG. 7. Le Centoport. Carved stone with bird-headed saint. (Photo by Paul Arthur)

across the nave, on the same axis to the main entrance of the original church. The easterly building (building A) incorporated the apse, and may represent a small church (Fig. 6). Its northern wall, formed by the blocking-in of the basilical church's arcade, presents two phases, both roughly plastered. Excavation of this area revealed a fragment of worked limestone carved with early medieval interlace ornament on its two sides, perhaps part of a chancel screen or similar element. Another limestone block, found amongst rubble in the exonarthex, bears a crude representation of a figure, apparently with the head of a bird surrounded by a halo, holding a cross in an outstretched arm (Fig. 7). The figure is seated or standing on a dais and set amongst some unintelligible graffiti. Perhaps it was intended to represent Saint John the Evangelist. Lastly, a stone block used in the construction of building A bears a simple cross picked out through drill holes, closely similar to some examples found on menhirs in the Salento. These three pieces support the idea that the site continued to represent a religious complex even after the abandonment of the original basilical church.

Within the collapsed rubble of the westernmost building (building B; Fig. 8), traces of green and red painted wall-plaster and a painted jug of early medieval date (possibly ninth- to tenth-century) have been found (Fig. 9).¹¹ The

¹¹ The jug (SF no. 84) is in a soft and fine pink-brown fabric, containing occasional minute mica and calcareous inclusions, with grey-brown surfaces, a light grey slip and red-brown painted decoration. Cheese-wire marks are visible on the underside of the base.



FIG. 8. Le Centoport. The collapsed wall of building B, period 2. (Photo by Paul Arthur)

space between buildings A and B and, at least, the northern aisle of the original church, appear not to have been roofed. A third small building (building C) was constructed against the church's northern aisle, with which it was linked by a door. Excavation of this building has, so far, yielded a well-constructed tomb, with reused (?) limestone side slabs and a missing cover slab, containing an inhumation (see Fig. 3). The burial was associated with a coarseware jug in dark red-brown fabric, with characteristic horizontal smoothing marks towards the base, probably produced at the seventh-/early eighth-century kiln of Fondo Mitello, Otranto, thus providing a clue to the date of the rebuilding (Arthur *et al.*, 1992). A similar burial, yet to be excavated, has been located within the northern aisle, close to the northwest angle of building A. In one of the exterior angles formed by the construction of building C against the church's outer wall is a small square feature that may be a cesspit.

Perhaps contemporary with the erection of these period 2 buildings was the blocking of the entrances to the basilical church (Fig. 10), including the three high windows of the façade. Only the northern side entrance of the narthex, flanked by building C, seems not to have been blocked, and it is suggested that this aperture remained the sole entrance to the complex in early medieval times.

Besides the two burials mentioned above, three cemeteries have been located in the vicinity of the church. Preliminary data from the closest cemetery, which extends in front and to the southwest of the church (area V; cf. Fig. 3), indicate its use during the seventh century. Six tombs have been identified,

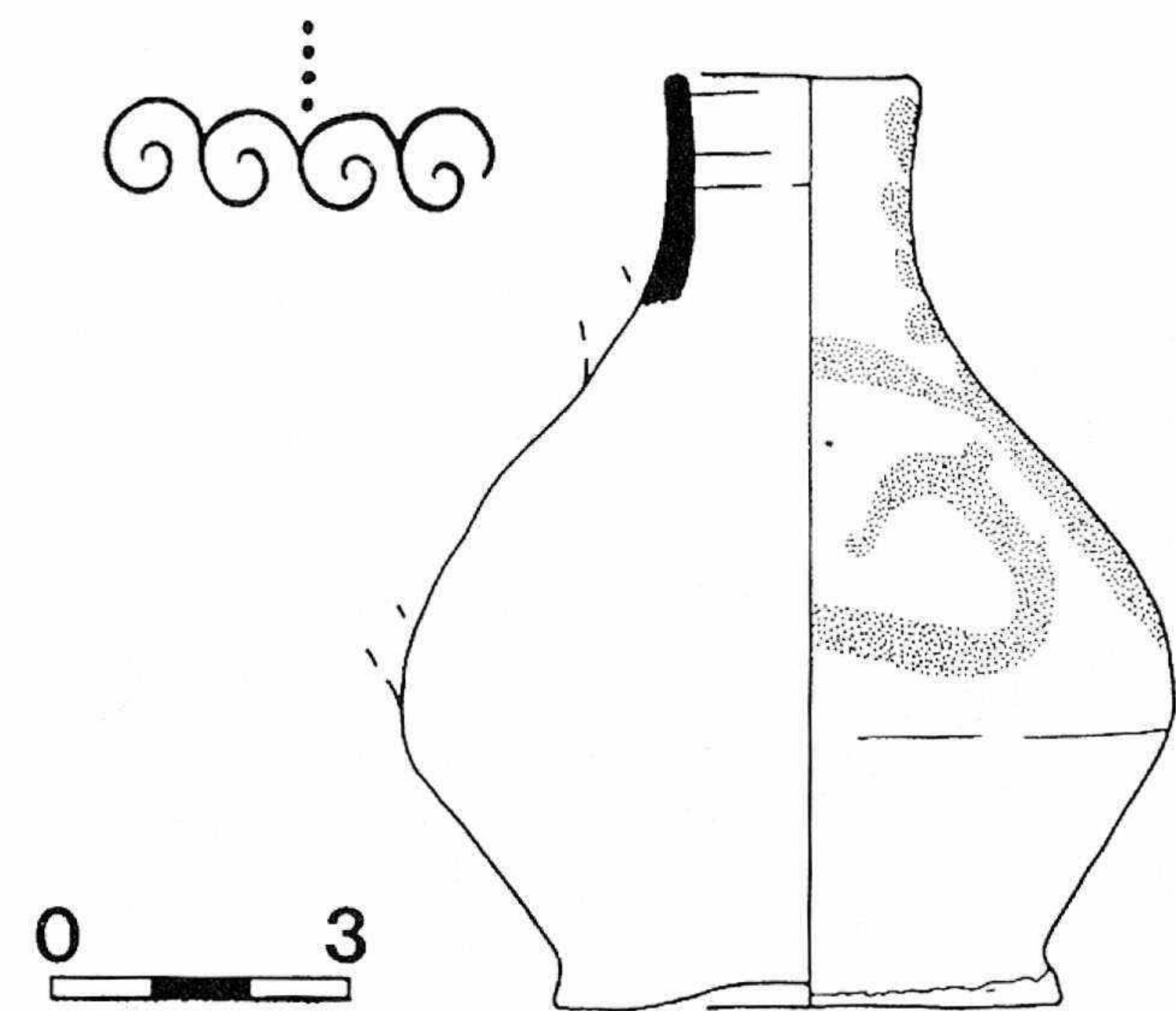


FIG. 9. Le Centoport. Painted jug from the wall collapse of the period 2 complex, building B. (Drawn by Paul Arthur)

though unfortunately all had already been excavated in the past. None the less, they have still yielded the disarticulated bones of their occupants, along with two 'Corinth type' buckles, one of bronze and one of iron, and a zoomorphic buckle in bronze (Fig. 11) that has parallels at Otranto (Hicks and Hicks, 1992: 294, fig. 10.6, no. 49) and elsewhere. Tomb 3 also produced a very worn and perforated *antoninianus* of late third-century date. Nearby lies a silo, with a fill yielding pottery of eleventh- or twelfth-century date. Two further groups of burials, perhaps contemporary with the first group, are sited in the properties to the north and east of the church, and seem to have been fairly thoroughly robbed-out in the past. Both are simple rock-cut graves. That to the north (area VI) has yielded fragmentary tiles scattered on the surface that are probably to be dated to the late fifth or sixth century, appearing to be almost identical to the tiles from the period 1 church. That to the east exploits a bank of exposed limestone just to the north of the present country road.

CONCLUSION

The imposing size and architectural form of the early church of Le Centoport suggest that it served some special function other than that of rural oratory. Jurlaro (1982: 606) has suggested that it was built to serve a military base at the time of Justinian's reconquest of Italy from the Ostrogoths. Alternatively, it may have been a monastic church from the beginning, as was Saint John Studios at Constantinople. This would help to explain the substantial rebuilding that took place during the seventh or early eighth century so as to create a small fortified complex, which is best explained as monastic. Above the rubble of the early



FIG. 10. Le Centoportre. View of the southern exterior wall. Note the blocking of the side entrance to the narthex. (Photo by Paul Arthur)

medieval complex are layers containing material datable up to the sixteenth century, including a Venetian bronze coin of Doge Alvise I Mocenigo, dating from 1570–7.¹² According to the map accompanying Vendola's edition of the *Rationes decimarum*, a tax register of the early fourteenth century, the site housed a church dedicated to Sant'Arcangelo (Vendola, 1939). A confirmation of this may lie in a document of 1503 recording a donation to the clergy of Palmariggi which mentions '*Pagus Vicinantium in regione Cenobi Sancti Arcangeli prope viam publicam*' (Maggiulli, 1893: 145). Vicinanze is now a deserted medieval village, close to Giurdignano, which lies some 2.0 km from Le Centoportre. This evidence for the later medieval use of the site suggests that there may be some truth behind the tradition that the church once depended on the monastery of San Nicola di Casole, near Otranto, founded in 1099 and abandoned perhaps as a result of the Turkish sack of 1480.

As a rural monastic site, Le Centoportre is of considerable interest, since little is known of such monasteries archaeologically, and yet they were an important part of the late antique and early medieval countryside. However, it is also true that its specialized function makes the site less useful in generalizing about rural conditions in Apulia than our second site, Quattro Macine, apparently a deserted medieval village.

¹² *Corpus Nummorum Italicorum* VII, Veneto, Venezia pt I, 426, n. 226.

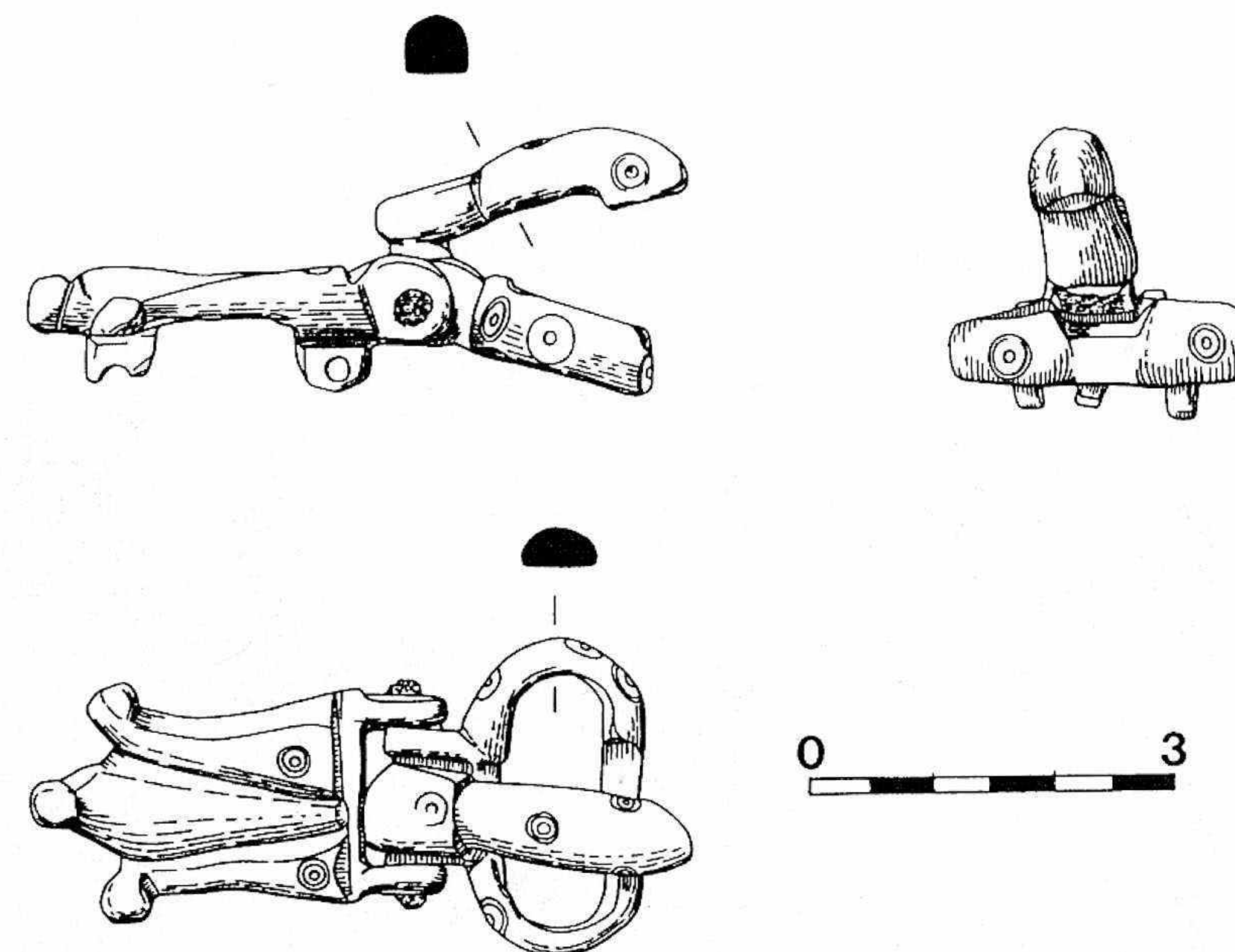


FIG. 11. Le Centoportre. Seventh-century zoomorphic buckle from area V. (Drawn by Sally Cann)

MASSERIA QUATTRO MACINE

The village at Quattro Macine (map sheet IGM Muro Leccese F. 214 II NE) seems to have developed from about the tenth century, after Le Centoportre had seen its heyday. Apart from a fair quantity of bronze age remains, there is little evidence that the site had been occupied previously. A small late Roman settlement, yielding Tunisian amphorae and African Red Slip tableware, has been found some 50 m from the site of Quattro Macine, whilst occasional early Roman objects found in the excavations of the village may come from agricultural use of the land.¹³ A decorated bronze strap-end, part of a vessel in *pietra ollare*, imported from the eastern Alps (Sannazaro, 1994: 268, 280, fig. 2 no. 5), and scraps of pottery may also indicate limited activity during the sixth and seventh centuries.

