FROM LATE BRONZE AGE TO EARLY IRON AGE IN SOUTH EAST SICILY: STUDIES ON THE MATERIAL REMAINS FROM THE CEMETERIES OF PANTALICA, DESSUERI, CALTAGIRONE AND CASSIBILE.

By

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University of Edinburgh
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Declaration

I declare that the research for and writing of this thesis was undertaken entirely by myself.

Robert Leighton
Robert Leighton
June 1983.
The Late Bronze Age and Early Iron Age cultures of South East Sicily are documented by the tombs of the Pantalica culture which were first investigated by Paolo Orsi about a century ago. Orsi's excavations preserved for study a rich collection of pottery and bronze artefacts which have been frequently referred to by writers since Orsi's time.

One of the major concerns of past studies of the Pantalica culture has been to establish a local chronological sequence based on the typological development of the appropriate material types from the tombs. In retrospect this process has evolved continuously since Orsi outlined the prehistory of Sicily in 'Siculan periods'. The first chapter traces the important developments in protohistoric chronology over the last century.

Despite the frequent attention which the Pantalica culture has received no study of the period has fully discussed the various elements of the material culture represented in the tombs. The backbone of this study is devoted to discussions, in separate sections, of the various artefacts from all the relevant tombs, as classified by type.

This method of analysis was selected because of the state of the evidence and of previous work. Orsi's publications remain the essential records for the period but while his general appraisals of the finds are still valuable thanks to his interpretative insight and learning, a fuller understanding of the Sicilian material demands that attention be paid to contemporary cultures, particularly in Italy and the Aegean. The discussion of material in the central section of this work has therefore concentrated on the chronology (on the basis of type-associations), the source of various forms (on the basis of local precedents or foreign parallels) and therefore on the question of the formation and cultural make-up of the Pantalica facies within the general framework of protohistoric studies.

In the third section of this work the writer has reconsidered some aspects of the Pantalica culture which have been largely
ignored since Orsi wrote. The tombs themselves and the various aspects of the funerary rite deserve reappraisal in terms of chronological, cultural and geographical factors. In this section the author concentrated on the relevant information scattered in Orsi's writings, organizing the evidence in sections relating to the various aspects of the funerary rite. Some recording of tombs in the field by the author was also incorporated into the discussion. It is hoped that this section will at least demonstrate the potential for further study to be gained from recording and reconsideration of the funerary monuments themselves.
Acknowledgements

My special thanks go to Dr. G. Falsone (Palermo University) who suggested this subject of research to me in Sicily in 1978 and who, over the last five years, has encouraged and facilitated my participation in fieldwork, excavation and research in Sicily. Many friends in Sicily made the process of research more enjoyable and profitable and contributed to the formulation of my ideas expressed in this work.

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Mr. David Ridgway (Edinburgh University) kindly fulfilled the role of supervisor and encouraged me to complete the research within a reasonable time period. Ms. C. Castelino patiently assisted with correction of the manuscript.
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F.S. - Drawings by Dr. F. Spatafora copied by the author.
B.S. - Drawings after Bietti Sestieri (1981B).
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Abbreviations

The following abbreviations were used with reference to the Pantalica culture tombs:

P.N. = Pantalica North necropolis
P.NW. = Pantalica North West necropolis
P.S. = Pantalica South necropolis
Fil. = Pantalica Filiporto necropolis
Cav. = Pantalica Cavetta necropolis
Cas. = Cassibile necropolis
Clt.A. = Caltagirone Alessandro necropolis
Clt.B. = Caltagirone Di Bernardo necropolis
Clt.C. = Caltagirone Castelluccio necropolis
Clt.R. = Caltagirone Rocca necropolis
De.M. = Dessueri (gruppi meridionali)
De.F. = Dessueri Fastuccheria necropolis
De.P. = Dessueri Palombara necropolis
De.C. = Dessueri Canalotto necropolis (sometimes called Palombara).
De.A. = Dessueri Arenaria necropolis

The following bibliographical abbreviation is used in the text:

C.V.A. = Corpus Vasorum Antiquorum
"Ma le quattro campagne che io ho già condotte nelle necropoli sicule ... nel mentre mi autorizzano a proclamarla la meglio conosciuta nel suo insieme, consigliano a tenerla sempre guardata con vigile occhio, perché le grandi scoperte del passato sono una quasi promessa per eventuali sorprese dell'avvenire"

(Paolo Orsi, 1912).
Introduction

Sicily is the largest of all the Mediterranean Islands (1), separated from the Italian peninsula by less than two miles. It lies about 700 miles from Spain, about 470 from Crete and only 90 from North Africa. It is located between 36° and 38° latitude, which is about as far from Northern Italy as the latter is from the Midlands of England.

Although close to the central Mediterranean region, the island's cultures were at some distance from the better documented ones of the Aegean and the Near East. Nevertheless, while Sicilian prehistoric and protohistoric cultures display unique and individualistic traits, like most island cultures in the Mediterranean, they are strongly susceptible to foreign influences.

The standard works of description and interpretation of Sicilian prehistory have always sought to explain the various elements of material culture in terms of both local and international developments. Particularly for later prehistory, from the Middle Bronze Age, trade and the influence of foreign cultures on native have been the questions uppermost in the minds of the major authors. The study of Sicilian prehistory is closely connected with that of surrounding regions and discoveries in diverse areas continually affect the interpretation of Sicilian material.

Despite undoubtedly numerous complex and differing factors, there appear to be recurrent themes in Sicilian history and that of foreign influence and domination is an obvious case in point. One could highlight historical analogy here: Phoenicians, Greeks, Romans, Goths, Byzantines, Arabs, Normans, Hohenstaufens, Angevins, Aragonese, Austrians and Bourbons have all played important parts in Sicilian history. For the protohistoric period we may be similarly concerned with peninsular Italy (Ausonians, Morgetians ?), Greece (Mycenaeans), Crete (Minoans), the Dodecanese, Cyprus and the East Mediterranean (Phoenicians?).

(1) Sardinia is smaller but has a longer coast-line. For major geographic surveys of the island see particularly the works of Ferdinando Milone (1955, 958-1031, with full bibliography, 1199-1211; Id., 1960; Id., 1969).
Another recurrent theme in Sicilian history, sometimes more obscure, is the "struggle for survival", or, as may be preferred, those frequently pre-determined economic problems which the islanders have always had to face. For the prehistoric period the evidence is meagre and difficult to detect, so most studies have trodden warily and briefly on such matters. To achieve a better understanding of prehistoric economic and social organization and subsistence, remains a challenge for the future of Sicilian archaeology and will require at least some new material and original work, especially field-work (1).

The Late Bronze Age in Sicily is to a great extent known through the excavation work of two men: Paolo Orsi and Luigi Bernabò-Brea. Orsi's excavations from the 1890's until the 1920's at the necropolis sites of Pantalica, Caltagirone, Dessuerei and Cassibile in South East Sicily, and the publications of his field-work which fill many early volumes of the Monumenti Antichi, Notizie degli Scavi and Bullettino di Paletnologia, remain fundamental sources for the period. They are the cornerstone of Sicilian protohistoric studies and bear witness to a period of intense archaeological research and progress and to the career of one of the most outstanding archaeologists of the time.

Modern scholarship necessitates considerable dependence on Orsi's work and any inherent shortcomings have to be recognized. In dealing with the cemetery sites, the fact that the various grave-groups were individually documented and separated is quite fortunate. Individual plans of corredi in situ are absent, though some verbal descriptions of the positions of objects and the skeletons are helpful. The position and number of deceased in a tomb are usually stated, though no skeletal analysis was ever made. The tombs themselves were always described (whether intact or broken into is indicated) and a number of measured plans presented.

(1) Similar points have been raised by Marazzi and Tusa (1974), but subsequent essays (1976A; 1979) have not seen any radical departures in this field. As regards material culture, a depressing tendency of recent years has been the absence of Sicilian studies in many major new works from peninsular Italy, such as the *Prähistorische Bronzelfunde* series and the *Archeologia, Materiali e Problemi* series.
The topographical locations of tombs are carefully described, though the exact locations within the various groups could only with great difficulty be traceable on the ground today. Most importantly, Orsi published his findings in straightforward reports which accurately reflect the excavation techniques and the evidence. Many shortcomings are not due to the excavator but to the nature of the contexts themselves.

Orsi's contribution to the study of this period was not limited to the presentation of the material remains. Many of his interpretations have been of lasting value and exercised a profound influence on later studies. The original reports are not short of analysis and assessment of the findings, much of which is by no means redundant. Orsi's writings carefully combine logic and imagination and above all, reflect the instinctive curiosity of the only excavator to have enjoyed prolonged, direct contact with the evidence.

The finds were carefully discussed in terms of technological and social implications, funerary rites, religion and architecture movements of population, density, the relationship with the environment and economic aspects. Orsi was not an isolationist but well aware of international connections of the Sicilian Late Bronze Age; the links with Italy and the Aegean, the importance of trade and the impact of foreign culture on local culture. In short, Paolo Orsi brought the Sicilian evidence to the forefront of prehistoric studies in Italy and provided a basis for future progress.
Chapter 1
The Development of a Sicilian Protohistoric Chronology, from 1899 to 1980.

South East Sicily

Orsi's chronological scheme conceived the presence of four major periods in Sicilian prehistory. For late prehistory and protohistory we are primarily concerned with his Siculan II period, extending from about the 15th century to the 9th century B.C., including both the notable sites on the coast like Thapsos and Plemmyrion as well as inland Pantalica. The distinction between these two cultural entities was obvious in geographical terms and to some extent from the material evidence, though it was never fully expressed by Orsi as chronologically significant. The Cassibile necropolis was regarded as later than the early Pantalica phase but earlier than the Iron Age cemetery excavated by Orsi at Finocchito, which marked the end of the protohistoric period and the beginning of a new era of Greek colonisation.

This sequence (cf. Orsi, 1899, 116) stood as the foundation for Sicilian protohistory for the first half of this century, until Luigi Bernabo Brea proposed the first amendments and refinements. These appeared in two works (1954, 1957) which marked a new departure in this field of study. A great advance was made by the realisation of the greater antiquity of the Thapsos-Plemmyrion-Cozzo Pantano horizon (Middle Bronze Age) demonstrated by Bernabo-Brea, which was followed by the Pantalica and Cassibile periods. These cultural groups were seen as chronologically separable. In 1957, with the publication of Sicily before the Greeks, the most important synthesis of the whole of Sicilian prehistory was made widely available.

In this work a threefold division of the Pantalica culture was proposed:

- Pantalica I - about 1250 - 1000 B.C.
- Pantalica II - about 1000 - 850 B.C.
- Pantalica III - about 850 - 730 B.C.

Phase IV (about 730 - 650 B.C.) was not represented at Pantalica but at Finocchito.
The date of 1250 B.C., taken as marking the approximate beginning of the Late Bronze Age Pantalica sequence, was arrived at through consideration of a number of factors, none of which were individually incontrovertible, but significant altogether. The abrupt stratigraphic change from the Middle Bronze Age Milazzese levels on Lipari to the intrusive Late Bronze Age Ausonian I layers, seemed to reflect a similar schism in the South East region with the abandonment of Thapsos and the emergence of Pantalica. Mycenaean imports at Thapsos indicated a date predominantly in the 14th and 13th centuries B.C., whereas at Pantalica, Mycenaean influences seemed to reflect the LH IIIC period.

The date of 1250 B.C. also had the advantage of coinciding closely with the traditional date given by Hellanicus of Mytilene for the arrival of the Sikels in Sicily three generations before the Trojan War (i.e. about 1270 B.C.), an event which was perhaps reflected in the appearance of the Ausonian I culture on Lipari. On the basis of certain bronzes (violin-bow fibulae, arch fibulae, mirrors, daggers, etc.) and pottery forms (storage jars with collar necks, strainer-spouted jugs) and their peninsular and Aegean connections, it was clearly observable that the earliest moments in the Pantalica phase were represented by a number of tombs in the North and North West cemeteries of the type-site, by nearly all the tombs at Caltagirone and by some tombs at Dessueri. In this way, the earlier part of the Late Bronze Age was seen to be well represented in the internal region of South East Sicily by a number of large cemetery sites and not just by Pantalica itself.

For the second phase, Pantalica II, it appeared that this was only scantily represented at Pantalica, while the Cassibile necropolis was almost entirely representative. The second date in Bernabò-Brea's sequence, 1000 B.C., was not only a conveniently round number and a useful middle point in the sequence, but also seemed to be a reasonable assumption in terms of the date of the Cassibile fibulae, reckoned to belong within the 10th century on the basis of their foreign connections.
Of course there was more room for speculation regarding the chronology of Pantalica II. The indications provided by the Mycenaean connections of Pantalica I were no longer available and yet there was no sign from the tomb-goods of renewed contact with the Aegean world with the possibility of extrapolating secure chronologies. The important site of Mulino della Badia, with its fossa and enchytrismos burials, quite different from the rock-cut tomb tradition of the South East, could also be assigned to the second phase on the basis of its similar bronze repertoire. Despite the uncertainties surrounding the absolute chronology of the second phase, it was nevertheless quite clearly defined in terms of distinctive artefacts of the Cassibile bronze and ceramic repertoire.

At Pantalica, the third phase was represented at the Cavetta, Filipporto and South cemeteries, with the serpentine or Sicilian fibula as the type fossil as well as new elements in the pottery typology reflecting Greek Geometric influence. This was the last of the protohistoric phases proper since phase four was directly influenced by the historically documented Greek colonies in Sicily.

This was the first modern definition of Sicilian protohistory. Cultural groups were clearly defined and a chronological scheme was proposed with clear indications of absolute dates. It is not perhaps surprising, that while this work was widely accepted, a number of further studies followed. At least two reasons for this can be suggested. Firstly, the nature of the publication (1957) was not suitable for a tomb-by-tomb analysis of any particular period of prehistory but was intended for a work of synthesis, albeit profoundly scholarly. Secondly, the protohistoric cemeteries of South East Sicily were regarded with interest by scholars working in areas of research outside Sicily, since the lengthy time-span covered and the quantity of material from relatively good contexts would be suitable for close comparative analyses with potentially important repercussions for protohistoric studies elsewhere. Calabria, Basilicata and even Puglia were less well known at the time.
In 1956 Renato Peroni published a detailed typological analysis of the material from the Pantalica cemetery itself. This study was characterized by an explicitly scientific approach and was an early example of the association-table or seriation method which has since become a hallmark of the "Peroni school". By the examination of internal associations within the cemetery and the external 'pegs' of absolute chronology, Peroni was able to propose a sequence in terms of individual tomb-groups, expressed in the form of an association-table diagram.

The aims of this study were clearly stated as follows:

"...the position of Pantalica is particularly fortunate. In fact, not only does it offer various elements which permit a number of chronologically successive parallels with the Aegean to be made, but above all, because the tombs bear witness to an unbroken cultural development ... This allows one to undertake here, that which is impossible in other areas where secure associations are absent, i.e. to delimit chronologically the various phases and then to transmit the information to contemporary phases of other regions." (Peroni, 1956B, 390-391; trans.).

The following scheme was proposed on the basis of the association-table:

- Pantalica I - about 1250 - 1150 B.C.
- Pantalica II - about 1150 - 1050/1000 B.C.
- Pantalica III - about 1050/1000 - 950 B.C.

The latest protohistoric cemeteries, Pantalica South and Finocchito, were not included in the study and only scant reference was made to Cassibile, Dessueri or Caltagirone. Absolute dates were extrapolated from the Aegean and Italian connections of some bronze and pottery types. The first date in the sequence, 1250 B.C., agrees with that of Bernabò-Brea, and rested on a few comparisons of certain bronzes (mirrors, pommel daggers, violin-bow fibulae) and their associations abroad with Mycenaean pottery, as based on the first edition (1941) of Furumark's study. The end of the first phase was then placed at 1150 B.C. on the basis of certain observations regarding the pottery of the second phase.

We may note that Peroni's Pantalica I phase is only partially
contemporary with Bernabò-Brea's Pantalica I, representing its earlier moment, while Peroni's Pantalica II is equivalent to the latter part of Bernabò-Brea's Pantalica I. There is no inherent contradiction in this but we can see that Peroni's scheme attempts to further refine and subdivide a period which is proposed as a single phase by Bernabo-Brea (see Fig.1).

In the following chapters we may refer to the chronological significance of individual artefacts and in this way appreciate fully the intrinsic merits and shortcomings of these systems. For the moment, it may be pointed out that Peroni's second period was based on certain assumptions regarding pottery forms and their Aegean parallels and Peroni admitted some difficulty in prescribing absolute dates with confidence, especially for the end of the period (1050/1000 B.C.).

Peroni's third period (1050/1000 - 950 B.C.) is partially contemporaneous with the second phase of Bernabò-Brea (1000 to 850 B.C.) and both authors recognized the importance of Cassibile, Mulino della Badia and Dessueri at this time, a link between all these sites being provided by the Cassibile fibulae. Once again, the duration of this period was much in doubt and Peroni invoked a rather dubious argument regarding the Submycenaean derivations of askoi to produce a date (950 B.C.) for the end of the phase which was considerably at variance with Bernabo-Brea's date (850 B.C.).

Recalling Peroni's remarks about the importance of Pantalica as a potential foundation for Italian protohistoric chronologies it is not surprising that another study soon reconsidered the South East Sicilian material for the purposes of deriving equivalent schemes for peninsular Italy and beyond.

The first chapter of Müller-Karpe's monumental study (1959) was devoted to South East Sicily, which marked the starting point in the West Mediterranean for the European protohistoric chronologies. Once again the aims of the work were purely chronological and, specifically, to extrapolate dates for the benefit of other areas, an intention which naturally influenced the form of such an analysis and its conclusions.
The definitions of the various regional chronologies were intentionally schematized by Müller-Karpe and no real attempt was made to pin down the Pantalica chronology with the kind of precision, sometimes precarious, which characterized Peroni's work. This fact has contributed to the success and lasting value of the work. At any rate, much has been said by various authorities regarding the Chronologie (1959) and it is useful now to consider only the significance of the Sicilian section.

The following divisions were proposed for the Pantalica culture:

- Pantalica I - 1200 - 1100 B.C.
- Pantalica II - 1100 - 900 B.C.
- Pantalica III - 900 - 800 B.C.
- Pantalica IV - 8th century B.C.

The appeal of such a proposal partly lay in the simplicity of the chronological outline. At this point mention should be made of those ingredients in the Pantalica culture which provided the pegs upon which all the previous schemes have been attached. Here we are concerned with those artefacts which can in various ways be linked with Aegean cultures of the LH IIIB, LH IIIC and Submycenaean periods. Peroni (1956B) and Bernabo Brea (1957) made some use of Furumark's scheme (1941) for extrapolating dates for Pantalica from the Aegean:

- LH IIIB - 1300 - 1230 B.C.
- LH IIIC - 1230 - 1100 B.C.

Miller-Karpe's proposals were based however on a slightly amended Aegean chronology:

- LH IIIB - 13th century B.C.
- LH IIIC1 - 12th century B.C.
- LH IIIC2 - 11th century B.C.

Most notably, the transition date from LH IIIB to LH IIIC had been lowered by thirty years.

The description of each of Müller-Karpe's periods at Pantalica and the main sites of the South East was quite summary. The few elements which were particularly important from the chronological standpoint were listed but with little detailed consideration of
associations. The study was not concerned with the detailed development of the material types nor with the problems of transitional and exceptional or different forms, but only with the general chronological implications of the main types. The periodization was therefore considerably, and intentionally, simplified.

The first date in the sequence, 1200 B.C., marked the first discrepancy with the previous schemes for the beginning of Pantalica I. This is explained most simply in terms of the amendments in the Aegean chronology described above, while the violin-bow fibulae and the mirrors were still considered to be the most indicative types. The second phase (1100 – 900 B.C.) was quite lengthy by comparison with earlier schemes and a greater quantity of material was included in it, though rather inadequately separated within the period. The arched fibulae belonged somewhere in these centuries but a precise allocation was not discussed and few of the differences between the contrasting groups of Pantalica, Dessueri and Mulino della Badia were assessed in terms of cultural or chronological groupings. This was doubtless because such questions were considered to be outside the scope of the work and because Bernabò-Brea (1957) had already discussed the different cultural groupings quite fully.

For Pantalica III, Müller-Karpe pointed to the presence of the serpentine fibula as the main type, though the many other aspects of the abundant material of Pantalica South and Finocchito were largely ignored. In sum while the whole scheme achieved its aim of providing many chronological indicators, from the Sicilian standpoint, it contributed little to the understanding of the local sequence by comparison with previous studies.

A fairly severe critic of the work has been N.K. Sandars (1971) and since her views have some bearing on Sicily and the whole question of extrapolated chronologies her arguments deserve comment. On the question of the transition date from LH IIIB to LH IIIC, which affects the date of Pantalica I, as seen above, Sandars emphasized the need to lower Furumark’s date of 1230 B.C. perhaps by much more than thirty years (1971, 9). Sandars was
also worried by the long survival of Mycenaean pottery styles in some East Mediterranean sites. It was pointed out that LH IIIB pottery did not always conveniently disappear with the onset of LH IIIC but might sometimes have survived contemporaneously:

"...and the retardation consequent upon this will apply with even greater force to more distant correlations ..."
(Sandars, 1971, 9).

"The fact of the long survival of LH IIIA pottery in the Levant should be taken to heart as a warning when we turn to Sicily and South Italy" (Sandars, 1971, 9).

"The whole problem is far more complex and contingent than is convenient for anyone who tries it out in the hope of finding something solid on which to hitch various relative chronologies" (Sandars, 1971, 9).

While we may agree with the need for caution, which is the thrust of Sandars' argument, we are nevertheless forced to conclude that her own chronological scheme is hardly better than Müller-Karpe's, at least from the point of view of Sicilian protohistory (cf. 1971, 25). Firstly, it is true that the over-riding of LH IIIA - LH IIIC pottery styles at some sites is a problem, perhaps one of the most common archaeological problems found in many areas, and concisely defined more recently:

"The presence of Aegean pottery in a dated context in the south-eastern Mediterranean demonstrates its existence at the time of the deposit, but does not tell us when the pottery was made and in fashion in the Aegean, how long was its journey to the eastern market by direct or indirect trade or how long it was used or kept before being laid in a tomb, or broken, or lost in a violent event" (Warren and Hankey, 1973, 145).

It is not even necessarily true that more distant correlations involve greater retardation. As regards the possibilities of late survivals the chances of being deceived by the evidence can only be weighed up by a full consideration of the context and by the weight of any supporting evidence, albeit from other sites.

As for the transition date from LH IIIB to LH IIIC recent opinion does not suggest that a lowering of Furumark's early date by fifty or more years (cf. Sandars, 1971, 9) is necessary (cf. Warren and Hankey, 1973) and many authorities continue to accept dates between 1200 and 1190 B.C. for the transition from LH IIIB to LH IIIC. In any case this date cannot be directly imposed as
marking the beginning of the Pantalica sequence. In this sense, Sandars' observations do not justify lowering the date for the beginning of Pantalica into the later 12th century B.C.

In 1968 Hugh Hencken reviewed the Pantalica sequence, mainly for the purposes of obtaining chronological indicators for the Etrurian chronology. He noted the LH IIIC connections of some of the material of Pantalica I but admitted the possibility of an initial date in the 13th century B.C. For the first phase, he followed Peroni and Bernabò-Brea, whereas for the second phase a number of new suggestions were made, some of which are methodologically suspect, if not objectionable:

"...the types of pottery that have their roots in the Mycenaean Age are still too numerous to allow this period to begin very long after 1050 B.C." (1968, 436)

The date of 900 B.C. for the end of Pantalica II was based on an imperfect knowledge of strainer jugs, in Sicily and elsewhere, and on an over-estimation of their significance for the later Sicilian chronology.

Furthermore, Hencken's knowledge of the Mycenaean connections of the Lipari Ausonian I strata was unfortunately at fault (he mistakenly believed in the predominance of LH IIIC pottery rather than LH IIIB) and resulted in an error of over fifty years in the dating of the beginning of Ausonian I after 1180 B.C. (cf. Brea-Cavalier, 1980, 719).
North East Sicily and the Aeolian Islands

In recent years many notable advances in Sicilian protohistory have been in the North East and in the Aeolian Islands, particularly on Lipari. Discoveries in these parts have increasingly affected an interpretation of Sicilian protohistory and therefore the chronological developments of this region, where the archaeological contexts are so different from the South East, deserve some attention.

During the Middle Bronze Age the Milazzese culture of the Aeolian area was closely related to the contemporaneous coastal cultures of the South East. The chronological contemporaneity of the two was supported by the associated Mycenaean pottery of LH IIIA and LH IIIB. This pointed to the disappearance of the Milazzese facies probably before the end of LH IIIB, for which a date of 1250 B.C. was regarded as a convenient approximation (Brea-Cavalier, 1959, 103).

On the Lipari acropolis the end of Milazzese was sudden and marked by the arrival of the Late Bronze Age Ausonian I culture, fully formed and directly superimposed upon the destroyed Milazzese hut-levels and therefore 1250 B.C. could also be considered to date the beginning of the new phase. This probably traumatic event was of course forcefully reminiscent of the situation in South East Sicily where coastal Thapsos (Middle Bronze Age) was apparently abandoned and inland Pantalica (Late Bronze Age) emerged.

As well as the presence of LH IIIB pottery in the Milazzese levels, another factor has contributed to an assessment of the date of the end of this culture and beginning of the next. This was the historical reference to the arrival of Liparus, son of Auson, in the islands three generations before the Trojan War. Bernabò-Brea took the historical indication quite literally and calculated the date of 1270 B.C. for the beginning of Ausonian I (Brea-Cavalier, 1977, 579).

In a recent analysis of the Mycenaean pottery in Milazzese and Ausonian strata on Lipari Taylour (1980, 817), on a purely archaeological basis, returned to the original proposal of
circa 1250 B.C. for the arrival of Ausonian I, or even later. This was because the LH IIIB sherds in Ausonian I levels seemed to be later LH IIIB rather than earlier. While it seems that there is a little room for manoeuvring around these dates the approximate agreement between the historical and archaeological evidence in this case is quite reassuring.

However, the historical reference, the accuracy of which is impossible to test, for beginning Ausonian I at 1270 B.C., has also led Bernabò-Brea to propose the same date for the beginning of Pantalica I (Bernabò-Brea, 1972, 150). This rests upon the assumption that the Thapsos to Pantalica transition is a mirror reflection of the Milazzese to Ausonian transition, despite the very different material characteristics of the two groups.

Another change in the sequence of the North East has been the re-allocation of part of the urnfield necropolis of Milazzo to within the Ausonian I period, a site which the excavators originally described as belonging in the subsequent Ausonian II phase. This was a correction first indicated by Peroni (1962-63, 445) and more fully expounded by Bietti Sestieri (1979, 606). The dating of Ausonian II is more difficult however and is still the subject of debate. Some rather unsound arguments have emerged in the past concerning the time-scale of the Ausonian periods, particularly, that the relatively shallow depth of strata of the Milazzese or Ausonian I levels indicated a short duration for the period in question. However, the excavators of Lipari seem to have suggested early transition dates from Ausonian I to II for various reasons.

From hindsight it seems that if the chronological relationship between the Piazza Monfalcone necropolis and the Milazzo urnfield necropolis was misunderstood, then the excavators were rather forced to propose an early transition date. In other words, if Milazzo was dated from 1050 to 950 B.C. and yet Piazza Monfalcone was earlier, though still within Ausonian II, some time would have to be established before 1050 B.C. for establishing the Piazza Monfalcone cemetery within the phase. In fact,
the first dates suggested for the Monfalcone site were 1150 to 1050 B.C., followed by Milazzo, 1050 to 950 B.C., later adjusted to 1150 to 1075 B.C. (Monfalcone) and 1075 until 1000 B.C. (Milazzo) (Brea-Cavalier, 1959, 103; 1960, 161).

It is now generally accepted that the relationship between the two sites is vice versa, with Milazzo antedating Monfalcone. However, this has not settled some controversy over the end of Ausonian I and the beginning of Ausonian II. Nor is the date of the beginning of Milazzo, as proposed by Brea-Cavalier, considered to mark the beginning of Ausonian II. In fact, the dating of Milazzo has been recently moved back in time and set at around the end of the 12th century B.C. or in the early 11th century B.C. (Bietti Sestieri, 1979, 611).

We may recall at this point that the whole reason for a break in the Ausonian sequence was suggested by a stratigraphic transition from the settlement site on the acropolis of Lipari, where the excavators found marked changes in the house plans and evidence of destruction. This was not as radical a change as the Milazzese to Ausonian I break, since there was ample evidence of continuity in terms of material culture. From the Ausonian II levels also come a number of Mycenaean sherds, a few of LH IIIB and a few of LH IIIC. The current controversy lies in the interpretation of their significance.

Taylour's estimate of the duration of the period, on a purely mechanical reading of the evidence at face-value, from 1230 to 1075 B.C. cannot be taken literally as the duration of Ausonian II (Taylour, 1980, 817). Bernabò-Brea regards the presence of the LH IIIB and LH IIIC sherds as indicative of the initial date of Ausonian II at least twenty or thirty years before the end of the 12th century B.C. (Brea-Cavalier, 1980, 713).

LH IIIB sherds in Ausonian II levels are very few however and since they occur with LH IIIC sherds they must be survivals in the same way as the odd LH IIIA1 sherd found in Ausonian I layers. In fact LH IIIC sherds occurred in the earlier Ausonian I strata which provides a clear indication that Ausonian I must have lasted at least into the 12th century. These sherds may even represent
an example of overriding pottery styles which Sandars warned of (cf. above). As for the LH IIIC sherds these carry indications of dates after 1200 B.C., although it is not clear how long after. LH IIIC pottery does not disappear in Greece at the same time everywhere (Snodgrass, 1971, 134-135) and certainly not necessarily at 1125 B.C.

Bietti Sestieri prefers to trust the typological connotations of the main bronze types of the Ausonian layers in terms of comparisons with peninsular Italy which have suggested lower dates than do the Mycenaean sherds, therefore rejecting the latter as sound dating evidence. From the point of view of the fibula typology her arguments are particularly well supported. 1050 B.C. is a tentative approximation however for the beginning of Ausonian II, which leaves the Milazzo urnfield necropolis partially within the Ausonian I period.