The earliest datable material apparently associated with the medieval village comprises late ninth-/early tenth-century Byzantine coins, commencing with issues of Leo VI (886–912) and Constantine and Zoe (913–17). Accumulating evidence, however, suggests that such coins often remained in circulation after the Norman conquest (Guzzetta, 1989: 54; also Martin, 1993: 470). Thus the historical context of the village's foundation, which is discussed further below,

¹³ The late Roman site is UT1. It has yielded African amphora rim sherds of forms Keay XXV, XXXVA and LVA (Keay, 1984).

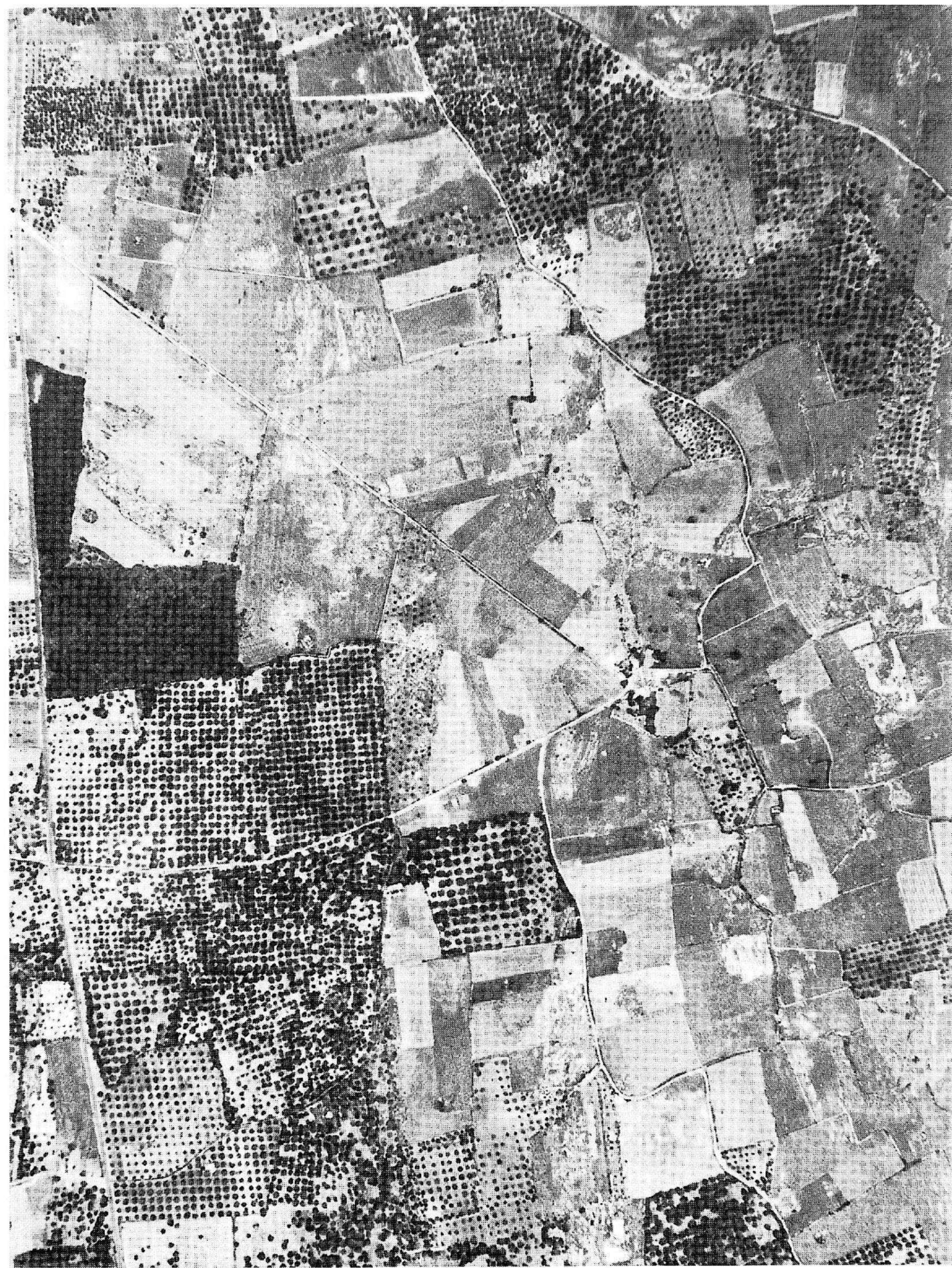


FIG. 12. Aerial photograph showing the country roads converging at Masseria Quattro Macine, and fields enclosed to the south. (Courtesy of G. Carluccio)

still remains obscure and the tightening of local ceramic chronology is becoming a research priority.¹⁴

The village lies some 8.0 km from the Adriatic coast and the gateway-port of Otranto, which is barely a day's sailing from Albania and Greece. It seems to have occupied an area of some two hectares, standing on the crest of a limestone *serra* at 104–5 m above sea level, and overlooking the surrounding lands. It clearly represented a nodal point in local communications (Fig. 12). Whilst the definition of the settlement's occupied area seems fairly straightforward because of a dense pottery scatter, it is still proving to be difficult to define functional areas within the site. This is due to a variety of factors. First of all the land occupied by the settlement, though on the gentle crest of a *serra*, is fairly flat, and after years of post-abandonment agriculture, does not reveal topographic anomalies. Secondly, the construction techniques employed in the village were extremely simple, generally making use of the local natural resources as found. Walls were either dry-stone or cemented with a basic material composed largely of local *terra rossa* and, probably, further strengthened through limited use of wood. The stone used in the walls, save in exceptional cases such as the small church (see below), was never more than roughly hewn and, to all intents and purposes, appears identical to natural erratic limestone fragments and blocks. Thus, upon decomposition, the material composing the buildings of the settlement would blend back into the 'natural' background. The study of aerial photographs, whilst important in the identification of communication routes and old boundaries, has yielded no information on the village's internal arrangements. Even magnetometer survey, whilst highlighting a number of anomalies, has provided very few which display convincing patterns. Whilst working towards the original objectives of the project, its annual development has been planned season to season through a rationale based on results from previous seasons, fragile surface testimonies, the magnetometer survey and oral information from the farmer concerning old finds through ploughing and the planting of part of the olive grove almost 40 years ago (Fig. 13).

Right from the first season in 1992 a small church was located towards the southern extremity of the inhabited area through evidence provided by the landowner (area III: Figs 14 and 15). It was a simple building with a semicircular apse on its eastern side, foundations placed directly upon the limestone bedrock and a first phase pavement partly created through reworking of the irregular limestone surface. The apsidal end of the church or chancel was divided from the simple nave by the stone footings of a structure probably to be interpreted as a *templon* (cf. Epstein, 1980). Within the enclosed apsidal area is a small, square, centrally-placed altar constructed at the foot of a stone-lined tomb, suggesting that the building may have been a proprietary church. The tomb contained the remains of an adult male. To the immediate north of the altar is

¹⁴ Local medieval ceramic chronology is now largely based on the recently published stratigraphical sequence from Otranto, though its crucial period IV, which provides many parallels for the earliest stratified pottery from Quattro Macine, partly spans the early years of the Norman conquest: Patterson and Whitehouse, 1992.

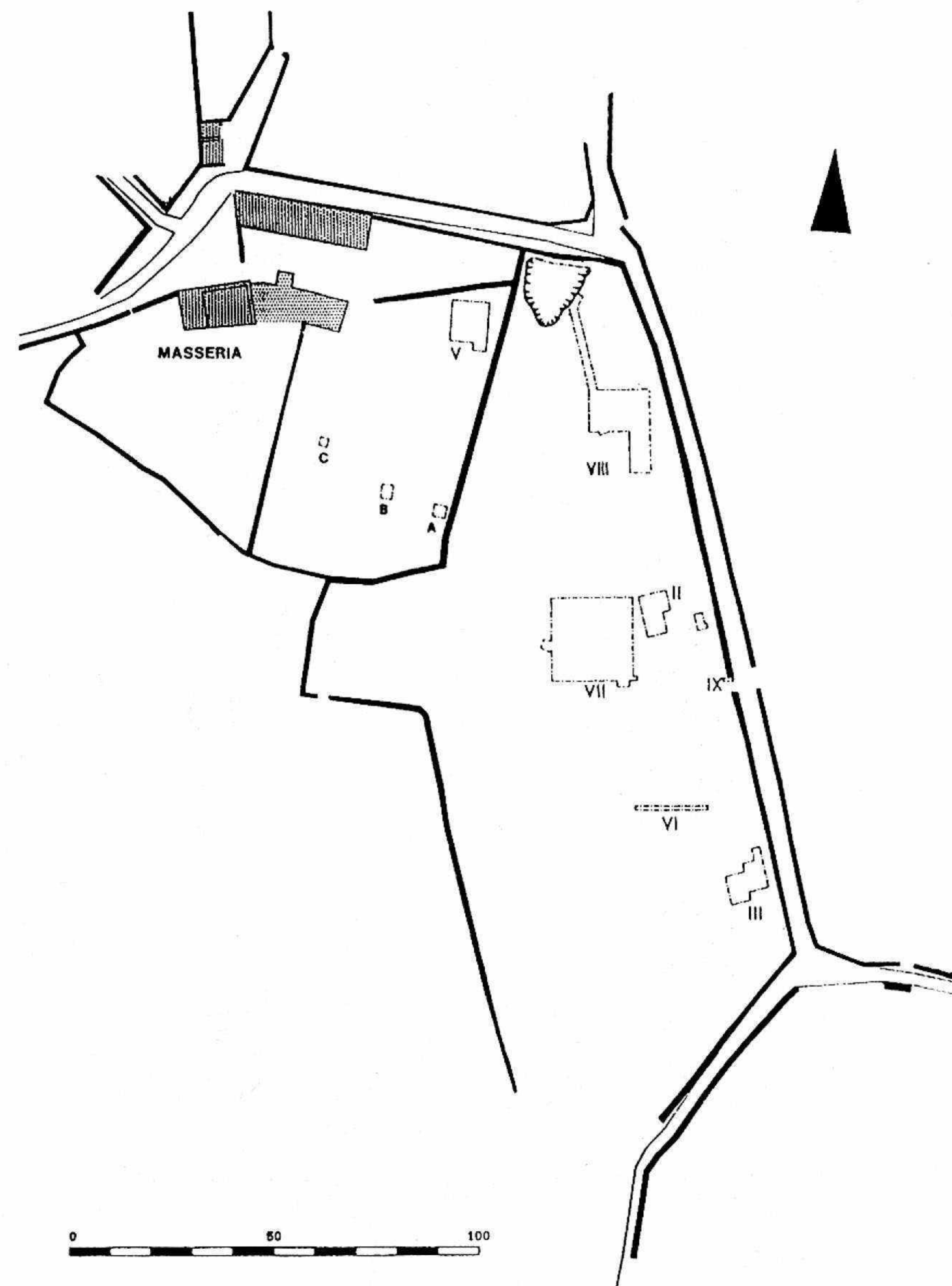


FIG. 13. Quattro Macine. Site plan. (Drawn by Luca De Bernardi and Paul Arthur)

a base built of five soft limestone blocks placed side by side, which can be interpreted as a side-altar which also housed liturgical instruments (Fig. 16). Indeed, abutting this feature was a layer of earth, formed during the rebuilding of the church in the thirteenth century, that contained a number of metal objects, including an iron spoon with a twisted handle, a pewter spoon with an elaborately decorated bowl (see below and Fig. 26 A-B) and an iron lance or

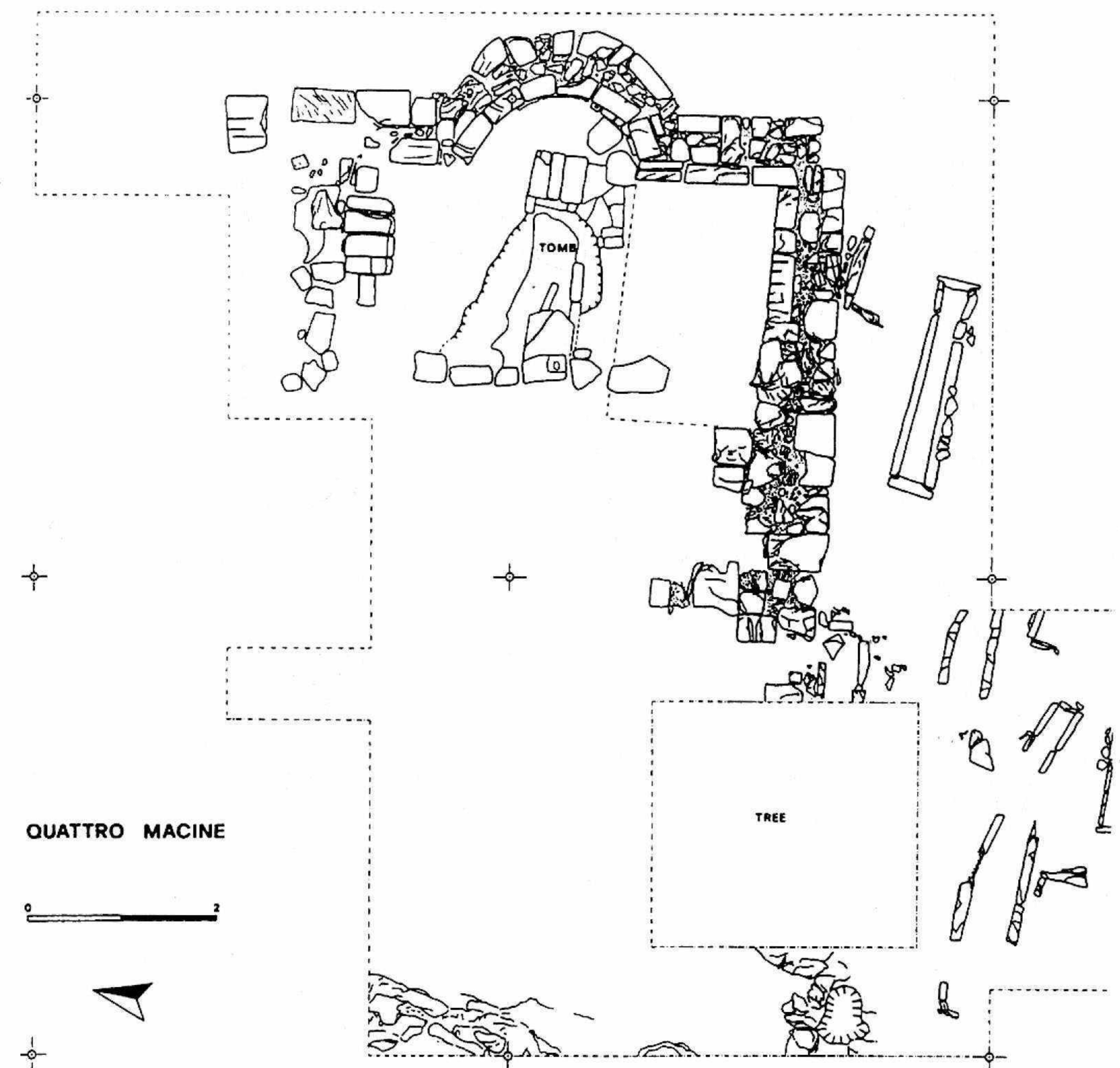


FIG. 14. Quattro Macine. Area III. The small church and associated cemetery. (Drawn by Sally Cann and Paul Arthur)

double-edged eucharistic knife representing the spear used by the Roman soldier during Christ's passion.¹⁵ Sealed by the thirteenth-century floor was also a layer formed of first phase painted wall-plaster that had been ripped off the walls prior to rebuilding. This quite well preserved, though fragmentary, material suggests an original construction date of the tenth or eleventh century. Second phase painted wall-plaster was found in a state of natural collapse above the floor, largely beneath the collapse of the church's roof formed of curved

¹⁵ On the use of the lance in Greek mass, see Rouhault de Fleury and Rouhault de Fleury (1883: vol. IV, 191).



FIG. 15. Quattro Macine. Area III. The small church. (Photo by Paul Arthur)

tiles. In sum, combined dating evidence suggests that the church was originally of tenth- or eleventh-century foundation, whilst the presence of protomaioiica beneath the second phase floor suggests that restructuring is probably to be assigned to the thirteenth century.

A second and much larger church (Figs 17 and 18), occupying a surface area of over 100 m², was unearthed in 1995 towards the supposed centre of the site (area VII), some 80 m to the northwest of the small church. The building appears to have possessed two naves crowned by two apses, separated from each other by a colonnade formed of reused classical columns surmounted by stiff-leaved capitals. Less than 50 per cent of the flagstones survive, as many had been removed for use elsewhere, perhaps in the *masseria*. Present evidence suggests that the construction of the church may be assigned to the twelfth century, and that it replaced an earlier building on the same site. As with the small church, its dedication is not known, though it may be significant that the field immediately to the east is recorded in 1752–3 with the toponym San Linardo (Saint Leonard), favoured by the Normans.

One cemetery lies by the small church, whilst another lies by the larger village church. From the former, five excavated tombs, oriented east-west, have

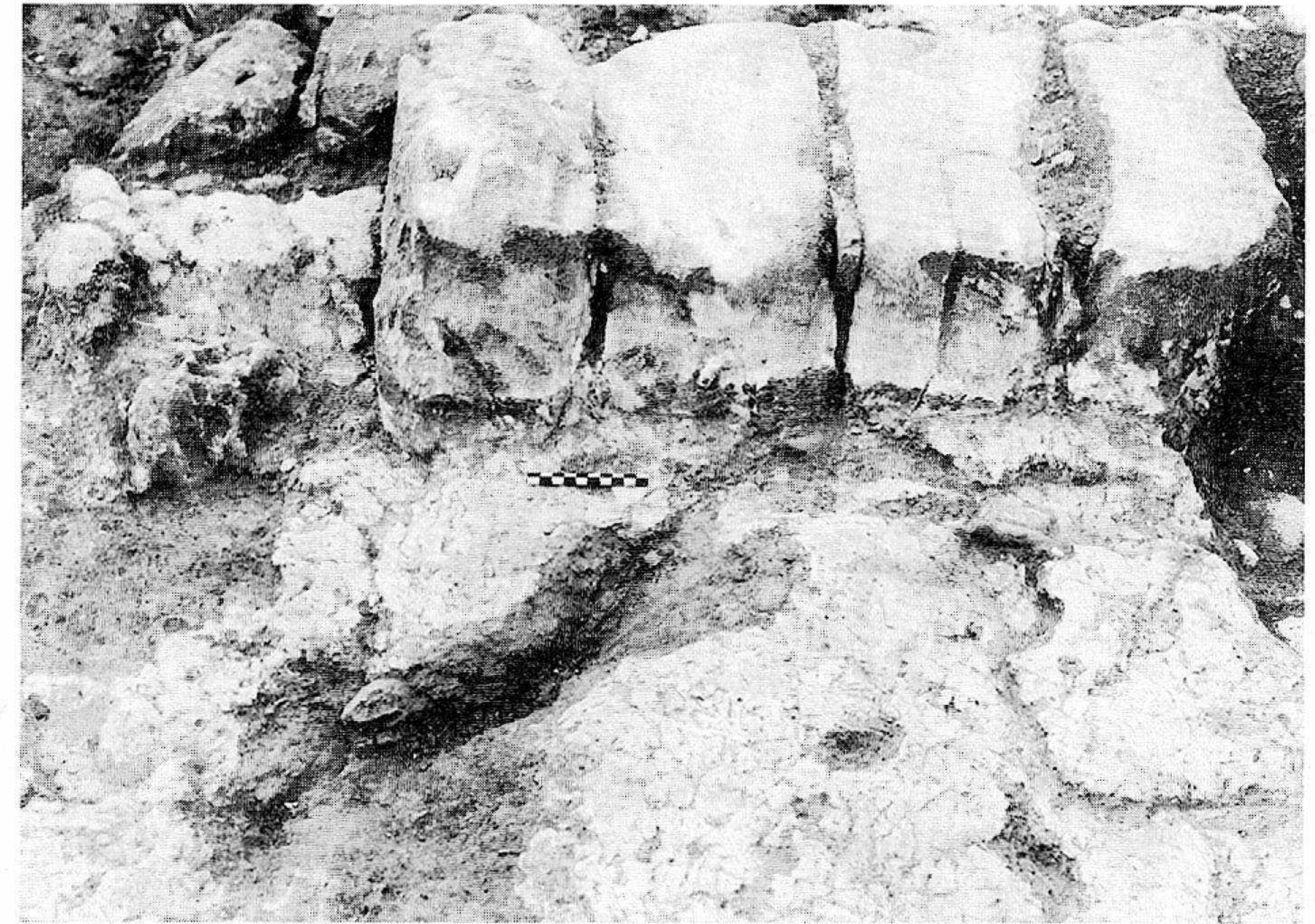


FIG. 16. Quattro Macine. Area III. Structure built against the north wall of the small church (cf. Fig. 14). In the foreground are traces of the phase II paving. (Photo by Paul Arthur)

yielded eighteen individuals. The tombs were built mostly of limestone side and cover slabs, one of which bears a quite simple incised cross and other graffiti (Fig. 19). Their base was the natural bedrock. Anthropological analysis points to a high rate of infant mortality, as fourteen of the eighteen individuals found by the small church were infants. One roughly cut oval burial pit contained the remains of five infants, whilst another burial has yielded a girl of about twelve years of age with two children and the skull of an adult. She was the only individual in this area found buried with metal items, comprising two base-silver earrings with globular pendants of Byzantine style, paralleled on wall paintings in the area.

The second cemetery has yielded so far eighteen adult tombs, three infant burials contained within reused curved roofing tiles, and a number of charnel-pits containing reinterred bones (area VII; Fig. 17). The adult burials excavated were all secondary (or later) depositions, as is indicated by various forms of respect shown to the original occupants, perhaps members of the same family. One contained a supine adult skeleton with a large iron buckle at its midriff, and its feet resting upon a femur, presumably of the previous occupant, whose other remains were relegated to a compartment separated-off by an upright stone slab placed towards the eastern end of the tomb. Another (tomb no. xxiv; Fig. 20), of a young girl complete with bronze belt fittings and earrings, had a mass of bones,

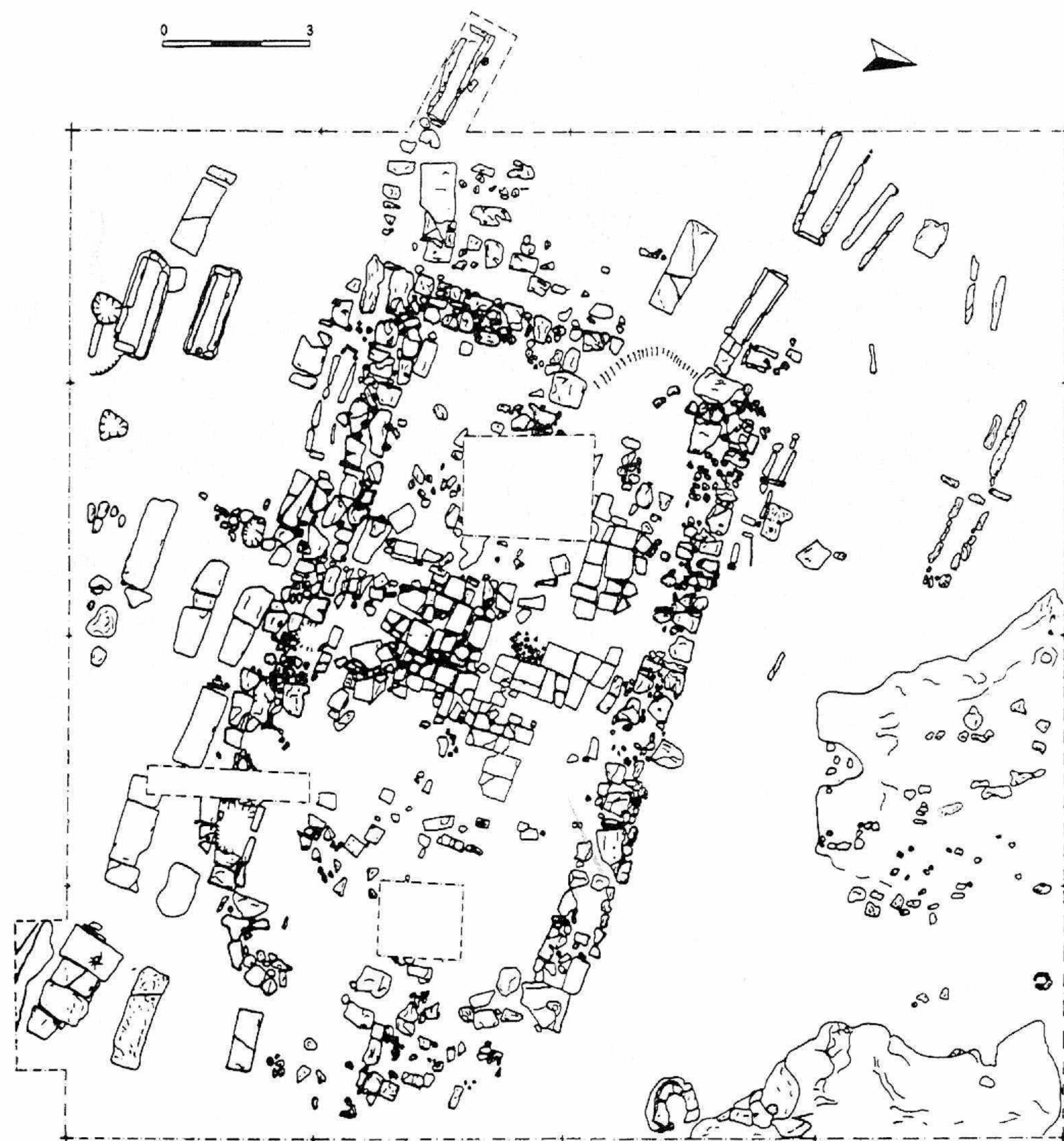


FIG. 17. Quattro Macine. The large church and central cemetery (Area VII). (Drawn by Oda Calvarusso, Francesco Leone and Gianluca Leoni)

perhaps of five individuals, stacked at her feet. This tomb, noteworthy for its carved headstone with a carefully incised six-petalled flower, was enlarged through the shifting of its northern side slabs, to make space for the accumulating mass of human remains. Yet another (tomb no. xxi), contained a whole skeleton over whose feet was placed a second skull, presumably again of the previous occupant. The surface find of an ostrakon with the inscription +KONETANTINO[Y]/+KOINOTAFIO[N] would seem to refer to the practice, frequently attested at Quattro Macine, of utilizing the same tomb for amassing



FIG. 18. Quattro Macine. Area VII. View of large church and surrounding cemetery. Displaced stones from the robbed-out apses lie in the foreground. (Photo by Paul Arthur)

various cadavers, almost certainly as a family sepulchre (below, Fig. 24, no. 9). However, many of the original deceased, or at least the greater part of their bodies, were re-interred in charnel-pits flanking the stone-built tombs. That this may sometimes have occurred not long after initial burial seems to be indicated both by the fact that some of the re-interred bones appear to be articulated, and that one pit yielded a buckle and bronze fittings in such order as to suggest that the leather belt had not yet decomposed. Clearly, continued analysis of the Quattro Macine burials will have a lot to tell us about medieval burial practices.

Nine tombstones have been discovered in the excavation (Fig. 21), whilst two others, in the Museo Sigismondo Castromediano (Lecce), appear to come from this site. One clearly bears the date of 1117. A further tombstone, found by locals, bears a cross on one side and a rosette on the other. Various covering slabs bear intricate graffiti. One has a cross, a ship, a chequer-board pattern and numerals (Fig. 17), another seems to illustrate hooded figures. Though items of dress are occasionally found, there are no grave-goods as such. Tombs in this area have yielded belt buckles and bronze appliqué decorations in the shape of flowers or butterflies (see below).

To the east of the large church, a rough wall has come to light (area II), with footings of irregular stones. Nearby, a bell-shaped silo has been excavated



FIG. 19. Quattro Macine. Area III. Tomb slab with graffiti, possibly of thirteenth-century date. (Photo by Paul Arthur)

(Fig. 22), similar to one found closer to the church. It had a large doughnut-shaped limestone head, originally capped by a flat circular stone, and contained a whole ceramic basin and two carcasses of suckling pigs. Preliminary dating of the pottery basin suggests that the silo may have been backfilled during the late fourteenth or fifteenth century, perhaps when the village was being abandoned. In this same area has been found the majority of the prehistoric remains, including a number of substantial post-holes, filled with *terra rossa*, which may belong to a bronze age building.