It is unfortunate however that there are not more bronzes from the Ausonian II strata to give more weight to Bietti Sestieri's suggestion especially since the Ausonian I bronzes seem to be predominantly early forms of the 13th and 12th centuries B.C. and there is little evidence of Ausonian I material of the 11th century B.C. The arched fibulae with nodes are absent from the Lipari acropolis though one would expect them to occur in the Ausonian I phase. Lacunae in the evidence, such as this, can of course be quite coincidental.

An indication of the duration of Ausonian II was provided by the similarity of a number of bronze types in these strata with the characteristic bronzes of the Cassibile cemetery of the South East (Bernabò-Brea's phase II, circa 1000 - 850 B.C.). On the other hand the Ausonian II habitation levels on Lipari gave no indications of links with the more developed forms of the Pantalica South phase (Bernabò-Brea phase III). The excavators were able to infer from such considerations that the end of the Lipari Ausonian sequence must date before the Pantalica South phase (i.e. pre-850 B.C.).

In conclusion, the chronological schemes which have prevailed in the North East, in recent years, are the following:
Milazzese : circa 1400 - 1250 B.C. (Middle Bronze Age)
Ausonian I : circa 1250 - 1150 B.C. (Lipari Acropolis)
Ausonian II : circa 1150 - 850 B.C. (Piazza Monfalcone and Milazzo cemeteries; Lipari Acropolis)

(Cf. Brea-Cavalier, 1956, 99; 1959, 103)

Milazzese : circa 1400 - 1270 B.C.
Ausonian I : circa 1270 - 1125 B.C.
Ausonian II : circa 1125 - 850 B.C.

(Cf. Brea-Cavalier, 1977, 66-76; 1980, 719)

Ausonian I : circa 1250 - 1050 B.C. (Lipari Acropolis; Milazzo cemetery)
Ausonian II : circa 1050 - 850 B.C. (Lipari Acropolis; Piazza Monfalcone and Milazzo cemeteries)

(Cf. Bietti Sestieri, 1979)
FIG. 1 SOUTH EAST SICILIAN CHRONOLOGY 1900 - 1979
Chapter 2
Violin-bow Fibulae

Tombs: P.N.37;

Others:
Ausonian I levels, Lipari acropolis (Brea-Cavalier, 1980, 584, Fig.109e).
Ausonian II levels, Lipari acropolis (Brea-Cavalier, 1980, 644, Fig.130d).
Cozzo Pantano tomb 9 (Miller-Karpe, 1959, Pl. 1:H1).
Valledolmo (Peroni, 1956A, Pl.8: B,4).
Mulino della Badia (Miller-Karpe, 1959, Pl. 6:18).

Discussion

There is only one violin-bow fibula from Pantalica with two knobs and incised chevron and annular decoration on the bow.

In the Aegean this type is usually regarded as belonging to LH IIIC (cf. Sapouna-Sakellarakis type 1c) but it is not easy to pin down the chronology anywhere. There are not many comparable specimens in the Aegean with close chronological associations, though a 12th century B.C. date has been proposed for the island specimens where the type is reckoned to be early (Id., 1978, 36). At any rate the Aegean dates for this fibula do not provide an absolute terminus post quem for the Sicilian specimens since an Italian origin for the type is possible.

The decorative motifs of the Pantalica fibula have a very close analogy on a Cretan fragment (Id., 1978, no.8). These motifs enjoy a subsequently long popularity at Pantalica, occurring on later arched fibulae, indicating that the emergence of an established type of decoration dates from the early period of the site.

In Italy the contexts for this type of fibula are late Peschiera and early Proto Villanovan (Bietti Sestieri, 1973, 402, 417) and are usually dated around 1200 B.C. The Pantalica example has its closest parallels in south Italy with the well-known specimens from Scoglio del Torno (Miller-Karpe, 1959, Pl.13:6), Pianello (Id., 1959 Pl.56:A,14), Timmari (Ridola, 1906, 83, Fig.91) and Porto Perone (Lo Porto, 1963, 358, note 9). The distribution of this form with two knobs is particularly linked with south Italy and the Aegean while the multiple knob types are found further north. It does

The rarity of violin-bow fibulae at Pantalica must in part be due to the destruction of earlier burials to make way for later ones. However, it is possible that a smaller population in the early phase may be relevant here, and this fibula may have been relatively uncommon even in its heyday. Widespread use of fibulae only appears to occur with later arched types at Pantalica for example as also elsewhere. The association of the violin-bow fibula in P.N.37 (sealed tomb, one skeleton) with gold beads, bracelets and a mirror, is an indication of unusual preferential treatment.

The fibula from Lipari (supra cit.) which is of the same form as the one from P.N.37 comes from a pure Ausonian I layer. Other specimens come from probably re-used tombs at Cozzo Pantano and Valledolmo. The latter is especially interesting for the presence of this specimen in a tomb in the West Central region is a rare indication of the spread of possibly prestigious bronzes over difficult terrain well inland beyond the South East region.

Another type of violin-bow fibula which has been found on Lipari has a flattened bow. In Greece this is dated from LH IIIB to the Submycenaean period (Sapouna-Sakellarakis, 1978, 37-39; Kilian, 1975, 19). A 12th century B.C. date has been suggested for a similar decorated fibula from Amendolara in Calabria (De La Genière, 1971, 228; Lo Schiavo-Peroni, 1979, 551).
Arched Fibulae with Knobs

**Tombs:** P. NW. 1; P. N. 3; P. N. 66; P. N. 44; P. N. 49; P. S. 56; P. S. 64; P. S. 51; De. M. 17; De. P. 59; De. F. 59; Clt. R. 19;

**Others:**
Caltagirone, sporadic (Orsi, 1904, 74, Fig. 13)
Pantalica, sporadic (Orsi, 1889, Pl. V:2)
Pantalica North West, 1965 excavation (Italia, 1975-76, 18, Fig. 2, h)
Valledolmo (Peroni, 1956A, Pl. 8: B5)
Milazzo, Griffo tomb, tomb 43, tomb 119 (Brea-Cavalier, 1959, 33, Fig. 1; 54, Pl. XXXIX: 17; 72, Pl. XXXIX: 14)
Sant' Angelo Muxaro (unpublished)
Calascibetta, Realmese necropolis E61 (unpublished; Albanese, forthcoming)
Mulino della Badia (Miller-Karpe, 1959, Pl. 6: 24, 28)

**Discussion**

Arched fibulae with knobs are generally regarded as an early development of the violin-bow fibulae and the close links between the earliest arched types and the violin-bow types are visible in Sicily. A specimen from Dessueri (De. P. 59) displays a very similar decorative style, with incised chevrons and rings, to the violin-bow fibula (P. N. 37). The bow is now curved but preserves the straightening above the catch-plate, hence the appellation of 'asymmetrical' or 'stilted' fibula (1). A further stage in the morphological development is demonstrated by a specimen from Pantalica (P. S. 56) where the decorative style is similar, the knobs are retained, but the curvature of the bow is pronounced and the straightening above the catch-plate is tending to disappear. The next stage in this development (e.g. P. N. 3) witnesses the complete curvature of the bow resulting in a symmetrical rather than a stilted form. The knobs are still retained.

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(1) For an early exposition of fibula development at Pantalica, see Peroni (1956B, Fig. 2) and more recently for Italy in general, Bietti Sestieri (1973, 403, Fig. 20). The 'knobs' are sometimes called 'swellings' or 'beads'.
This evolutionary pattern of Sicilian fibulae reflects Italian developments where the same transition to an arched symmetrical form has been suggested, although with different details of decoration and form (Bietti Sestieri, 1973, 403, Fig.20).

In Greece such a simple evolution has not been proposed, and would not easily fit the evidence there. We may notice for example the wide variation in symmetrical and stilted forms found associated in one tomb at the Kerameikos cemetery (Kraiker and Kübler, 1939, Pl.28).

The fibula from Milazzo in North East Sicily is regarded as marking the beginning of the Sicilian arched series on typological grounds:

"...its rather flat shape seems to mark the transition between the violin- and stilted-bow types" (Bietti Sestieri, 1973, 403).

From a Sicilian standpoint this piece closely recalls Italian fibulae with the disc foot, which do not occur in South East Sicily, and its archaeological context would allow this to be a possible import.

It is interesting that the early fibulae of the Pantalica region, while undoubtedly possessing a particular regional character in form and decoration, at the same time reflect a similar typological, and presumably contemporary, evolution of fibulae over a wide area of the Mediterranean. What are the factors at work here? An awareness among craftsmen and clients, far and wide, of the latest fashionable designs?

This makes any prediction about the origins of the types or their sources of inspiration very difficult. In fact, the assumption that the Sicilian fibulae are a reflection of Italian developments, rather than vice versa, rests to some extent on the premise, perhaps true, that Sicilian bronze craftsmen are conservative and absorbed foreign ideas rather than export their own.

Less theoretically it can be pointed out that whilst the Sicilian violin-bow fibulae have their closest parallels in South Italy and the Aegean, this is no longer so true with the later symmetrical or stilted bow fibulae with knobs. Some features recall Italian rather than Greek counterparts. The hatched decoration on the examples from P.S.56, P.S.51 and P.N.49, has a parallel on a fibula
from Ortucchio (cf. Id., 1973, 404), whilst such decoration is not an Aegean characteristic. The contemporary Calabrian fibulae are unfortunately less well known and yet recently a number of indications of close similarities with the Sicilian specimens have come to light (cf. Lo Schiavo-Peroni, 1979).

Another problem with understanding fibula development is the difficulty of explaining the changes in design in any convincing terms. One attempt to give some rationale to the transformation from the violin-bow to the arched variety emphasizes the ability of the latter in containing a greater amount of material between bow and pin. At any rate the concern with chronology has been uppermost.

The important task here is to assign credible chronological values to the various stages of typological development. In practical terms there are problems of overlap, long survivals and unusual specimens. The chronology of Aegean fibulae cannot always be extrapolated within a useful time margin to suit the purposes of more or less comparable Italian pieces. Any fibula may enjoy a lengthy period of circulation before deposition in a tomb. In the Aegean violin-bow fibulae are gradually supplanted by arched types and a period of coexistence is often demonstrable.

There has been much study devoted to fibula chronologies in Italian protohistoric studies and perhaps the maximum information has already been extracted from these objects for chronological ends. New discoveries may only slightly alter the general interpretations already existing, and even the best archaeological contexts limit the precision of inference which one might seek. For example, the individual buried in P.S.56 was accompanied by two fibulae; one a transitional stilted form (i.e. tending to the symmetrical) and the other quite evenly arched and therefore more 'evolved'. Nevertheless these two were used concurrently so far as one can tell, at the end of the deceased's life (1).

If one accepts that the arched fibulae with knobs evolved from the stilted to the symmetrical form, as described above, then the

(1) One of these fibulae has two double knobs rather than the more common single knob. For parallels, see Bietti Sestieri (1973,421, note 127) and Lo Schiavo and Peroni (1979, Fig.2:3).
following evolution may be proposed for the South East Sicilian types:

Stage 1: stilted knob fibula with slight curvature of the bow (e.g. De.P.59).

Stage 2: stilted knob fibula with more pronounced curvature of the bow (e.g. P.S.64, P.NW.1, Caltagirone, sporadic).

Stage 3: transitional forms from stilted to symmetrical (e.g. P.S.56, P.N.44, P.N.49).

Stage 4: arched symmetrical forms with knobs (P.N.3, P.S.56).

For the dating of the first stage an approximate *terminus post quem* may be inferred from the dating of the violin-bow fibulae with knobs to the late 13th and early 12th centuries B.C. This would allow a broad dating of Stage 1 of the arched knob fibulae to the later 12 or early 11th centuries B.C. in approximate accordance with the presence of similar types in the Aegean. We could surmise that the dates of the manufacture and circulation of the earliest fibulae with stilted bows could lie in the later 12th century and perhaps many of the specimens were deposited in tombs in the 11th century B.C. The appearance of arched fibulae in the Aegean has been reckoned to coincide with their appearance in Italy (Sapouna-Sakellarakis, 1978, 42) but their subsequent development in the two areas does not bear very close comparison.

For the dating of fibulae of Stages 3 and 4 an 11th-century B.C. date might be suspected though it is not possible to indicate a precise time by which the knob fibula went out of use. In Italy the thin-bowed knob fibulae seem to have been superseded by the thin plain-bowed types at least by 1000 B.C. and by about 1050 B.C. according to Bietti Sestieri (1979).

The incised chevrons and rings which typify the decoration of the Sicilian stilted and symmetrical knob fibulae are in the same tradition as the decoration of the earlier violin-bow fibulae and these motifs were also popular in the Italian peninsula. These motifs are particularly evident on specimens from South Italy. A further point in common between Sicily and Italy is the occasional
presence of incised decoration on the knobs (De.P.59, P.S.64, Gualdo Tadino hoard).

A number of divergences are also noteworthy; multiple knobs do not occur on the Sicilian pieces and the Sicilian catch-plate is smaller and undecorated. The central Italian specimens have been regarded as belonging to a richer and more creative tradition of metal craftsmanship (Bietti Sestieri, 1973, 404). Given both similarities and contrasts between Sicily and Italy it is difficult to establish the true extent and direction of influence on fibulae. It seems likely however that it was those parts of Italy which are geographically nearest to Sicily, especially Calabria, which shared the closest standards in these items and perhaps of dress. It seems unlikely that the Yugoslavian fibula with similar motifs (cf. Bietti Sestieri, 1973, 404) can be directly linked with the Pentalica specimens, though they may reflect trade across the Ionian and Adriatic Sea. Sicily might have been involved in this but was hardly affected to the same extent as Apulia.

As far as the Aegean is concerned, we are no longer able to indicate close parallels for these Sicilian fibulae here, as was possible for the violin-bow form. A typical stilted knob fibula from the Kerameikos tomb 108 (early 11th century B.C.; Snodgrass, 1971, 225, Fig.80) has more oval swollen knobs and slightly thickened bow. Birmingham (1963, 87-91) pointed to the importance of Cyprus in the production of the asymmetrical fibulae with elongated forearm and beaded bow for which a date range from 1125-950 B.C. was proposed (1).

One specimen from Perati (Iakovides, 1969, Fig.120) has two small beads on the bow and a squared section between. It is not dissimilar to a Sicilian specimen from Mulino della Badia (supra cit., Pl.6:24) and a few more parallels are noteworthy in Calabria (Lo Schiavo-Peroni, 1979, 553). Although it does not come from a sealed tomb, the Perati specimen has a good claim within the general context of that cemetery to belong to the later 12th or early 11th century B.C.

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(1) For an explanation of the knobs in terms of strengthening or decoration substituting real beads, see Catling (1964, 243).
In conclusion, while the stilted knob fibulae in the Aegean are at least approximately contemporaneous with the Italian and Sicilian specimens and the same basic designs are present in both areas, the detailed treatment of most elements is different and the Sicilian specimens belong without doubt in the Italic family.
Fibulae with thin arched bow, round section, decorated.

Tombs: P.NW.22; P.N.1; P.N.13; P.N.18; P.N.28; P.N.41; P.N.56; P.N.62; P.N.64; P.N.111; P.S.67; P.S.96; P.S.142; P.S.161; P.S.241; Fil.1; Cav.IX; De.C.69; De.P.44; Cas.61;

: with slightly thicker bows : Cas.21; Cas.61; Cas.70;

Others:

Lipari, Ausonian II levels (Brea-Cavalier, 1980, Figs.129:f; 130:f)
Niscemi hoard (Orsi, 1927, Pl.II:4)
Mulino della Badia (Müller-Karpe, 1959, Pl.5:2,18)

Discussion

The chevron and annular decoration which characterizes these specimens is in the same style as the violin-bow and knob fibulae. The hatched lozenge motifs of earlier types also occur occasionally on this group (P.S.241, P.S.161). The groups of chevrons tend to lie on the middle parts of the bow enclosed by groups of lines, with the effect of dividing all the decoration into zones, in the tradition of the earliest fibulae. Dimensions vary from about 5 to 11 cms. lengthwise, though between 6 and 8 cms. is most common.

These are the fibulae which have been conventionally ascribed to a second major phase in the Pantalica sequence (Peroni, 1956B; Müller-Karpe, 1959; Bietti Sestieri, 1979). There are many peninsular parallels for the form and decoration in the facies meridionale (Carancini et al., 1980, Pl.XXXI:A2; Pl.XLVIII:2-4) and particularly from Calabria, recalling the close similarities between the two areas, noted before (cf. Lo Schiavo-Peroni, 1979).

Regarding the chronology various considerations have been pointed out by different authors. Müller-Karpe (1959, 24) suggested a broad dating for all the Pantalica arch fibulae within the 11th and 10th centuries B.C., encouraged by the presence of such types in the Aegean in the Submycenaean period. 1100 B.C. seemed to be the date by which arched fibulae began to become popular in the Aegean, perhaps independently or under Italian influence (Snodgrass, 1971, 243, 317; Sapouna-Sakellarakis, 1978, 42). In Italy the dates for the early arched fibulae with knobs
(late 12th century B.C. on) do not necessarily prove any chronological priority over the Aegean, though Italian influence is possible.

Unfortunately, the Aegean arched fibulae do not bear very close resemblances to Italian types, therefore any copying is not visible and close chronological inferences cannot be drawn. The decorative motifs which we have mentioned do not have Aegean parallels. The proposition that arch fibulae without knobs are later than those with knobs, while being broadly accepted for Italy, does not however provide close indications of an initial date for the type. There is not perhaps sufficient evidence for a rigid acceptance of a sudden changeover from the one type to the other.

In Sicily, the types without knobs are not associated with the knob fibulae, while the associations with other grave goods can only give very tentative chronological indications: P.N.62 and P.S.142 occur with gold rings, a material which tends to occur, though not exclusively, in the early Pantalica tombs. The askos from P.N.1 is an early type, but at best one might suggest a late 11th-century B.C. date for these, rather than a 10th-century date. There are a few specimens from Cassibile with slightly thicker bows recalling peninsular specimens from pre-hellenic Cumae (Miller-Karpe, 1959, Pl.30:A5) as well as arched fibulae with thicker bows and incised rings from Dessueri and Mulino della Badia.
Fibulae with arched bow, round section

Tombs: P.N.13; P.N.21; P.N.74; P.S.32; P.S.66; P.S.161; De.C.73; De.C.72; De.C.69; De.P.48; De.P.44; De.P.47; De.P.34; De.P.58; De.F.51; De.F.53; De.P.57; Cas.18; Cas.3; Cas.11;
: with curved bow and pin: P.S.199; Clt.R.41;
: with slightly thickened and lower bow: Cas.8;

Others:
Calcarella, Realmese C41, E64, E55 (unpublished; Albanese, forthcoming)
Vizzini (unpublished)
Milazzo (Brea-Cavalier, 1959, Pl.XXXIX:12,13,15)
Niscemi hoard (Miller-Karpe, 1959, Pl.12:CS)
Lipari, Monfalcone (Brea-Cavalier, 1960, Pl.XLI:6; XLII:4)

Discussion
A number of specimens in this group are much corroded or encrusted and therefore traces of decoration in a number of cases may have disappeared. Dimensions range from 3 cms. lengthwise (P.S.32) to just under 12 cms. (De.C.73), while most specimens range from 5 to 8 cms.

For the chronology of these fibulae the remarks regarding the decorated examples, previously discussed, are largely applicable. The specimens from Milazzo have been taken as an indication of the duration of that cemetery into the 10th century B.C. (Bietti Sestieri, 1979, 607, note 13). There are no indications of early dates for the type in Sicily, perhaps in the 11th century B.C., and the type is rare at Pantalica but common at Dessueri. The specimens with thicker bows may be later than the large thin-bowed types, since the former occur in cemeteries of the 10th and 9th centuries B.C. such as Cassibile and Calcarella (9th to 8th mainly). Similar specimens from Dessueri may be of the same period.

A few examples have much smaller dimensions (3-4 cms.) such as P.S.32, Cas.11 and De.P.57. Such types are widely known in Italy and have been dated in phases Tarquinia IA and Veii I and some Sardinian specimens were recently illustrated (Lo Schiavo, 1978, 32). The specimens from P.S.199 and Clt.R.41 display a curved pin with slightly less pronounced curvature of the bow, sometimes
termed filiforme. Another specimen from Cassibile tomb 8, with slightly lowered and thickened bow, is of a type found widely in Italy in the Early Iron Age (Tarquinia IIA, Este IIA, Bologna IIA) datable in the late 9th and early 8th centuries B.C.
Fibula with twisted bow

Tombs: P.N.28;

Others:
Vizzini (unpublished)
Mulino della Badia (Miller-Karpe, 1959, Pl.6:23)
Lipari, Monfalcone (Brea-Cavalier, 1960, Pl.XLII:7a)
Butera (Adamestanu, 1958, Fig.176:b)

Discussion

The solitary specimen of this type from Pantalica has parallels in many other areas in different periods. It was found in a closed tomb with two skeletons and with another fibula of the arched decorated type with round section and apparently both were found near the left arm of one of the skeletons (cf. Orsi, 1899, 55) and therefore may have been in use contemporaneously.

In the Aegean the specimens from the Kerameikos are well-known and dated around 1075 B.C. (Snodgrass, 1971, 225) and some writers have been influenced by this (Peroni, 1956B, 404; Hencken, 1968, 436, note 3) although the type is also known from Protogeometric tombs and later (Sapouna-Sakellarakis, 1978, 51). It is not clear where the Pantalica specimen belongs by comparison with the Aegean specimens as far as the writer can see, and in any case there may only be an indirect connection between the two.

In Italy fibulae with twisted bows occur from the earliest period of the Final Bronze Age (cf. Carancini, 1979, 633, violin-bow types). On Lipari partially twisted specimens occur in the Ausonian II period, undoubtedly under peninsular influence, and they may have been introduced into Sicily at this time approximately. In this case the link with the Greek Submycenaean forms may be quite indirect and the Pantalica specimen would more probably belong in the 10th century (cf. Mulino della Badia) rather than in the 11th century (cf. Kerameikos). At any rate, the type does not seem to have been at all common in the area of the rock-cut tombs of the Pantalica culture.
Fibulae with Squared / Rectangular Bow Section

Tombs: De. F. 51; De. P. 32; De. P. 57; De. SE. 20; De. C. 72; Cas. 29; Cas. 55; Cas. 73; Cas. 102; Cas. 147;

Others:
Grammichele (unpublished)
Mulino della Badia (Orsi, 1905, Figs. 13, 14, 18, 19; Miller-Karpe, 1959, Pl. 5:19, 20, 23-28, 31; Pl. 6:21, 22, 25-27, 28)
Madonna del Piano (Brea-Militello-La Piana, 1969, tombs 26, 33, 36, 41)
Calcarella, Realmese (unpublished)

Discussion

There are a number of variations in the shapes of these fibulae, particularly with regard to the section of the bow. Those with the most flattened rectangular bows come from De. P. 32 and Cassibile tomb 55 for example. Other specimens have a more squared bow section and the specimen from Dessueri tomb 20 has a rhomboid section so that the flat part is no longer uppermost. Cassibile tomb 102 displays incised decoration, as does De. C. 72 which is further distinguished by the octagonal section. Cassibile tomb 147 is decorated by a series of dots on the upper part of the bow.

The find-spots of these fibulae immediately suggest a link between the cemeteries of Dessueri, Cassibile and Mulino della Badia, while Pantalica is conspicuously excluded. Similar specimens are known in peninsular Italy (cf. Delpino and Fugazzola Delpino, 1979, 444-445). It may be supposed that the type became popular in Sicily following the spread of influence from Ausonian facies such as Mulino della Badia, Madonna del Piano and Grammichele. These groups are usually considered to belong in the 10th to 9th centuries B.C. The presence of the type in the Lipari Monfalcone necropolis in an early Ausonian II context, along with the many other elements of peninsular derivation would lend support to this hypothesis.

At the same time it may be recalled that flat-bowed fibulae were common in Greece from the Submycenaean period and later, perhaps pre-dating their manufacture in Italy (Sapouna-Sakellarakis, 1978, 47-49). On the other hand, since violin-bow fibulae with flat bows
are well-known in Italy, the appearance of arched types, with the same feature, may have been a spontaneous local development.

Lo Schiavo (1979, 556-557) indicated a close parallel between a Calabrian specimen and one from Lipari Monfalcone. The specimen from Cassibile tomb 147 is fairly closely comparable also. Some decorated Calabrian specimens have been illustrated by Peroni (Lo Schiavo-Peroni, 1979, Fig.8:1,2) which are regarded as characteristic of a late moment in the Final Bronze Age.

The specimen with rhomboidal section (De.SE.20) has parallels at Mulino della Badia also and at Calcarella. Lo Schiavo (1978, 32-34) recently illustrated Sardinian specimens which are dated to the 9th and 8th centuries B.C. on the basis of the numerous peninsular analogies, particularly from Bologna.
Spiral Fibula

Tombs: P.S.68;

Others:
Longane (Bernabò-Brea, 1967, Fig.26:7,22)
Cocolonazzo di Mola (Orsi, 1919, 366, Fig.7)
Pozzo di Gotto (Orsi, 1916, Pl.II:3)
Selinus (Gabrici, 1927, Fig.155:k)

Discussion

Alexander (1965, 15, 22) assigned the fibula with four spirals from P.S.68 to his type IVai, with parallels in Greece in the Geometric period and in Italy (1). This fibula probably did not come to Sicily before the ninth century B.C. though Alexander was only able to propose a tentative chronology for the type ranging from about 850 to 650 B.C. The specimen in question was associated with a razor of the traditional thin trapezoidal shape which might have been expected to belong in an earlier period than suggested by this tomb. The evidence is not secure however since more than one skeleton was found.

The specimen from Pozzo di Gotto was listed under type IVb by Alexander (22) but these categories may require some adjustment following a full publication of the Italian evidence. Many specimens have damaged and missing parts. The Longane specimen with circular disk recalls those of Alexander's group IVai (cf. P.S.68) though the disk-plate contrasts with that of P.S.68 which is squared off on two sides. The Longane specimens may be slightly later in date than the one from P.S.68 on the basis of the overall impression given by the pottery and bronzes of the site while the same seems most certainly so in the case of the Cocolonazzo specimen (perhaps late 8th - 7th century B.C.) which is similar to Alexander's type IVb.

None of these types have been found in Ausonian II facies in Sicily. Despite this fact which may be explained in terms of the ending of the facies such as Mulino della Badia in the 9th century, it is possible that the spiral fibulae came to Sicily on a subsequent wave of peninsular influence, perhaps from Calabria.

(1) The Sicilian specimens listed by Alexander under types IVaIII and IVb seem rather misleadingly to be the one from P.S.68.
Fibula with thickened bow and annular incised decoration

**Tombs:** De.P.12; De.P.47; De.C.72; Cas.17; Cas.3; Cas.8; Cas.13; Cas.49; Cas.29; Cas.7;

**Others:**
Calcarella Realmese C30 (Lo Schiavo, unpublished)
Modica hoard (Orsi, 1900, Pl.12:4)
Tre Canali hoard (Cafici, 1888, Pl.14:1)
Mulino della Badia (Orsi, 1905, Fig.13)

**Discussion**

These specimens vary from 5 - 9 cms. in length though most are around 8 cms. The type is not represented at Pantalica but is common at Cassibile and Mulino della Badia. Associations with the Cassibile fibulae are known (e.g. tomb 17). The type was perhaps less common at Mulino della Badia than at Dessueri but in any case provides further indications of synchronisms between these three sites. The general type is present over a wide area of the Italian peninsula (Sundwall, 1943, 90-96) including Calabria.
'Cassibile Fibulæ'

Tombs: Type A: De.P.47; Cas.3; Cas.17; Type B: Cas.3; Cas.8; Cas.17; Cas.76; Cas.95; Cas.XXIII; Cas.LII; Cas.XI; De.C.69; De.P.57; De.C.74;
Others:
Mulino della Badia (Müller-Karpe, 1959, Pl.6:2,7,8,9,11,12,14,16,17).
Mulino della Badia/Madonna del Piano (Brea-Militello-La Piana, 1969, Fig.12:f,g; 13:f; 15:f,g,l,m; 17:c,d,l; 18:g,h; 19:a,n; 20:b,d,g; 21:a,b,c,f; 22:f,r).
Calcarella di Calascibetta (unpublished; Albanese, forthcoming).
Vizzini (Lo Schiavo, unpublished).
Modica, hoard (Orsi, 1900, Pl.XII:2,9).
Tre Canali, hoard (Cafici, 1888, Pl.XIV:2–6).
Lipari acropolis (Brea-Cavalier, 1980, Fig.126:b,c,d,f; 127:f; 129:h).
Santa Margherita Belice (Camerata-Scovazzo, 1978, Pl.XXII:1).
Cozzo Pantano (Orsi, 1893, Pl.I:7; Pl.II:11; Müller-Karpe, 1959, Pl.1:H2).
Thapsos (Voza, 1972, 191).

Discussion

This is the type of fibula which Bernabò-Brea has called the 'Cassibile' or 'Megiddo-Cassibile' type, in view of some East Mediterranean connections, which are perhaps not without some significance, but rather in need of review (1).

Two main types of this fibula can be identified in South East Sicily: the first (A above) with straight pin, curved bow, two springs and straight foreleg, and the second (B above) with similar features but only one spring and an open 'elbow' in place of the second spring. There is another type (considered below) with curved pin and foreleg which appears to be typologically intermediary between the Cassibile form and the serpentine form. A gradual development to the Cassibile form is not obvious from the South Eastern specimens. It is not possible to be sure if the type was known as early in this region as

(1) For Bernabò-Brea's interpretation of Near Eastern links for the type, see Id., 1957, 155; 1979, 592; 1964–65, 14–17; Brea-Cavalier, 1959, 95; Brea-Militello-La Piana, 1969, 212.
elsewhere but it may well have been introduced from outside and may not be an invention of Cassibile.

Bietti Sestieri (1979, 619) proposed a penetration of the type into the South East from contexts typified by Ausonian II elements such as Mulino della Badia or Lipari, i.e. from contexts displaying less conservatism and a larger repertoire of bronze production than the rock-cut tombs of the South East. An encouraging indication of this probability is provided by the great number and variety of specimens from Mulino della Badia. However, the find-spots indicate that the type quickly spread all over Sicily.

Considering the evidence from the East Mediterranean, the specimen from Megiddo is not closely comparable with the Sicilian specimens and its relevance to the Sicilian series is in the writer's opinion quite dubious. Furthermore, it is only approximately datable to the 10th to 9th centuries B.C. (cf. Guzzo, 1969, 302) at Megiddo and belongs in a class which Birmingham (1963, 101) dated from 925 to 750 B.C. The developed group of these Cypro-Levantine fibulae are of an even later date (750 to 600 B.C.) and the specimen from Samaria, which Guzzo studied in connection with the Spanish Huelva group, is probably of the 9th century B.C. Apart from the typological disparity then, it is not easy to see what relevance these comparatively late specimens in the East Mediterranean have to the Sicilian examples (1).

A link with the earlier Cypriot fibulae (also known in many other areas however) with rising forearm would be more credible, but this is speculation. In fact the conceptual pattern of fibula development in South East Sicily can be summarized in quite simple terms in loco. None of the changes in form require any noteworthy leap of the imagination on the part of their designers and in the simplest terms the Cassibile fibula is a fairly standard type with a different curve to the bow. Neither does the decoration require any explanation in terms of Near Eastern influence.

Bietti Sestieri (1973, 412) has pointed to some similarities with Italian violin-bow fibulae and particularly with similarly decorated

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(1) Compare also Birmingham's theory of separate fibula evolution between the Near East and West Mediterranean (1963, 102-103) with Brea-Cavalier (1959, 95), Hencken (1956, 215) and Maxwell-Hyslop (1956, 130).
examples in the Balkans, and suggested a Balkan origin (1973, note 155). This would not be the first suggestion of Sicilian-Balkan connections (cf. arched fibulae with knobs above) though we might suspect that it is a relationship which impinges directly upon South Italy, where a few similar fibulae have come to light (e.g. De Juliis, 1977, 1979).

A few specimens come from Crete and these can be quite closely compared with the Italic group (cf. Sapouna-Sakellarakis, 1979, type Ig). The specimen from Kydonia (1979, no. 46) recalls the Sicilian design with two springs (type A above) and has incised chevron decoration on the bow which also occurs in Sicily, and the specimen from Vrokastro (1979, no. 43) with a flattened rectangular bow section recalls the squared bow sections of De.C.74 and Cas.11. Unfortunately the chronology of these specimens is not precisely known and only the Vrokastro specimen has a vague association with LM III material (cf. Blinkenberg, 1926, 55).

One cannot be sure either what direction the distribution of the form took, east to west or vice versa. The Yugoslavian, South Italian, Sicilian and Cretan distribution merely suggests a maritime triangle around the Ionian Sea. It is also difficult to understand what Phoenician commerce could have to do with such a distribution. Rather the Phoenician connection can be invoked for the later distribution of Cypriot types westward (1).

The decoration of the Cassibile fibulae contrasts somewhat with that of earlier fibulae in the South East. Most common are the bands of incised rings with blank areas between occurring at most of the find-spots (Cassibile, Dessueri, Mulino della Badia, Calcarella, Lipari, and in the hoards of Modica and Tre Canali). Frequent also are those with bands of rings all over and occasionally alternating with zig-zag motifs (Mulino della Badia, supra cit., Pl.6:17; Palermo museum, unpublished). Specimens with squared section (cf. above and Vizzini, unpublished) are much rarer than the rounded types and there is an unusual segmented decoration on a specimen from the Tre Canali hoard

(1) The foreleg of an 8th-7th century B.C. Cypro-Levantine fibula was found at Barumini, Sardinia (Lo Schiavo, 1978, 42-44). For the influence of Sicilian fibulae on the Huelva group, see Guzzo (1969) and bibliography.
(supra cit.). The specimen with coiled bow from Cas. XXIII is also unusual.

While these motifs per se may not be radically different from the earlier chevrons and rings of the violin-bow and stilted arch fibulae, their rendering does indicate a change in style. The new motifs are not confined to the Cassibile fibulae however, but can be seen, especially at Mulino della Badia, on other bronze items. The herring-bone decoration, the bands of rings and the zig-zags are found on the plain arched fibulae and on ring-handle knives and spindles.

Detecting social implications of this fibula type is rather difficult, though full publication of Mulino della Badia would greatly improve the data. From the available tombs at that site, which are individual enchytrismos burials, it appears that these fibulae occurred in 16 of them (more frequently than at Cassibile) while simple arched types occurred in 18 tombs. In only two tombs were the two forms found together (tombs 6, 46). One explanation of this could be that only one fibula (of either sort) per person was the norm. The description of sexual differentiation at the site (Brea-Militello-La Piana, 1969, 226) would have been more securely based if skeletal analysis were undertaken. We may note that 'female' objects like spindle-whorls and combs were found with both Cassibile-type and plain-arch type fibulae.

For the chronology of the fibulae we may recall that Bernabò-Brea dated the types from 1000-850 B.C. Müller-Karpe placed the elbow fibulae in his second period, though he illustrated a rarer type (1959, Pl.6:4) with raised foreleg and straight bow (triangular form) in his Pantalica 1 period. This date (12th century B.C.) may well be too early since even such types on the mainland are considered to be around the late 12th or 11th century B.C. in date. In any case this particular specimen from Mulino della Badia is slightly bent and its decoration recalls the developed Cassibile forms. It also has a close parallel on Lipari in Ausonian II levels (supra cit., Fig.127:f).

Unfortunately, the few stratified examples from Lipari do not allow a clear picture of development to be formed. The lowest strata beneath the all hut (1980, Fig.126) yielded types
with pronounced as well as less pronounced elbow curve and a
specimen from over-lying layers was of the type referred to
above with straight bow (triangular form) (1). It has been
pointed out however that Cassibile fibulae do not occur in the
Piazza Monfalcone necropolis (Brea-Cavalier, 1977, 73-74; Id.,
1980, 643) but are known from later Ausonian II layers. If a
later Ausonian II context is accepted for the type, then there
seems little reason to alter Bernabò-Brea's original dating
for the type, 1000-850 B.C., especially since there is general
agreement for the culmination of Ausonian II and the beginning
of the Pentalica South phase with a new type of fibula (serpen-
tine) during the 9th century B.C. (Bietti Sestieri, 1979, 623;

(1) There was obviously some near-by disturbance in these layers
since an upper destruction level yielded violin-bow fibulae of the
Mirrors
Tombs: P.NW.23; P.N.3; P.N.37; P.N.140; P.S.173;
Others:
Ausonian I hoard, Lipari (Brea-Cavalier, 1980, 78, Pl.CCCXV: 283)
Pantalica North West, 1965 excavation (Italia, 1975-76, 16, Fig.2m)

Discussion
The mirrors from Pantalica are among the most interesting Sicilian bronzes of the protohistoric period. As a group they are unique at this time in the West Mediterranean, where their presence has been attributed to Mycenaean influence (1).

They are all around 15 cms. in diameter and are characterized, where visible, by three rivet holes placed in a line. It is difficult to make close typological comparisons for these objects since they are not decorated and the handles rarely survive, though one may deduce from foreign examples that these were often elaborately decorated (cf. Shäfer, 1958). Orsi (1899, 53) mentioned traces of ivory handles though only one of bronze survived (P.S.173).

Petrie (1927, 28-33) compared a number of East Mediterranean mirrors and noted the early dates of the Egyptian specimens. The Sicilian ones are more comparable with Aegean types however. In Cyprus the tanged mirror is presumed to be of Near Eastern derivation while the type without tang but with rivets is considered an Aegean form (Astrom, 1967, 90; compare Catling, 1964, 227).

It is this circular rivet-handled type which is most common in the Aegean, though tanged and tangless forms occur on Rhodes (Jacopi, 1930-31, 284). In Greece and Crete these circular forms occur mainly in the Late Mycenaean periods, especially in LH IIIA funerary contexts as well as during LH IIIB and LH IIIC, though less frequently.

(1) Two mirrors at least are known from Sardinia (Lo Schiavo, 1976, 52), one of circular type with presumably relevant Aegean and Sicilian parallels, while the other is elliptical to an even greater degree than Cypriot types, with an elaborate handle possibly of local manufacture but with Cypriot parallels for the style (e.g. Catling, 1964, Pl.36).
Hencken (1968, 434) has suggested that the Sicilian specimens may be local products. The question of their source of inspiration is still pertinent however. Taylour (1958, 70) noted that the mirror from P.NW.23 resembled Mycenaean forms but was not completely circular like the majority of Mycenaean mirrors. The slight flattening of the mirror edge, which concerned Taylour, occurs on two Sicilian mirrors (P.NW.23 and P.N.3) at the edge near the rivets where the handle would have been inserted. Analogies for this particular feature can be found in the Aegean, on Crete (Hood, et al., 1958-59, Fig.32) and at Mycenae (Wace, 1921-23, Pl.LIX:D) for example.

The presence of three rivets on the Sicilian mirrors appears to be standard and contrasts with a more common system of only two rivets in the Aegean. Three rivets are occasionally used in the Aegean, at Prosymna for example (Blegen, 1937, Fig.158) and one with four rivets was found in Knossos (Evans, 1906, Fig.100).

The imprint of a squared handle, not preserved, is visible on the surface of the bronze mirror from P.NW.23. Similar imprints are observable on some Aegean mirrors, at Perati for example (Iakovides, 1970, Pl.73). The diameters of the Sicilian mirrors compare quite closely with Aegean specimens although wider variations occur in the Aegean where the smallest are around 10 cms. and the largest around 21 cms.

Mirrors provide some useful chronological indications. Peroni (1956B, 400-402) proposed a date before 1230 B.C. for the types at Pantalica on the basis of LH IIIB parallels. Such an early date is no longer necessary for the Sicilian specimens since LH IIIC mirrors can be found in the Aegean. The mirrors from Perati belong at least within the 12th century B.C. The example from Perati tomb 16 was the only one found in situ and is dated by the excavator to the first phase (ca. 1190-1160 B.C.).

While on the one hand the examples from Perati cannot be ignored, especially since Snodgrass has pointed out that this site shows many signs of contact with other regions in and beyond Greece (1971, 40), a late 13th-century date, rather than 12th, cannot be ruled out. The 'Peschiera' knife which was also found in P.NW.23 (see below) could be taken as suggestive of an early date. Conversely, the
deposition in P.N.3, along with an asymmetrical knob fibula, suggests a survival of the mirror at Pantalica as late as the 11th century possibly. In retrospect it is rather surprising that mirrors are not known from the numerous Sicilian Middle Bronze Age tombs, that is, at a time when the type was most common in the Aegean.

The fragment from Lipari (supra cit.) is unfortunately undiagnostic and is not definitely a mirror. By association it belongs in the Ausonian I period and is probably datable to the 13th or 12th centuries.

It is interesting that at least in one case (P.NW.23) the mirror was found with the cranium resting upon it, as was the case at Perati tomb 16, though in other tombs at Pantalica the mirror was also found near the feet (P.N.37).

Hencken (1968, 47, 429, 433) was much impressed by a bronze mirror from Tarquinia which recalled Mycenaean types. Unlike the Pantalica mirrors, the rivets on this example form a triangle, as occasionally occurs in the Aegean, on Rhodes for example (Jacopi, 1930-31, Fig.26). The specimen is so isolated with regard to comparative material however, that its chronological significance is more or less indeterminable (1).

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(1) The published photograph of this mirror (1968, 47, Fig.35b) suggests that the original handle was placed along the flattened edge and is now missing. The handle now visible could then be a later addition.
Spirals, Armlets (A) and Rings (B)

Tombs: A: P. N. 37; P. N. 145; P. N. 133; P. S. 68; P. S. 28; P. S. 152; P. S. 19; P. S. 183; P. S. 185; P. S. 197; P. S. 198; Cav. I; B: Cas. 64; Cas. 1; Cas. 71; P. N. 62; P. N. 147; P. N. 85; P. N. 89; P. S. 56; Clt. R. 58; Clt. A. 21; P. S. 64; P. S. 6; P. S. 14; P. S. 15, 17, 19, 24, 31, 32, 39, 40, 41, 43, 44, 58, 65, 103, 140, 143, 144, 149, 150, 176, 182, 190, 195, 198, 225, 226; Cas. 10; Cav. I, III, IV, VIII; Others:

Mulino della Badia/Madonna del Piano (Orsi, 1905, 102, Fig. 6; 116, Fig. 20; 117, Fig. 21; Brea-Militello-La Piana, 1969, Fig. 17: f; 238, 243)

Longane (Bernabò-Brea, 1967, Fig. 26: 13, 14, 16, 21)

Cocolonazzo di Mola (Orsi, 1919, Figs. 2, 7, 9)

Finocchito (Steures, 1980, E2: 3, N15: 4, MURM5: 1A-C)

Discussion

Armlets were not common items in the Pantalica corredi of the earliest phases. Orsi (1899, 56) found fragments of gold bractea in the rich tomb of P. N. 37 as well as part of an armlet, perhaps silver or gold, and a bronze spiral in P. N. 133 which might be of the same date as the Mycenaean jug in that tomb (note presence of four skeletons though).

Bronze wire spirals certainly became common in the 'Pantalica South' period when they are associated with serpentine fibulae, with the spiral fibula in tomb 68 and with rings. Earlier bronze armlets and spirals are represented in some of the tombs of Mulino della Badia and later examples occurred at Longane and Finocchito.

Large numbers of rings were also found by Orsi in the Pantalica South necropolis associated with serpentine fibulae. A few are to be dated before this period however. A specimen with thick round section from P. N. W. 22 was thought by Orsi to be of silver (1899, 46) and was found with a simple arched fibula. The bronze ring from Clt. R. 58 could have been a late artefact in that site while the specimens from P. S. 56, P. N. 1 and P. N. 147 could be earlier than the Pantalica South period. The example
from P.S.64, which was associated with a knob fibula, was thought by Orsi (1912, 314) to be of lead.

A plain thin gold ring with a slightly convex hoop externally, concave on the inside, was found in P.N.62 associated with an arched fibula with incised decoration. Another one, almost identical, was found in an early tomb at Caltagirone (A.21) and a similar specimen came from Cassibile (tomb 64) associated with a serpentine fibula. The various fibula associations suggest that these types were used throughout the Pantalica sequence, though Taylour (1958, 71) did not regard them as Mycenaean.

The typical rings of the Ausonian II assemblages were the slightly convex or carinated specimens, up to a centimetre in section, which were found in considerable numbers at Madonna del Piano (1969, 243). A few iron specimens were also found at Madonna del Piano sometimes soldered to bronze rings. Iron rings appear in the Pantalica South necropolis subsequently (P.S.32,40,182,226, Cav.I,III) which may be another indication of the derivation of much of the Pantalica South facies from Ausonian precedents. Many of the bronze rings from Pantalica South with a round section were probably not finger rings but perhaps parts of chains or of other ornaments.
Rings with Oval Bezel

Tombs: P.N.37; De.F.79; Clt.R.1; P.S.142;

Others:
Pantalica, sporadic (Orsi, 1906, 12, Fig.4; Bernabo Brea, 1957, Pl.57, 58; Gentili, 1956, Fig.1:b)
Caltagirone, sporadic (Orsi, 1904, Fig.22; Bernabo Brea, 1957, Pl.56)

Discussion

According to Orsi, the damaged specimen from P.N.37 was silver, De.F.79 pale gold, P.S.142 and Clt.R.1 were gold (1).

Another gold specimen with a fish decoration on the bezel was found somewhere in the Pantalica North West cemetery (Gentili, 1956). The ring from clandestine excavations at Caltagirone (1904, Fig.22) had the eye-motif and was apparently of gold (cf. P.S.142, De.F.79) while another sporadic ring from Pantalica (1906, Fig.4) had interlaced coils closely resembling the one from Clt.R.1 (2).

The undecorated specimen from P.N.37 occurred with a single deposition in an exceptionally wealthy grave of the earliest period at Pantalica (with a violin-bow fibula). De.F.79 may have been a disturbed tomb, and the specimen has a decoration on the bezel of four concentric incised ellipses forming an eye-motif. The specimens from P.S.142 and Caltagirone repeat the same motif with the addition of incised bars between the outer and inner ellipses. The association with the incised simple arched fibula in P.S.142 may suggest a dating about midway in the Pantalica sequence.

The specimen from Clt.R.1 presents an intricate decoration of interlaced coils and comes from a cemetery with predominantly early tombs of the 'Pantalica North' phase. It seems obvious that these ornaments were known in the earliest phases of the Pantalica sequence and perhaps endured until the 11th century B.C.

(1) There is no scientific proof of the chemical make-up.
(2) Taylour (1958, 70, note 19) regarded the duplicates from sporadic contexts with suspicion: "This remarkable identity in design leads one to suspect a forgery".
If the sporadic finds are genuine, then we have evidence of the same motifs in the three major cemeteries. The genuine specimens are also sufficiently numerous for one to suppose a degree of personal wealth and display at this time which might not have been suspected.

While all writers have regarded these rings as Mycenaean, or at least influenced by a Mycenaean source (Orsi, 1904, 78; 1906, 12; Pace, 1953-54, 275; Bernabò-Brea, 1957, 152; Taylour, 1958, 70-71), attempts to pin down Aegean parallels have been unsuccessful. Taylour noticed some differences with the more usual Mycenaean rings.

"All the aforementioned have the bezel in the same axis as the hoop, unlike the more normal Mycenaean type" (1958, 71).

In fact the decorative motifs do not readily recall close parallels elsewhere. In making the following observations it is apparent that the presence of these rings and their iconography is not yet fully accounted for in terms of foreign influence at least.

The interlaced coil motif (Clt.R.1; Pantalica sporadic) occurs in one form or another on Mycenaean goldwork (cf. Becatti, 1955, Pl.XVII-XXI) but the parallels are not precise. Closer parallels occur on Cretan sealstones (Platon, 1969, nos.84,182,227) though these belong to a much earlier period. Specific contemporary parallels are not known to the writer.

The fish motif (Pantalica sporadic) is a symbol which occurs in many areas throughout prehistory in many forms. In this case, Gentili (1956, 165) suggested a specific representation of the Cretan skaros fish (scarus cretensis) sometimes depicted on Cretan seals. The chalcedony intaglio cited by Gentili (Evans, 1921, Fig.497) from Knossos does bear limited comparison with the Sicilian example with the forked tail barred at the base and the double fins. This may however have been a standard format for representing a fish in Mycenaean art, without particular concern for the species depicted and further parallels occur on mainland frescoes (Hood, 1978, 82, Fig.66).

The eye motif may have had a long history in the Aegean and
certainly in Egypt but it is not easy to find Mycenaean parallels for the eye-motif rings. Later Cypriot rings of the Archaic period (cf. Boardman, 1970, Pl.5) have a similarly shaped bezel with sometimes hatched ellipses like the Sicilian ones. Perhaps these had an earlier history in Cyprus from which the Sicilian specimens may be derived. This has yet to be demonstrated of course (1).

(1) The gold rings from Sant'Angelo Muxaro are different in shape and in the depicted motifs and are sometimes thought to be much later in date than the Pantalica rings. See however, Pace (1953-54) and Vagnetti (1972).
Bronze Conical Buttons

Tombs: P.S.24; P.S.39; Clt.R.58; Cas.10;

Others:
Conventazzo (Bernabò-Brea, 1947, 245, Fig.3)
Milazzo (Brea-Cavalier, 1959, Pl.XXXIX:8,11)
Modica hoard (Orsi, 1900, 173)
Taormina, Cocolonazzo (Orsi, 1919, 363, Fig.2)
San Cataldo hoard (Orsi, 1927, Pl.III:9)
Mulino della Badia (Orsi, 1905, 117, 120, Fig.21)
Mulino della Badia/Madonna del Piano (Brea-Militello-La Piana, 1969, Fig.13:h; 15:p; 21:g)
Finocchito (Orsi, 1894, Pl.III:11; Steures, 1980, El5:2, NW26:4, NW29:10, NW.45:2, NW.88:A)
Licodia Eubea (Orsi, 1898, 311)

Discussion

Bronze buttons are found in a number of sites where iron makes an occasional early appearance in Sicily as well as in later cemeteries where the influence of the earliest Greek colonizers is visible. The specimen from Caltagirone does not suggest a much earlier date for the type since it occurred in an area of the necropolis which was notable for a number of late depositions of the Pantalica South and Finocchito periods.

The Cassibile examples are the most numerous from any one rock-cut tomb (Cas.10). Orsi (1899, 123) mentioned twenty-five specimens, twenty-one of which are visible in the museum). The excavations at Mulino della Badia (Madonna del Piano) also showed that large numbers of these items frequently occur together in tombs. In four enchytrismos tombs at the site, between nineteen and forty-seven buttons occurred together.

In tomb 5 it was noted (1969, 253) that twenty-six specimens lay in a trapezoidal formation over a small area 14 x 4-6 cms. We may suppose that they were sewn on to garments in such large numbers more as studs than buttons (cf. Orsi, 1905, 120).

The comparison between the finds in Cassibile (tomb 10) and the Madonna del Piano tombs could be taken as a vivid indication
of identical forms of dress (cf. the fibulae also) between some individuals in communities where the funerary customs were very different. We may add that the belt-hook from the same tomb at Cassibile (1899, Pl.XIII:11) also has parallels at Mulino della Badia/Madonna del Piano (1905, Fig.29; 1969, Fig.12c) (1).

In view of the absence of buttons in the earliest phase of the Late Bronze Age, the East Mediterranean parallels which have been cited in connection with the Sicilian examples (1969, 240-241), from Troy and Poliochni, are of doubtful relevance. Buttons certainly occur over wide areas of the Mediterranean in the Late Bronze Age, on the Ionian coast of Greece for example (Marinatos, 1932, 26) and in Macedonia (Radt, 1974, Pl.39:1-6), but the numerous parallels from South Italian Iron Age sites may well be more relevant to Sicily (2).

The Milazzo specimen (tomb 92, supra cit.), associated with a simple arched fibula, could easily represent a further element of peninsular derivation in that Protovillanovan-type site, from where the form may have penetrated into the South East region where it was adopted.

(1) We may suppose this element of dress also to be derived from the Italian peninsula, though specimens occur even beyond the Alps (cf. Kilian-Dirlmeier, 1975, Pl.28:343).

(2) E.g. Torre Galli (Orsi, 1926, 82, Fig.69; 245, Fig.169; 255, Fig.178 (Canale)); Sala Consilina (Kilian, 1970, Pl.26:II:1d, etc.).
Swords and Daggers

Tombs:
- **Group 1**: P.N.68; P.S.141; P.S.161; P.S.254;
- **Group 2**: De.P.48; De.F.59;
- **Group 3**: P.N.48; P.S.57; De.F.74; P.S.130; De.F.67; De.P.63; P.S.70;
- **Group 4**: P.NW.1; P.N.1; P.S.16; P.N.120; P.N.71;
- **Group 5**: P.N.28; P.N.7; P.N.73; P.NW.18; De.F.44; De.F.32; De.F.63; P.S.196;
- **Group 6**: De.S.E.28; P.N.27; Cas.102; Fil.X;
- **Group 7**: P.NW.23;
- **Other types**: P.N.8; P.N.40; P.N.120; P.N.25; P.N.128; P.N.32; Cav.X; P.S.124; P.S.161; Cas.8; P.S.67; P.S.196; Cas.21; De.F.44; De.F.63; Clt.C.7; Clt.A.25;

Others:
- Lipari, Monfalcone (Brea-Cavalier, 1960, Pl.XLI:2a)
- Lipari, Ausonian I hoard (Brea-Cavalier, 1980, Pl.CCLXXXVIII-CCCII; Fig.130:b,c)
- Thapsos (Orsi, 1895, Fig.31; Voza, 1973A, Pl.VI:116)
- Cozzo Pantano (Orsi, 1893, Pl.II:5,13,18,23)
- Plemmyrion (Orsi, 1891, Pl.XI:4,8,10)
- Caldare (Orsi, 1897A, Pl.II:1,2)
- Valledolmo (Peroni, 1956A, Pl.8:b)
- Pantalica, sporadic (Orsi, 1889, Pl.V:3)
- Dessueri, sporadic (Arias, 1936, Fig.5)
- Caltagirone, sporadic (Orsi, 1904, Fig.3, 54)
- Mulino della Badia (Orsi, 1905, Fig.30; Miller-Karpe, 1959, Pl.7:10, 19, 27-29)
- Morgantina (Allen, 1972-3, Pl.XX:5)
- Modica hoard (Orsi, 1900, Pl.XII:5,1)
- Tre Canali hoard (Cafici, 1888, Pl.XV:5)
- Niscoemi hoard (Orsi, 1927, Pl.II:2,3; 46, nos.14-16)
- Calcarella (unpublished, Albanese, forthcoming)
- Matrensa (Orsi, 1903A, Pl.XI:5,8)
- Finocchito (Orsi, 1894, Pl.V:7)
Discussion

The following groups are distinguishable:

Group 1: Short tanged swords or daggers with one rivet and flat blade.

Group 2: Short swords with tang and three rivets set in triangular formation.

Group 3: Miniature forms or surrogates with various traits but blade and handle cast in one.

Group 4: Daggers with one rivet and pointed tangs, various blade sections.

Group 5: Daggers with one rivet and broad tang and flat blade.

Group 6: Small knives without tang, with one rivet and flat blade.

Group 7: Flange-hilted dagger.

Group 8: Various and incomplete specimens.

Full-size specimens from the South Eastern tombs are not very numerous and for the most part of a rather undistinguished form. Of the first group, the specimen from P.N.68 is the largest weapon from Pantalica (ca. 27 cms. long) with flat section and slightly raised flange around the shoulders and tang (not visible on published drawings), though it is possible that the broken specimen from P.S.141 (incomplete) was originally longer. The example from P.S.161 is the shortest (ca. 12 cms. but incomplete). Orsi (1899, 61, Pl.VII:9) doubted whether the duck's head found in P.N.68 belonged with the dagger, but it is possible since there is another example of a duck head handle on another knife from Pantalica (1899, Pl.VII:15).

For the chronology of these weapons only the specimen from P.S.161 (sealed tomb, one skeleton) is at all indicative on the basis of the association with the arched fibula, datable approximately to the middle of the Pantalica sequence, belonging in the later 11th century B.C. at the earliest.

Two specimens from Dessueri (group 2 above) are not very different from these last. The general outline is similar although one (De.P.48) has a pronounced midrib. This weapon has good parallels with other Sicilian examples from Caldare, Thapsos, Cozzo Pantano and Valledolmo (supra cit.). The triangular arrangement
of the three rivets around the shoulder is characteristic of
the Middle and Recent Bronze Age types. Perhaps they represent
a more robust local adaptation of the rather delicate Aegean-
type rapiers which are also known in Sicily (cf. Plemmyrion,
Caltagirone, supra cit.) (1). While De.P.48 has a slightly
more tapering blade than the Caldare specimens, this may simply
reflect a greater degree of sharpening and the overall similarities appear striking. Evidently these types were produced in
various lengths, the Dessueri specimens being comparatively
short (ca. 24-30 cms.).

Beyond Central and South East Sicily we may note the occurrence
of similar short swords in the Ausonian I hoard on Lipari. At
least two examples (supra cit., nos. 104, 107) are comparable
with De.P.48, while many others with shorter tangs recall similar specimens from Thapsos, Caldare, Valledolmo and Cozzo Pan-
tano. As regards the Italian mainland, Bianco Peroni (1970, 25)
considered these Sicilian weapons to be related to the Pertosa
family (2). The formation of the rivets, the blade outline and
sections are fairly comparable though we may point out that the
tang is missing on the mainland examples. The Ausonian I speci-
mens which have tangs, also have close analogies in the Pertosa family (3).

The evidence from Thapsos suggests an upper dating for the type
in the 14th century B.C. (cf. 1970, Pl.75c) whilst the Valledolmo
examples could be later (Recent - early Final Bronze Age). Bianco
Peroni (1970, 25) suggested a duration of the type until the
Recent Bronze Age but the two Dessueri pieces could at least be
regarded as Sicilian variants, descending from the Pertosa group,
of a later date. The example from De.F.59 (sealed tomb, two
skeletons) had an association with a knob fibula (Orsi, 1912,
270), a possible indication of a late 12th or 11th-century date.

(1) For the Aegean analogies of the Sicilian rapiers, see Taylour
(1958, 71) and Sandars (1961, 26-27). The different hilting form-
ations are noteworthy.
(2) The Sicilian weapons are not included in the recent monograph
(3) For the Lipari examples, see Brea-Cavalier (1980, Pl.CCLXXXVIII:
65; CCXCII:98, 101, 102; CCXCIII:103-107; 773-774). On the probable
wide distribution of Pertosa weapons throughout South Italy, see
Bietti Sestieri (1979, Fig. 8:9) has illustrated the specimen from De.P.48 in her second phase (post-1050 B.C. circa) though it is not clear on what grounds since the tomb association is hardly revealing. At any rate, these Sicilian specimens from Dessueri provide some indication of continuity in sword traditions from the 14th century B.C. to at least around the 11th century B.C. The type was probably quite efficient and many examples survive intact.

One of the most distinguished weapons from the South East, of a different type, comes from De.P.44 (group 8 above). This blade has double grooving, a markedly thickened and curved mid-section, rounded shoulders and three large rivets arranged in a triangle on the edges of the blade. This sword does not have precise parallels elsewhere although the large round-headed rivets and their formation recall others in the Ausonian I hoard on Lipari (cf. nos. 105, 101, supra cit.). The simple round shoulders do contrast with the Aeolian and mainland Pertosa blades but nevertheless the specimen is usually regarded as a Pertosa type (e.g. Maxwell-Hyslop, 1956, 128; Brea-Cavalier, 1980, 775). The blade section has some similarities with the Montegiorgio class however (Bianco Peroni, 1970, nos.119-130) and it is possible that the weapon is a hybrid. If the tomb association with the simple arched fibula is accepted (the tomb was not sealed) this could be an indication of a rather late date for this piece (11th – 10th century B.C.).

Two swords from the vicinity of the Caltagirone necropolis (Orsi, 1904, Fig.3, 54) deserve mention. One is a formidable weapon about 60 cms. long, of a type known in Sicily during the Middle Bronze period and recalling the Mycenaean rapier (cf. note 1 above). Its presence at Caltagirone is a further indication of the predominance of early bronze types at that site. The other specimen is shorter (ca.28 cms.) and more robust with squarish tang and one rivet - a common feature of Sicilian daggers - while the wide shoulders appear to be slightly unusual. These may have been emphasized by sharpening though also recall similar features of some Aegean weapons (1).