Further to the north, various features, still in course of excavation, have been found to either side of a gravel-surfaced road (areas I and VIII). To the south of the road has been found part of a large structure with stone footings, the greater part of which still remains to be uncovered, as well as a small square building. To its side was a neonatal burial in an amphora (tomb xxxvi), perhaps intentionally avoiding consecrated ground. The building appears to lie beside an open area to the west, with flagstones, post-holes and two similar circular pits. One was excavated and seen to contain exclusively fragments of curved roofing tiles similar to those that roofed the church. It was shallow and presented traces of ash and burning towards one edge, suggesting that it may have been a backfilled clamp-kiln, perhaps for the tiles themselves. Indeed, it is possible that this area was partly dedicated to craft production, as fragments of metal slag have also been found nearby.

To the north of the road (area I), a pit cut into the *terra rossa* has yielded pottery, perhaps of eleventh-century date, hardly any of it bearing glaze, closely paralleled by finds from excavations at Otranto, as well as a reasonable faunal sample (see below). The pit was later covered by a dump containing late thirteenth-century material, including two silver deniers minted in Greece, at Athens and Clarentia, by the Principates of Achaia.



FIG. 20. Quattro Macine. Area VII. Tomb xxiv with ossuary at the feet of the occupant. (Photo by Paul Arthur)

A large hole cut by the farmer in 1991, also to the north of the road (area I), has yielded, in section, the remains of a large dry-stone wall and ditch system that may have formed part of a defensive enclosure, perhaps datable before the twelfth century on the absence of associated glazed wares (Fig. 23). It may also be significant that four iron crossbow bolts were found around this area. This possible medieval defence work lies near to the buildings of Masseria Quattro Macine. This, together with its apparent orientation, raises the possibility that part of the village was effectively enclosed or defended and that this part represented an administrative centre. To test the hypothesis, excavations in 1993 were carried out closer to the recent farm building, along the apparent ditch alignment (area V). Though the same ditch system seems not to have been



FIG. 21. Quattro Macine. Two of the tombstones in area VII. (Photo by Paul Arthur)

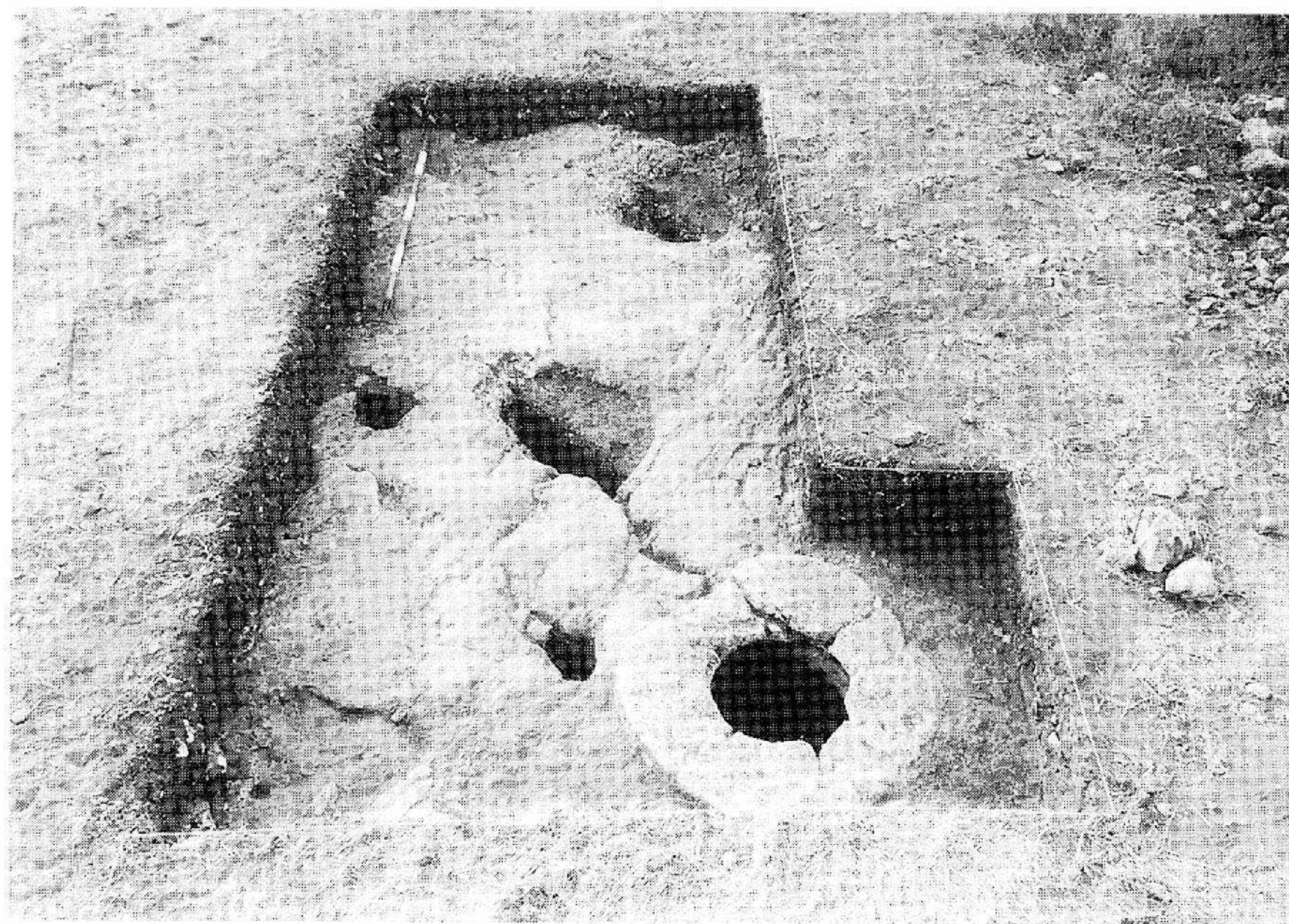


FIG. 22. Quattro Macine. Area II. Fourteenth- or fifteenth-century silo and prehistoric post-holes. (Photo by Paul Arthur)



FIG. 23. Quattro Macine. Area I. Walls and ditch of a possible defensive system visible in the north section of the hole cut by the farmer. (Photo by Paul Arthur)

recovered, the 10.0 x 10.0 m area revealed another possible ditch, of considerable width, of which only one edge was brought to light in one of two slit trenches across it. They both revealed a flat base paved with a spread of bauxite nodules. The interpretation of this feature is still uncertain, though its fill has yielded a Byzantine bronze coin of Constantine and Zoe (913–17) alongside pottery that might date to the tenth century.

After the feature had been backfilled, some structures were erected about its southern edge. Part of a wall in large irregular limestone blocks, possibly quarried from an adjacent outcrop, seems not to have been structural in that it yielded two graffiti (one in the form of a star) on its upper surface. Nearby were the traces of a gravelly surface bounded on its two exposed sides by wall footings, possibly representing a rectangular hut.

Three small test-pits were opened in the land sloping southwestwards from this area (Fig. 13, A–C), confirming the extension of the settlement. In test-pit B a further silo was revealed. From the pottery contained in its fill, it seems to date to the tenth and/or eleventh centuries. The other two yielded, respectively, further post-holes filled with *terra rossa*, possibly of prehistoric date, and two eleventh-century Byzantine bronze coins lying on the limestone bedrock.

This brief report presents an overview of the finds from the excavations at Masseria Quattro Macine, which will be dealt with in greater detail in the final reports, leaving the material from Le Centoposte excavations and the field survey to future studies.

POTTERY

The majority of the medieval pottery found on the site is clearly of regional manufacture. Amongst the earliest clearly recognizable wares are the jugs with vertical excised decoration (Fig. 24, nos. 1–2) and '*paioli*', both occurring in contexts pre-dating the diffusion of glazed wares on the site, and thus probably no later than the end of the eleventh century, if not earlier. The small arched-handled ceramic cauldrons or *paioli* are local and not, as has been suggested, imports from the Po valley (Milanese, 1993; cf. Patterson and Whitehouse, 1992: 96–8). They appear at Otranto in phase IV contexts (ninth to late eleventh centuries), and at Quattro Macine in contexts pre-dating the appearance of local glazed pottery (Patterson and Whitehouse, 1992: 96–8, fig. 6.2). Most of the examples from Quattro Macine are in Otranto fabric 3, though a few appear in the heavily gritted fabric 4. These wares are associated with cooking jars with incised wavy decoration (Fig. 24, no. 3) and narrow-line painted wares (Fig. 24, nos. 4–5), which differ substantially from those of the later thirteenth century (Fig. 24, no. 6).

The most frequently attested imports, though of regional provenance, are amphorae in Apulian fabric, found in abundant fragments in contexts from tenth- to thirteenth-century date, that may indicate local consumption of wine. The types are also well-represented at Otranto, and at the nearby deserted medieval village of Anfiano, whilst a near complete example was found off the coast at San Cataldo.¹⁶

Little recognizable pottery imported from outside the region was found. The only definite imports at present consist of fragments of four Byzantine glazed bowls or dishes with graffito decoration, perhaps from Corinth or the Peloponnese, and one with white slip-painted underglaze decoration in the form of circles against a reddish brown fabric. The shoulder of a green lead glazed filter-jug, with moulded decoration in the form of a fleur-de-lys, might come from Sicily. The commonest glazed wares are protomaiolica bowls, all apparently in regional fabrics, from Brindisi, Ugento and perhaps Taranto.

¹⁶ For these types, see Arthur (1992: 206–7, types 1 and 2). The example from San Cataldo has been shown to me by Gianni Carluccio.

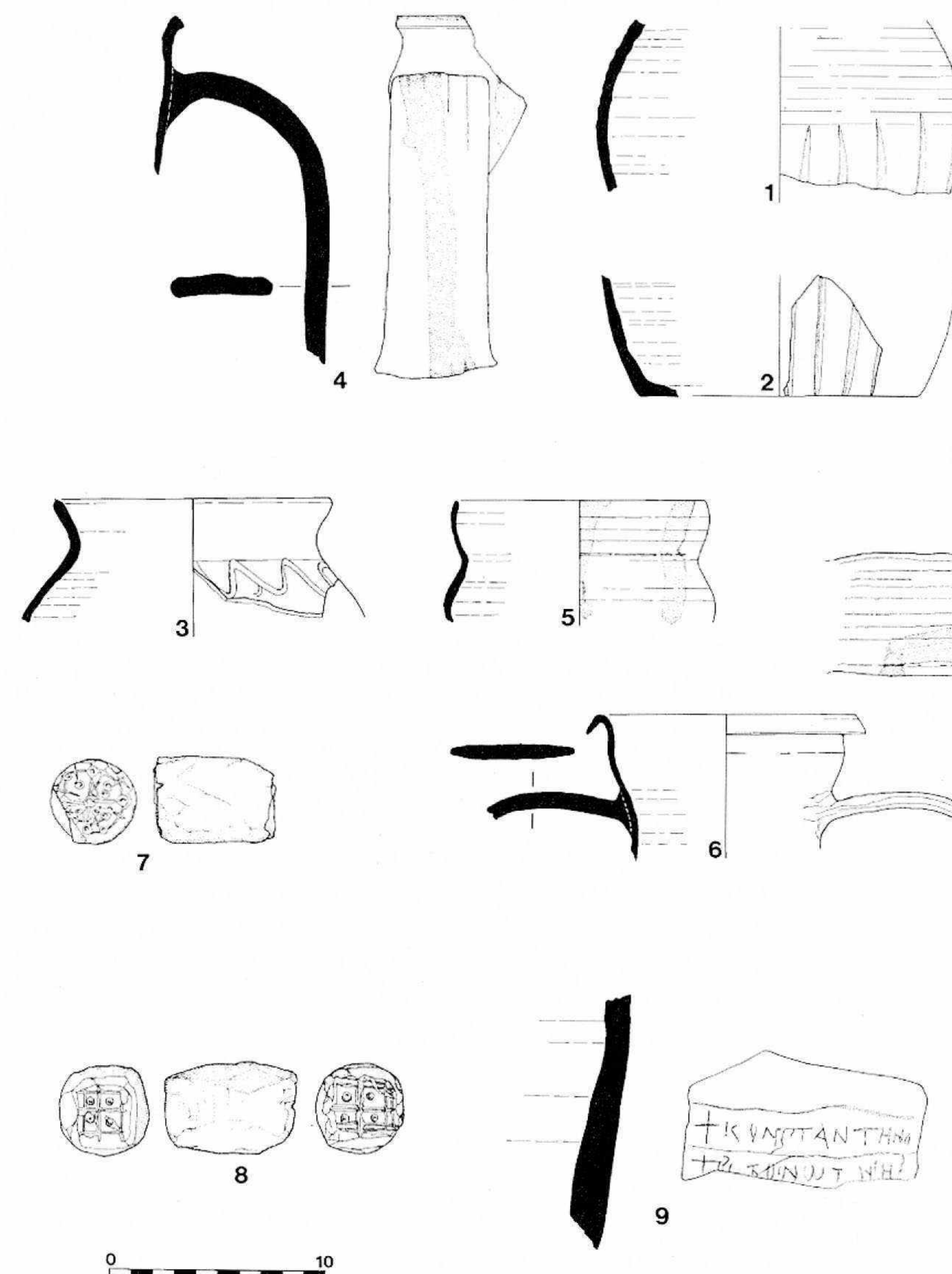


FIG. 24. Quattro Macine. Medieval pottery from the site: nos. 1–2, excised ware; no. 3, tenth- to eleventh-century cooking vessel; nos. 4–5, tenth- to eleventh-century painted bowl and jug; no. 6, late thirteenth-century painted jug; nos. 7–8, eucharistic bread stamps; no. 9, ostrakon reading +KONΣTANTINO[Y]/+KOINOTAFIO[N].

(Drawn by Sally Cann)

Three curious ceramic cylindrical objects have been recovered as surface finds. They all bear incised decoration in the form of crosses, squares and dots, at one or both ends (Fig. 24, nos. 7–8) and would appear to be eucharistic bread stamps (cf. Galvaris, 1970).



FIG. 25. Quattro Macine. Thirteenth- to fourteenth-century bronze buckle with filigree decoration. (Photo by M. Vantaggiato, Dipartimento di Beni Culturali, Lecce)

METAL OBJECTS

Apart from the numerous coins (40), usually Byzantine bronze, followed by *deniers tournois* from Frankish Greece (see below), the site has yielded various metal items, mainly of iron or bronze, often unidentifiable scraps. Aside from various small iron nails, these include small bronze socketed and hooked objects that may be interpreted as spindle hooks which were attached to distaffs, on the basis of analogies used in Apulia until recently. Similar objects have been identified on seventh-century Chios (Ballance *et al.*, 1989: 131, 132, fig. 53, nos. F62-F63) and elsewhere (for example, at Otranto (Hicks and Hicks, 1992: 295-6, fig. 10.7, no. 64)). At Quattro Macine both pottery and limestone spindle-whorls have been recovered, also testifying to local cloth manufacture.

The graves, though never possessing grave-goods as such, have yielded a number of items of personal adornment. These consist of earrings and belt fittings, including buckles, sometimes gilt or with filigree decoration (Fig. 25), and decorative attachments, often in the form of elongated or butterfly-like motifs, as well as rosettes, dating between the thirteenth and fourteenth centuries. These last, interestingly enough, have parallels in France and Britain.¹⁷

¹⁷ Examples of the elongated and butterfly-like attachments come from Manduria and other sites in the Salento (D'Angela, 1978: 168-9, lxxiii), whilst I have seen similar attachments from medieval London, on display in the Waterfront Finds Museum. The Battle Abbey rosettes have been published by Geddes (1985: fig. 51, nos. 54-5).



FIG. 26. (A-B) Quattro Macine. Pewter spoon.

The need for defence is witnessed by four iron crossbow bolts, all from the northern part of the site, whilst hunting may be indicated by the find of an iron spearhead.

Of the ecclesiastical instruments from the small church, a decorated pewter spoon is of particular note (Fig. 26, A-B). On the inner face of the bowl are two fishes lying head to tail, joined by a fishing line. The outer face is decorated with a tree of life that divides a griffon and a feline. The representation of the tree of life brings to mind the inhabited example that bisects the decoration of the mosaic floor of Otranto cathedral, dating to 1165.¹⁸ The floor also bears representations of various creatures, including a griffon (Willemsen, 1980: pl. XL.I).

The presence of slag suggests that a certain amount of metalworking took place at the village, perhaps of iron.

STONE OBJECTS

The basic peasant culture of Quattro Macine produced a variety of objects worked in the hard local limestone that was also used for the walls and slab-constructed coffins found at the site. Basins of various types and sizes are common, as well as mortars and a number of as yet unidentified objects.

¹⁸ On the origins of such symbolism, about which much has been written, see, for example, Daniélou (1961).

Rotary querns, mainly in a coarse fossiliferous limestone, included some fragments in imported volcanic lava, which may indicate medieval trade in such material.

A total of eleven tombstones in limestone is known from the site. Some are very crude, consisting of little more than a roughly squared slab of local limestone with a simple incised cross. Some are, instead, quite elaborate and professionally worked, including a round stone with Maltese crosses on both sides, one with a Greek inscription between the arms, and the one on the reverse rendered through concentric grooves. Another example bears a six-petalled flower with the grooves picked out in red paint. These more elaborate headstones made use of a softer yellowish limestone, which is more similar to the so-called '*pietra leccese*' than the locally available limestones.

THE WALL PAINTINGS OF THE SMALL CHURCH (BB)

Numerous fragments of painted wall-plaster have come to light during the excavations of the small church of Quattro Macine (area III). The precise point of discovery of each fragment has been mapped in an attempt to reconstruct the dynamics of collapse and, thus, to suggest their original position within the decorative scheme of the building. The study of the fragments has also included stylistic analysis of the painting, classification of the plaster itself and its structural relationship to the walls of the building and examination of painting techniques. Both from this and from the stratigraphic positions of the plaster, it has been possible to isolate two distinct chronological groups.

FIRST PHASE

The wall-plaster of the first phase was intentionally removed from the walls of the church during its rebuilding. Much of it was found beneath the second phase floor, although some came from later contexts.

Amongst the fragments, large pieces predominate and yield evidence as to how the plaster was often applied directly to the surface of the walls. In some fragments the plaster is distinguishable from an underlying mortar, intended to smooth the spaces between stones in the walls, whose fabric is rough with macroscopic inclusions. To the backing of some of the fragments adhere pieces of roofing tile, stones and a mix of '*bolo*' or *terra rossa*, indicating the original composition of the walls. The surface of the plaster is usually smoothed.

Through comparison with painted decoration of other churches in southern Italy, and particularly in the Salento region, it has been possible to identify the motifs of a number of painted fragments. Red, one of the predominant colours, was used particularly for the decoration of mantles worn by saints. Indeed, a piece with white circles surrounded by white dots on a red background is surely part of a mantle (Fig. 27,1). The closest parallel is the similar puntiform decoration on a red background of the mantle of Santa Cristina in the cave-church bearing her name at Carpignano (Medea, 1939).

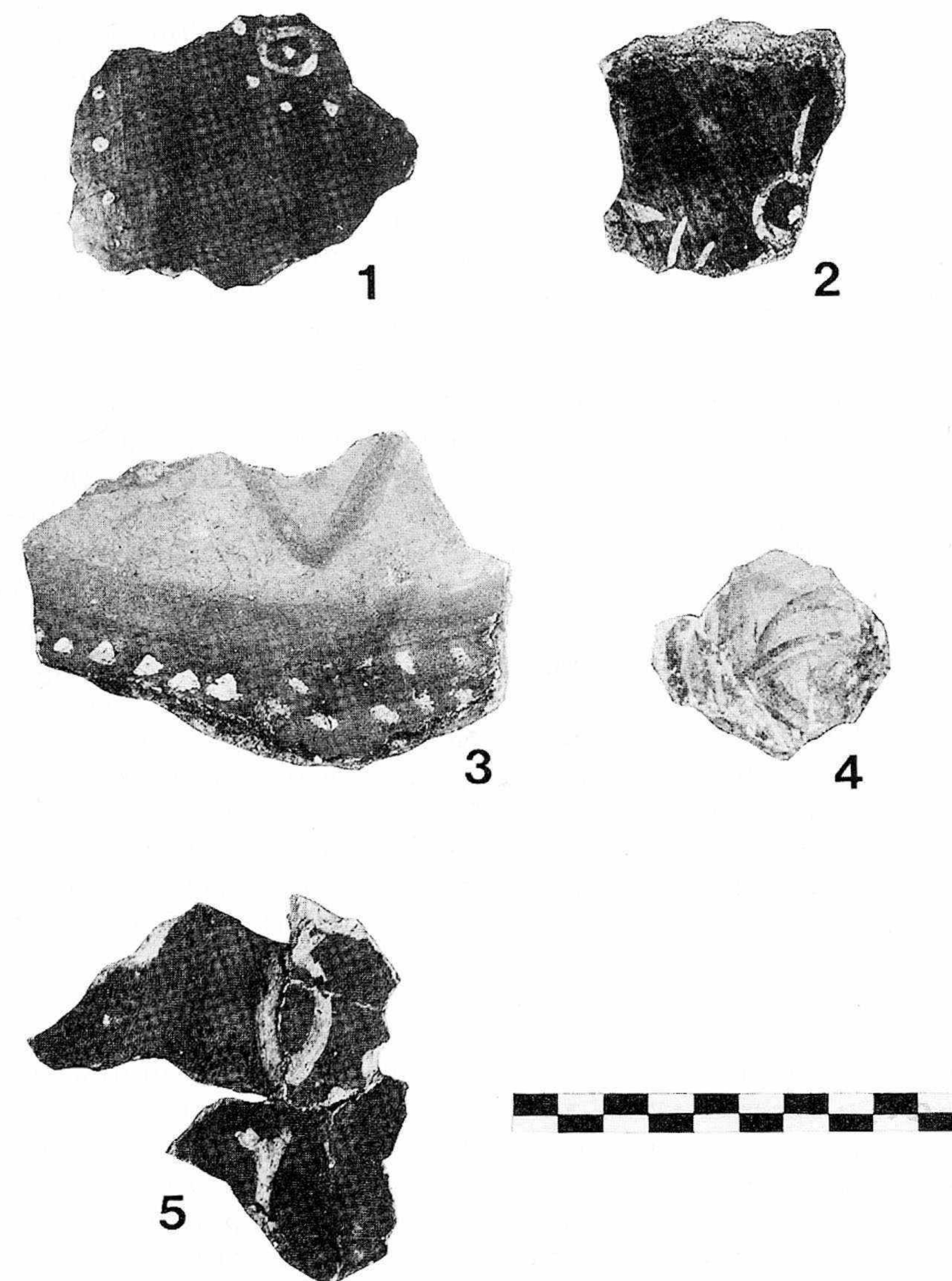


FIG. 27. Quattro Macine. First phase painted wall-plaster.

Another feature that confirms that saints were represented in the small church of Quattro Macine is a fragment of a yellow nimbus with white 'pearls' against a dark background. This piece shows that the head of the figure was painted against a dark panel, generally used as a backcloth for the painted inscriptions that identify the saint. The mantles that clothed the saints were also rendered in dark colours, as may be deduced from a fragment where a white dot within a small circle appears against a dark grey background (Fig. 27,2). The figures

usually wear their mantles above tunics. Indeed, a yellow painted fragment bearing a red triangle is to be identified with the rounded neckline of a tunic (Fig. 27,3). The piece is further decorated with two rows of white 'pearls' against a dark background.

A white fragment with bold black and red stripes, indicating the folds and shadows of a saint's tunic, shows how black and white were used for highlighting and shade. Tunics and other vestments were, at times, decorated along their hems, as in the case of a piece of yellow painted plaster with a ribbon and black designs. The ribbon is decorated on its upper part with a row of white 'pearls'.

Both saints and the figure of Christ often hold an evangelical book decorated with 'pearls'. We believe that such a volume is to be identified in a white fragment with a red band ornamented with a double row of 'pearls'.

One of the few immediately legible pieces depicts an eye, with a fixed stare, where both the pupil and the eyelid are rendered in red against a yellow background (Fig. 27,4). Another line, thicker and arched, represents a raised eyebrow. This eye may be paralleled with the eyes of the figures of the Virgin with Child and Saint Nicholas painted within the arcosolium of the tomb in the crypt of Sante Marina e Cristina, Carpignano Salentino. These figures are defined by Medea as of 'crude design' and dated by her to the eleventh century (Medea, 1939: 113). They are referred to in an associated painted inscription which has been dated independently, on palaeographic grounds, to between 1055 and 1075 (Jacob, 1984: 113).

The small church at Quattro Macine has also yielded traces of letters, both O and Y, ligatured and painted in white against a dark background, as well as the vertical stem of a further unidentified letter (Fig. 27,5). A preliminary palaeographic analysis likens them to the Greek inscription accompanying the figure of Santa Cristina, also in the church at Carpignano (see Falla Castelfranchi, 1991: 66, fig. 44).

The decorative motifs identified indicate that the iconography of the church consisted of a series of saints, an element that links standing churches to the numerous cave-churches of southern Italy. Whilst we have been able to identify the general decorative scheme of the small church, it has, so far, proved impossible to identify individual saints. Clearly, of particular interest is the identification of the decoration in the apse where, according to the iconographic schemes of standing churches dating after the end of iconoclasm, Christ and the Virgin were commonly portrayed (Falla Castelfranchi, 1985: 391; 1990: 132). However, in our case it has not yet been possible to assign plaster fragments securely to the apse because of a certain amount of post-depositional mixing.

The parallels that can be advanced for the frescos of this phase, based essentially on stylistic criteria, are with the paintings of cave-churches in the surrounding territory. As is already clear, the closest parallels, both for colours and for decorative motifs, would seem to be the paintings of the cave-church of Carpignano Salentino, a small centre in the hinterland of Otranto, lying only some 11 km from Quattro Macine. The paintings of Carpignano are amongst the most important known, in so far as two images within the crypt may be dated precisely, on the basis of epigraphic evidence. The Annunciation, to the side of



FIG. 28. Quattro Macine. Second phase painted wall-plaster.

the apse in which Christ with the inscription of Theophylact is painted, can be dated to 959, whilst, in the apse to the left, Christ, painted by a certain Eustathius, is dated to 1020 (Wharton, 1988: 135-7; Falla Castelfranchi, 1990: 130-2).

SECOND PHASE

The painted wall-plaster of the second phase, due to damage caused by natural collapse and abandonment of the small church, followed by the later collapse of the roof upon the plaster, is more fragmentary than that of the first phase, creating greater difficulty in recombination and identification of motifs. From the few large pieces recovered it seems possible to say that the overall decoration was not dissimilar to the first phase. Two fragments bear similar white letters on a grey background. One has the (lower?) part of an X, whilst the other shows an A (Fig. 28,1-2).

Of some importance for defining the differences between first and second phase painting is another eye (Fig. 28,3). This well-executed example is slightly elongated or almond-shaped, with a fixed and intense look. The large black pupil is emphasized by a white outline, whilst the borders of the eye and the eyebrow are rendered by regular dark lines. The background is light.

Various small fragments reproduce decorative elements, used to enrich clothes, especially hems and necklines, such as the piece with a reticulate design

enlivened with 'pearls'. Green lines on a dark background and brown spirals on yellow belong to vegetal motifs, whilst a simple white star of six rays on a dark background (Fig. 28,4) is presumably from a representation of the sky.

On a bright red background, two letters appear along a horizontal register: part of an ω , followed by a letter of difficult reading, possibly an M (Fig. 28,5). Thus, even in the second phase, the inscription is of Greek tradition.

A preliminary comparison between the painted plaster of the two phases indicates that a much wider range of colours was employed in the latter period. Alongside colours such as red, grey and yellow, all found in the first phase, there are a number of light colours of delicate tone. The red, recalling the inscribed fragments, is bright and lively, different to that of the first phase which may be defined as dull. Emerald green appears in the second phase to articulate some of the decorative motifs. Some fragments even bear different light-coloured hues so as to create plays with light. All this suggests that there was a good deal of professionalism on the part of the craftsmen who worked on the painted decoration of the small church's second phase. All the fragments bear more than one preparative layer and the colours are applied with a steady hand. The white 'pearls' were applied accurately, when the underpaint was dry, without the smudging which can be seen on first phase examples. Furthermore, the plaster is finer from the granulometric point of view and has few inclusions. A link between the first and second phase painting is the size of the figures which, considering the sizes of the eyes, were less than life-size, possibly as a consequence of the small dimensions of the church.