(1) See specimens from Mouliana (Crete) (Sandars, 1963, P.25:34) and Mycenae (Karо, 1930-33, 135, Fig.50). For Cretan blades with similarities to Pertosa specimens, see Deshayes and Dessenne (1959, P.20:5). The rapier from Caltagirone is currently displayed in the Museo della Ceramica in Caltagirone.
Short daggers are most common in the tombs of the Pantalica culture. One specimen from De.P.44 (ca. 22 cms.; group 5 above) was thought by Sandars to be quite closely related to the Aegean F-class (1963, 137). Although the T-hilt is missing, the rivet is located just beneath the line of the shoulders on the tang, as is typical of Sicilian daggers, while the uneven wear on one side of the blade may reflect some unorthodox usage, the specimen does have the flat section, straight shoulders and flanged grip which are common F-class features. We can suppose further F-class influence on the specimens from P.N.28 and P.N.73 in this group, which have narrow flanges around the edge of the tang (not visible in the drawings) and grooving.

Another broken specimen from Pantalica (Orsi, 1889, Pl.V:3), found before the main excavations, displays clearer F-class influence: the blade has greater breadth, square shoulders and two rivet holes on the broken grip. These are not the only instances of F-class influence (see miniature specimens below). The other examples of the group do not clearly display such influence however. The angle of the shoulders is often quite sloping (P.N.7, P.S.196, De.P.63, De.P.32) and in fact these specimens can only be loosely grouped. The general impression is quite reminiscent of Sandars' observation of Aegean specimens of approximately similar date:

"...in the later thirteenth century and in the twelfth century there is a complete breakdown of categories and every weapon appears to be sui generis..." (1963, 133).

A number of other specimens in Sicily display similarities with this group. One from Mulino della Badia (supra cit., Pl.7: 19) is similar to De.P.44 in outline and the tapering tanged weapon from the Niscemi hoard recalls P.S.196 (due to sharpening ?). Allen (1972-73, 148) compared the Morgantina dagger with the one from P.S.124 though the tangs are different and not dissimilar to a piece recovered in a sporadic context (perhaps from a habitation level) at Dessueri (Arias, 1936, Fig.5). Some tentative chronological evidence may be suggested by the associations with arched fibulae of the plain variety (De.P.44, P.N.28, De.P.32) suggesting dates midway in the Pantalica sequence (later 11th and 10th centuries B.C.). In view of the influence of the F-class on some
of the specimens we may propose that such types were produced from the earliest phase at Pantalica.

The miniature or surrogate forms (group 3 above) are distinguished by the preservation of grip and pommel but exhibit various contrasting details. The specimen from P.N.48 was singled out by Sandars since:

"...it reproduces all the features of the F swords or daggers: the square flanged shoulder, the T-shaped pommel, and a rivet-hole where one is so often placed, in the centre of the upper part of the blade" (1963, 138).

Another specimen which belongs most easily in this category is the one from P.S.57 (cf. Peroni, 1956, 395), although incomplete and damaged (1).

The other miniatures are not so easily explained. Sandars was not impressed by supposedly Aegean parallels for the round-shouldered Sicilian specimens but pointed to an example at Gezer (Palestine) as more credible than any Aegean counterpart (1963, 138). The published illustration makes any assessment of this piece difficult (Macalister, 1912, Fig.531:6) but the pommel is not so similar and the grip tapers to the shoulder.

It may be hasty to discount Greece as a source of influence. A number of Aegean types (e.g. Sandars type Eii; cf. Catling (1968) type Fi dirks) also have rounded shoulders which could have exerted some influence on the specimens from De.F.67 and P.S.130. From Athens (cf. Kraiker and Kübler, 1947, Pl.32) iron-bladed daggers are also known with round pommels and slight swelling on the grip (cf. the curved grip of P.S.130). There may be other scattered odd parallels with East Mediterranean daggers (e.g. Troy; Schmidt, 1902, 229) but these do not easily bear the weight of any direct implication.

(1) The best example of an F-class weapon from Italy comes from Surbo in Apulia (Macnamara, 1970, Fig.1:1; Bianco Peroni, 1974, 165A) which is the only example of an import or a precise replica of the Aegean form so far found in Italy. We may easily infer from the evidence gathered for the many Mycenaean contacts at this time, that the genuine F-class swords circulated at one time in Sicily, as demonstrably in Apulia. For the T-hilted Modica swords of Italic type as partly derived from the F-class, see Macnamara (1970, 245) and Bietti Sestieri (1973, 406).
The difficulties of discerning valid comparisons are aggravated in this case by the small size of the Sicilian specimens which may not have been intended as replicas of foreign types, doubtless omitting many points of detail because of their small size. The presence of only one rivet is particularly odd in this respect.

We may also point to Italian parallels for the fan-shaped pommels (cf. Müller-Karpe, 1959, Pl.89:2, Pl.107:6,26). The miniature daggers from Mulino della Badia bear some comparison with these types, possessing a concave-sided grip and pommel with a hole, as well as a slight indentation at the base of the blade (1).

It is interesting to notice that Müller-Karpe (1959, 22), on the basis of Peschiera parallels, assigned the daggers from P.S.130 and P.S.70 to his Pantalica I phase (12th century B.C.). Bernabò-Brea (1957, 152) preferred an early date on the basis of a "tradizione micenea" (Brea-Cavalier, 1959, 94), while Peroni (1956B, 402) placed only P.N.48 and P.S.57 in his early phase and regarded P.S.130 and P.S.70 as later.

Our impression is that P.S.57 and P.N.48, which are closest to the F-class, might be expected to belong in an early moment of the Pantalica sequence, though there is no helpful evidence from the tomb associations. It is difficult to decide whether P.S.70 or P.S.130 reflect influence from the Peschiera group, with suggestion of an early date. The miniature from P.S.70 with its straight-sided grip, perhaps has a stronger claim, while both specimens have similar blades with grooving. Their grave contexts are not very helpful towards dating though the association with a Cassibile plate-stand (P.S.70, note two skeletons however) is a surprising indication of a possibly later date, which perhaps influenced Peroni.

The dagger from P.NW.23 displays clear influence of the

(1) The dagger from Mulino della Badia (Pl.7:19, supra) is not very closely comparable with small specimens from Ausonian II levels, which have larger tangs and more sloping shoulders. These last could derive from Ausonian I specimens with similar outline (supra cit., Pl.CCLXXXIX:69). For mainland similarities, e.g. Pertosa, see Rellini (1916, Pl.II:4).
Peschiera family with flanged grip. Matthäus (1980, Fig.11) has recently pointed to the wide distribution of such daggers in Crete, the Cyclades, the Peloponnese and Epirus. In fact, the Sicilian specimens fit into the centre of the distribution area, if we take a global view, rather than to the South Eastern extremity of just the Italian distribution.

The miniature specimen from P.NW.23 (group 7 above) has a gold rivet at the lower end of the grip (unclear from published drawings) and the flanged sides are quite straight. The end of the grip widens quite conspicuously into a swallow-tailed end. The gold rivet is particularly unusual, probably merely decorative (one may be reminded of Snodgrass' explanation for the retention of bronze rivets on iron swords (1971, 217)). The dagger undoubtedly belongs to the early period of Pantalica, where it is associated with a mirror and a curved knife (1).

Another class of Sicilian dagger (group 4 above) which Peroni also distinguished (1956B, 392) is characterized by an ogival base, though apart from this distinctive feature many points of detail are quite different. The numbers of rivets, the blade sections and the presence of grooving are variable. The dimensions (ca. 8 - 16 cms.) suggest that the smaller examples (P.N.71, P.S.16) are surrogates. Indications of an early date for the type, which seems to be a form peculiar to Pantalica, come from P.NW.1 (association with a stilted knob fibula, but four skeletons) and for a slightly later date from P.N.1 (simple arched fibula, but two skeletons).

Another group consists of very simple forms (group 6 above) with one rivet and no tang. These miniature implements are quite dispersed in time and place in the South Eastern tombs.

(1) Another example from West Central Sicily was found in the Valledolmo tomb (Orsi, 1897A, 11; Peroni, 1956A, Pl.8B). There is also an unpublished specimen from Sant'Angelo Muxaro in the Syracuse museum.
Curved One-edged Knives

**Tombs: Type A:** P. NW. 4; P. NW. 20; P. NW. 23; P. N. 8,11,14,16,18,20-23, 27,28,29,41,42,44,49,56,62,64,74,111; P. S. 30,66,80,165,166,192, 194; Cas.3,17,39,52,54,70,76,21; De.F.31; De.P.44; De.P.47; De.C.72; Clt.C.14;

**Type B:** Cas.46; Cas.82;

**Others:**
Mulino della Badia (Orsi, 1905, 127, Fig.31; Müller-Karpe, 1959, Pl.7:1-9,11-14,16-18,20)
Madonna del Piano (Brea-Militello-La Piana, 1969, Fig.12:o; 15:b,e; 16:d,r; 18:i; 21:l; 22:a,i,l,m,n,t)
Lipari, Ausonian II levels (Brea-Cavalier, 1956, Fig.49b; Id., 1980, 585, 644, Fig.130:a)
Modica hoard (Orsi, 1900, Pl.XII:19)
Sant'Angelo Muxaro (Orsi, 1932, 277)
Catania museum (Libertini, 1930, Pl.LVIII:425).

**Discussion**
Peroni (1956B, 392-393) divided these knives into two groups: the first with ogival base and the second with rounded base. The former are a recognizable class with well-preserved specimens from P. NW.23, P. N.14, P. N.20-23, P. S.66, P. N.62, P. N.41, P. N.16, and range mostly between about 12 and 15 cms. in length, large enough to be functional implements. The specimens with rounded base (e.g. P. N.111, P. S.165, P. N.28) and some with a squared base (e.g. P. S.30, De. P.47, Cas.17, P. N.44, P. NW.4) tend to be slightly shorter, between 10 and 12 cms. mostly (all type A above). The types with ring handles have more varying lengths, between about 11 and 21 cms. (type B above).

The knives are a common element in the Sicilian protohistoric **corredi** and presumably were practical for most tasks which required a light and sharp implement. It may be unreasonable to suppose a particular specialized function for them: Iakovidès (1970, 459) suggested skinnning game for the Greek specimens, while Orsi (1926, 102) believed in some uso *muliebre* for the Calabrian ones from Torre Galli, perhaps connected with textile working. A major recent study suggested a link between South Italian knives and
female burials (Bianco Peroni, 1976, 97-101). Unfortunately the Pantalica contexts do not allow one to pursue a Sicilian analogy for this, although the examples from Madonna del Piano have been associated by the excavators with female depositions (1969, 226).

As a group, the Pantalica knives display some stylistic uniformity, such as the single rivet (cf. daggers), rounded or pointed base, simple flat triangular section and grooving on the blade. Some comparisons may be made with peninsular specimens. One from P.S.66 is distinguished by grooving on the sides and back of the blade and incised zig-zags (1). Similar motifs occur on a few peninsular knives of the Fontanella, Pfatten, Vadena, Caracupa, Bismantova and Este types (Bianco Peroni, 1976, nos. 48,60,77,149, 265,347,358) and in Greece on the Perati knife (Iakovides, 1970, 344, Fig.149). It is a simple form of decoration however and its rendering on different knives contrasts greatly in point of detail.

The knife from P.NW.4 is also unusual in the Sicilian series in possessing two rivet-holes instead of one and having a squared base which rather recalls some North Italian types of the Rebato group (1976, nos. 428-440). Two other specimens (De.P.44, P.N.42) display a shoulder-ridge just below the rivet, which is a common feature of mainland specimens of the Torre Galli, Spezzano Calabro, Benacci and Ruggeri types, but without close parallels and the grooving on P.N.42 is characteristic of many Sicilian blades. Bianco Peroni (1976, 81) noted that some Sicilian specimens show some stylistic links with the Calabrian ones, such as the curvaceous 'flame-shaped' outline, single rivet and simple base.

One of the most striking specimens is from P.N.8, with a bird's head termination on the handle. This knife was undoubtedly a miniature or surrogate form, only about 9 cms. long. Another knife from P.N.64, although broken, is of the same type, cast in one, and may have had a similar motif. Another bird's head, of ivory, was associated with the dagger in P.N.68. These forms arouse some interest wherever they occur in prehistoric Europe, and have been the subject of some controversy.

After the discovery of the Perati knife with bird's head, Müller-Karpe (1963) fully discussed the possibility that a number of bird-head knives in Italy and beyond the Alps might be derived from Mycenaean Greece, rather than vice versa, despite the contrasting details in the shapes of the various blades and their duck's heads. The possibility of real links between widely scattered knives of this type is shown by the very close correspondence between particular examples, such as the Fucino specimen (1963, Fig.1:7) and one from Hungary (Mozsolics, 1971, Fig.6:8) (1), while the rather schematic head of the Pantalica type is closer to the Wackonig Baierdorf Bronze D form (1963, Fig.1:5). Incised bird-motifs also occur on the blades of Italian knives of Vadena, Bismantova and Spezzano Calabro (1976, nos.58,81,280,361,392).

In support of a Mycenaean inspiration, Müller-Karpe pointed out that the Pantalica type occurred in a context where abundant links with Mycenaean Greece were visible. This is undeniable though we may also recall the links between many Sicilian and mainland types of bronzes (razors, daggers, fibulae). Matthäus (1980, 133) emphasized the ancient precedents for such forms in the East Mediterranean (cf. Sandars, 1963, 139) though this is suggestive of an ultimately East Mediterranean origin which does not necessarily explain the Sicilian derivation. Harding (1975, 199) and Bouzek (1969, Fig.9) pay no heed to the early history of the bird head in the East Mediterranean and suggested influence from the Urnfield region on the Perati knife even. Jockenhövel (1974, 86) suggested that the appearance of bird symbolism in the Urnfield region was evidence of ritualistic concepts held in common with other areas.

"As is so often the case when we grope among the clues and half-clues of prehistory all we seem able to grasp is that a certain idea, answering a specific need, travelled from one region to another. Arrived on new soil it was modified, adapted, and re-adapted to local tastes ..." (Sandars, 1955, 187).

(1) Bianco Peroni made the comparison with a less convincing parallel from Peterd (1976, 15) and the proposal of a 13th century date might be disputed by some scholars: Bietti Sestieri (1973, 391) dated the Fucino group in the late 12th or early 11th century B.C. and the Perati knife belongs in the 12th century B.C.
For the chronology of the Sicilian knives, Peroni (1956B, 392-393) suggested slightly different dating for his two groups: the first type, with ogival base, in both the first and second series and the second type mainly in the third but also in the second series. There is some evidence for Peroni's distinction although it is not clear-cut. In fact, the associations are not very secure. The knife from P.N.W.23 (two skeletons) may be one of the earliest at Pantalica, associated with a mirror and 'Peschiera' knife, while the P.N.44 example was with a knob fibula. Other specimens however are clearly later in date. P.S.66, P.N.62, P.N.41 and De.P.44 were all associated with simple arched fibulae of the thin-bowed decorated variety, perhaps late 11th or 10th century B.C.

Other specimens with rounded or squared tangs tend to have associations with simple arched fibulae also (P.N.11, P.N.28, P.N.56, P.N.74) while the Cassibile specimens are traditionally dated in the 10th to early 9th centuries B.C. Despite the presence of the type in the Pantalica South necropolis, there are no secure associations with serpentine fibulae there and the form may have gone out of use to some extent during the 9th century B.C. in Sicily and does not occur at Finocchito.

The ring-handle knives (type B above) also appear in the Pantalica culture tombs, at Cassibile that is, in a relatively late moment of the sequence and are absent in the Pantalica North and North West cemeteries. These types appear to be most representative of Ausonian II facies such as Lipari (rather rarely occurring) and Mulino della Badia. One specimen from Madonna del Piano tomba del pozzo (cf. Müller-Karpe, 1959, Pl.7:2,4,6,8), without a ring-handle, had a rounded tang with incised ring decoration leading into a flanged tang with rivet-holes, reminiscent of Vadena specimens (cf. Bianco Peroni, 1976, nos.44-63). A number of other knives with ring-handles had incised zig-zags (1969, Fig.15:b,e; 1959, Pl.7:1,3,12,17) a motif which has been noted, above, on peninsular specimens.

The tangs of the Mulino della Badia specimens display various sections: round, oval, squared, flat, hexagonal. The same variety
of shape is demonstrated by Italian specimens with ring-handles, where the length of the tang is similarly variable (1976, Pl.10) though the blade sections and outlines differ from the Sicilian group. The two ring-handle knives from Cassibile are most easily explained in terms of influence, along with many other bronzes in that necropolis, from an Ausonian II cultural group.
Razors

Tombs: Type 1: P. NW. 3; De. F. 57; Type 2: P. S. 68; Type 3: Clt. R. 16; P. N. 54; P. N. 15; P. N. 64; P. N. 18; P. N. 16; P. N. 50; P. NW. 29; P. NW. 4; P. S. 161; P. S. 191; P. S. 67; P. S. 192; P. S. 70; De. P. 48; De. F. 53; Fil. X; Type 4: Cas. 28; P. N. 60; P. N. 13; P. N. 79; P. S. 80; De. F. 59; De. P. 22; De. P. 44; De. F. 63; Type 5: P. N. 20; De. F. 2; Type 6: Cas. 13; Type 7: Cas. 78; Odd types: De. SE. 23; P. NW. 1; P. N. 13; Cas. 36; Others:

Pantalica, sporadic (Orsi, 1889, Pl. V: 4)
Ausonian I hoard, Lipari (Brea-Cavalier, 1980, Pl. CCLXXXVII: 61-63)
Piazza Monfalcone, Lipari (Brea-Cavalier, 1960, Pl. XLII: 1)
Milazzo (Brea-Cavalier, 1959, Pl. XXXIX: 1, 2, 4, 5; 33, Fig. 1)
Sant'Angelo Muxaro tombs 2, 4, 7, 11, 17 (unpublished)
Mulino della Badia (Müller-Karpe, 1959, P1. 7: 23-25, 30)
Mulino della Badia/Madonna del Piano (Brea-Militello-La Piana, 1969, Fig. 12d; 19b; 20a; Bernabò-Brea, 1973C, Pl. XV: 271)
Butera (Adamesteau, 1958, 487, Fig. 179; 492, Fig. 182)
Valsavoja (Orsi, 1902, P1. II: 13)
Modica hoard (Orsi, 1900, P1. XII: 11)
Niscemi hoard (Orsi, 1927, P1. II: 1)
Mendolito-Adrano hoard (Müller-Karpe, 1959, P1. 9: 6, 7)

Discussion

The following groups are broadly distinguishable:
Type 1: Long narrow blade and narrow tang (L. ca. 11 cms.).
Type 2: Long narrow trapezoidal blade, long narrow tang with rivet hole, shallow concave point and thickened mid-section (L. ca. 13.5 cms.).
Type 3: Rounded base with rivet hole, rectangular/trapezoidal blade with shallow concave tip (L. 8.5-11.5 cms.).
Type 4: Short rounded/squarish tang with rivet hole, concave edges, with/without grooving, deeply notched tip (L. ca. 6.5-15 cms.).
Type 5: Straight sides with small deeply notched tip (L. ca. 9-10 cms.).
Type 6: Broad-bladed razors.
Type 7: Bifid type.
One of the earliest types of razor in Sicily comes from the Ausonian I hoard (supra cit., Pl. CCLXXXVIII:6) on the Lipari acropolis (1). This is the only example of a *rasoio finestrato* in Sicily, a type which is best known in the north of Italy during the Recent Bronze Age despite being called the Scoglio del Torno type. Its presence at coastal sites in southern Italy (Bianco Peroni, 1979, Pl.111) and on Lipari is suggestive of maritime diffusion during the 13th century B.C. The type is not present at Pantalica.

Group I have some claim to early dates. In North East Sicily they are found at Milazzo (supra cit., Pl.XXIX:1) and also in the Lipari hoard (supra cit., Pl.CCLXXXVII:62). Brea-Cavalier (1980, 770) call it a Sicilian type, though its origins may more probably lie in Italy. A very similar mainland form comes from Fucino (Abruzzo) and is regarded by Bianco Peroni as a variant of the Pertosa family (1979, 65). Bietti Sestieri (1973, 391) suggests a date around the late 12th century or early 11th century B.C. for the Fucino group. The specimen from Lipari could be even earlier than this since some of the material in the hoard could have been in use in the late 13th century or 12th century B.C.

The Dessueri specimen (De.F.57) does not provide independent chronological evidence and there is an unusual specimen from Pantalica (P.NW.3) which is a bone imitation of this particular type. The razor from P.S.68 also displays similarities with the Pertosa family (cf., 1979, no.62) and has parallels in North East Sicily at Milazzo (supra cit., Pl.XXXIX:4,5).

Besides these, a large group of Sicilian razors (type 3) seem to be quite closely related to the Pertosa family. The main points in common are the gradually broadening blades with shallow concave tips. We may notice that while the mainland specimens tend to have a long tang without rivet, the Sicilian tang is short and round with a rivet hole. The North East Sicilian specimens are particularly similar to the mainland types (cf. Brea-Cavalier, 1960, 159).

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(1) The Sicilian razors are not included in the recent monograph on Italian razors (Bianco Peroni, 1979).
Bianco Peroni divided the Pertosa razors of the mainland into two groups: the first with the wide shallow concavity at the tip accompanied by a gradual thickening around the middle section and the second with a deeper concavity at the tip with a more pronounced thickened middle section. Such a division is of limited value since the whole grouping of Pertosa razors is made up of about ten specimens, no two of which are identical. The small size of the sample also casts some doubt on the significance of the separate chronological allocation of the two groups (Id., 1979, 13-14)(1).

If considered together, the mainland Pertosa razors are dated from Bronzo Recente to Bronzo Finale. One may suppose that the razor spread to North East Sicily with the arrival of Ausonian I settlers during the 13th century B.C. (cf. the rasoio finestrato on Lipari). The Griffo tomb at Milazzo contained a razor (supra cit., 33, Fig.1) with an association date suggested by a stilted knob fibula of around the late 12th or early 11th century B.C. In South East Sicily, despite numerous specimens, there are no very clear chronological indications for such an early presence of razors during the 13th and 12th centuries B.C. From the first three types above, De.F.57 and P.NW.3 have typological claims to a possible 12th century B.C. date. This is not certain by any means however and there are no good associations between razors and early types of bronzes such as violin-bow fibulae, mirrors or stilted knob fibulae (2). In fact there is no proof that the earliest inhabitants at Pantalica used these items (3). The association with plain arched fibulae is more secure however (P.S.67) for the type 3 razors and at least indicates a chronological allocation in a second phase of the Pantalica sequence.

(1) The separation of the 'Peschiera' razor (1979, no.56) from the 'Pertosa' group could be misleading. The Sicilian specimens which are quoted as similar to the former (1979, 12, note 12) are just as significant as the general similarities which connect many Sicilian specimens to the Pertosa family as a whole.
(2) De.F.53 has such an association, but obscured by the presence of three skeletons. The specimen from Caltagirone (tomb 16) in a cemetery full of quite early material could at least be suggestive of an early date.
(3) Nevertheless, this is an argumentum ex silentio which may be disputed since other bronzes of the earliest period in the South East display mainland links (cf. Müller-Karpe, 1960-61, 192).
The razors of type 4 could be considered most typically Sicilian though perhaps connected indirectly with the Pertosa group. The association with a knob fibula is not totally secure (De.F.59) and cannot be taken as confirmation of an early date, while the Cassibile specimen (tomb 28) may be an indication of its later duration (1). The two specimens from P.N.20 and De.F.2 (type 5 above) differ only slightly from this group having straight rather than concave edges (2). Neither of these have revealing associations in Sicily but recall a few specimens in Greece.

While considering the Aegean razors we may recall that the typical forms of the Late Helladic periods were double-edged leaf-shaped types (predominant from LH I - LH IIIA) and single cutting-edged 'meat cleaver' types (from LH IIIB - LH IIIC) (cf. Papadopoulos, 1979, 148). These types are quite different from the Italic forms. Occasionally it is possible to point out minor similarities between some very early Aegean and rather laterItalic types. The concave tip and trapezoidal shape which is reminiscent of Pertosa types, occurs on a few Cretan examples from Early Minoan I to Middle Minoan II (Branigan, 1968, Fig.11:5; Xanthoudides, 1924, Pl.LVI:1938) and possibly in Athens (Townsend, 1955, Fig.8), while a notched tip occurs on Early Cypriot specimens (Stewart, E. & J., 1937-38, Pl. CVI; Catling, 1964, Fig.5:2).

In view of the chronological disparity, it is difficult to believe that these similarities are anything but coincidental; thus we may doubt Branigan's assertion:

"The appearance of type III razors in Italy shortly after the end of the Minoan Early Bronze Age is of some interest. Both Alghero and Palmavera produced rather crude examples with no rivets, whilst Pantalica yielded a more finished product which was also rivetless" (1968, 40) (3).

One of the first scholars to seriously consider Aegean similarities for these items was Miller-Karpe (1960-61, 194). He was particularly impressed by the similarity of a Cretan specimen (Hazidakis, 1934, Pl.27b) with the Pertosa family, due not so much to

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(1) Cf. also unpublished specimen from Sant'Angelo Muxaro, tomb 17.
(2) Cf. examples from the Niscemi hoard (supra cit.) and from Sant' Angelo Muxaro (unpublished).
(3) This could be rather misleading. The rivetless specimen is an unusual one from P.N.13, hardly typical of Sicilian razors and not even certainly a razor at all.
any casual similarity but to a significant and real relationship (1960–61, 194). Recently, Matthäus (1980) returned to this question, illustrating another example from Lakithra on Kephallenia (cf. Marinatos, 1932, Pl.16:45) with similar traits, in a context where other Aegean and Balkan connections with Italy were visible (1).

We may suggest that another specimen might be added to this list. An implement from Mazaraki in Epirus, apparently not regarded as a razor by the excavator (Bokotopoulou, 1969, 194, Fig.5), displays the notched tip recalling our group 5, though the tangs are different (2). These Aegean specimens are suggestive, though in a rather imprecise sense, of possible early dates, perhaps late 13th to early 12th century B.C., in South Italy and Sicily.

There are few other specimens from the Pantalica tombs which are not damaged while some display atypical features. One from P.N.13 is unusual, with a rounded tip and squared base without rivet (3). Another implement from P.NW.1 is also not necessarily a razor, but has a tentative claim to an early date (4).

All the above-mentioned types are long, narrow and double-edged. Only a few others are of a quite different shape, with broad flat blade (type 6 above). The incomplete specimen from Cassibile (tomb 13) is regarded by Bianco Peroni (1979, 43–44) as a relative of the Tissmiri group, not closely datable within the Final Bronze Age. This type is also known at Mulino della Badia (supra cit.) and is likely to have arrived in Sicily from the mainland (cf. Kilian, 1970, 196).

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(1) The state of research and publication for South Italy and North West Greece is uneven. Further study might discover many more signs of material similarities but at the moment it is not possible to establish chronological priorities or sources of influence. With much of the evidence coming from Italy it is perhaps tempting to suggest Italian sources for odd Aegean specimens.

(2) According to Desborough, the Mazaraki tomb "...is reasonably firmly anchored to the end of the thirteenth century" (1972, 97). There is a second implement in the tomb with a shallow concave tip.

(3) This vaguely recalls an implement from the Ausonian I hoard on Lipari: "Non conosco invece confronti per lo strumento N 63 che classificherei come rasoio a causa della terminazione tronca, lievemente concava" (Brea-Cavalier, 1980, 770). See also note 3 previous page.

(4) The presence of four skeletons prevents certainty. Bietti Sestieri (1979, Fig.2:13) implied a date pre-1050 B.C. Peroni (1956B, Fig.7) separated the razor from the fibula (cf. Orsi, 1899, 43–44).
The tanged bifid razor from Cassibile tomb 78 (type 7 above) was discussed by Henken (1955, 160) who proposed that it was a western import into Sicily where it is datable in the 10th or 9th century B.C. Piggott (1946, 128) dated the British bifid razors from about 750 B.C. to 400 B.C. O'Connor (1980, 219-220) listed examples from France and Belgium:

"Double-edged tanged razors are characteristic of Britain through most of the Bronze Age. Piggott's class II has a notch, sometimes with a circular perforation or ribs ... and this class was certainly current during LBA 3 ..." (219).

Coombes (1979) noted earlier dates for tanged bifid forms on the Atlantic seabord:

"...Savory's Atlantic Bronze Age, First Phase, in Iberia (1000-700 B.C., Savory, 1968) and in Brittany during the Rosnoen phase (1000-900 B.C., Briard, 1965) occurring slightly later in the British Isles" (1979, 215).

We may suspect that the presence of such an unusual type of razor at Cassibile is the result of maritime diffusion linking Sicily with the Mediterranean shores of France and Spain. Further indications of similar type have been emphasized by Bernabò-Brea (1957, 156; Id., 1964-65, 17).
Axe s
Tomb s: P.N.48; P.S.241; De.F.50; Cas.39; Cas.70; Cas.113; Cas.54; Cas.7;
Others:
A) Shaft-hole type with knob, markedly concave sides and ribbing:
Plenmyrion (Orsi, 1891, Pl.XI:18)
Malvagna hoard (Orsi, 1927, Pl.1:5)
Cannatello (Orsi, 1897, 118–119, Pl.V:2)
Biancavilla hoard (Orsi, 1890, 49; Libertini, 1930, Pl.LVIII)
Lentini (?) (Rizza, 1962, 17)
Etna, Nicolosi (Pace, 1919, Fig.7c)
Lipari Ausonian I hoard (Brea-Cavalier, 1980, Pl.CCLXXX:5; CCL-XXIX:3,4; CCLXXVIII:1)
Paternò, Grammichele, Licodia Eubea (Brea-Cavalier, 1980, 759)
B) Shaft-hole with knob, slightly concave or straight sides:
Dessueri, sporadic (Arias, 1936, Fig.5 left)
C) Shaft-hole without knob, straight or slightly concave sides:
Modica hoard (Orsi, 1900, Pl.XII:6,8,13)
Dessueri, sporadic (Arias, 1936, Fig.5 right)
Aderno (Müller-Karpe, 1959, Pl.8:17, 18;
Mulino della Badia (Orsi, 1905, Fig.32; Müller-Karpe, 1959, Pl.7: 15, 21)
Polizzello hoard (Bernabò-Brea, 1957, Fig.47a)
Aci Trezza (Pace, 1919, Fig.7d)
Santa Maria di Licodia (Brea-Cavalier, 1980, 759)
Monte San Mauro hoard (Orsi, 1927, 39) (?)
Sant'Angelo Muxaro (Orsi, 1932, 277)
Malvagna hoard (Orsi, 1927, 40)
Pantalica anaktoron (Orsi, 1899, 78–79) (?)
D) Trunnion axes:
Nisemi (Orsi, 1927, 44, Pl.II:5; Müller-Karpe, 1959, Pl.12:C3)
Modica (Orsi, 1900, Pl.XII:14, 18)
Piazza Armerina (Orsi, 1898, Fig.2)
E) Winged axes:
Polizzello (Bernabò-Brea, 1957, Fig.47b)
Lipari Ausonian I hoard (Brea-Cavalier, 1980, Pl.CCLXXXIV:26-29)

F) Socketed axes:
Polizzello hoard (Bernabò-Brea, 1957, Fig.47c)
Monte San Mauro hoard (Orsi, 1927, Fig.1)
Lipari Ausonian I hoard (Brea-Cavalier, 1980, Pl.CCLXXXIV:25)
Sporadic, Catania Museum (Libertini, 1930, Pl.LVIII:403)

G) Flat axes:
Akrai (Bernabò-Brea, 1956, 15, Fig.8)
Malvagna hoard (Orsi, 1927, Pl.I:6)
Giarre (Pace, 1919, Fig.7a)
Girgenti (Pace, 1919, Fig.7b)
Lipari (Brea-Cavalier, 1980, 763-4)

Discussion
It may be imagined that axes were very common-place tools in
Sicilian prehistoric cultures at least from the Early Bronze Age
Castelluccio period onwards, when the large rock-cut cemeteries
appear. The centuries of tomb cutting must have taught Sicilian
craftsmen much about these tools. They were not very common in
the Late Bronze Age tombs but much more so in the hoards as they
were undoubtedly valued for their weight in bronze.