Preliminary parallels with the second phase wall-plaster may be found in the decoration of the cave-church of Santa Maria degli Angeli at Poggiardo. The frescos that decorated the cave-church, now housed in the local museum, follow a simple decorative scheme and have been dated by Falla Castelfranchi to the beginning of the thirteenth century. This accords well with the discovery of a protomaionica bowl beneath the second phase floor of the small church.

CONCLUSIONS

The painted wall-plaster of both phases from the small church of Quattro Macine is of great interest for a number of reasons. The fragments, despite their reduced size, still preserve a vivacity and luminosity which the wall paintings *in situ* in the churches of the Salento and, indeed, of southern Italy, have lost on account of atmospheric and anthropogenic deterioration. Indeed, the excavations provide the opportunity to analyse and 'read' the material from various points of view, from the techniques of preparation of the plaster to the finished product. Not least, through the excavations, there is now a chance to examine a church and its iconography within the dynamic and changing context of a medieval village settlement.¹⁹

¹⁹ Paul Arthur and Marina Falla Castelfranchi have kindly advised on the small church and its decoration. I should also like to thank Paola Cillo and Luisa Agrifani for all their help in restoring the wall-plaster, as well as Lecce University's conservator, Antonio Piccinno, and technician, Gianluigi Mancino.

THE HUMAN REMAINS (SK)

The excavations at the medieval village of Quattro Macine have revealed two cemeteries, annexed to the two churches (area III and area VII), in which 63 tombs and charnel-pits have been recognized and 28 have been excavated up to 1995. The number of tombs does not reflect the number of individuals buried at the site, which, by the end of the 1995 season of excavations, totals 75. Several individuals were found within each tomb; often the remains of one or more individuals were disarticulated and placed at the foot of the tomb (Fig. 20), presumably to make room for the next occupant. Several dumps of disarticulated bone were also found beside and in between the tombs. By the end of the 1994 season of excavations, the skeletal remains from five tombs surrounding the small church, one tile burial, and one burial from the cemetery had been analysed.²⁰ This report is an overview of the anthropological findings from these tombs. Information gained from a cursory visual assessment of all the skeletal remains excavated up to 1994 will also be discussed briefly.

PRESERVATION

The state of preservation of the skeletal remains recovered varied from poor (eroded bone surfaces and/or fragile) to good, although the majority of bone was in a good, but fragmented, condition. All tombs excavated contained disarticulated, fragmented remains. Only one individual was found articulated among the remains recovered from the five tombs associated with the small church (SK 1). The state of preservation of the bones suggests that there were several burials within a tomb, the earlier ones progressively deteriorating with subsequent burials. However, other taphonomic or cultural processes cannot be ruled out as possible explanations for the state of the bones. Green staining resulting from corrosion of copper alloy products was also present on several elements. (Artefacts recovered with some of the skeletal remains are discussed above.)

MINIMUM NUMBER OF INDIVIDUALS

The remains of at least eighteen individuals were recovered from the small church tombs (tomb i, MNI = two; tomb iv, MNI = four; tomb vii, MNI = three; tomb x, MNI = five; tomb xi, MNI = four). All excavated tombs in the central cemetery (area VII) and both tile burials contained articulated and complete remains of at least one individual (MNI = seven). A very broad assessment of the disarticulated remains found within and beside these tombs suggested that at least twelve more individuals were represented, whilst an infant burial in an amphora was found in area VIII (total = 38).

²⁰ Later analyses, in July 1995, have been conducted by Trevor Anderson.

AGE ESTIMATIONS

Estimating the age at death of a skeleton requires the observation of several different parts of the skeleton which undergo changes as an individual matures physically. The accuracy of the age estimations depends on the completeness of the skeleton and number of observations that can be made. In sub-adults (individuals <18 years of age) these include observation of dental formation and eruption (Moorrees, Fanning and Hunt, 1963; Ubelaker, 1989), maximum diaphyseal length of long bones (Sundick, 1978; Ubelaker, 1989), and fusion of the epiphyses (Brothwell, 1981; Ubelaker, 1989). In adults (>18 years) skeletons are examined for degree of dental attrition (Brothwell, 1981), cranial suture closure (Meindl and Lovejoy, 1985), degenerative changes to the sternal ends of ribs (Iskan, Loth and Wright, 1984; 1985), pubic symphysis metamorphosis (Todd, 1920; McKern and Stewart, 1957; Gilbert and McKern, 1973; Suchey, Brooks and Katz, 1988), and morphological changes to the ilium auricular surface (Lovejoy *et al.*, 1985).

Even when all the above techniques can be applied, adult age estimates can only be predicted within broad age categories, standardized by Bradford University: young adult — 18–25 years; middle adult — 26–45 years; mature adult — 46+ years.²¹

Analysis of the three complete and seventeen incomplete skeletons from Quattro Macine permits the age estimations shown in Table 1.

A brief visual assessment of the other four individuals from the central cemetery tombs suggested that three adults and one sub-adult were represented. The second tile burial and the amphora burial also contained infants estimated to be less than one year of age.

TABLE 1.
Age estimations for three complete and seventeen incomplete human skeletons.

Age category (in years)	Small church tombs	Area VII tomb (SK 31)	Tile burial – area VII (SK 26)	TOTAL
0-1	6	-	1*	6 + 1*
2-5	5	-	-	5
6-9	1 + 1*	-	-	1 + 1*
10-12	1	-	-	1
13-17	-	-	-	0
18-25	-	-	-	0
26-45	4 (3 are 30+)	1*	-	4 + 1*
46 +	-	-	-	0
TOTAL	17 + 1*	1*	1*	17 + 3*

²¹ Sub-adult age ranges may be narrower because the skeleton changes more rapidly during growth. When none of the above ageing methods can be applied, it is sometimes possible to assign an age of sub-adult or adult based on the size of the bones and the degree of epiphyseal fusion.

SEX ESTIMATIONS

Sex determinations also require the observation of as many indicators of sexual dimorphism on the skeleton as possible. The skull and pelvis demonstrate the greatest sexual-dimorphism and are the most reliable indicators of sex. However, measurements and observations of other bones such as the clavicle, scapula, sternum, humerus, radius, femur and sacrum are also useful (Phenice, 1967; Brothwell, 1981; Bass, 1987; Steele and Bramblett, 1988; Ubelaker, 1989; Sutherland and Suchey, 1991; White, 1991). As is the case with age determinations, sex estimations are most accurate on complete skeletons. Sub-adults were not sexed due to methodological problems (see Saunders, 1992).

In the small church tomb xi, two of the adult individuals were estimated to be males and one was female (the sex of the adult skeleton from tomb iv could not be determined). Skeleton 31 from the cemetery in area VII was estimated to be a female. Brief observations of the three other skeletons from area VII tombs revealed female characteristics.

STATURE

Estimations of height were made following calculations by Trotter (1970). However, due to the fragmented state of most of the individuals analysed, only two estimations could be made. One of the male adults from the small church tomb xi was determined to have been approximately 1.672 ± 0.0432 m tall, and an adult female (SK 31) was approximately 1.515 ± 0.0355 m tall.

METRIC TRAITS

Cranial and postcranial metrics were taken where possible, following descriptions from Bass (1987) and Brothwell (1981). These metrics are used to compare osteological variation within and between samples. Due to the incomplete nature of the skeletons, no conclusions could be made. The cranial measurements taken on SK 31 (an adult female buried in an area VII tomb), suggested that she was broad- or round-headed.

NON-METRIC TRAITS

Non-metric cranial traits were recorded following descriptions from Berry and Berry (1967), and postcranial traits were recorded following Finnegan (1978). Although non-metric traits were recorded, it is not possible to make any conclusions based on such a small number of individuals consisting of mostly fragmented remains.

An anomaly observed on one of the older infants was two joined ribs.

PATHOLOGICAL CONDITIONS

Pathological lesions were diagnosed using Hillson (1981) and Ortner and Putschar (1985). Patterns of pathological conditions observed on skeletal remains may provide clues regarding the health and diet of a group of

individuals; they may also indicate what medical conditions a single individual suffered from during life. Although a detailed analysis could not be made, some pathological conditions were consistently present on the skeletons from Quattro Macine.

Dental disease

Calculus (mineralized plaque) was present on all dentition observed, including infants in the 2 to 5 year category. Slight wear was present on the infant teeth and severe attrition was present on all adult teeth. These observations may suggest a coarse starchy diet and perhaps poor oral hygiene. At least three individuals (SK 31, one individual from tomb x, and one from tomb iv (SK 15)) exhibited evidence of dental enamel hypoplasia. Horizontal grooves on the enamel surface occur in childhood and may be the result of increased stress such as disease and/or undernutrition (Goodman, 1991). It is interesting to note that no carious lesions were observed on the teeth. However, the adults had lost most of their teeth before death. This may have been the result of periodontal disease, an inflammation of the gums due to the presence of dental plaque. This condition is associated with alveolar bone loss and, ultimately, may lead to loosening of the teeth and ante-mortem tooth loss (Hillson, 1986).

Infection

Bony responses to infection (reactive new bone formation) were observed on the right tibia of SK 1 from the small church tomb xi (an infant of approximately 6 ± 2 years) and on the right calcaneus of SK 31 (an adult female). It is not possible to determine what may have caused these infections: they may have been a result of traumatic injury. Smooth, but irregular plaques of new bone formation were also noted on the dorsal surfaces of all proximal phalanges of the hands of SK 31; however, I could not determine whether these lesions were a result of infection.

Joint disease and spinal joint disease

At least one of the adult individuals from tomb xi appears to have had joint disease in the hands, feet, ribs and vertebrae. Skeleton 31 also suffered from joint disease in almost every major joint in the body. Joint changes are caused by a number of interrelated factors, including age, genetics and biomechanics of the joint.

Other

Two individuals (SK 19 and an adult female from tomb xi) had porosities in the eye orbits. The porosities were active in the juvenile and healed in the adult. This condition may be associated with a number of different pathological processes, including iron deficiency anaemia.

DISCUSSION

Only a small sample of mostly fragmented remains has been analysed so far, though preliminary observations raise many intriguing questions about the health and economic and social status of the individuals from the village. An examination of the tombs suggests that there may have been a high rate of infant mortality at the settlement. Three of the five tombs found around the small church contained only infant remains. This may reflect patterns of high infant mortality or different burial customs for infants and adults, or perhaps both. Certainly, the three tile burials containing infant remains found in the second cemetery (area VII) suggest differential burial practices for some of the infants, as does the amphora burial discovered in what is seemingly unconsecrated ground (area VIII).

All of the tombs contained the remains of more than one individual. Perhaps these represent family burials. Of the 82 tombs excavated at the cemetery of the village of Casalrotto, Basilicata, dated between the end of the eleventh and the early fourteenth centuries, 34 (41.5 per cent) contained remains of more than one individual (Scattarella and De Lucia, 1989: 181). It also appears that many of the burials in each tomb at Quattro Macine were infants and women. Were the men absent from the village when the last burials took place and, if so, what historical implications might this have?

Several disarticulated dumps of bone were found beside the tombs, especially in the second cemetery (area VII). It will be interesting to see if this burial practice changes or continues through time. It may represent saturation of space within the cemetery, and it will be interesting to see if the practice is common to other contemporary cemeteries.

Analyses of pathological lesions may also contribute to an understanding of the economic and social role of the people from the village. Dental conditions present on the skeletal remains suggest that the individuals may have eaten starchy coarse foods. Three of the individuals analysed had pathological lesions indicative of some type of stress: dental enamel hypoplasia or *cribra orbitalia*. Does this reflect a dietary or other type of stress and was the diet of these individuals relatively poor or restricted?

The presence of joint disease may be the result of old age, but extensive osteoarthritis in one adult female may also suggest biomechanical stress. Here it will be important to establish the working role of the individuals in the community and whether or not they were living under considerable biological, cultural and environmental stress.

Conclusions regarding health, disease, diet, demographic profiles and burial practices cannot, of course, be made based on the small number of skeletal remains analysed, though these preliminary observations have provided some interesting glimpses into the life (and death) of the community of the village of Quattro Macine, which will be broadened through further excavation and analysis.

THE FAUNAL REMAINS (UA)

Excavations carried out at the site of Quattro Macine between 1991 and 1993 have produced a small faunal sample which is the subject of this report. The bones were collected by hand, but despite the absence of sieving, the recovery was quite good, as is indicated by the presence of numerous small fragments. The general preservation of the bones was reasonably good, although many have gnawing marks which suggest the presence of scavengers (mainly dogs) in the village. Most bones were found in secondary deposits. Two exceptions are the collections of bones found in silo 231 (tenth-eleventh centuries) and in the bell-shaped silo excavated in 1992 (fourteenth or fifteenth century).

Many bones had been butchered, as the common presence of cut and chopping marks demonstrates. It is therefore extremely probable that most of the bones of the large vertebrates represent butchery and food remains.

The bone assemblage is dominated by the most common domestic animals. There is no evidence for the presence of any wild large mammal, although a large pig canine (tenth-eleventh centuries) could belong to a wild boar. Several remains of chickens and tortoise have also been found, whereas the remains of sea animals are rare. Only one fish vertebra was found: however, due to the absence of sieving, others may have been overlooked. Other sea animals are represented by two specimens, both found in a thirteenth-century context at the small church: a spine of a sea urchin and a *Conus* shell, perforated at its apical end, which might have been used as a pendant. A similar specimen was found at Otranto (Reese, 1992: 349).

Caprines, both sheep and goat, represent the most common taxon (Table 2), although cattle and pig probably produced a larger amount of meat. Domestic fowl and the occasional small wild vertebrate (tortoise, hedgehog?) could represent an addition to the diet.

There is no direct evidence that horse meat was consumed, but the rather high percentage of equid bones and the presence of juvenile animals suggest that this might well have happened. It is quite probable that in rural sites, where there may have been a periodical scarcity of food, the prohibition of hippophagy by Pope Gregory II (AD 732) was ignored. Horse meat is considered a traditional dish today in the Salento. Horse and donkey were probably both present, since the enamel folds visible in the occlusal surface of a third molar seem to have a caballine shape, whereas some small and gracile phalanges seem more donkey-like.

The presence of almost all anatomical elements suggests that the animals were slaughtered and butchered on site. If joints were sold or purchased, this practice was insufficiently common to create a bias in the distribution of body parts. Many of the pig and caprine bones belong to juvenile animals (younger than two years old), which suggests that meat production was one of the main aims not only of the pig but also of the caprine husbandry. A larger sample is, however, necessary to throw light on the type of animal husbandry practised at Quattro Macine.

Very little information on the size of the animals is available at present, but a hypothesis which may be worth checking in the near future is that the large size of some of the cattle specimens may reflect the presence of an improved breed.

Hides were a by-product of the cattle husbandry, as is demonstrated by the presence of cut marks, typically due to skinning, on a cattle phalanx (twelfth-thirteenth centuries). Horn-working is attested by the presence of a sheep horncore (tenth-eleventh centuries) sawn at the base. A cat mandible with a cut

TABLE 2.
Frequency of taxa by number of individual specimens (NISP).

	tenth- eleventh centuries	twelfth- thirteenth centuries	fourteenth- fifteenth centuries
sheep/goat (<i>Ovis/Capra</i>)	47	18	3
(sheep - <i>Ovis aries</i>)	(7)	(1)	(-)
(goat - <i>Capra hircus</i>)	(3)	(-)	(-)
cattle (<i>Bos taurus</i>)	18	9	1
pig (<i>Sus scrofa</i>)	36	13	2 + 2 juvenile skeletons
equid (<i>Equidae</i>)	11	2	-
dog (<i>Canis familiaris</i>)	3	1	-
dog/fox (<i>Canis familiaris/Vulpes vulpes</i>)	1	-	-
cat (<i>Felis catus</i>)	1	-	-
hedgehog (<i>Erinaceus europeus</i>)	1	-	-
water vole/rat (<i>Arvicola terrestris/Rattus</i> sp.)	1	-	-
Savi's pine vole (<i>Pytmis savii</i>)	-	-	2
domestic fowl (<i>Gallus gallus</i>)	9	2	-
?goose (? <i>Anser</i> sp.)	1	-	-
tortoise (<i>Testudo</i> sp.)	2	4	-
frog/toad (<i>Anura</i>)	-	-	11
fish	1	-	-
large (cattle/horse size) vertebra	6	-	-
medium (caprine/pig size) vertebra	9	4	-
large (cattle/horse size) rib	10	1	-
medium (caprine/pig size) rib	10	2	-
TOTAL	167	56	19 + 2 juvenile skeletons

mark indicates an interest in cat skins, though it derives from a modern layer and could not be dated precisely.

A special assemblage is represented by the contents of a fourteenth- or fifteenth-century silo. Two almost complete skeletons of piglets were found in this context. One specimen should be 1.5–2 months old and the other 2–3 months old. Although the elements were mixed up, they could, in most cases, be attributed to either individual on the basis of different size and colour. Since almost all parts of the skeleton are present and no cut or other butchery marks were found, we can assume that the animals were found in a primary deposit and do not represent food remains but animals which had died from natural causes and were subsequently buried in the silo. The excellent preservation of the bones suggests that burial was rapid, whereas the different colour of the two specimens probably does not indicate contact with different types of sediments but simply that the more porous bones of the younger specimen absorbed more minerals from the soil.

The other mammal bones found in this context (Table 2) were probably part of the soil used for filling the silo and might not therefore be contemporary with the piglets. The amphibian bones may represent the remains of animals which occasionally fell into the silo, which acted as a pit-trap. The presence of the young piglets suggests that pigs were reared on the site, rather than being simply purchased for consumption. Amphibian bones might be related to the presence of nearby water basins (artificial or natural).

A much larger faunal assemblage is needed to investigate the economy at Quattro Macine and to try to understand it in a more general context. Preliminary results from the 1991–3 excavations suggest that the Quattro Macine people basically relied on the exploitation of the main domestic animals. The almost total absence of wild and marine resources is probably an indication of a self-sufficient economic system, but only future research will allow a better understanding of the relationship between Quattro Macine and the recently published urban site of Otranto (Cartledge, Clark and Higgins, 1992).

SOME PRELIMINARY CONCLUSIONS

A pattern for settlement and land use in the Salento region of southern Apulia through late Roman and medieval times has been building up quite rapidly over the last few years due to the efforts of various research teams, though only the Quattro Macine Project is specifically devoted to these periods. In late Roman times, and particularly during the fifth and perhaps early sixth centuries, rural settlement seems to have been quite widespread, with the existence of numerous small sites and the construction of a series of churches. None of these have been excavated, apart from Le Centoportore and a church outside the old Messapian *oppidum* of Vaste (D'Andria, 1994), both of which continued to be used through early medieval times. Otherwise, after the sixth century, firm archaeological

evidence for rural occupation decreases dramatically.²² Though in part this is likely to reflect a certain measure of abandonment of rural settlement, I believe that we are again witnessing the age-old problem of dating early medieval ceramics, particularly those recovered in field survey. Urban settlement, on the other hand, is better attested, thanks to the recent excavations both at Oria and, particularly, at Otranto, where abundant early medieval activity is attested, including the production of commercial amphorae and other ceramics, around the seventh and early eighth centuries (Arthur *et al.*, 1992; D'Andria and Whitehouse, 1992; Michaelides and Wilkinson, 1992).²³ Otranto, indeed, seems to have supplanted Brindisi by the sixth century as the main Apulian port for the East, and retained this privileged position until the Norman invasion when attention began to focus on Taranto and Bari.

The site of Le Centoportore appears to belong substantially to this heyday. The monumental church looks to Constantinople and the East and seems to emphasize the area's strong links with the new imperial capital from the later fifth or sixth century. When, in the seventh or eighth century, it was overhauled so as to create what appears to be a fortified monastery, it was again perhaps the strategic (and economic?) importance of Otranto, coupled with the increasing attacks on its territory by the Lombards and Arabs, that rendered such measures necessary (Brown, 1992). Though remains of fortified monasteries are well-known in the East, examples in Italy are not. That they existed by the end of the sixth century is suggested by Pope Gregory's reference to a monastery in Campania (though, of course, many monasteries solved problems of security by being based within walled towns) (Greg. *Reg. Ep.* IX, 162).

The complex of Le Centoportore seems to have been substantially abandoned as a residence around the end of the first millennium, though precise dating is still uncertain. Some more limited form of activity seems to have continued through later medieval times, perhaps consisting of occasional use of the church by the people of neighbouring Giurdignano. We may speculate on reasons for its abandonment, which might include the changing political regime brought about with the Norman conquest, and the spread of Benedictine monasticism. However, it also seems that around this time a new settlement pattern appeared, based on a fairly close-knit distribution of villages, including, close to Le Centoportore, the two centres of Giurdignano and Vicinanze, of which the former has survived down to the present day.

Quattro Macine is just one of such villages. The evidence suggests that it was founded alongside an old and major thoroughfare leading from Otranto to Muro Leccese and the interior of the Salentine peninsula. Precise dating of its

²²I should like to thank Bruno Bellotti for information regarding field survey in the territory of Vaste. Even in the territory of Oria, which seems to have been an important settlement during early medieval times, there is as yet virtually no evidence for early medieval rural settlement; Yntema, 1993.

²³Excavations at Oria are being carried out by Francesco D'Andria and by the Soprintendenza.

foundation is difficult, though it is important to establish whether it appeared in middle Byzantine or Norman times. We may start by examining the numismatic evidence.

Eighth-century coinage is virtually absent in southern Italy, being found in quantity only in (eastern?) Sicily, with a scatter in Calabria. Ninth-century coins start to become frequent with issues of Basil I and peak with those of Leo VI dating from the end of the century. At Otranto, starting with twelve Byzantine coins of the ninth century, the number more than doubles for the tenth century (33), and more than doubles again for the following century (75).²⁴ If we may assume a roughly similar coin loss, given the pattern of identified Byzantine coin finds from Quattro Macine grouped by century (ninth — one; tenth — three; eleventh — eleven), I would hypothesize that the site was already active by the end of the tenth century and/or first half of the eleventh century. However, it is difficult to say on numismatic data alone how much earlier the village may have been founded. Though the majority of coins found was Byzantine bronze issues of the tenth and eleventh centuries, we still have little information concerning their effective lifespan, and it has been suggested that they continued to circulate well into the twelfth century, finally disappearing with the monetary reform of Roger II in 1140 (Guzzetta, 1989: 54; Martin, 1993: 470). The ceramics also provide somewhat tenuous evidence. Despite the recent publication of the Otranto excavation report, local pottery chronology is still not refined enough to permit precise dating, though large assemblages without glazed pottery are likely to be pre-twelfth century in date, and various types found at the village, such as 'excised ware' and '*paioli*', have been dated from the ninth to the eleventh centuries at Otranto (see above). This is one of the areas in which the present excavations may provide a breakthrough. The chronology of primary phase decoration of the small church is discussed above, where it is suggested that it dates between the tenth and eleventh centuries.²⁵

Thus, all told, it may be suggested that the village was of middle Byzantine, perhaps tenth-century, foundation. It seems to have appeared sometime after the so-called Byzantine reconquest of Italy of Basil I, that began in 868, and probably before the Norman conquest that culminated in the fall of Otranto in 1068 and of Bari in 1071. If this is so, it would represent important new archaeological evidence for the way in which the land was once again brought under some form of centralized control after the crisis of the early Middle Ages, and would help illustrate the growth of the Byzantine economy attested by the literary sources (Harvey, 1989 (for general comments); Guillou, 1974 (for Italy)). Many of the toponyms in the area seem to hark back to pre-Norman times (though not Quattro Macine; see below), and Byzantine coins are generally frequent finds, though, apart from the occasional church, such as San

²⁴ Numismatic data from the Salento and Otranto is taken from the work of Travaglini (1982; 1992). My impressions regarding Sicily and Calabria are based primarily on Guzzetta (1986a; 1986b).

²⁵ On the foundation of village churches in the tenth century, particularly as regards the area of Salerno, see Vitolo (1990: 85–6).

Salvatore at Giurdignano or Sante Marina e Cristina at Carpignano which actually bears a date, little can be securely dated to either side of the conquest.²⁶ Though I would suggest that the settlement pattern of scattered villages or *casali* is essentially of middle Byzantine date, the problem of assigning sites and finds to a particular period is partly hampered by the fact that the area retained a strong Byzantine character even in later medieval times. This may have been due both to the Normans' imposition of a new administration without radically altering the population and its traditions, and to the fact that, in later times, the area became a conservative south Italian backwater. This conservatism can be seen in the initial survival of the Greek Church, and in the survival of the Greek language down to recent times.

With the fall of Bari, the Terra D'Otranto became part of the Norman Duchy of Puglia under Robert Guiscard. From 1086, under Boemond, later also Prince of Antioch, it came to form part of the Principate of Taranto and remained so effectively up to the mid-seventeenth century (Poso, 1988: 40–1). If we may believe the sources, which consist of diplomas dating to 1219, 1306 and 1400, the village of Quattro Macine belonged to the estates of the archbishop of Otranto throughout the later Middle Ages (Huillard-Breholles, 1852–61: I, pt 2, 640; Maggiulli, 1893: 184, 188, 377, 381–2).²⁷

The territory around Quattro Macine is made up of a fairly light and well-drained soil, though often present only as a thin cover over limestone bedrock. For this reason, much of the land is traditionally devoted to olives, though arable has extended in recent times to include crops such as tomatoes, melons and tobacco. There is some tentative evidence to suggest that in later medieval times olives may not have been quite as common in Apulia, and that vineyards were instead more frequent, but nothing supports this idea for the area around Quattro Macine (Poso, 1988: 175–6). Instead, the village's singular toponym ('four mills') rather suggests that it possessed mills for grain or olives, perhaps also to serve surrounding villages. It may be remembered that the later medieval charters indicate that Quattro Macine was just one of a number of neighbouring *feudi* belonging to the same owner. Local tradition records the presence of a cave to one side of the village, perhaps fitted with a *trapetum* or olive press, as commonly occurred in the area from, at least, the sixteenth century (from which dates the excellent example preserved in nearby Minervino, which served more than one holding) (Ampolo and Monte, 1991).

The presence of grain silos attests on-site storage and presumably local production of grain. Sheep/goats and pigs were probably reared (see above). More surprisingly, the faunal remains include a high number of horse bones,

²⁶ On Byzantine coins found in the Salento, see Travaglini (1982).

²⁷ The relevant section of the earliest document reads: '*donamus et concedimus, et perpetuo confirmamus Ecclesiae memoratae, Casale Oggiani cum terris Casatani, Casale Quatormacine cum tenimentis S. Giorgi de Perse, Casale Jujanelli, Casale Miani cum hominibus, pertinentiis et tenimentis praedictorum Casalium*'. Cf. Brown (1992: 33–4, 37–8), with, in addition, references for the status of the archbishopric. Neither Quattro Macine nor surrounding villages are mentioned in the *Catalogus Baronum*, the closest identifiable centres being Otranto and Poggiardo (*Puiardum*): Jamison, 1972.

and it is known that in the thirteenth century King Frederick II bred horses in southern Apulia (Porsia, 1986). Though hippophagy is now common in Apulia, given the value of the horse in medieval times it is possible that the remains from the village indicate the presence of a stud-farm under the control of the feudal lord.²⁸ The cattle remains have features that may indicate selective breeding.

Thus it may be suggested that the village was largely self-sufficient, in accordance with the notion that villages and fiefs represented essentially closed economies (Townsend, 1993; see also Harvey (1989)). There is little evidence for surplus expenditure and no particular archaeological signs or expressions of wealth, although the number of coins found at the site is striking. Out of 40 coins found prior to 1995, one is a halved Republican bronze *as*, 22 (55 per cent) are Byzantine, dating between the late ninth/early tenth and eleventh centuries, eleven (27.5 per cent) are from the Principalities of Achaia of the latter half of the thirteenth to the beginning of the fourteenth centuries, one is a Sicilian piece of Charles I of Anjou, dating to the latter half of the thirteenth century, and five are not yet identified. Assuming that the majority of Byzantine coins reached Apulia before the Norman conquest, we may suppose that a monetary economy was picking up again by the tenth century. There is, however, a lull in new coins reaching the village during the twelfth and first half of the thirteenth centuries, interrupted by coinage from the Frankish states in Greece after the first half of the thirteenth century (again underlining southern Apulia's orientation towards the eastern Mediterranean and, in particular, towards southern Greece).²⁹

Despite the presence of coins, there is little evidence for the acquisition of commodities. Fish remains are so far rare, despite the site's proximity to Otranto and the sea. Hardly any objects of value have been found in contexts aside from those pertaining to the burials, and even these have yielded relatively poor articles of dress: debased silver earrings and bronze belt fittings, in one case gilded. Even the tombstones are often simple in the extreme, although a few examples are professionally carved, indicating perhaps a limited investment, in the hope of an afterlife that would be an improvement on a harsh temporal existence. Indeed, some of the palaeopathological lesions observed on the human remains are markers of stress. Together with high infant mortality, osteoarthritis and robust muscle attachments, this suggests that the population of Quattro Macine lived a life of physical hardship, partly staved off by the consumption of wine, the only commodity for which there appears to be abundant evidence, if the interpretation of the contents of the numerous Apulian amphorae found on site is correct.