In the South East region, bronze axes usually appear in the
depositions in a miniature form, perhaps as surrogates (cf. dag-
gers etc.) or perhaps as amulets (Orsi, 1905, 124; Brea-Cavalier,
1980, 761). There is a tradition of miniature axes of bronze
and stone in Sicily which can in fact be traced back to the Neo-

Full-size specimens have occurred in the protohistoric tombs
though they have rarely been illustrated and it seems likely that they were used in the tomb construction. They are all of stone however and it seems that they did not constitute a formal part of the corredo but had been discarded or forgotten, sometimes broken, in the vicinity of the tombs.

Orsi found basalt axes at Cassibile (1899, 139-140), fourteen specimens in a tomb at Rivetazzo (1903, 26) and six in the corridor of tomb 16 at Cozzo Pantano (1893, 17, 31). A large fragment was found near tomb P.N.64 at Pantalica (1899, 91-92, Fig.34). There are numerous full-size bronze axes from the hoards but only rarely from other contexts. Two full-size specimens were recovered by Arias at Dessueri (supra cit.) and may have been from a settlement context. Bronze axes were probably also used for tomb-cutting but, needless to say, were too valuable, even when broken, to be left lying around the tombs (1).

Except for the miniature flat axes from P.S.241 (of stone) and P.N.48 (of bronze) all the other specimens from the tombs were miniature shaft-hole types, some of which (Cas.7, Cas.70, Cas.113) possessed the knob on the butt. This particular feature can be seen in Middle Bronze Age contexts in Sicily on a number of distinguished specimens (group A above) (2). Perhaps the type became less curvaceous in the protohistoric period as might be suggested by types like the specimen from the Ausonian I hoard (Pl.CCLXXVIII:1) and Cannatello (supra cit.).

The knobbed specimens from the tombs (type B above) of the protohistoric period seem to be descended from the earlier Sicilian types with knobs. The specimens from Cassibile and Dessueri all have good parallels in the hoards and in the Cassibile period shaft-hole axes with and without knobs occur

(1) Pick-axes may also have been used. Miniature specimens are known from the Akrai region (Bernabo-Brea, 1956, Fig.8) and from Plemmyrion (Orsi, 1891, Pl.XI:11).
(2) Sicilian shaft-hole axes may also have been used as weapons (cf. Orsi, 1899, 139; Macnamara, 1970, 247). Dr. Macnamara has also suggested that the knob on the butt may have been a casting fault at first, later adopted as a decorative element.
side by side (1). The plain miniature specimens from the tombs and Mulino della Badia are of the same form as some specimens from South Italy and it is particularly interesting to note that a miniature axe from Torre Galli tomb 186 (Orsi, 1926, 98) may have been a pendant on the fibula in just the same way as the specimen from Cassibile tomb 70 (2).

(1) There is a very curvaceous specimen (cf. Malvagna hoard, type A above) in the Ashmolean Museum (Inv. 1892:958) perhaps from Lecce in Apulia. For the distribution of a number of other Italian specimens, see Carancini (et al., 1980, Pl.XIX:B). Hawkes (1952, 100-104) discussed the presence of such types in France also. The axe found in the sea near Hengistbury Head bears comparison with the Sicilian pieces (group A above) for the curved outline although the knob on the butt is a slightly different shape and extends around the shaft-hole. It is regarded by Cunliffe (1978, 31, Fig.9:2) as datable probably to the eighth century B.C. Hawkes (1952, 100-104) discussed the presence of such types in France also.

(2) On shaft-hole axes in Italy in general see particularly Macnamara (1970), Bietti Sestieri (1969, 1973) and for the general distribution of other types as well, Harding (1975), Brea-Cavalier (1980, 758-766), Bernabò-Brea (1957), Carancini (forthcoming).
Needles and Awls

Tombs: P.NW.1; P.NW.12; P.NW.18; P.N.42; P.N.48; P.N.13; De.M.6;
De.SE.28; De.F.79; De.P.26; De.P.41; De.C.73; De.F.69; De.F.77;
Clt.A.21; P.S.16; P.S.58; P.S.60; P.S.64; P.S.69; P.S.91; P.S.177;
Fil.IX; Cas.62;
Others:
Cava Cana Barbara (Orsi, 1902, Pl.VI:7)
Butera (Adamesteanu, 1958, 494)
Cozzo Pantano (Orsi, 1893, Pl.II:25)
Mulino della Badia/Madonna del Piano (Orsi, 1905, 122; Brea-Mililetto-La Piana, 1969, 238)
Lipari Monfalcone (Brea-Cavalier, 1960, 167, Pl.XLII:10)

Discussion

There were a number of objects in the tombs which Orsi referred to as needles and a large proportion of them were damaged or incomplete. In fact only a few specimens survive intact displaying the eye at one end (e.g. P.S.91, P.S.64, P.NW.1). It appears from the publications that such objects were quite common, more so than may be apparent from the museum collections. Without very careful excavation techniques the chances of not finding such items would be quite high.

The thin wire needles must be distinguished from the various small metal tools sometimes referred to by Orsi as scalpellini, trapannini or rampinetti (De.SE.28, De.F.77, De.F.69, Clt.A.12, P.S.16, Fil.IX, Cas.62). These were thicker implements mostly with pointed tips perhaps justifying the description of awls or punches. Two specimens (De.SE.28, Clt.A.21) possessed sharp flattened edges, like small chisels (1).

The thin wire needles were probably deposited during most periods of the Pantalica sequence. On the one hand there are suggestions of earlier dates from associations with stilted and simple arched fibulae (P.NW.1, P.S.64, De.F.79, De.C.73)

(1) The strange tool from P.S.128 (1912, 318, Pl.VII:31) with a flattened edge at one end and pointed shaft at the other, looks like a chisel but was apparently made of ivory.
but there are also associations with the later serpentine forms (P.S.60, P.S.58).

Beyond Pantalica the most numerous group of needles comes from Madonna del Piano, where they are considered to belong to the female corredo (1969, 226) and these are quite similar to the Pantalica ones. Orsi (1899, 44–45) mentioned the presence of two needles near the crania, which might indicate some use connected with the hair.

Discussions of these items are usually limited:

"These tools are all of such simplicity and found in such abundance that it would be impracticable to describe and compare them from the Aegean and other areas (cf. the remarks of Catling 1964, 98)" (Harding, 1975, 194).

The example from P.S.128 (1912, Pl.VII:33) is the only sure example of a dress pin, which was regarded by Jacobstahl (1956, 138) as an irregular form of double-shanked pin. The type is considered a Bosnian form which was exported to Greece and dated around the 8th to 7th centuries B.C. (cf. Alexander, 1964, 170–174). Carancini (1975, Pl.113:D) illustrates a number of others from the Adriatic coast of Italy.
Plates on stands with handles

Tombs: Cas.3,8,11,14,15,20,23,24,25,28,30,39,46,60–66,73,74,76, 78,82,91,96,101,102,124,139,146; De.F.43; De.P.14; De.P.25; Clt.A.17; Clt.A.25; P.S.70; P.N.145;

Others:
Thapsos (Orsi, 1895, Pl.IV:7; V:16; 130, Fig.43; 136, Fig.52)
Cozzo Pantano (Orsi, 1893, Pl.II:16)
Matrensa (Orsi, 1903A, Pl.XII:3)
Sant'Angelo Muxaro (Orsi, 1932, 275, 280; unpublished, Fatta, forthcoming)
Dessueri, sporadic (Arias, 1936, Fig.3)
Canicatti (De Miro, 1968B, Fig.2b)
Sabucina (unpublished, Caltanissetta Museum)

Discussion

These vessels were particularly typical of the Cassibile necropolis where they were found in almost every tomb, contributing to the impression of marked uniformity in the burial rite at that site (1). Orsi (1899, 113) noticed that they ranged from ca. 12 to 35 cms. in height and substantially reproduced the form of earlier larger plate-stands of the coastal sites.

The decoration of the Middle Bronze Age specimens is quite different since they display vertical incised lines, dots and zig-zags and there was also a form with double handles and a double plate (Orsi, 1895, Pl.IV:7; 130, Fig.43). The Cassibile forms display only one loop handle attached to the underside of the plate and to the top of the pedestal. The tubular pedestal flared towards the base and less markedly so beneath the plate which was very shallow with a flattened rim. Many specimens retain traces of a painted 'catherine-wheel' motif (girandola) all over the inside of the plate achieved by light orange brush-strokes. Painted decoration, by vertical brush-strokes, also extended to the pedestal as is particularly evident and well-preserved on most specimens towards the flared base.

(1) We may also recall the more standardized dimensions and shapes of tombs in this necropolis.
Many examples preserve traces of a yellow shiny translucent surface, the precise nature of which is not certain. It may have been achieved by the application of some varnishing liquid, perhaps resin or wax (cf. Orsi, 1899, 141-142) (1).

Bernabò-Brea regarded the forms as lamps:

"Much the commonest form at Cassibile is the plate on a very tall stand, which might perhaps have been a lamp set to light the nether world of the dead" (1957, 154).

Bernabò-Brea may have been encouraged in this belief by the fact that some plate-stands from Sant'Angelo Muxaro had been noticed by Mosso (1909, 428) to have traces of blackening in the plate, due perhaps to their use as lamps. Taylour also commented on this theory:

"They have been construed as lamps by Bernabo Brea, though only rarely have traces of burning been noted. This fact does not necessarily disprove his interpretation, as the lamps may merely have been filled with oil ready for use in the next world, but not actually lit. He would derive the form from the well-known Minoan stone lamps, which are also found on the Greek Mainland, both in stone and in clay" (1958, 74) (2).

The form was obviously popular throughout Sicily in the Late Bronze Age though there are few representatives of the Pantalica North phase and the form was altogether rare at Pantalica and Dessueri and never occurred in Ausonian facies. The Cassibile examples are traditionally dated in the 10th to 9th centuries B.C. when the type was apparently most popular and the specimens from West Sicily may be of a similar date. Orsi (1932, 275) mentioned a number of fruttiere from Sant'Angelo Muxaro in tombs containing many skeletons, so the association with Greek colonial material was not necessarily close there. In fact the type is not known at Finocchito.

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(2) There are no close correspondences for the form known to the writer in the Aegean and the specimens quoted by Taylour (1958, 74, note 5) seem to be quite unconvincing prototypes for the Sicilian examples.
Plates on Stands without handles

Tombs: De.P.32; De.P.59; De.P.73; P.S.241;

Others:
Thapsos (Voza, 1973A, Pl.XIII:164)
Cozzo Pantano (Orsi, 1893, Pl.II:2)
San Ciro (Mannino, 1970, Fig.4:1,2)
Timpone Pontillo (Mannino, 1974, Fig.3:a)
Sabucina (Orlandini, 1963, Pl.XXI:1,3; Sedita Migliore, 1981, Figs.32, 34, 35)
Campobello di Licata (De Miro, 1968B, Fig.2:d)
Sant'Angelo Muxaro (Mosso, 1909, Figs.15-17; Orsi, 1932, Fig.5; Fatta, Forthcoming)
Pantalica, sporadic (Orsi, 1899, Pl.VII:11)

Discussion

Various vessels on pedestals were popular forms in the protohistoric series and the most elementary of the forms is the one with a concave pedestal, flaring towards the base, surmounted by an open bowl, sometimes known as a vasetto a calice. The widespread traditional form of the Middle Bronze Age had decoration in relief around the bowl, sometimes with incised decoration and small handles emerging in relief just beneath the rim (Orsi, 1893, Pl.I:4,19). Orsi illustrated an incomplete sporadic specimen from Pantalica which displays an incised handle motif just beneath the rim in the Thapsos tradition. Apart from the general format of the vessel, the flattened downward slope of the rim also has precedents in the Middle Bronze Age series, although relief and incised decoration are not a feature of the Late Bronze Age examples.

Although these vessels are not very common in the Eastern tombs, there are a number of well-made wheel-turned specimens like the one from De.P.59 and the largest of the three from P.S.241, in protohistoric contexts throughout Sicily as far West as San Ciro.

The vessels from Dessueri and Pantalica probably date within the earlier phase in the Pantalica sequence. The one from De.P.59 was associated with an early stilted fibula with knobs (roughly late 12th century B.C.) while others occurred with thin-bowed large arched fibulae (roughly late 11th century - 10th century B.C.).
There is no particular reason for dating the San Ciro specimen in the 13th century B.C. as suggested by the excavator (Mannino, 1970, 40) since on the basis of only pottery associations, the date could be lowered by up to two centuries.

While these examples (including the one from Sabucina and Timpone Pontillo) seem to have been regularly manufactured to a prescribed design, a number of others conform less closely. A vessel from Sabucina has a broad surmounting arch spanning the rim of the bowl, leaving only two windows at either side for access to the bowl. A Late Bronze Age date is proposed by the excavator for the Sabucina context but the form also has precedents in the Middle Bronze Age when it occurs at Thapsos in a settlement context (supra cit. Pl. XXXI:3; Voza, 1973C, Pl.X:146).

Other variations on the open-bowl forms come from De.P.32 with a deeper bowl and shorter pedestal and two from P.S.241 are small specimens (ca.13 cms.) rather crudely made perhaps on a slower wheel. The specimen from Campobello di Licata is unusual in possessing a straight pedestal and a series of lugs just beneath the rim. A numerous group were found at Sant'Angelo Muxaro with many variations in the shape of the bowl and particularly in the rim profiles. They are decorated with the various incised designs of the local style and doubtless are to be dated in the Iron Age, rather than earlier. In Eastern Sicily, the shallower 'Cassibile' plate-stands were probably contemporary.
Bowls on stands

**Tombs:** P. NW. 21; P. NW. 22; P. NW. 38; P. N. 37; P. N. 124; P. N. 129; P. S. 67; P. S. 153; P. S. 161; P. S. 171; P. S. 191; P. S. 201; Cav. III; Cav. VII; Clt. A. 14; Clt. A. 21; Clt. R. 1; De. P. 40; De. P. 44; De. P. 32;

**Others:**
Barriera (Orsi, 1907, 74, Fig. 32)
Pantalica, sporadic (Orsi, 1889, 174, Pl. VII: 6, 7)
Pantalica, sporadic tomb (Bernabò-Brea, 1973A, Pl. XIV: 181, 182)
Butera (Adamesteanu, 1958, 478, Fig. 175)
Mokarta (Mannino, unpublished)

**Discussion**

These vessels which are considered to be one of the most typical forms of the Pantalica culture, occur in a wide range of sizes, from 13 cms. in height up to colossal dimensions over a metre (P. NW. 38), though they are mostly between 20 and 40 cms. The large deep bowl has either a splayed rim or a collar-neck which was placed upon the concave tubular pedestal flaring towards the base. Two pointed handles (which Orsi called 'dog's ears') were set just above the widest point of the body. The glossy red surface was frequently decorated with groups of incised vertical lines spaced at intervals around the body (as on the amphora-shaped vessels) and occasionally extending to the pedestal also (e.g. P. N. 124). In one case, the whole body was covered by vertical grooving which creates a spectacular effect on a vessel of such large dimensions (P. NW. 38) (1).

Vessels of various types mounted on stands were popular in Sicily even before the Late Bronze Age. Many elaborate and decorated types are known from Thapsos and Cozzo Pantano (e.g. Voza, 1973A, Pl. X, XI; Orsi, 1893, Pl. II: 1, 16) although only one of these bears a close resemblance to the Pantalica type (Orsi, 1895, Pl. V: 9) and an unusual form from Milazzese levels.

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(1) Dr. Mannino kindly showed me fragments of an unpublished basin of colossal dimensions, similarly decorated, from Mokarta in West Sicily. For a rather different type from Sant'Angelo Muxaro, see Mosso (1909, Fig. 8).
is quite reminiscent of the type (Brea-Cavalier, 1980, Pl. CLXX:1). The Pantalica vessels seem to have developed particular features such as the pointed handles and decorative motifs although even these features have precedents in the Middle Bronze Age (e.g. Orsi, 1895, Pl. V:5).

Taylour (1958, 74) knew of no equivalent to the Sicilian pedestal bowl in the Mycenaean repertoire and Bernabò-Brea noted the influence of the Thapsos types:

"Characteristic ... is a very beautiful red glossy ware, often including tall tubular stands still in the Thapsos tradition, but by now having substantially different forms, while the quality of the pottery itself has also changed and it is now certainly wheel-turned" (1957, 151).

It is difficult to comment on the purpose of these vessels which may have been status symbols in the case of the colossal specimens which occurred in the large rectangular chamber tombs (P.N.38, P.N.22). Orsi (1899, 65) mentioned finding the skeleton of a small animal, perhaps a rabbit, inside the one from P.N.129 no doubt intended as a funerary offering. They may represent a continuity of some custom associated with the elaborate Middle Bronze Age forms which were found in settlement as well as funerary contexts (e.g. Voza, 1972B, 145, Fig.6).

There is no doubt that the form was used from the earliest period at Pantalica where it is associated with the violin-bow fibula and the mirror (P.N.37, sealed tomb, one skeleton). There are no associations with later fibulae of the Cassibile or serpentine forms, except for the fragmentary pedestal from Cavetta tomb III (three skeletons however). The vessel was well-known during the intermediate period of Pantalica as is attested by associations with arched fibulae without knobs (P.S.67, one skeleton; P.S.161, sealed tomb, one skeleton).

The specimen from Butera which is fully described by Adamesteanu (1958, 480) displays many contrasting details with the Pantalica group. The shape of the pedestal is similar to the distinct forms from Sant'Angelo Muxaro. The Butera vessel has been dated as a 7th century B.C. type by the excavator, which is an unusual chronological indication for the survival of this type until such a late period. There is another similar example
from the Caltanissetta region visible in the Caltanissetta Museum and a small specimen with some distinct features from a sporadic tomb in the Cassibile region has recently been published (Procetti, 1978, Pl.XCIV:e). However the form was not found in the Cassibile tombs by Orsi, whereas the plates on pedestals were very popular there and the type was not found at Finocchito.
Hour-glass shaped vessels

Tombs: De. M. 14; De. P. 18; P. S. 241; P. S. 2411; Clt. C. 25;

Discussion

These vessels have very ancient antecedents in Sicilian prehistoric cultures, dating back at least until the Early Bronze Age. The vasetto a clepsidra with black on red decoration was characteristic of the Castelluccio culture of the early second millennium B.C. After the disappearance of the painted decoration at the end of the Castelluccio period an undecorated type was made of coarse pottery during the Middle Bronze Age. The vessels from Milazzese levels on Panarea sometimes possessed a perforation at the bottom of the cup surrounded by incised lines and dots.

"...dovevano veramente essere destinati a conservare la frutta tenendola sollevata da terra per difenderla dagli insetti, mentre i fori dovevano consentire l'aereazione e lo scolo del sugo dei frutti troppo maturi ritardando la fermentazione" (Brea-Cavalier, 1968, 200).

There is also a strainer in the cup of an early specimen of the Capo Graziano culture (Brea-Cavalier, 1980, Pl. CXXXIII: 2).

The vessels from the protohistoric tombs may be in the same tradition but they are not perforated or decorated. The ones from the Pantalica South necropolis are miniature forms, unlike De. P. 18 (ca. 17 cms.) and the example from De. M. 14 has a much smaller pedestal base with short handles. According to Orsi (1904, 83, Fig. 35) the specimen from Caltagirone was of much earlier date than the Late Bronze Age material from the site. The nature of the find-spot is not quite clear but was probably not a tholos tomb.

For the chronology of the type there is a good association in tomb P. S. 241 (sealed tomb, one skeleton) with an arched fibula with incised decoration without knobs, with an implicit date approximately midway in the Pantalica sequence. Apart from this the type seems to be too rare to permit any further pronouncement.
**Jugs**

_Tombs:_ P. NW. 1, 16, 22, 23, 35; P. N. 7, 8, 26, 30, 37, 40, 41, 56, 64, 66, 71, 129, 145, 146, 148; P. S. 24, 45, 88, 166, 172, 175, 183, 198, 199, 200, 230; Fil. XII; Cas. 11; De. M. 1, 5, 11, 15; De. SE. 20, 26, 28, 29; De. F. 4, 14, 32, 35, 41, 53, 54, 57; De. P. 5, 10, 13, 20, 22, 32, 35; De. C. 69; De. A. 79; Clt. A. 6, 15, 17, 18, 19, 22, 27, 29; Clt. B. 2, 3, 5, 9, 13, 15; Clt. C. 3, 14, 20, 26, 34, 36; Clt. R. 2–7, 15, 16, 46–48, 68, 77, 78; Cas. 99; _

_Others:_

Palermo Museum, Naro Collection (Pacci, 1982, 74, N2)

**Discussion**

Orsi found a number of jugs in Middle Bronze Age coastal sites of various shapes, both globular and ovoidal, for some of which, Taylour (1958, 74) proposed Cypriot influence. In the Late Bronze Age sites Orsi found an even greater number of jugs. Many of them were slender ovoidal or globular forms with high arched rim to shoulder handles. The necks of the _cueriforme_ or _piriforme_ examples, so-called by Orsi and Peroni, were short and straight or slightly concave and the bodies tapers to a narrow base. They ranged from about 7 to 25 cms. in height though were mostly between 9 and 14 cms.

Orsi noted brown and red burnish on many examples as well as some decorative motifs. Groups of incised vertical lines were occasionally present (P. N. 8, De. C. 69; cf. amphorae and bowls on stands), one specimen had an unusual curved motif with incised triangle extending beneath the handle (P. NW. 22) in the same manner as some Middle Bronze Age types (Orsi, 1895, Pl. IV: 18; V: 22) and one vessel from Caltagirone had incised lines and dots (cf. Thapsos; Orsi, 1895, Pl. IV: 7). The general shapes of the ovoidal bodies and high arched handles also have precedents in the Middle Bronze Age (1895, Pl. IV: 11, 18).

A number of jugs, particularly from Dessueri, were less ovoidal and had longer necks (e.g. De. C. 69, De. P. 32, De. P. 22, P. S. 45, P. S. 200) while globular forms were also common throughout the protohistoric period (e.g. Clt. B. 15, Clt. C. 3, Fil. XII, P. N. 26, P. NW. 16, P. S. 230, P. S. 199, P. S. 24). A coarse impasto jug from P. S. 198 had a slightly different shape with a noticeably carinated
belly, broad concave neck and handle from rim to carination. Another one from Cassibile (tomb 99) was similar. These are more akin to those jugs of Ausonian II groups such as Milino della Badia or Madonna del Piano (Brea-Militello-La Piana, 1969, Fig.25:b,g) and Lipari (Brea-Cavalier, 1980, Pl.CCXLII:5) and may be a further indication of such influence on the pottery of Cassibile, Pantalica South and Dessueri (1).

Other jugs of unusual form were from Cas.11, which was a small vessel with incised vertical lines, from De.M.6, a form with broad neck and pointed handle and two slim, coarse vessels from Clt.C.26 and a miniature form from P.S.166, all of which are variations of the standard type. A small ovoidal juglet from De.P.46, with incurving walls and no neck, recalls the numerous series of coarse juglets of the Middle Bronze Age, well represented on Panarea for example (Brea-Cavalier, 1968, Pl.LIX:19) and with a probably more contemporary parallel in a tomb in West Sicily (Mannino, 1974, 43, Fig.3:b).

Mosso (1909, 423) thought that a number of jugs from Sant'Angelo Muxaro were of steatite. Dr. V. Fatta has recently found however that the specimens in question are in fact of dark, heavily encrusted clay (pers. comm.). Their decorative pattern, with groups of incised vertical lines, is typical of the Sicilian repertoire of the Late Bronze Age, directly comparable with decorative motifs of South East Sicily.

Peroni (1956B, 391-393) distinguished jugs with corpo piriforme and corpo globulare, noting the former in the first and second of his series and the latter type only in the third. It is certain that they date from the earliest phase in the Pantalica culture, to which period most of the Caltagirone specimens belong. The type is associated with knob fibulae (P.N.66, one skeleton) and arched fibulae without knobs (P.N.41). Although there are no good associations

(1) Bietti Sestieri (1979, 611) has noted South East Sicilian influence on the Ausonian jugs from Lipari for example (Brea-Cavalier, 1960, Pl.XLI:7). Some Ausonian vessels of different form from the Pantalica ones display burnish and a similar incised decoration.
between the ovoidal jugs and serpentine fibulae, it is certain that the form was current at least during the Cassibile phase, since there is a painted type in Cas.74 (see below). Globular jugs are common at Finocchito, rather than ovoidal forms.
Painted Jugs

**Tombs**: P.N.133; De.F.1; De.F.50; De.C.69; Cas.74; P.S.12;

**Others**:
Mulino della Badia (Orsi, 1905, Fig.8; Miller-Karpe, 1959, Pl.7:36)
Cozzo Pantano (Orsi, 1893, Pl.1:8)
Lipari Ausonian II levels (Brea-Cavalier, 1956, Fig.48:e; Id., 1980, Pl.CCXX:9)
Chiusazza Cave (Tinè, 1965, 245, Fig.19)
Caltanissetta territory (Caltanissetta Museum, unpublished)
Morgantina (unpublished).

**Discussion**

The jug from P.N.133 was the subject of a special study by Vagnetti (1968A) who disagreed with previous interpretations of this vessel as a locally made product with Mycenaean influence, but suggested that it should be considered as a Mycenaean import (1968A, 133). The Mycenaean connotations were pointed out (Furumark Form 24:111) with a number of LH IIIC1 dates for the form and Rhodian parallels for the decoration. In view of some lowering of the initial date of LH IIIC1 since Vagnetti wrote, her comments on the importance of this jug in establishing an early date, pre-1200 B.C., for the beginning of Pentalica, which were always debatable, have subsequently lost their significance. The specimen is nevertheless most interesting and in a sense unique as the only ceramic evidence at Pentalica of a painted, imported vessel of LH IIIC (1).

The other painted jugs from the tombs are of a completely different variety. The ovoidal shapes of Cas.74, the Chiusazza vessel and the one from Lipari (supra cit.) have a very similar shape to those undecorated ones from the Pentalica tombs. The other examples have more globular shapes, while the fine specimen with concave neck (De.F.50) is similar to a burnished jug from Ausonian II levels on Lipari (Brea-Cavalier, 1980, Pl.CCXXVII:7). However it is not typical of Ausonian jugs but is more in the tradition of the concave necks and burnishing of the South East amphora-shaped vessels for

(1) It is quite similar in shape to another LH IIIC1 jug from Satyrion which has painted horizontal bands but no pendant motifs (cf. Lo Porto, 1964, Fig.17).
example.

These jugs display some variations in the style of the painted decoration. At least two techniques are clearly distinguishable: the first is visible on the traditional ovoidal forms (Cas.74 etc.) and seems to be achieved by rapid brush-strokes backwards and forwards more or less horizontally covering the vase with striations (*piumato*). The example from Chiusazza also displays such decoration with an undulating pattern around the belly.

Other jugs (e.g. De.F.50, De.C.69, Mulino della Badia) display a more regular arched motif in bands around the body, sometimes referred to as the palm-leaf style. A specimen from Caltanissetta had this motif with vertical strokes on the neck. As well as these two styles there are a number of vessels, particularly from the Pantalica South cemetery, which display curved motifs, usually stemming from the base of the vessel, running approximately vertically around the vessel, less haphazardly than the striations noted above while not as organized as the palm-leaves (P.S.12).

Such painted jugs must obviously be dated later than the early period at Pantalica. The striated specimens from Cas.74, Lipari and Chiusazza may belong within the 10th century at the earliest. Brea-Cavalier (1980, 599) noted that *piumato* ware occurred in later Ausonian II layers. The specimen from De.F.50 is probably no earlier. A 10th or 9th century B.C. date may be presumed for the specimen from Mulino della Badia and De.C.69 which was associated with a Cassibile fibula and simple arched fibula with slightly thickened section (two skeletons). The example from P.S.12 (three skeletons) may be the latest of the group, associated with a serpentine fibula.
Trefoil-lipped Jugs

Tombs: P.N.50; P.S.67; P.S.101; P.S.184; P.S.186; P.S.187; P.S.199; Cas.54; De.F.72; Clt.R.41; Clt.R.44; Clt.R.59;

Others:
Sant'Angelo Muxaro (Mosso, 1909, Fig.10 etc.; Orsi, 1932, Figs.6-8; Fatta, forthcoming)
Madonna del Piano (Brea-Militello-La Piana, 1969, Fig.26)
Finocchito (Steures, 1980, E16:11 etc.)
Calcarella (unpublished)

Discussion

One of the earliest examples of a trefoil-lipped jug in Sicily comes from tomb 67 in the Pantalica South necropolis, where with the single inhumation was associated pottery and bronzes most typical of a stage midway in the Pantalica sequence, probably within the later 11th or 10th centuries B.C. The specimen from P.N.50 may be of a similar period but it is not indicated by any tomb associations.