It is, indeed, the pottery that seems to provide the most eloquent evidence of some of the marketing patterns of the village, and seems to confirm a relative insularity when compared to Otranto. Most of the pottery found on site was

²⁸ On the value of horses, see Porsia (1986: 21), who cited a document of 1173 (Barletta) where a mare is exchanged (*permutata*) for a vineyard and land with olives and other trees.

²⁹ A similar pattern of contact is to be found through Apulian protomaïolica, particularly Brindisi ware, reaching the Peloponnese: Sanders, 1989.

produced regionally, including, from the twelfth century, the glazed wares. However, the relatively low quantity of any glazed pottery also suggests limited importation of anything but the most fundamental goods. We may remember that, to date, the village has yielded only five fragments of imported Byzantine glazed pottery.

Thus, evidence for poverty and harsh living conditions is provided by the anthropological/palaeopathological data, and by a basic material culture and rudimentary building techniques. It will be interesting to see, when the chronology of the site has been refined, whether peasants were better off prior to the Norman conquest. Whilst the presence of all these villages is enough to argue for a reorganization of the territory of Otranto and southern Apulia and for economic expansion from at least the tenth century, if the evidence from the village of Quattro Macine is anything to go by, the profits of a growing economy were hardly reinvested in the villages themselves, but rather in the centres of power.

It is no surprise that the small, probably proprietary, Byzantine church is the most spectacular element so far found in the village, though a second church, in course of excavation, which may have served a more public function, also had architectural pretensions, with two reused limestone columns and simple stiff-leaf capitals. Expenditure for the construction and decoration of the Byzantine church is perhaps to be sought outside village funds, given that it appears to have served the function of *martyrium* or proprietary church. It is, none the less, a relatively humble building, similar in plan to San Pietro at Manduria which, however, appears to have been roofed with paired domes (D'Angela, 1978: 166–7, lxx, fig. 3). Simple, small churches with a single nave were common in southern Italy around the turn of the millennium and later, though most parallels are known in Calabria, where there was a lesser frequency of the cave-churches that characterize much of the Salento.³⁰

Figure 2 shows major medieval sites against a background of the present communication system, made up to a sizeable extent by medieval and earlier routes which also create and define boundaries between fields and estates. Remnants of Roman centuriation appear to be preserved around the site of the deserted medieval village, and are visibly later than a road (D'Andria, 1993: 454, fig. 29) that connected Otranto first to a large iron age *oppidum* at Muro Leccese, and then to the *oppidum* of Aletium (Alezio) and, eventually, to Gallipoli on the opposite, Ionian, coast. Part of the present field system may also be pre-Roman, as some fields appear to be cut by a grid that seems to fit traces recognized in other parts of the Salento, perhaps dating to the late Republic.³¹ The survival of scattered remnants of the centuriation in road, track and boundary alignments, is to be explained by a number of factors affecting the topography of the area

³⁰ See, for example, Minuto and Venoso (1985), though Minuto's dating evidence for individual buildings must be used with care.

³¹ On the centuriation of this and other areas of the Salento, see Compatangelo (1989) and the review by Patterson (1993).

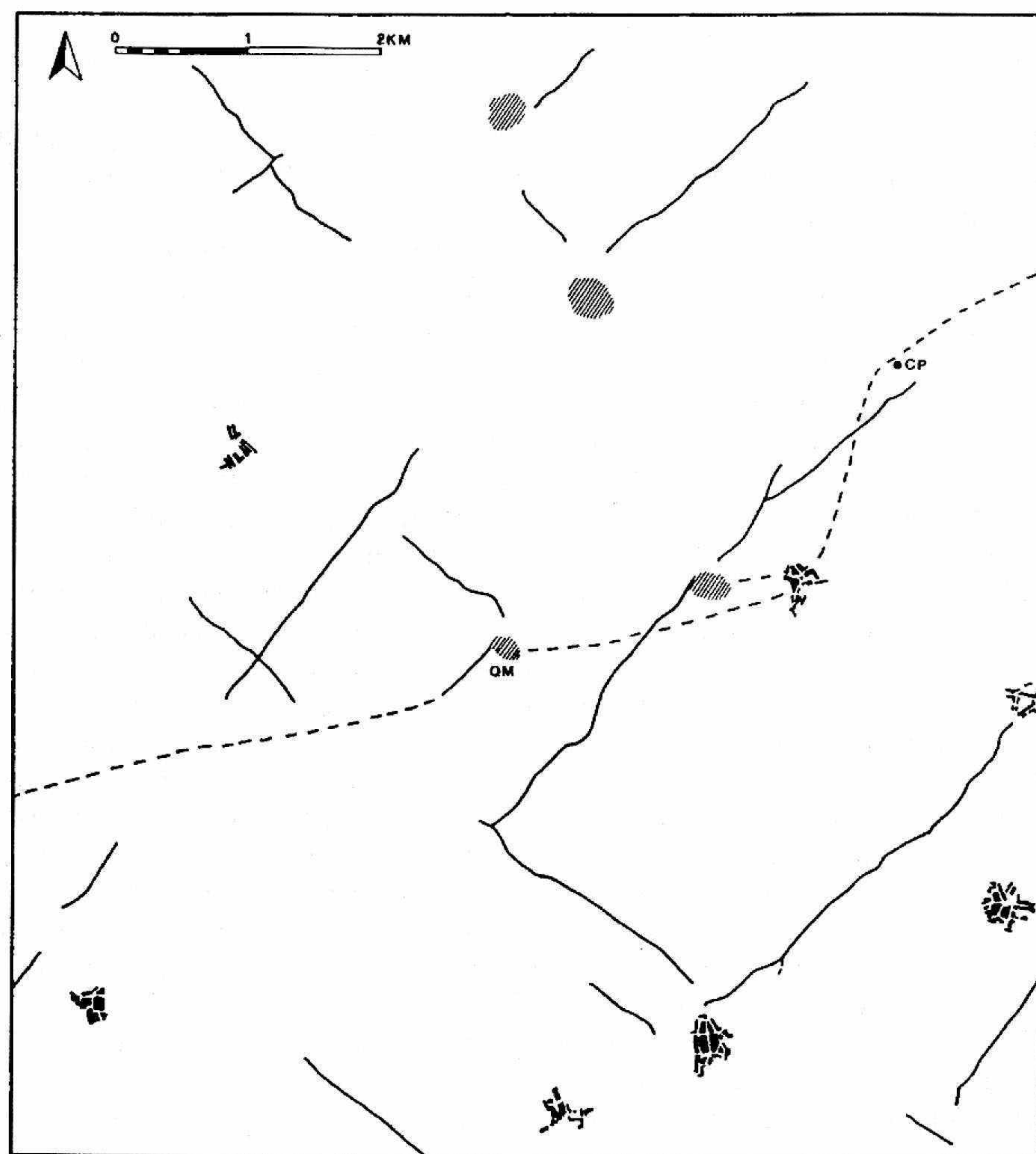


FIG. 29. Traces of centuriation around Quattro Macine (QM) (CP = Le Centoportie). (Drawn by Paul Arthur)

(Fig. 29). First of all, we do not know how or for how long the system was maintained through Roman times or, indeed, how internal subdivisions of property may have been shaped. In late Roman and Byzantine times the earlier system was partly broken up by roads that developed to connect new settlements and eventually the village of Quattro Macine itself, that lay close to the old Otranto to Muro Leccese thoroughfare, with other nearby abandoned villages at Palanzano, Anfiano, Polisano and Vicinanze, the deserted medieval village that may have preceded Giurdignano. The centuriation was presumably also partly disrupted by continuous adjustments to property boundaries and, perhaps, by the abandonment of some land.

The old Otranto to Muro Leccese road, none the less, survived, with some modifications to its route. This may be explained by the fact that it continued to represent the predominant east-west route across the Salento peninsula to the port of Gallipoli. Indeed, it is recorded by the Arab geographer Edrisi, who has it passing through a site called Monteroni, near Maglie, in the twelfth century (Uggeri, 1983: 345-7).

The nodes of communication represented by medieval settlement are quite clear, as is a node of roads centred on the medieval sanctuary of Monte Vergine, leading from Palanzano, Palmariggi, and also perhaps from Anfiano and Cannole. The site of Monte Vergine is represented by a modern church built over the remains of a crypt church with twelfth-century (?) wall paintings, and a menhir standing nearby. Other nodes, particularly between Giuggianello and Palmariggi to its north, still need to be explained. For instance, two roads lead to the crypt church of San Giovanni, again with wall paintings, which developed to the side of a late Roman site, and, in this very area, at least one other deserted medieval village, that of Pulisano, is to be located.³² Many small unconnected roads provide access to actual or abandoned farm centres, some perhaps of medieval date, such as Masseria San Vasili (Saint Basil). The winding road running directly north from the deserted medieval village of Quattro Macine, along the crest of the *serra*, may have provided access to what appears to be a small motte or square tower (c. 6.0 x 6.0 m), standing upon an artificial mound, near a property that in the mid-eighteenth century was known as Montelamieri (*Catasto Onciario di Giuggianello* 1752/3). The area of the village itself is enclosed within a roughly north-south sub-rectangular space formed by the present-day country roads. This space is considerably larger than the built-up area of the village and may be a survival of an enclosed area of the village with its adjacent landholdings, perhaps infields.

It is not yet known why Quattro Macine and other villages in the area were abandoned. Local tradition rather simplistically blames desertion on events following the Turkish attack and slaughter of 800 martyrs at Otranto in 1480, though the problem is better set in the context of change and population decline that occurred over much of Europe at this time.³³ It is worth noting that a diploma of Ladislao of Anjou in favour of Archbishop Filippo II of Otranto, dated 12 October 1400, already concedes tax exemption to vassals of a series of villages (*casali*) including '*Quator macinarum*'. These *casali* had apparently been devastated by various wars and were partially destroyed and uninhabited.

The latest dated burials at Quattro Macine appear to be no later than the fourteenth century and, strangely, have not yet yielded any adult males.³⁴ The

³² This site has yielded African Red Slip ware of fabric D, North African amphorae and local late Roman coarsewares, as well as coins of Constantine and Zoe (913-17), of Romanus I (920-44) (Morrisson, 1970: II, 575, type 3), and of the Principality of Achaia (late thirteenth century). The altar of the three-aisled cave-church, abutting the far end of the central aisle nave, seems to have contained a tomb or reliquary.

³³ For this further, abortive, attempt at Ottoman expansion, see the volume edited by Fonseca (1980).

³⁴ Preliminary examination by Sarah King of the burials unearthed during the 1994 season.



FIG. 30. Quattro Macine. The central block of the *masseria*, facing north. (Photo by Paul Arthur)

latest identified coin is a *denier tournois* of Philip of Savoy, minted at Clarentia in Achaia, dating to 1301–7 (Metcalf, 1983: 73, fig. 31, no. 746–7). The latest of the two excavated silos may have been backfilled in the late fourteenth or fifteenth century. This may be a sign of abandonment of the area's domestic functions and gradual transformation of much of the site to agricultural land. Plough marks found during excavation, with two different orientations, visibly scar the medieval remains and limestone bedrock, and pre-date the oak wood (the local toponym is *Bosco* = forest) that was in existence until Fascist times and the olive grove that now occupies the area. The last of the villagers may have moved into the complex of the *masseria* itself, or have gone to the neighbouring agro-towns that have survived down to the present day. A fifteenth-century date would fit well for the appearance of the *masseria* and it is interesting to note that none of the maps available for the Salento, which start in the sixteenth century, show any nucleated settlement in the area of Masseria Quattro Macine, whilst showing the local agro-towns. The relatively close village of Pulsano (a fief of Muro Leccese) had probably not long been abandoned by 1649, when Ignazio Giannotti was nominated governor of Muro Leccese by Giovan Battista II. He wanted the *coloni* of Pulsano to return to the village from which they had fled because of oppressive taxes, giving them concession to rebuild, but in 1653 the viceroy,

Count of Ognatta, prohibited reconstruction of abandoned *casali* (Maggiulli, 1893: 71).

Thus, documents of 1219 (diploma of Frederick II), 1306 (diploma of Charles II of Anjou) and 1400 suggest that the village through much of later medieval times was owned by the church of Otranto. It may have been abandoned during the fourteenth or early fifteenth century and by 1500 the property seems to have belonged to the estates of the De Cicenizio family. It is later attested as being the property of feudal lords, the de li Falconi (1561 and 1592), Guarini (1595), who had been dukes of nearby Poggiardo since 1453, and Venturi, dukes of Minervino (1601) (Foscarini, 1927; Cortese, 1929; De Simone, 1964: 167; Vilei, 1990). According to the *Catasto Onciario* or land register of Giuggianello, by 1753 the '*feudo disabitato di Quattromacine*' had been broken up into a number of smallholdings. In 1806 Joseph Bonaparte abolished feudalism in the Kingdom of the Two Sicilies, though by then the *feudo* of Quattro Macine was little more than a memory preserved in the name of the post-medieval *masseria* (farmhouse).

The *masseria* itself is composed of a two-floored central block, which has been dated to the eighteenth century (Fig. 30), with four outbuildings, including the chapel of Sant'Apollonia, all sited at a nodal point in the road system that connects the complex with neighbouring settlements (Costantini and Novembre, 1984). It was occupied until 1955, when the family of Totò Brocca, last inhabitants of the *masseria*, moved to Muro Leccese. It is sad to report that the first serious collapse of the *masseria*'s façade took place during the rains of November 1993, only a month after we had completed the elevation drawing.

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with contributions by Umberto Albarella,
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