The trefoil jug from Madonna del Piano tomb 42 bis, seems to have been regarded as the earliest of the type in Sicily (Bernabò-Brea, 1964-65, 21-22; Brea-Militello-La Piana, 1969, 245-246) though in the general context of that cemetery it hardly seems to be earlier than the one from P.S.67 and probably belongs in the 10th or 9th century. The specimens from Caltagirone are not early like most of the material at that site since they were found in that part of the necropolis which was characterized by later deposits, contemporary probably with Bernabò-Brea's Pantalica South phase and these were local painted geometric jugs. A small jug from Cassibile (tomb 54) may belong in the 9th century B.C. by association with an early type of serpentine fibula.

Apart from these rather scattered individual specimens a more consistent series of trefoil-lipped jugs comes from tombs in the Pantalica South necropolis, which seem to date from the later phase of that cemetery as typified by serpentine fibulae. Whereas the earlier type had a fairly ovoidal body (P.S.67, P.N.50) as favoured on local jugs of the period, the later vessels have much 'baggier' bodies, broad necks and a markedly trefoil lip.
A constant feature of the trefoil jugs is the type of handle which extends from the shoulder to the rim or just below it, but is never arched above the rim in the manner of the common Sicilian ovoidal jugs. At least two specimens (P.S.187, P.S.184) were decorated by bands of horizontal grooving which is also visible on some specimens from Finocchito (Steures, 1980, E16:11) where it has been associated with bronze serpentine fibulae. A more slender ovoidal shape with a slightly longer neck (P.S.186) was probably a rarer design at Pantalica and at Finocchito (1980, NW.66:3).

A striking series of jugs with trefoil lips come from Sant'Angelo Muxaro, richly decorated with incised bands, horizontally, around the body and with chevrons on the shoulder, as is typical of the decorative repertoire at that site. Forms with baggy bodies are known there as well as more elongated shapes with flaring trefoil lips (Mosso, 1909, Figs.9, 20). These are the jugs which Taylour (1958, 76-77) believed to be modelled on Cypriot forms of the Cypro-Geometric III period (850-750 B.C.).

Bernabò-Brea (1957, 156) regarded the oenochoai of his third phase as influenced by prototypes of the Greek Geometric series, but for the earlier specimen from Madonna del Piano he suggested Phoenician influence and was supported by Moscati (1968, 189; Bernabò-Brea, 1964-65, 21-22), while in our opinion there was little supporting evidence for this. Bisi expressed surprise at such an interpretation:

"Per l'oinochoe a bocca trilobata di Pantalica III Sud e del Molino della Badia (fase di Cassibile), di cui il Bernabo (op.cit., pp.21-22) vede gli antecedenti nella ceramica ugaritica del Tardo Bronzo e in quella filisteo (ma che cosa vi sia di "fenicio" in quest'ultima non si riesce a capire, dal momento che la morfologia e la tematica sono fortemente improntate al mondo egeo), i modelli diretti sono forse meglio rappresentati da brocche della Tarda età del Bronzo cipriota ..." (Bisi, 1968, 22, note 46).

There are a wide variety of trefoil jugs in Cyprus where their history begins in the early 2nd millennium B.C. (Yon, 1976, 136-7) and many of them bear resemblances with Sicilian forms. A jug of Plain White Wheel-made I ware (Aström, 1972, Fig.LXVII:1) closely recalls the form and proportions of the jug from P.S.186, while another (1972, Fig.LXVII:4) has the very baggy body and wide neck of some Sicilian oenochoai. As is often the case however with protohistoric Sicilian pottery, the local copies do not easily allow
a credible hypothesis to be made regarding their source of influence. The problem is made more difficult since the decorative motifs are of the local style.

In conclusion it seems quite possible that Sicily was introduced to trefoil-lipped vessels by the Mycenaeans, along with a number of other vessels, during or soon after LH IIIC, when the type became more common in the Aegean, though it only achieved a wide popularity and circulation in Sicily during the Pantalica South period (and later) corresponding with its floruit in the Aegean in the Proto-geometric and Geometric periods.
Jugs with tubular spouts

Tombs: De.P.32; De.P.41; P.N.115; P.N.145; P.N.146;

Others:
Thapsos (Orsi, 1895, Pl.VI:11; Taylour, 1958, Pl.9:5; Voza, 1972, Fig.13c; Id., 1973A, Pl.VIII:91).
Agrigento (Alaimo bequest, Agrigento museum).

Discussion

These are all small impasto jugs (ca. 7-12 cms.) with tubular spouts placed at a raised angle on the widest part of the body at right-angles to the rim-shoulder handle. They are sometimes called 'feeding-bottles'.

While it is the form of the spout which recalls a vast number of similar jugs, widespread in the Mediterranean, particularly Mycenaean specimens, the Pantalica and Dessueri examples have Sicilian precedents at Thapsos.

Taylour (1958, 73) likened the Thapsos vessels to Furumark's Form 160-1 with Aegean parallels and noted that:
"In all cases the shape is Mycenaean rather than Siculan" (1958, 73).

The type with a basket-handle is very common in the Aegean and particularly on Cyprus from at least LH IIIA1 until LH IIIB, whilst the type with vertical handle (cf. Furumark Form 43) is most common between LH IIIB and C, and it is this form which more closely resembles the Sicilian specimens.

Although the distribution of tubular-spouted vessels covers a similar area to the strainer-jugs, and the two kinds have been occasionally studied together (e.g. Furumark, 1944, 236-7; Gjerstad, 1960, 118), they probably arrived in Sicily at different times and perhaps through different agents. In fact these vessels are known in the Near East, Cyprus, the Aegean and North Africa during the Late Bronze and Iron Age periods. In most areas they appear to be the work of local potters.

The Pantalica specimens are not closely datable by associations. If one proposes their derivation from Thapsos, their manufacture during Pantalica 1 would be expected, while the Dessueri vessels
could represent a later stage of production. Unfortunately the associations of the Dessueri specimens are insecure given the numbers of skeletons and state of the tombs.
Oblique-mouthed Jug
Tombs: P.S.81;
Others:
Lipari, Ausonian II levels (Brea-Cavalier, 1956, Fig.48:a; Id., 1980, Pl.CCXLIX:10)

Discussion
The evidence for exchanges between Sardinia and Sicily has been considerably augmented recently by the publication of Sardinian pottery of the Nuraghic period from Ausonian II layers on the Lipari acropolis (Contu, 1980). The notable quantity of the material in question and the variety of forms found indicate that contacts were not merely casual.

It is not certain at what time the South Eastern cultures of Sicily were introduced to Sardinian wares but the oblique-mouthed jug from Pantalica South, associated with serpentine fibulae, suggests a 9th - 8th century B.C. date. The clay is dark grey in the manner of the Sardinian jugs and the circular decoration which occurs horizontally on the shoulder of the vessel is a well-known motif in the Sardinian repertoire (cf. Guido, 1963, 117).

It does not seem possible to suggest a particular provenance for the Pantalica specimen since the form was known throughout Sardinia and is also often found in Etruria, at Vetulonia for example (Gras, 1980, 523). It may be that Sardinian influence is also to be seen in the incised decoration of some small bowls from the Pantalica South necropolis (e.g. Orsi, 1912, Pl.X:67, 73,75) which recall some of the motifs on the Nuraghic pottery from Lipari (1980, Pl.CCXLIX:d,e,f,i) though the motifs are quite simple (1).

Strainer-spouted jugs

**Tombs:** P.N.64; P.S.55; De.F.12; De.F.77; De.P.10; De.P.51; De.P.56; De.C.72; Clt.A.5; Clt.A.30; Clt.B.9; Clt.C.33; Clt.R.12; Clt.R.45;

**Others:**
Sabucina (Orlandini, 1963, Pl.XXI:2; Caltanissetta Museum, unpublished)
Syracuse (Orsi, 1918, 516)
Dessueri, sporadic (Arias, 1936, 369, Fig.1,2)
Lipari acropolis (Brea-Cavalier, 1956, Fig.47d; Id., 1980, Pl. CCXXIV:5, CCXXXIII:4, CCLVIII:2e, 3c)
Finocchito (Orsi, 1897, Pl.VII:27; Steures, 1980, 166, no.16; 169, MURM 5:16)
Agrigento (De Miro, 1963,174, Fig.86).
Sant'Angelo Muxaro (unpublished; Fatta, forthcoming)
Calcarella, Realmese (unpublished; Albanese, forthcoming)
Mulino della Badia/Madonna del Piano (Brea-Militello-La Piana, 1969,
Syracuse museum (Cafici collection; Voza, 1980, Pl.XXXIX)

**Discussion**

These vessels comprise a numerous group which are all characterized by the trough spout and filter. Their presence in Sicily is commonly seen in terms of Phoenician influence (Bernabò-Brea, 1964, 21; 1979,592-3; Brea-Militello-La Piana, 1969, 214; Moscati, 1968, 189), Cypro-Levantine influence (Taylour, 1958, 76) or Mycenaean influence (Bernabò-Brea, 1957, 152; Leighton, 1981). Like the collar-necked jars the strainer-jugs are a conspicuous instance of foreign influence on the local ceramic repertoire. They are also most frequent at Caltagirone as well as being found at all the main sites of the protohistoric period all over Sicily (excluding Cassibile).

From study of the East Mediterranean specimens it seems most likely that these vessels began to be manufactured in Sicily at some time probably soon after 1200 B.C. The specimens from Caltagirone have the best claim to being the earliest in Sicily by association with the collar-necked jars which are obviously of
Mycenaean derivation (cf. above). As with these last mentioned, the strainers appear to be locally made and there are no extant examples of imports in Sicily. Unfortunately, the typology of the Sicilian specimens does not indicate any specific source of inspiration in the Aegean or further East. It is possible to suggest a Rhodian role in their distribution (cf. 1981, 288-289) although Attica and Cyprus are also possible sources of influence.

The specimens from Lipari, occurring in Ausonian II layers, may derive from the Sicilian Pantalica North-Caltagirone facies (cf. Bietti Sestieri, 1979, 611) or may rather be derived from earlier Aeolian specimens despite the fact that none survive from Ausonian I levels. South East Sicily was probably not the only area to have been introduced to the type by Mycenaean trade. It is not clear whether the Mulino della Badia specimen represents an adaptation by the Ausonian group of a South East Sicilian form or whether it is yet another element brought into Central Sicily from the North Eastern Ausonian cultural region.

A vessel from Torre Galli in Calabria (Orsi, 1926, Pl.III:6) is conclusive proof that the strainer was adopted by mainland cultures also and completely absorbed by the local potters onto the traditional vessel forms. The vessel with strainer from the Taranto region of Apulia (Biancofiore, 1957, 123-4) is of a rather different form from any Sicilian example, lacking the vertical rim to shoulder handle and longish neck. It has, perhaps rather optimistically, been considered symptomatic of: "l'attivita pastorale con connessa industria del latte" (1957, 123) (1).

A few strainer vessels of quite different form belong to the Palermo museum collection of pottery from Sant'Angelo Muxaro (2). These are all askoid vessels of the ring-type as well as other squat and globular forms (cf. discussion below; askoi). They may be a hybrid invention in Sicily. Unfortunately they have no association dates, although it is noteworthy that the use of

(1) For the idea of their connection with the beer industry see, for example, Albright (1949, 115). For a strainer fragment from the Marches, see Lollini (1979, Fig.2:11).

(2) I am grateful to Virginia Fatta for showing me these specimens.
the strainer on askoi also occurs in Apulia and Yugoslavia during the Iron Age (cf. Batovic, 1975, Pl.101:6, from Nin).

The jugs from Finocchito and the one from the Cafici collection (supra cit.) are characterized by a conical strainer covering the neck of the vessel. This element is detachable in the former case but fixed in the latter. The rendering is quite different from the neck strainers of many Cypriot Base Ring vessels but has a closer analogy on an unusual vessel from Lachish (Tufnell, 1953, Pl.89:362). This could at least be an indication of a conceptual link related to the function of a double strainer on these rarer types.

It is possible to notice other general similarities between Sicilian and Eastern vessels such as the transverse ridges on the spouts of some Dessueri specimens (cf. 1981, 286). At the moment these analogies rather defy any precise interpretation. The Finocchito specimens which may belong to the eighth century B.C., might have been most easily accounted for in terms of Phoenicio-Punic influence except for the fact that such vessels have never been found in the well-explored settlements of Western Sicily.
ADDENDUM
Strainer-Spouted Jugs in North Africa

Following a previous discussion of strainer-jugs in Sicily and the East Mediterranean (1981), a small group of these vessels came to the writer's attention from references by Gabriel Camps (1961, passim) to examples from Algerian sites such as Gastel. Camps suggested that these specimens may owe their presence there to Sicilian influence:

"La Sicile semble avoir servi de point d'escale a partir duquel ce type de filtre aurait penetre en Afrique du Nord" (258).

On purely comparative grounds however this is quite uncertain since the North African examples mostly resemble open cups rather than jugs with handles and necks (cf. the Taranto specimen however, supra cit.). In fact the vast array of East Mediterranean examples in many regions cannot be ruled out as possible sources of influence, though Sicily may be favoured by proximity.

The questions raised by the North African specimens certainly require very close investigation within the context of North African research. Not least of the problem is the difficulty of chronological allocation of them. It may be said however, that the whole question of relations in prehistory between Sicily and North Africa, as tentatively explored by Camps (1961, passim) with regard to rock-cut tombs (cf. the haouanet group vis a vis Cassibile), seems well-worth special treatment.
Askos-shaped Vessels

Tombs: P.N.1; P.N.149; P.S.5,24,30,32,39,41,42,43,44,55,68,81, 91,102,145,152,186,198,225; De.P.56; Cav.III; Cav.IV; Cav.VIII; Cas.54;

Others:
Lipari, Ausonian I and II levels (Brea-Cavalier, 1956, 75, Fig.47:e;  Id., 1980, Pl.CCVI:2,3; CCXXIV:4; CCXXXVI:3,8; CCLVIII:3a-c) Lentini (Rizza, 1962, Pl.II:3) Lentini Sant'Aloes (Orsi, 1900A, 65) Licodia Eubea (Orsi, 1898, 355, Fig.70) Finocchito (Orsi, 1894, Pl.III:26; IV:15; V:3; Id., 1897, Pl.VI:6; Steures, 1980, E.17:10 etc.) Caltagirone, clandestine excavations (Orsi, 1904, 78, Fig.23) Mulino della Badia (Orsi, 1905, Fig.7; Miller-Karpe, 1959, Pl.7: 3i-33) Mulino della Badia/Madonna del Piano (Brea-Militello-La Piana, 1969, Fig.25:a) Sant'Angelo Muxaro (Mosso, 1909, Fig.19; Fatta, forthcoming)

Discussion

"There is a well-known and peculiar-shaped askos from Pantalica, thought by Orsi to be copied from a stirrup-jar, and certainly the shape is very like type F 179 which, as Stubbings has demonstrated, is a Cypriot variation of the Mainland stirrup-jar" (Taylour, 1958, 75).

Taylour was referring to the specimens from P.N.1 and Caltagirone, of depressed elliptical shape with a cylindrical spout and everted lip set at an oblique angle and with a curved handle from the spout to a flat circular boss at the apex of the vessel. Although Orsi (1894, 59-60) noticed a connection with the stirrup-jar (and the circular boss does recall the false neck), there are good parallels in the Aegean for these Sicilian askoi and so it seems unnecessary to propose a peculiarly Sicilian derivation from the bügelkanne. Furumark's Form 5i, Type 195 (cf. Peroni, 1956B, 404) is the best analogy in the Aegean.

Furumark discussed the development of the form in the Aegean.

"The askoid vase is an old Mediterranean form with a wide diffusion ... This variant has an old and unbroken tradition in the Cyclades, whereas in other parts it occurs more sporadically" (1972, 68)

The examples cited by Furumark (1972, 617) indicate the long
duration of the type (from LH IIA - LH IIIC) while the later specimens which are most likely to be relevant to the Sicilian examples occur in Delphi and Rhodes (1972, 617). Stubbings (1947, 52, Pl.16:8-10) observed that the type was quite common in Attica and frequently occurred unpainted, though the circular boss is missing. There is a type from Dendra (Astrom, 1960, Pl.74C) with spout set almost horizontally and traces of the boss at the apex of the vessel. As well as similar askoi from Delphi there is a stirrup-jar there (Perdrizet, 1908, Fig.48) with the pronounced angular carination which recalls the Pantalica and Caltagirone specimens. Given the Aegean distribution of these vessels there seems little reason for preferring a Cypriot origin for the Sicilian askoi as suggested by Taylour (1958, 75) and Gras (1980, 523).

Furumark (1972, 617) noted dimensions between 6 and 23 cms. in height for the type in the Aegean suggesting that the specimens from Lipari are large imitations (22-23 cms.) while the Pantalica examples are much smaller (7½-10 cms.). The Pantalica specimens (P.N.1) have a smooth red surface while the Lipari examples are of light grey fabric with traces of red and burnishing. One vessel was wheel-made (Brea-Cavalier, 1980, 75), others were of hand-made impasto (1980, 120) and burnished impasto (1980, 76).

For the dating of these types, one example (1980, Pl.CCVI:2,3) comes from Ausonian 1 layers (though apparently rather disturbed levels in part cf. 1980, Plan 12) while the Caltagirone vessel (from clandestine excavations) has some claim to an early date in view of predominantly early types from that site, perhaps 12th or 11th century B.C. The two specimens from Pantalica (P.N.1) by analogy could be fairly early, though they have an association in their tomb with a simple arched fibula (note two skeletons however). Bietti Sestieri (1979, Fig.7) places these in the second phase of the Pantalica sequence (cf. Peroni, 1956B, Fig.2) which is possible but not implicit.

The other specimens on Lipari are from Ausonian II layers. One specimen (supra cit., Pl.CCXXXVI:3,8) from an area of difficult stratigraphy (cf. 1980, Plan 11) was associated with vessels with bull's head handles which are sometimes dated to the 11th
century B.C. (cf. Coste del Marano metal specimens), while other fragments also belong to lower Ausonian II layers. There is an incomplete specimen (1980, Pl.CCLVIII:3c) with perforations on the shoulder, like a strainer, which recalls rather rare analogies elsewhere, in Cyprus for example (Dikaios, 1969, Pl.238:1).

Peroni (1956B, 403-404) believed a number of later Sicilian askoi (P.S.24, P.S.32, Cav.VIII, Finocchito 66) also to be of Mycenaean derivation:

"Per quanto riguarda la forma, essi ... costituiscono probabilmente un ibrido tra l'askos tardo-miceneo (tipo 195 del Furumark), e più in particolare alcuni esemplari del periodo IIIC1 ... e la lekythos submicenea" (1956B, 404).

This is a legitimate hypothesis for the specimen from Cavetta tomb VIII which possesses a vertical neck with splayed rim, handle from shoulder to just below the rim and curved body profile without the usual pronounced caranation, while the vessel is not symmetrical since the neck is set to one side on the shoulder (1). In the Aegean the lekythos is known over a wide area especially during the Submycenaean and Protogeometric periods:

"This vase is by no means so universally popular as the trefoil-lipped oinochoe, but it has nevertheless both chronological and topographical importance in the Protogeometric series; it has a well-founded origin, and is one of those shapes which disappear, apparently, before the beginning of the Geometric period" (Desborough, 1952, 69).

Desborough pointed out that the later lekythoi evolved from a globular profile to a more ovoidal shape, which seems to be reflected on the Cavetta specimen. Above all, the decoration consisting of three red concentric triangles recalls similar decoration on Aegean lekythoi, though perhaps the concentric semicircles were even more common in the Aegean. The painted neck bands are particularly frequent on Aegean specimens. Desborough (1952, 69) thought the vessels were for holding oil.

The other painted jugs (P.S.24, P.S.32) have more in common with askoi rather than lekythoi. The caranation is particularly noticeable and the specimen from P.S.24 retains traces of a 'bump' at the base of the handle rather like the boss of the

(1) Cf. Finocchito (Steures, 1980, West 2:1; West 3:11B; bibliography, 68).
earlier Sicilian specimens (1). Concentric triangles are also visible with the addition of zig-zag motifs and bands on the handle which are also elements to be found in the Greek Proto-geometric repertoire. There is a tendency for the spouts to be larger than previously. This is noticeable on some very similar vessels, which are not decorated, from Lipari Ausonian II levels (supra cit., Fig.47e), Lentini Metapiccola and Madonna del Piano and more so on the slightly later group of undecorated askoi from Pantalica South (e.g. P.S.30, P.S.102) which are similar to others in the Finocchito necropolis (e.g. Steures, 1980, 43, E 28:10).

As regards the chronology of these vessels, the specimen from Cavetta has no revealing tomb associations. On the basis of the Protogeorgettiic analogies cited above, we might not expect such a vessel to have been known in Sicily much before about 950 B.C. though this is not much help in determining how much later it occurred (2). The specimens from the Pantalica South necropolis (P.S.24, P.S.32), associated with serpentine fibulae (numerous skeletons though), have claims within the traditional chronology of the cemetery to belong in the 9th or 8th centuries B.C. (850-730 B.C. according to Bernabò-Brea).

There are a number of other unusual forms in the Pantalica South cemetery. A carinated vessel from P.S.145 has painted band decoration all over which, in conception, seems to be a combination or compromise between the geometric and piumata styles. The vertical cylindrical spout is also unusual. A rather squat carinated form comes from P.S.68 with a tubular splayed spout set at an oblique angle in the same tradition perhaps, as the earlier forms (cf. P.N.1) although the handle is set at 90 degrees to the spout. The shape and position of the handle, as well as the carinated body, have some affinities with Mycenaean types and particularly with an askos from Kos (Morricone, 1965-66, 35, Fig.9). There is another unusual

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(1) The circular boss also occurs on Italian Iron Age specimens from Calabria (Orsi, 1926, Pl.IX:37) and Sala Consilina (De La Genière, 1968, Pl.36:1).
(2) Peroni (1956B, 404) suggested early dates for the type on the basis of supposed Submycenaean parallels.
askos from P.S.68 of ovoidal shape with a large curved neck: this is the only one which seems to show signs of being inspired by the traditional leather water-bag or wine-skin. The tomb contained four skeletons with a serpentine and a spiral fibula.

A very different type of askos is represented by the vessel from P.S.55, which is a rare example from a protohistoric context in Sicily of a ring-vase, with basket-handle spanning the ring.

"That it does not merely represent a potter's fancy but must reproduce an actual vessel made of another material, the shape of which was conditioned by special technical factors, is shown also by the fact that vases of this type occur in several different countries and in different periods" (Furumark, 1972, 68-69).

There is another specimen from Sant'Angelo Muxaro with incised decoration, a strainer-spout and basket-handle at right-angles to the spout. It is also one of the rare footed forms, parallels for which are particularly hard to find in the Aegean. Papadopoulos (1978, 104-105, Fig.259:b) illustrated one from Achaea and mentioned another from Kephallenia. In Cyprus various footed ring-vases are known from the Chalcolithic period and occur throughout the Bronze Age (Yon, 1976, 160, Fig.66) though there are no precise parallels for the vessel from Sant'Angelo Muxaro. The types with basket-handle set in line with the spout (cf. P.S.55) are more common than those with handle set at right-angles to the spout (cf. Sant'Angelo Muxaro) although Furumark (1972, 618) has noted the latter type on Rhodes (Type 196, LH IIIC1) (1).

The specimen from P.S.55 was associated with an early type of serpentine fibula (two skeletons though) with a claim to a date within the 9th century B.C. (2).

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(1) There are other carinated askoi with broad flaring necks from Sant'Angelo Muxaro, some of which also have a strainer. These are unusual hybrid forms. Since they can only have been filled through the strainer, they may have been designed to prevent unwanted particles penetrating the vessel when it was being filled.

(2) The ring askos is also known in South Italy in the Iron Age, in Calabria for example (Orsi, 1926, Pl.IV:7).
Hemispherical Lids

Tombs: Clt. A.2,5,6,14,15,19,21; Clt.B.1,9,15; Clt.R.1,45,76,78, 79; P.S.234; De.F.63;

Others:
Cassibile, sporadic (Procelli, 1978, Pl.XCIV:f)
Sant'Angelo Muxaro (unpublished, Fatta, forthcoming)

Discussion

These lids are a speciality of the Caltagirone necropolis where a functional association with the collar-necked jars was proposed for them by Orsi (1904,97; Taylour, 1958, 75). Most specimens display a matt orange-yellow colour while some retain traces of burnish (cf. Clt.B.9). They all possess a single loop handle at the apex (1).

The type is not very common in the Aegean where in fact a rather different cover is sometimes associated with the storage jars (cf. Furumark Type 334). However, a similar type does exist there (cf. Furumark Type 335) though many of them display some flattening of the apex beneath the handle (e.g. Immerwahr, 1970, Pl.72:369) and have early dates (LH IIIA-B).

Procelli (supra cit.) recently published a specimen from Cassibile which was assigned to the Pantalica North phase. The form is not as high and curved as the Caltagirone type however but rather recalls another specimen from Sant'Angelo Muxaro. While the Caltagirone specimens undoubtedly have a good claim to a 12th or 11th-century date, it is possible that the type, or a variant of it, survived for much longer after. It may then be optimistic to cite such evidence as the first indication of the Pantalica North phase at Cassibile (2).

(1) There is an unusual tripartite loop handle on a specimen from Caltagirone (Clt.B.15) (Orsi, 1904, Fig.20). The lid from P.S.234 covered a globular storage jar with vertical handles. Orsi (1899, 62) believed that a small lid from P.N.68 was not intended for practical use but as some kind of personal ornament. A lid from Ausonian II levels on Lipari (Brea-Cavalier, 1980, Pl.CXXV:8) has a less curved profile and loop handle.

(2) Regarding a possible earlier occupation of Cassibile, i.e. before the 'Cassibile' phase, Albanese (1978, 571) mentions the presence of Thapsos material not far away in the Avola hills.
Collar-necked Storage Jars

**Tombs:** Clt.A.2,5,6,7-10,11,14,15,17,22,25,27,29; Clt.B.1,9,11; Clt.C.15,20,24,35; Clt.R.9-12,16,45,46-8,65,76,77,79; De.P.22; Others: Canicatti (De Miro, 1968, 125, note 26).

**Discussion**

Although most of these vessels which were found by Orsi at Caltagirone were in a fragmentary state and are not preserved, it is clear from the publication (1904) that the type was very common at the site. Orsi was so impressed by their frequency that he suggested:

"..dovevano essere per ragioni tradizionali o di rito indispen-
sabili ad ogni sepolcro" (1904, 97).

Frequently termed *hydriae*, these vessels of grey-brown and grey-yellow fabric are slightly ovoidal in shape and have a short vertical neck. One pair of loop handles is set horizontally on opposite sides of the body, whilst a second smaller pair which are sometimes no more than a pierced lug, are set vertically on opposite sides higher up on the shoulder. Their height varied from 10 to 35 cms. while most were around 20 cms. They were probably locally made since the colour and texture of the clay does not differ from many other vessels of the Calt- agirone tombs.

It is generally accepted that these vessels are copies of Mycenaean types, which were usually decorated unlike the Sicilian ones. Taylour (1958, 75) pointed to them as one of the most obvious instances of Mycenaean influence in the Pantalica culture. He referred to the similarity with Furumark's type F64 and its frequency in Achaea at the close of the Mycenaean period. We may update Taylour's observations and note that the type is quite common in Attika (e.g. Stubbings, 1947, 46; Wace, 1957,214; Iakovides, 1970, 441-2) as also in Achaea (Vermeule, 1960, 4-6) and the Dodecanese (C.V.A., G.B., 7,1930, P1.8:27).

The Achaean specimens from the Patras museum (Id., 1960) differ from the Sicilian examples by possessing everted rims and such types appear to be more common in the Aegean. Elsewhere
on the other hand, as at Perati, there are a number of specimens which are more closely comparable with those from Caltagirone. From the excavator’s tomb distribution table it seems that most of these vessels occur in the second or third phase depositions (1970, 400) which would suggest a date from about 1165 to 1075 B.C for them. Such a dating is useful and credible for the Caltagirone necropolis where only very scanty chronological indications occur such as the arch stilted fibulae with knobs which can also be dated around the late 12th and early 11th century B.C. (see above).

It is not possible to point with any confidence to a single source area for the Sicilian vessels’ inspiration. The association with the strainer-jugs at Caltagirone might be a suggestion of a similar source for both types. If so, an Attic-Dodecanese source is at the moment most forcefully suggestive.

Orsi (1904, 97) believed that the bell-shaped lids (cf. below) covered the mouths of these vessels, and in the Aegean a similar suggestion has been made:
"The type of neck suggests that such jars had lids which may have been fastened by tying to the extra handles" (Stubbings, 1947, 46-47).

It is noticeable that on some of the Sicilian vessels the smaller vertical handles on the shoulder of the vase are just small loops (e.g. Clt.R.65) while on others they are merely tiny pierced lugs, in fact for no other conceivable practical purpose than fastening a string (e.g. Clt.R.12).

The popularity of the type at Caltagirone and perhaps particularly in West Central Sicily (cf. Canicattì, supra cit.), rather than at Pantalica for example, is striking, and we could venture that this was connected with the use of the vessel for transportation, the contents being kept secure by the lid and fastening mechanism. As with strainer-jugs, this would be another instance of the popularity of a foreign design being related to its function or contents, rather than to any particular aesthetic merit (cf. Leighton, 1981, 281).

In the Caltagirone funerary contexts it is possible that the vessel served as a container of liquid accompanying the deceased.
It is also noteworthy that unlike the strainer-jugs, this vessel is not a particularly specialized shape and yet despite this the local potters faithfully copied the design of the handles and shape of the vessel while at the same time ignoring the painted decoration which characterizes most Aegean specimens (1).

(1) There are similar storage jars with splayed necks and without vertical handles or lugs from Thapsos (Orsi, 1895, Pl.V:22), Caldare (Orsi, 1897A, Pl.II:3,4) and an incomplete vessel from Lipari Ausonian I levels (Brea-Cavalier, Pl.CXCIV:1). Collar-necked forms were also known in the Middle Bronze Age (e.g. Orsi, 1891, Pl.XI:20; Id., 1895, Pl.IV:13) and a few small jars with only one pair of handles and collar-necks were found at Caltagirone (Clt.A.5; Orsi, 1904, Fig.6) and Dessueri (De.F.51, De.F.67; Id., 1912, Pl.XX:49).
Jars with vertical handles

Tombs: De.M.11; De.M.13; De.M.15; De.SE.23; De.SE.28; De.F.4; De.F.5; De.F.12; De.F.35; De.P.72; De.P.10; De.P.18; De.P.43; De.P.44; De.P.54; De.C.73; Clt.C.1; Clt.B.2; P.S.234; P.N.46; Cas.79; De.C.69;

Others:
Plerrmyrion (Orsi, 1891, Pl.XI:3)
Thapsos (Orsi, 1895, 109. Fig.15)
San Ciro (Mannino, 1970, Fig.4:3)
Campobello di Licata (De Miro, 1968B, Fig.2:d)
Palma di Montechiaro (De Miro, 1968B, Fig.2:c)
Pantalica, sporadic (Orsi, 1899, Pl.IV:8)

Discussion

These vessels, which were particularly frequent at Dessueri, bear a resemblance to the collar-necked storage jars for the general shape and the short straight necks though the number of the loop handles varied from two to four and these were set vertically near the shoulder or rim of the vessel. Some specimens are quite globular (Cas.79, Clt.B.2, P.S.234) while most are slightly ovoidal with a narrower base (De.C.73, P.N.46, De.P.44, De.C.69).

These vessels certainly were used in the earliest phases of the Pantalica sequence, where they have been associated with simple arched fibulae and may also have continued into the Cassibile phase (e.g. Cas.79, De.C.69). One specimen (P.N.46) was decorated with groups of incised vertical lines in the same style of some of the bowls on stands and other forms of the 'Pantalica North' period. The type was evidently popular in West Sicily (1).

Middle Bronze Age precedents for the general shape are noted above. Taylour (1958, 73) thought that the small two-handled forms from Middle Bronze Age contexts might be influenced by Mycenaean type F 74-5, which is indeed quite similar.

(i) A specimen was recently found by an empty tomb in Western Sicily near M. Castellazzo by Dr. Falsone. It presents the peculiarity of two squared side-lugs as well as the four vertical loop handles.
Amphora-shaped Vessels

Tombs: P.N.1; P.N.73; P.N.74; P.N.129; P.N.133; P.N.140; P.NW.16; P.NW.21; P.NW.22; P.NW.30; P.NW.38; P.S.67; P.S.99; P.S.121; P.S.153; P.S.161; De.F.32; De.F.39; De.F.43; De.F.53; De.F.54; De.F.55; De.F.56; De.F.59; De.F.60; De.F.67; De.P.14; De.P.32; De.P.37; De.P.41; De.P.44; De.P.48; Cas.54;

Others:
Thapsos (Orsi, 1895, Pl.V:1)
Pantalica, sporadic tomb (Bernabò-Brea, 1973A, Pl.XIV:185, 186)
Pantalica, sporadic (Orsi, 1889, Pl.IV:3; V:1)
Rivetazzo (Orsi, 1903, Pl.II:7)
Sant'Angelo Muxaro (unpublished, Fatta, forthcoming)
Mokarta (unpublished, Mannino, forthcoming)
Butera (Adamesteanu, 1958, 474, Fig.172)
Morgantina (Allen, 1972-73, 148, Pl.XIX:1,3)

Discussion

These vessels are characterized by an ovoidal shape with upward-slanting horizontal loop handles set on the widest part of the body. Most have wide concave necks though there are some with a markedly elongated, narrower, concave neck (P.NW.38, De.F.53, 54, 55, 56, 60, De.P.37, P.S.67, P.S.161). The smooth red burnished surface is typical and some specimens are decorated with groups of incised vertical lines (P.N.74, De.P.41, De.P.44, P.S.99, P.S.161) and occasionally with incised zigzags (P.S.161, P.S.99). They occur up to 43 cms. in height though miniature examples are also known of only 6 cms. (P.S. 99) or 10 cms. (P.N.74) (1).

As far as the Sicilian vessels are concerned there seems little to choose between LH IIIC and Protogeometric parallels since they do not appear to be very close copies of either. Taylour (1958, 74) pointed out a resemblance with Types 58 and 63 in the Aegean, but the latter is more reminiscent of the collar-necked storage jars (cf. Type F64). As for Furumark

(1) A specimen from Morgantina (supra cit., Pl.XIX:3) has the peculiarity of one triangular lug-handle at one side and a broken loop handle on the opposite side. The Sant'Angelo Muxaro vessels have wide more flaring necks and a wider variety of incised decoration (e.g. Mosso, 1909, Fig.7).
Type F58 (1972, 594) there are large and small forms of the LH IIIC period widespread in Greece and the Dodecanese. Desborough (1952, 20-37) fully discussed the Protogeometric belly-handled amphorae which may have descended from the Mycenaean types.

The Sicilian examples tend to be less globular but rather ovoid in most cases. The long necks are a particular feature of Sicilian vessels of the Pantalica culture which seem to have a more slender and elegant form than their Greek counterparts, which are usually called storage-jars rather than amphorae.

A number of local traditional features are noticeable. The shape and emplacement of the handles as well as the ovoidal form of the body recalls Thapsos forms (e.g. Orsi, 1895, Pl.IV:13, 18) as well as the ovoidal collar-necked storage jars of Caltagirone. The long neck also has prototypes in the Middle Bronze Age (e.g. Orsi, 1893, Pl.II:8). Above all, the decoration with groups of incised vertical lines spaced at intervals around the body (also found on the basins on stands at Pantalica) is characteristic of Thapsos pottery of various forms (e.g. Orsi, 1895, Pl.V:2,5,22) and the incised zig-zag pattern is even more unmistakable. The rendering of the latter motif on the miniature specimen from P.S.99 particularly recalls the style of Thapsos decoration (Orsi, 1895, Pl.V:1).

Regarding the chronology of these vessels, Peroni (1956B, 393) placed them in his second and third series, Müller-Karpe (1959, 198, Fig.32) in his second period and Bietti Sestieri also implied a dating in her second phase (1979, Fig.7). Bernabò-Brea included them broadly within the early period at Pantalica (1957, 151).

Their frequency in the Pantalica North and North West cemeteries might in itself suggest early dates for the form. One from P.N.140 (four skeletons however) was associated with a mirror, one from P.N.133 (four skeletons also) with an early jug of Mycenaean inspiration, one from P.N.1 (two skeletons) with askoi of Mycenaean inspiration and another from De.F.59 (two skeletons) with an arched knob fibula.

There are also associations with arched fibulae without knobs (P.NW.22, P.N.74, P.S.67, De.P.41, De.P.44), though the two associations with serpentine fibulae (P.S.99, De.P.48) could be misleading.
In the former case (P.S.99, two skeletons) the decoration is very similar to that of Thapsos hence we may be reluctant to believe in its survival until the 9th to 8th centuries B.C. without better proof. In the second case (De.P.48, two skeletons) even Orsi (1912, 384) was surprised by the presence of such a late fibula with other bronzes such as the short sword (of our group 2). If the Sicilian vessels were inspired by the Mycenaean jars then one might expect them to date from the 12th century B.C. It is noticeable that the form is absent at Caltagirone where it was perhaps substituted by the collar-necked jar and perhaps the reverse was true for Pantalica.

Another type of amphora-jar of the same form with short wide neck (Orsi, 1889, Pl.V:1; Id., 1899, 51, Fig.8) is outstanding in the Pantalica series for possessing red painted decoration for which Orsi gives an expert description:

"...sulla tinta rossa trasparente, leggera, chiarissima, non lucida, furono condotte a pennellatura, quattro fascie parallele orizzontali, a giuste distanze dal collo al piede, ognuna di tre strie con altri fregi verticali a tremolo fra una faccia e l'altra, con un colore rosso cupo, tendente al carminio" (1889, 174).

Peroni (1956B, 403) suggested parallels for the type in Greek Protogeometric contexts (Kraiker and Kübler, 1947, P1.54) but noted some particularly Sicilian aspects of the form, such as the thickening of the handle at the point of attachment to the body. While the archaeological context is uncertain the type does provide an important indication of continuing Greek influence on local pottery, perhaps during the 10th century B.C.
Concave-sided Cups

**Tombs:** P.N.27; P.N.115; P.N.146-8; P.S.70; Cas.29; Cas.11; De.P.5; De.P.72; De.SE.18;

**Others:**
Sant'Angelo Muxaro (Agrigento Museum; Fatta, forthcoming)
Sabucina (Caltanissetta Museum)
Lipari (Brea-Cavalier, 1980, Pl.CCXX:V)

**Discussion**

Three cups from the North necropolis at Pantalica are rather shallow vessels (ca. 4½ - 6½ cms.) with concave vertical sides and convex bases. One specimen has a painted cross on the bottom internally and a festoon motif around the rim internally, while another has hatched triangles all around the concave sides with groups of vertical strokes on the inside (P.N.27; P.N.146-8). The form closely resembles that of mainland carinated cups with convex bases which Peroni classified in the Subapennine and Protovillanovan series (1959-60, Pl. I: 1).

There are no useful associations for the three Pantalica specimens but they are not characteristic of the 'Pantalica North' phase in view of their painted decoration, parallels for which however, are not easy to point out. It is possible that these rather unusual motifs are rare examples of geometric painted styles dating from the later Cassibile phase and that of Pantalica South. There is also an incomplete specimen from Cassibile (tomb 29) with a narrow foot and painted vertical striations.

An incomplete specimen (restored) from P.S.70 has a narrow foot, concave sides and markedly everted rim. The surface is rather worn, of dark grey colour, which may have been burnished in just the same way as a very similar specimen from Ausonian II levels on Lipari. In this instance the correspondence with Protovillanovan forms is very close (cf. Peroni, 1959-60, Pl.I: j). The type is a variation of the similar and commoner cups provided with a high looped handle which also occur in contemporary contexts in Sicily. The example from P.S.70 has some claim to a date in the 10th century by association with the 'Cassibile plate' and may be another example of influence from the Ausonian facies.
A number of other examples are much deeper forms of beakers (Cas.11, De.SE.28, De.P.72) with concave sides, slightly flaring rim and flat narrow base, which are reminiscent of traditional beakers or drinking mugs. Some of these vessels achieve a notable elegance, particularly those from Sant'Angelo Muxaro which are richly decorated in the local style with incised horizontal bands. The incomplete specimen from De.SE.18 seems to be of the same type but with more restricted decoration. A similarly shaped specimen from Sabucina has a smooth dark grey burnished surface which is reminiscent of Ausonian pottery. That these beakers in the majority of cases are Iron Age forms is strongly suggested by the specimen from Butera which is richly decorated all over with horizontal bands of incised lines and circles and has a vertical lug-handle just beneath the rim (reminiscent of the lugs on the protohistoric pyxides) (Adamesteanu, 1958, 546, Fig.213). The context of this specimen was regarded by the excavator as not earlier than the late 8th century B.C.

Another kind of concave-sided beaker is represented by a specimen from tomb 54 at Cassibile which is mounted on a short pedestal stand and is also known from Sant'Angelo Muxaro. The shape may be a Sicilian conception dating from the 10th century B.C.

Finally, there is another kind of Sicilian beaker with outward curving sides and with a basket-handle spanning the rim. One specimen is painted with bands of palm-leaf motifs (Cassibile tomb 119) while others with different painted and incised decoration come from Syracuse (Orsi, 1889, Pl.VI:6; Voza, 1973C, Pl.XVIII:287), Butera (Adamesteanu, 1958, Figs.175-6) and Polizzello (Bernabò-Brea, 1953-54, Pl.XXI:3). They are apparently a development of the Iron Age period.
Cup with raised handle

**Tombs:** De.F.51; De.F.52; P.S.188; P.S.198; P.S.223; P.S.39; P.S.12; P.S.199; Clt.A.6;

**Others:**
- Cozzo Pantano (Orsi, 1893, Pl.II:19)
- Thapsos (Orsi, 1895, 107, Fig.12; 123, Fig.33; 127, Fig.39; Pl.IV:6; Pl.V:3; Voza, 1973A, Pl.IX:159-160)
- Plemmyrion (Orsi, 1891, Pl.XI:24)
- Caldare (Orsi, 1897A, Pl.II:5)
- Lipari, Ausonian I levels (Brea-Cavalier, 1980, Pl.CCVIII:5-8)
- Lipari, Ausonian II levels (Brea-Cavalier, 1980, Pl.CCXV:2; CCXVI:1-15; CCXXIX:10; CCLXII:3a)
- Morgantina (Allen, 1972-73, Pl.XXIII:1)
- Milazzo (Brea-Cavalier, 1959, Pl.XXXIII:16, etc.)
- Lentini (Rizza, 1962, 9, Pl.II:1)
- Lentini (Orsi, 1900A, 65, Fig.2)
- Longane (Bernabò-Brea, 1967, 221, Fig.23:6)
- Ossini (Orsi, 1909, 79, Fig.10)
- Finocchito (Steures, 1980, NW13:1, NW40:11, GIUM7:9, GIUM13:11)

**Discussion**

The cups with handles surmounting the rim are an ancient form in Sicily occurring in sites from the Early Bronze Age and later. There are many variations in the shape. Some from Cozzo Pantano, of the Middle Bronze Age, have a broad handle with a concavity at the apex of the handle which are quite similar to earlier types from Capo Graziano sites for example (supra cit., Pl.II:XIX; Brea-Cavalier, 1980, Pl.CXXXVI:1-4).

Some specimens from Thapsos had a ring-base (supra cit., Pl.IV:6) while two others from the settlement site are closer to the protohistoric specimens than the previous examples (Pl.IX:159-160). The profile of the handle with rounded section, the slightly concave base, everted rim and rather bulging body are close to the one from P.S.223 for example.

Taylour suggested some Mycenaean influence for the Middle Bronze
Age specimens:

"While they retain features of an earlier period, the shapes have become more elegant and the profiles are much closer to Greek models. The deep cup (F 211-F 213) is represented by four examples, and the medium-sized version (F 211) by a further two specimens. Two cups from Thapsos and two from Plemyrion seem to copy the shallower type (F 218 and 237). Three ladles ... were perhaps intended to be imitations of type F 236" (1958, 73).

In the Ausonian I facies of North East Sicily the widest variety of cup handles occur with many conspicuous examples of peninsular derivation, while others have slightly thicker handles than the Pantalica South vessels which are more finely-made wheel-turned forms. In Ausonian II layers (supra cit., Pl.CXXVI:1-15) the cup is even more frequent and displays closer similarities with the Pantalica South specimens than any of the above, although the ones with broader handles are also found at this time (Pl. CCLXII:3a).

There are no good association dates for the examples from the Pantalica and Dessueri tombs, given the numbers of skeletons there, although the form had such a wide chronological and geographical distribution that it was undoubtedly known throughout the protohistoric period. The Pantalica South specimens seem to occur in the tombs of the later phase in that cemetery characterized by serpentine fibulae.

The form from Caltagirone with thicker walls and handle and inward-curving rim has a claim to an earlier date in accordance with most of the material from the cemetery and its stylistic affinities are with the heavier broad-handled specimens of the Middle Bronze Age (e.g. Orsi, 1895, Pl.V:3).
Cylindrical Beakers/Pyixides

Tombs: P.N.18; Clt.R.16; Clt.A.12; Clt.A.21; De.F.60; De.F.69; De.F.72; De.P.33;

Others:
Panarea (Brea-Cavalier, 1979, Pl.59:d
Thapsos (Orsi, 1895, 98, 117, Fig.4:2,25)
Dessueri (Arias, 1936, 369, Fig.1 & 2)
Syracuse (Orsi, 1918, 515, Fig.106)
Centuripe (Libertini, 1947, 283, Fig.12a; Orsi, 1914, 95, Fig.2)
Leontinoi (Orsi, 1900, 66)
Finocchito (Steures, 1980, 84, 70, W3:13A)
Butera (Adanesteanu, 1958, 471, Fig.171)
Sant'Angelo Muxaro (unpublished, Fatta, forthcoming)
Catania, sporadic, Museo Civico (La Rosa, 1971)
Avola (Albanese, 1978, 571)

Discussion

These cylindrical containers with lids were thought to contain fats or ointments by Orsi (1913, 370) and are present in Sicily from the Middle Bronze period (cf. Thapsos and Panarea, supra cit.). Taylour (1958, 73-74) noted that the type is rare in Mycenaean Greece and thought that:

"In this case the influence may have been in the other direction" (73-74).

It is not easy to believe that Sicily independently developed such types in the Thapsos period. In fact they have long histories in Egypt, the Near East and the Cyclades (cf. De La Genière, 1968, 64).

The ones with concave sides and flat lids (Clt.R.16, Clt.A.12, P.N.18, Dessueri (Arias, 1936)) are most easily accounted for in terms of a local derivation from Thapsos, where the same type occurs. A specimen from Prosymna (Blegen, 1937, Fig.237) is of a similar form, with slightly inward curving sides, though it is also painted and has three pairs of lugs. The lugs of the Sicilian examples are also pierced and occur opposite each other just beneath the rim. These undoubtedly served as a fastening mechanism to the lids.
which are frequently perforated near the edge.

The cylindrical boxes from the Near East, Cyprus and Crete (e.g. Dikaios, 1969, Pl.135; Kanta, 1980, Pl.87:10) could also have influenced the Sicilian production, at least during the Middle Bronze Age, though they are not so closely analogous, being of wood, bone or ivory and heavily decorated.

The specimens of the Iron Age from Centuripe, Leontinoi, Finochito, Butera, Catania and probably Sant'Angelo Muxaro, are all decorated with incised and painted motifs. They retain the traditional feature of two perforated lugs in many cases. However, these are regarded as:

"..la marque, non pas de l'imitation de modèles importés de l'Égée, mais de la permanence d'une forme devenue traditionnelle en Sicile Orientale et dans les régions voisines" (De La Génieré, 1968, 64-5).

In fact there are many similarities with Calabrian specimens in both shape and decoration (cf. Torre Galli, Orsi, 1926, Pl.1:34, Fig.37; Ianchina, Fig.175; Canale, Fig.161 & 173 etc.). (1).  

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(1) A perforated flat lid from Ausonian II levels (Brea-Cavalier, 1980, Pl.CCLXVII:b8; Fig.125r) may have originally belonged to such forms. A similar piece from Syracuse is of bone (Orsi, 1918, Fig. 185) which reminds one of Eastern Mediterranean types (cf. above) of similar material.
Ovoidal Beakers

Tombs: P.N.64; P.N.133; P.N.124; P.S.30; P.S.64; P.S.166; De.F.54; De.F.77; De.P.10; De.P.26; De.C.72; De.C.74; Clt.C.9-13; Clt.C.26; Clt.C.27-30; Clt.R.74; Clt.B.9;

Others:
Sant'Angelo Muxaro; Mokarta (Fatta, 1980)

Discussion

These vessels seem to have been common in the early tombs of the Pantalica culture where they have been associated with arched and knobbed fibulae and early ceramic forms. They are mostly between 7 and 10 cms. in height. Most of them possess a small horizontal lug-handle just below the rim. The type from Cozzo Pantano (Orsi, 1893, Pl.II:15) which has a small loop handle is a similar vessel though even closer Middle Bronze Age precessents for the type can be found, at Milazzo for example (Brea-Cavalier, 1959, Pl.XI:3).

The cup from Caltagirone (B.9) has a curved relief handle which closely recalls other examples from Ausonian II layers on Lipari (Brea-Cavalier, 1980, Pl.CCXXXII:6) and from a sporadic context at Pantalica (Orsi, 1889, Pl.IV:2). Some later specimens from Sant'Angelo Muxaro seem to be in the same tradition as the Middle and Late Bronze Age forms, despite the addition of some decorative motifs.
Saucers (A) and Bowls (B)

Tombs: (A): P.N.1; P.N.18; P.N.129; P.N.146; P.NW.25; P.S.67; P.S.161; P.S.171; P.S.191; P.S.227; Clt.C.20; Clt.A.25; De.P.18; De.P.41; De.P.49;
(B): P.NW.9; P.NW.38; P.S.13; P.S.102; P.S.193; P.S.241; P.S.2411; P.S.78; P.S.165; P.S.166; P.S.234; Fil.1; De.M.13; De.F.1; De.F.5; De.F.77; De.P.25; De.P.22; De.P.32; De.C.69; De.C.72; De.A.83; Clt.A.30; Clt.C.3; Clt.C.14; Clt.C.20; Clt.R.16; Clt.R.65;

Others:
Cozzo Pantano (Orsi, 1893, Pl.I:5; II:20)
Sant'Angelo Muxaro (Orsi, 1932, 276; unpublished, Fatta, forthcoming)
Cannatello (Orsi, 1897A, Pl.V:6)
Syracuse (Orsi, 1918, 516, Fig.107)
Finocchito (Orsi, 1894, Pl.IV:18, 20; Id., 1897, Pl.VI:9; Steures, 1980, E13:1 etc.)
Rivetazzo (Orsi, 1903, Pl.II:18)
Pantalica, sporadic (Orsi, 1889, 174)

Discussion

There were many small open vessels in the tombs which Orsi referred to as patere con piedino or scodelle a calotta, some of which were saucers with a ring-base with diameters from about 7cms. (P.S.161) to 18.5cms. (De.P.49) and with a red burnished surface. Peroni (1956B, 391) classified these as one group occurring mainly in his first and second series and also distinguished another group of bowls with steeper, thicker walls and curved bases, of course impasto, occurring mainly in his third series. There are also others, of similar type, but with flat rather than curved bases (e.g. P.S.165, P.S.234, P.S.241, Fil.1, Clt.C.3, Clt.C.20, P.S.166, De.C.69, De.P.22, P.NW.9).

The presence of an internal circular ridge on the specimens of type A (above) makes the term saucer quite apt and the forms might well have been used as supports for other vessels, while the others are simple bowls or cups with steeper sides.

Bowls and saucers have claims to early dates at Caltagirone.
The burnished saucers also seem to be typical of the intermediary phase in the Pantalica sequence since the specimens in the South necropolis tend to occur in the earlier depositions with other burnished vessels such as the amphorae and basins on stands, though not with serpentine fibulae. The little bowls of varying shape and dimensions probably occurred throughout the Pantalica sequence and during the Finocchito phase (supra cit.).

There was an unusual open bowl with straight sides and perforated rim from P.NW.9. Three bowls from Dessueri (De.P.4, De.P.21; Orsi, 1912, Pl.XXI:63) had horned handles on the rim of a type which reminded Orsi of others from Thapsos (1895, Pl.V:19; IV:15, 20) though there are closer mainland parallels, from Coppa Nevigata for example (Mosso, 1908, Pl.IV:18) and of course there are many types of horned handles of peninsula type on Lipari, in Ausonian I and II levels (cf. Brea-Cavalier, 1980, passim).

Much rarer than the simple bowls were those with side handles just beneath the rim for example (Clt.C.26, P.N.124), found also in West Sicily (Mannino, 1970, 40, Fig.4:4) and probably datable from the early phase of the Pantalica sequence. Beakers with single lug handles were quite common however (see below).
Flint (A), Shells (B), Teeth (C)

Tombs: A: P.NW.30; P.NW.35; P.NW.36; De.P.60-62; Clt.R.44; Cas.78; B: P.N.3; P.N.7; P.N.40; P.N.20; De.F.79; P.S.193; P.S.67; P.S.236; C: P.N.129; P.NW.1;

Discussion

The extent to which flint was used in the Late Bronze Age in Sicily is uncertain but Orsi occasionally noted the presence of worked fragments in some of the tombs of the Pantalica culture. The tombs of the North West necropolis may be presumed to belong in the earlier phases of the Pantalica culture. A fragment from Clt.R.44 in a re-used tomb, with pottery of the 'Pantalica South' or Finocchito periods, was thought by Orsi (1904, 91) to be an arrowhead, perhaps used as an amulet. At Cassibile (tomb 78) an obsidian flake was recorded and the use of flint blades is even better documented in the later tombs of Finocchito (Steures, 1980, 155, etc.).

Shells were also included in the corredi of the Pantalica North tombs, occasionally perforated and perhaps used as personal ornaments. Some of the Pantalica tombs still contain remains of marine shells. Orsi recorded examples of helix, dentalium, cardium and cypræa, as well as a very large limpet (P.S.193).

Boar tusks were found in two of the early tombs at Pantalica, in one case with the skeleton of a small mammal, perhaps a rabbit (P.N.129). The writer noted the presence of pig incisors and sheep/goat molars in a tomb at Dessueri along with human adult and infant teeth. Orsi (1912, 379) also recorded the presence of deer antler in one of the Dessueri tombs.
Chapter 3
Settlement and Economy

The lack of direct evidence about settlement sites and subsistence in this period in Sicily is largely due to the fact that the large prehistoric cemeteries have attracted much more excavation in the past than the more obscure settlement remains and despite some notable exceptions of recent years, the imbalance has not been corrected. Consequently, the artefactual evidence from the tombs is most abundant, while the study of site locations is largely based on the location of the cemeteries.

Botanical and faunal studies have rarely been undertaken and are not published. Only very limited deductions can be made from the present-day environment, peninsular studies and the classical sources (i). Casual faunal evidence from a few sites indicates cattle, sheep, goat and pigs, though the proportions are unknown and it is uncertain to what extent hunting or cultivation were important in any period of Sicilian prehistory.

While the traditional view of the South East Sicilian communities is of a mainly pastoralist economy sustaining the stratified tribal groups, it must be accepted that there is little evidence for the pastoralist economy from the funerary nature of the remains and lack of settlements. Direct evidence for a mixed economy with agriculture increasingly important by the Late Bronze Age is absent in Sicily, though such a development has been proposed in Italy (cf. Fugazzola Delpino, 1976, 290-292).

Continuity from the Middle Bronze Age to the Late Bronze Age is not obvious in Sicily at any level. The nature of the site locations in particular has given rise to the idea of abrupt change at the end of the Middle Bronze period.

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(i) The present-day barrenness of large parts of Sicily are not usually thought to reflect the situation in prehistory. The hinterland of Syracuse and Catania is thought to have been more wooded in protohistory (cf. Semple, 1932, 276). On the question of alluviation in Sicily, see Judson (1963) and on transhumance, see Fairbank (1978, unpublished). For references of the classical authors to the early environment of Sicily, see particularly Strabo (VI, 2-4), Diodorus (IV, 5; V, 2-6; XIV, 41-42). There is a major economic survey, discussing the resources of Sicily in the Graeco-Roman period, by Scramuzza (1937).
"A time of war and fear began, forcing the peoples to change their whole way of life and profoundly altering the basis of their economy" (Bernabò-Brea, 1957, 136).

This has been a key statement in Sicilian protohistoric studies which further research may permit to be refined or modified. The publication of new discoveries, especially beyond the South East region and the Aeolian Islands, will contribute towards a valid reconstruction of events. This process has already begun with the exploration of Middle Bronze Age sites in inland regions.

In Western Sicily, Ulina, Mokarta and Castellazzo occupy dominating hill-top locations (cf. Figs. 2,3). Although little is known about the extent of these settlements, it seems that their locations are similar to those of the Late Bronze Age sites. The majority of Middle Bronze Age sites indicate the importance of coastal settlement at this time however. This is particularly obvious in the South East region where there are traces of smaller sites inland (e.g. Buscemi, Lentini, Paraspola). Some of these may be linked with transhumance movements, though permanent inland settlements may have flourished in the Middle Bronze Age, as in the Castelluccio period.

The Milena tomb, in the valley of the Platani river, not far from Agrigento, indicates that high quality pottery and bronze weapons, even of Mycenaean type, may have circulated quite far inland, perhaps at the very end of the Middle Bronze Age, forewarning the situation in the protohistoric period. On the other hand, while many caves have deposits of Thapsos and Milazzese material (Grotta dei Puntali, Grotta di Mola, Barriera, Chiusazza, Ulina) very few bear any evidence of activity in the early protohistoric phases. Most strikingly, the Middle Bronze Age sites rarely indicate continuity of occupation into protohistory, while most Late Bronze Age sites have no traces of earlier

(1) Apart from the recent evidence of Thapsos, there is some indication of continuity of settlement on the Mokarta hill in West Sicily, probably involving a change in the location and perhaps the type of the huts, as also the case on the Lipari acropolis, at Thapsos and possibly Lentini.
occupation levels.

The area which witnessed the greatest flourish of Middle Bronze Age settlement was the coastal plain of South East Sicily.

"La ragione dell'enorme sviluppo di Thapsos e dell'elevato livello economico della regione circostante in questa età e da vedere nella intensità dei rapporti commerciali che si sono venuti stabilendo col mondo miceneo a partire dall'estrema fine del XV o dagli inizi del XIV secolo a.C." (Bernabò-Brea, 1976-1977, 95).

As well as benefit from trade with Mycenaean Greece and other areas, we may consider that the sites of the coastal plain had other geographical advantages including proximity to maritime resources and alluvial soils, while Etna itself can be regarded as a natural resource area in many ways.

At the beginning of the protohistoric period (circa 1250 - 1200 B.C.) the traditional view of a movement of settlement away from the coast is suggested by the distribution of sites (cf. Figs. 4,5). In the North East region clear evidence for sudden change is well-known (Brea-Cavalier, 1956, 1959, etc.): the destruction levels, the abandonment of Aeolian Milazzese villages, the arrival of a new funerary and settlement facies, linked with historical accounts, can be seen in terms of an invasion from Italy. Although the new groups become established near, or on top of, the remains of the old, the violent nature of the cultural break cannot be underestimated.

Such events in North East Sicily provide a good basis for an explanation of the changes in settlement patterns throughout Sicily. In this case, it must be assumed that 'shock waves' were felt by the rest of the island, precipitating the emergence of new communities away from the coast at sites like Pantalica. This is to some extent credible if the South East area was sensitive to any form of disruption in the North East. In fact the two areas are practically contiguous and were closely linked by coastal communications and probably by trade.

At the same time this is an over-simplification, since a straightforward movement of people from the coastal sites such as Thapsos, into the hills, perhaps seeking refuge, does not explain the appearance of some important changes in the archaeological record,
in the pottery and bronze industries and in a number of aspects of the funerary rite, discussed elsewhere.

A further modification of this theory is necessary in view of recent evidence from Thapsos. A second phase of occupation at Thapsos, not yet fully defined, but characterized by rectangular huts, by contrast with the previous round huts of the Middle Bronze Age, probably dates to the same period as the early occupation of Pantalica. This raises many new questions. While it may be supposed that the changes within the settlement of Thapsos were not unconnected with the changes in the North East of Sicily, the relationship between this coastal site and the hill-top site of nearby Pantalica is not clear.

It is not certain if Pantalica, Dessueri and Caltagirone were established at quite the same time. A literal interpretation of the finds would suggest that Pantalica and Caltagirone existed by about 1200 B.C., while Dessueri may have emerged slightly later.

The nature of the habitation areas of these sites are virtually unknown. While a few circular huts of the "Pantalica North" phase have been excavated at Sabucina (Orlandini, 1963; 1965) and in a few other sites, these do not seem to have been major centres comparable with Pantalica or Dessueri.

At Pantalica the only upstanding architectural remains are of the large "anaktoron" building, which Orsi called a palazzo principesco, built of colossal boulders, reminiscent of 'Cyclopean' masonry, with a number of rectangular rooms. Its design has been much discussed and is generally thought to reflect Mycenaean inspiration (Orsi, 1899, 75-85; Sardo, 1941-42; Dunbabin, 1948, 43, 95; Taylour, 1958, 76). Orsi found fragments of broken axe-moulds and bronzes inside it, which have suggested a link with the bronze industry. This is particularly interesting in view of Mycenaean and East Mediterranean parallels for the association between metallurgical practices and the palace, or palace-courtyard, which regulated many economic activities and received contributions. Some writers have also postulated the presence of a powerful king or wanax at the head of a community at Pantalica (cf. Bernabò-Brea, 1957, 163).
Apart from this tenuous glimpse of economic activity at the site, other industries, such as pottery and textiles, are only indirectly attested.

The extent and form of the exploitation of the surrounding region can only be guessed at and merits a separate study. However, three environmental factors, which are not anachronistic, spring readily to mind. The coastal plain, with its direct access to maritime resources and trade routes is less than fifteen miles away; one of the richest agricultural regions of Sicily, the Lentini basin, is only about 12 miles away; water is readily available in the Hyblaean region at particular locations where car- sic phenomena give rise to springs and Pantalica happens to be just such a location.

The choice of site location from the point of view of defence is particularly impressive and may have been of fundamental relevance to the strength of the site and its long duration. At some point in its history a huge defensive ditch was created across the narrowest approach to the headland (1).

It is generally assumed that the inhabitants of Pantalica depended upon some control and exploitation of a surrounding territory of considerable geographical extent. Bernabò-Brea (1968, 164-166) identifies Pantalica as the historical town of King Hyblon (2), and proposed a territory under his domain stretching south to the Cassibile region, north as far as Lentini and east right up to the coast. Pre-colonial Syracuse may have served as a scalco marittimo. Although boundaries are hard to establish with confidence, the thrust of the argument presented by Bernabò-Brea raises many useful ideas, partly reinforced by recent discoveries at Thapsos.

The presence of smaller settlements, like Rivettazzo, situated close to Pantalica, is also regarded as indicating the

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(1) The site is not "...massively defended by walls" (Coles and Harding, 1979, 421); the steep cliffs on three sides undoubtedly provided a strong natural defence, making walls superfluous.

(2) See Thucydides (VI, 4) and different interpretations from Orsi (1891, 53), Dunbabin (1948, 19), Bérard (1963, 120).
the presence of satellite communities within the domain of the metropolis. In terms of material culture, Rivettazzo, which is known by a small cemetery a few miles south east of Pantalica, seems to be identical to Pantalica in its earlier phase. The relationship between the two sites may have been founded upon close economic and tribal links, perhaps with formal agreements of protection and tribute. Akrai may also have served as a territorial outpost, within signalling distance of the metropolis, while Rivettazzo is also conveniently situated about half-way between Pantalica and the coast.

In the later protohistoric period, from about the 10th century B.C., some new settlements appear (cf. Figs. 6,7). Cassibile, pre-colonial Syracuse and Punta Castelluzzo suggest a renewal of settlement nearer the coast. Thapsos also continues to be occupied and a few depositions in the Cozzo Pantano tombs show that this Middle Bronze Age cemetery was re-used at this time. While the habitation areas of these sites are little known, the settlement locations themselves may represent an increase in the importance of trade by the desire to establish sites near coastal communication routes.

These are some of the arguments which can be put forward, albeit in summary form, on the basis of the settlement evidence. We may now consider whether the threads of any of these suggestions can be picked up and elaborated on the basis of a closer study of the various aspects of the evidence.
Fig. 6
Tomb Types

"...dalle cellule minuscole dove un individuo sta a disagio fino agli ampli cameroni, dove oggi ancora una intera famiglia potrebbe agevolmente assidersi a banchetto, e tutta una serie di tipi tracciati in vari modo e dipendenti in parte dal grado sociale e della condizione dell'individuo o della famiglia cui il sepolcro era destinato" (Orsi, 1899, 90-91).

In his survey of the origins of Sicilian oven-shaped tombs, Tine (1963, 79) traced the form back to the period of the first metal-using communities in Sicily. Taylour (1958, 68-69) distinguished the more elaborate features of rock-cut tombs in the Middle Bronze Age, including the construction of forecourts, pilasters and buttressing walls. Orsi's excavations at Thapsos and the major Middle Bronze Age sites had revealed an advanced level of achievement in funerary architecture by this time.

Access to most Thapsos tombs was either by a corridor or dromos, or by a vertical shaft cut into level ground, first noticed by Orsi at Plemmyrion (1891). The method of sealing the entrance with a hewn slab covered by rubble, the trapezoidal form of the doorways, the presence of a trench in one of the Thapsos chambers and the practice of collective burial, are all features sometimes found in Mycenaean tombs. Following Taylour (1958), most authors believe that the influence of Mycenaean culture in the Middle Bronze Age extended to the field of funerary architecture and religious rites connected with burial practices.

A very different burial rite is also known in Sicily from at least the Middle Bronze Age; this is the practice of enchyrismos inhumation within a large storage jar, first noted by Orsi at the Early Iron Age site of Mulino della Badia (1905, 96) and subsequently documented in Middle and Late Bronze Age contexts on the Aeolian Islands, Milazzo and Thapsos (Brea-Cavalier, 1959; Id., 1960; Voza, 1972A). At Thapsos the evidence suggests that both the collective burials in rock-cut tombs and single burial enchyrismos rites were practiced at the same site during the Middle Bronze Age.

Although both forms of burial involve inhumation it may be that the different rites were practiced by different groups of
people. This seems to be supported by the dominance of the *enchytrismos* rite in the North East, associated with the Milazzese culture, though one may wonder to what extent the smaller numbers of rock-cut tombs in the North was determined by the harder nature of the predominantly volcanic and granite rock there.

In the protohistoric period, by the 12th century B.C., another burial rite began to be practiced by Ausonian culture groups in the North East. This is represented at the site of Milazzo where an urnfield necropolis has been excavated which is generally regarded as an intrusion from protovillanovan Italy (Brea-Cavalier, 1959). At Piazza Monfalcone on Lipari more cremations were found in pottery *situlae* alongside *enchytrismos* inhumations in *pithoi* (Brea-Cavalier, 1960).

In East Central Sicily the community of Mulino della Badia also practiced two different funerary rites simultaneously; single inhumations in storage-jars and in fossa graves. In fact, the establishment of the practice of *enchytrismos* burial at the site in the 10th century B.C., could be interpreted in terms of a movement of a community from the North East into an area where rock-cut tombs were traditional. Such an interpretation would not contrast with the many Ausonian characteristics of the bronze and pottery industries of Mulino della Badia. The emergence of Mulino della Badia, not far from Caltagirone, at about the time when the Caltagirone necropolis ceases to be used, has even been seen in terms of cause and effect (Bietti Sestieri, 1979, 620).
Rock-Cut Tombs

Orsi described the shape of some of the tombs which contained depositions at Pantalica, Caltagirone, Dessueri and Cassibile and provided some plans and section drawings of the principal types. Nevertheless, his publications and explorations recorded only a relatively small number of the tombs in the cemeteries. The following table gives an indication of the size of the sample recorded by Orsi, by comparison with the total estimated number of tombs in the cemeteries.

<table>
<thead>
<tr>
<th>Cemetery</th>
<th>Tombs described by Orsi</th>
<th>Numbers estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantalica North West</td>
<td>about 35</td>
<td>about 600</td>
</tr>
<tr>
<td>Pantalica North</td>
<td>68</td>
<td>1500</td>
</tr>
<tr>
<td>Pantalica South</td>
<td>68</td>
<td>2000</td>
</tr>
<tr>
<td>Pantalica Filiporto</td>
<td>8</td>
<td>500</td>
</tr>
<tr>
<td>Pantalica Cavetta</td>
<td>8</td>
<td>350</td>
</tr>
<tr>
<td>Dessueri</td>
<td>79</td>
<td>1500</td>
</tr>
<tr>
<td>Caltagirone</td>
<td>61</td>
<td>1000</td>
</tr>
<tr>
<td>Cassibile</td>
<td>37</td>
<td>2000</td>
</tr>
</tbody>
</table>

We can see that the number of recorded tombs is greatly inferior to the huge numbers which have been estimated in total at the sites. Nevertheless, a number of questions are pertinent to a study of the recorded information. Firstly, what are the relative proportions of different tomb types in the cemeteries? Secondly, are the different types distinguishable in terms of the funerary rite, social structure, chronology or regional differences between the sites?

With these questions in mind, the writer attempted to enlarge the sample size of tombs by taking new recordings of shapes and dimensions at Pantalica North West, Caltagirone, Dessueri Fastuccheria and Cassibile. The practical difficulties presented by such fieldwork on a large scale are considerable, especially given the dangers involved in getting access to precipitous areas of the cemeteries like Pantalica North. Disappointing, though perhaps not surprising, was the difficulty of identifying any
tombs on the ground with the descriptions or plans of particular tombs given by Orsi. Steures (1980, 12) recently noted similar difficulties with fieldwork of this type at Finocchito. Nevertheless, some recording was achieved at the main sites, providing some information about tomb types which can be considered with Orsi's information.

<table>
<thead>
<tr>
<th>Site</th>
<th>Tombs measured</th>
<th>Tombs measured by Orsi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantalica North West</td>
<td>56</td>
<td>12</td>
</tr>
<tr>
<td>Dessueri</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Caltagirone</td>
<td>13</td>
<td>35</td>
</tr>
<tr>
<td>Cassibile</td>
<td>16</td>
<td>17</td>
</tr>
</tbody>
</table>

Apart from the tombs which were carefully measured, it was possible to record the general shape of a number more. The different shapes which were found were the following: A) Elliptical/Semi-elliptical (e.g. Orsi, 1899, 43, Fig.4; 61, Fig.15), B) Rectangular (e.g. 1899, 45, Fig.5), C) Circular (Orsi, 1912, 314, Fig.IX), D) Trapezoidal (e.g. 1899, 123, Fig.37), E) Tholos (e.g. Orsi, 1904, 80, Fig.30), F) Irregular.

The relative proportions of these different shapes in the various cemeteries are expressed in Figure 9. From this, it may be observed that the most common shape of tomb in the cemeteries of Pantalica North, North West, South and Dessueri, is the elliptical/semi-elliptical type, usually with a curved roof, sometimes known as the *tomba a forno* for its similarity to a bread oven.

At Caltagirone the variations in shapes were far more limited and, as is well-known, the *tholos* tomb, of circular plan and cupola-shaped roof, was by far the most common type. At Cassibile the tombs were almost exclusively of the rectangular-trapezoidal shape, with only one recorded example of an elliptical shape (tomb 104). In all the cemeteries there are always a few tombs of quite irregular form, sometimes appearing to be only half finished. Orsi suggested that on occasions some unsuspected hardening of the rock caused a deviation in the shape or the total abandonment of the cutting. I would not agree however that the smaller numbers
A: (Semi-) Elliptical
B: Rectangular
C: Circular
D: Trapezoidal
E: Tholos
F: Irregular

Data from Orsi

Data from Leighton

Fig. 9
and dimensions of tombs at Cassibile, compared with Pantalica, can be explained by the harder nature of the rock there (Orsi, 1899).

Now we may consider the chronological allocation of the different types of tomb (Fig. 10). In the Pantalica North cemetery most of the tombs belonged in the first and second phases of the Pantalica culture (circa 1250 B.C. to circa 850 B.C.) and the shapes of this period are overwhelmingly of the elliptical/semi-elliptical forms. A few circular types date approximately to the second phase in the cemetery (circa 1050 to circa 850 B.C.) by association with simple arched fibulae for example, though in all cases of course, the contents provide a terminus ante quem for the date of the tomb structure, since they were frequently re-used. In view of this, circular tombs were probably used from the earliest period of the cemetery.

In the Pantalica South necropolis the elliptical/semi-elliptical tombs are also the most common. There are however a larger proportion of rectangular forms alongside these as well as some circular tombs. All these types in the Pantalica South necropolis cover a long period of time from the early burials at the site, of about the 12th - 11th centuries B.C., until the later ones, of the 9th - 8th centuries B.C. and occasionally even later. Many tombs of the elliptical/semi-elliptical shapes contained grave-goods of the early period. Those which had grave-goods of the later periods were probably early tomb chambers which were re-used in the third 'Pantalica South' phase in many cases. It is also noteworthy that the South cemetery has many medium-sized rectangular tombs. None of these contained early types of grave-goods but did contain material of the third period. It may be deduced that this tomb form represents a new design of that time.

In sum, the tombs of Pantalica South cover a long period of time and are of various forms in use contemporaneously by the third phase. Before then, the elliptical/semi-elliptical types were the typical designs. This contrasts somewhat with the evidence for the Pantalica North necropolis where there seems to have been little re-use of early elliptical/semi-elliptical tombs.
<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>PHASE 2</th>
<th>PHASE 3</th>
<th>COLONIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elliptical</strong></td>
<td><strong>Rectangular</strong></td>
<td><strong>Circular</strong></td>
<td><strong>Trapezoidal</strong></td>
</tr>
<tr>
<td>P.N.3, 37, 66, 133, 140</td>
<td>P.NW.22, Cas.10, 39, 70</td>
<td>P.S.64, Clt.C.1, 3, 26, Clt.A.2, 14, 29, Clt.B.1, Clt.R.1</td>
<td>Cas.3, 8, 11, 17, 23, 28, 29</td>
</tr>
<tr>
<td>P.S.56, 57</td>
<td></td>
<td>P.N.7, 13, 14, 64</td>
<td></td>
</tr>
<tr>
<td>P.NW.1, 23</td>
<td></td>
<td>De.S.20, De.F.63, De.P.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tholoi</strong></td>
<td><strong>Irregular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clt.A.5, 27, 30, Clt.B.3, 9</td>
<td>P.N.28, P.S.241, P.NW.35,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clt.R.16, 19, 45</td>
<td>De.P.5, Cas.36</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>NOS. OF TOMBS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.N.1, 8, 30, 40, 41, 48, 54, 60, P.N.149, P.S.67, 24, 58, 68, 199, 225</td>
<td>P.S.6, 7, 120, 124, 129, 145, 146, 226</td>
<td>P.N.W.16, 21, 29, 30, P.N.W.54</td>
<td>P.S.32, 44, 182, 183, 184, 185, 186, 187, 223, 257, 258, P.S.185, Cas.54, 64, 119</td>
</tr>
</tbody>
</table>
and where the rectangular-trapezoidal shapes are very rare.

In the Pantalica North West necropolis there is a group of rectangular-trapezoidal tombs, clustered close together, not recorded by Orsi, which are all empty. We may suggest that these represent a return to this ancient burial area perhaps during the Pantalica South phase, or later, by analogy with the evidence of the tomb shapes of the South necropolis. Other rectangular-trapezoidal shapes may be found on the other side of the river opposite the North necropolis, in quite an undefended position and many more occur in the little documented Cavetta and Filiporto cemeteries.

If all these rectangular-trapezoidal forms date to the third phase (and later) of the Pantalica sequence we may advance a hypothesis of some population expansion during the later period of occupation of the site, reflected in the spread of burials. We may even envisage such a phenomenon on a regional scale, noting the emergence of the site of Cassibile itself, with rectangular-trapezoidal chambers, at the end of the second phase in the Pantalica sequence.

On the other hand, the circular tombs and the tholoi, which are typologically closely related to each other, appear to be rather archaic shapes, which go out of use at approximately the time when the rectangular-trapezoidal forms emerge. One other tomb type which seems to have been known from an early period at Pantalica, is the 'princely' chamber tomb of very large dimensions and rectangular shape. This seems to have been a very rare shape perhaps used for depositions of high distinction (P.NW.22; P.NW.38) though very little is known about the grave-goods from them.

While the tomb types of the Pantalica culture are in the same tradition as the rock-cut collective depositions, they present a number of contrasting features with their precedents in the Middle Bronze Age. The location of tombs in dense clusters on sometimes precipitous rock-faces, typical of Pantalica, may have been an inevitable development dictated by the choice of site. At Caltagirone, Dessueri and Cassibile some of the tombs are more
accessible but a significant proportion (perhaps about half) occupy the upper reaches of steep slopes. At Thapsos, as apparently the case at all the Middle Bronze Age sites of the Syracuse region, the tombs were located on the edges of the settlement area also, but in quite accessible locations since there are no precipitous rock formations around sites of this period.

During the Late Bronze Age therefore, the frequent absence of the access corridor or *dromos* is explainable also as a consequence of the different choice of burial site. In the cases where the *dromos* is present at Pantalica and Dessueri, it is only a short passage-way dug into the rock, usually less than a metre in length, preceding the burial chamber (e.g. Orsi, 1899, 56, Fig. 11). This contrasts with the designs at Thapsos and Cozzo Pantano where long corridors are often found, which were probably not covered over, leading up to the tomb doorways.

At Cassibile the construction of a longish corridor of trapezoidal form evidently returned to fashion and is associated with the trapezoidal-rectangular chambers, though not with those occupying a position on steeper rock-faces. It is sometimes thought that this corridor served to discourage the flow of rain water draining into the chamber and it is a recurrent feature of the *dromos* to slope downwards away from the tomb entrance.

At Thapsos the main funerary chamber was sometimes preceded by a small antechamber (e.g. Orsi, 1893, 20, tomb 23), a design which seems to have been very rarely repeated in the protohistoric tombs (e.g. Orsi, 1912, 365, Fig.XXVIII). Small funerary beds or niches are also recorded at Thapsos where they have been cut into the wall of the chamber. At Pantalica, one is reminded of this feature by groups of tombs, but not niches, leading off a large central chamber (e.g. 1899, Figs. 10, 12, 17). However, the presence of the niche in the wall is very unusual in the protohistoric tombs. Only one example at Pantalica North was recorded by Orsi (1899, Fig.10, 54) and one at Dessueri (1912, 360, Fig.XXIV), while another is known to the writer in an unrecorded conspicuously isolated tomb at Cassibile.
A special feature of many Cassibile tombs, also found in many rectangular-trapezoidal tombs at Pantalica in the third period, is the presence of a narrow step or ledge along one wall of the chamber, upon which, no doubt, the grave-goods were placed. Some of the Cassibile tombs also have a simple concentric carving around the doorway like a cornice.

In Figure 11 the dimensions of the various types of tombs in different cemeteries are expressed in the form of dispersion diagrams. From this we can form an idea of the degree of standardization in the sizes of different types of tombs (1). Considering first the elliptical/semi-elliptical forms, which we have noted to be the most common shapes at Pantalica and Dessueri, it is possible to note a considerable degree of uniformity in their dimensions. At the North West necropolis of Pantalica about 50% of the recorded tombs varied in diameter between 113 cms. and 180 cms. At Dessueri, except for a few of larger size, they varied between 140 and 183 cms. In the Pantalica North and South cemeteries a smaller recorded sample indicated a slightly broader range with dimensions between 115 and 200 cms. for the middle range.

In general, the elliptical/semi-elliptical tombs have similar dimensions. They were not cut to a specific size repeatedly but nevertheless conformed to a certain standard, between one and two metres, even in different cemeteries and in different sites such as Pantalica and Dessueri.

Considering the rectangular-trapezoidal tombs, the greatest degree of standardization in size is visible at the Cassibile cemetery, where the maximum lengths of the middle group (= the 'inter-quartile range') tend to vary by only about 50 cms. The trapezoidal-rectangular tombs of Pantalica South and North West also have comparable dimensions with those of Cassibile, though the

(1) The hatched/spotted area of each diagram represents 50% of the sample (i.e. the inter-quartile range). In the case of the elliptical/semi-elliptical chambers the diagrams were drawn on the basis of one measurement per tomb which was recorded at the maximum width of the tomb at right-angles to the doorway. In the case of rectangular tombs the maximum length was used and for circular tombs the diameter.
Fig. 11
sample size was rather small in these cases. The large rectangular chambers of Pantalica North West appear to be far outside the norm and there is some evidence that these are of an earlier date. It may be proposed that a greater degree of standardization in this particular aspect of the funerary rite was achieved roughly during the later second and third phases of the Pantalica culture.

Quite different considerations apply to the circular tholos tombs which were a speciality of the Caltagirone necropolis, where they were sometimes executed in fine detail. This form is absent at Pantalica and Dessueri where only a few circular tombs can loosely bear comparison with the Caltagirone chambers (e.g. 1912, 380, Fig.XXXIV).

The Caltagirone tholoi are roughly datable in the 12th and 11th centuries B.C. and most of them occupy fairly accessible positions on steep slopes. Occasionally the entrances were preceded by trapezoidal dromoi and a few multiple chambers leading off a central corridor are also recorded (Orsi, 1904, Figs.16, 33). One chamber had a 'funerary bed' (1904, Fig.5) though it is not clear if this might have been a later addition or not. Above all, the circular floor-plan of these chambers and their arched cupola roofs, sometimes with a small peak marking the summit, indicate a direct continuity of design from Middle Bronze Age tombs, more closely than with any other protohistoric tomb type.

It is also curious that the Middle Bronze Age tradition is more closely upheld at Caltagirone, which is further from the Thapsos region than Pantalica, which less closely reflects the Thapsos tradition. In fact, the Caltagirone group have their closest parallels in the Agrigento region to the West, rather than in the Syracusan province to the East. A few miles from Agrigento, the tholoi of Sant'Angelo Muxaro include some of the largest chamber tombs of Sicily, or anywhere else in the Mediterranean.

The famous Grotta Sant'Angelo is of monumental proportions (880 x 800 x 320 cms. in height) and is often considered part of the legendary Cretan inheritance of West Sicily, associated
with Minos, Kokalos and Daedalus (cf. Pace, 1953-54; Caputo, 1963). Specific analogies of form between the Caltagirone and Sant'Angelo tholoi may be noted such as the carved peak in the roof and the double chambers, separated from each other by a step (Orsi, 1904, 88, Fig. 46; 1932, 274, Fig. 4).

In fact the Caltagirone tholoi are of smaller average dimensions than the tombs of Thapsos, since the medium range of the recorded samples lies between 175 and 220 cms in diameter, whereas those of Thapsos have larger dimensions on average, extending from about 235 to 294 cms in diameter. It may be suggested that the Caltagirone tombs were not directly influenced by the Thapsos burials but rather represent a separate West Sicilian tradition dating from about the 13th century B.C., under strong Mycenaean influence.
Funerary Rites

From the necropolis sites which were so fortunately saved from further clandestine looting by Orsi much information has been lost. For the most part, the sites have been preserved, not as hidden archaeological deposits, but bearing visible traces of severe erosion by natural agents as well as destruction by man, sometimes caused by re-occupation of the sites at various intervals in history.

In an area where many protohistoric tombs have been excavated, few human remains have been kept for scientific study (1). Orsi did however record the numbers of skeletons in the tombs and their positions and frequently suggested whether they were of adults or children, though the basis for such deductions was not strictly scientific but rested upon observation of the relative sizes of the individuals.

In many cases it is explicitly stated if a tomb was sealed and its contents undisturbed. For the most part, the tombs were found half-opened and the contents scattered and broken. The following table indicates the numbers of tombs which were probably intact and those probably disturbed.

<table>
<thead>
<tr>
<th>Site</th>
<th>Closed doorway</th>
<th>Open doorway</th>
<th>Uncertain</th>
</tr>
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<tr>
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<td>16</td>
<td>28</td>
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<tr>
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<td>7</td>
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<td>31</td>
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<tr>
<td>Caltagirone</td>
<td>3</td>
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<td>43</td>
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</table>

In fact, the vast majority of tombs, even though not specified by Orsi (those in the last column) had probably been opened at some time and partially despoiled of the contents. Even in the case of some closed tombs it is quite possible that they had been broken into in antiquity and been subsequently sealed by the

(1) Orsi donated a number of specimens to the Institute of Anthropology of Rome University. See studies by Passarello and Alciati (1969) and bibliography.
robbers, or by a later use of the tomb for a secondary deposition. For instance, Orsi found tomb 62 in the Pantalica South necropolis closed by stones and rubble in the usual way, although the chamber was totally empty.

In only a few cases were the circumstances of secondary burials clear from Orsi's accounts. One example, which Orsi recognized, was in the Dessueri Palombara necropolis (tomb 23) where the latest inhumation was placed just behind the door while the previous three had been heaped against the back wall to make room for the last arrival. In this case, the evidence suggested that the latest deposition may have occurred a few centuries later. Similar evidence for subsequent burials, after a considerable time-lapse, comes from tombs of the Pantalica South necropolis which, as noted above, was one of the burial grounds continuously and extensively used throughout the duration of the site, even into Classical times (e.g. P.S.36, P.S.185).

At Caltagirone a number of the fine circular chambers of the earliest period of the Rocca necropolis were re-used in the Pantalica South period after a break, possibly of up to two centuries.

We may derive an idea of the extent of the practice of secondary burial from the numbers of skeletons found. Orsi was also interested in this question and he produced statistical tables illustrating the numbers of skeletons in the tombs at Pantalica (1899, 93; 1912, 334) and Dessueri (1912, 394). At Pantalica it was noticeable that the tombs with a single inhumation were most frequent: between about 38 % and 45 % in the Pantalica North, North West and South cemeteries. At Dessueri, on the other hand, double inhumations were more common (about 37 %) followed by single depositions (about 23 %). At Caltagirone (1904, 96) single depositions were also quite common (42 %) while at Cassibile (1899, 136) single depositions, for the first time, appear to have been more common than the various multiple depositions considered together (about 60 %).

The maximum number of skeletons recorded in any one tomb was 14 at Pantalica North, 6 at Pantalica North West, 24 at Pantalica
South, 12 at Dessueri, 6 at Caltagirone and 4 at Cassibile. Orsi (1899, 136) pointed out how these statistics contrasted markedly with those of the coastal burials. In fact there seems to have been a break in the tradition of truly collective burial rites, as witnessed in many Middle Bronze Age rock-cut tombs where one chamber might contain over 60 skeletons. This would seem to be an important factor in an assessment of continuity and contrast between the Middle Bronze Age and the Late Bronze Age which has received little attention. We may further consider the evidence on a chronological basis.

In Figure 12 the numbers of skeletons in the different shapes of tombs are listed in chronological order (only tombs which most probably belong in these phases are included, as in Fig.10). Considering the numbers of inhumations in the elliptical/semi-elliptical tombs it seems that the same practice persisted during the first three phases of the Pantalica sequence. Namely, between one and six individuals could be placed in this type of tomb. This tradition began during the earliest period of occupation at Pantalica which indicates that the change from the earlier Thapsos tradition of mass collective burial was sudden and not gradual, as has sometimes been thought (Zingali, 1925, 101). Subsequently the funerary rite continued unchanged throughout the Pantalica sequence.

In the rectangular-trapezoidal tombs a relatively restricted number of burials were also the norm, between one and four at Cassibile, though in the Pantalica South necropolis sometimes many more individuals were placed in the same tomb. This also lends weight to the idea, mentioned above, that some population expansion occurred at Pantalica in the third, Pantalica South phase.

In contrast with these practices related to the elliptical/semi-elliptical and rectangular tombs are those of the circular and tholos types. We may notice, in the latter cases, a tendency for more inhumations to occur in the same chamber. This is a fact which could be rationalised in terms of the greater space available in these circular chambers. Nevertheless, this practice
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may also be related to a conscious continuation of an archaic funerary rite in the tradition of the collective burial of the Middle Bronze Age, though with fewer depositions. This is also supported by the observations, above, concerning the architectural heritage of the circular tholoi, with obvious Middle Bronze Age precedents.

The tholos tombs of Sant'Angelo Muxaro were perhaps a special case in the context of Late Bronze Age funerary rites since here alone were recorded vast quantities of skeletal remains comparable with Middle Bronze Age collective burials (cf. Mosso, 1909; Orsi, 1932).

Finally, there seems to have been little variation in the positions of skeletons within tombs, though the data is slight. In all the major sites the skeletons were usually placed on the back or side of the body with legs bent (Orsi, 1899, 93, 135; 1912, 334, 395; 1904, 95-96).
Grave Furniture

By way of approaching the question of the social structure of the protohistoric communities the tombs of the cemeteries have been ranked in scalograms (Figs. 13-18). The tombs are listed in descending order on the basis of the quantity and quality of the contents. Three levels, which might reflect status, have been proposed.

Firstly, tombs with gold and silver trinkets and bronze mirrors have been ranked at the upper end. The rest of the tombs, which includes the vast majority, are simply listed in descending order in accordance with the number of items which they contain. These tend to be objects of common use such as bronze rings, needles, fibulae, razors and small knives as well as pottery, shells, bone etc.

No attempt has been made to establish subtle divisions in the grouping, since it must be said that the available evidence does not lend itself easily to this type of study. There are a number of imponderable aspects of the evidence which are particularly problematic.

Firstly, a number of tombs were not sealed and many artefacts, particularly metal, have doubtless been removed. This seems to have been overwhelmingly the case at Caltagirone for example and must be to some extent responsible for the modest quantity of tomb goods. Secondly, a simple acceptance of the tomb ranking is prevented by the variable number of skeletons in the tombs, which are indicated in the final column. It must be realized that in nearly all cases where more than one skeleton was found, it is impossible to determine which grave-goods were associated with particular individuals.

In view of these factors, the few tombs which were found with closed entrances have been marked with an asterisk. A cautious interpretation may prefer to consider only those tombs which are thus marked and where only one skeleton was found. Some justification for considering all the tombs is suggested by the fact that the closed tombs at Pantalica are fairly evenly distributed within the three levels of tomb hierarchy which we are
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**Phase III - IV**

**Callagtron**

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Fig. 13
| PHASE | GOLD | SILVER | COPPER | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE |
|-------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| NORTH |     |        |        | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH |
| SOUTH |     |        |        | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH |
| TOPS |     |        |        | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS |

<p>| PHASE | GOLD | SILVER | COPPER | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE |
|-------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| NORTH |     |        |        | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH | NORTH |
| SOUTH |     |        |        | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH | SOUTH |
| TOPS |     |        |        | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS | TOPS |</p>
<table>
<thead>
<tr>
<th>Phase II: Malva della Baita* Madonna del Piano</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piazza Monfalcone Tomba</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>34</td>
</tr>
<tr>
<td>37</td>
</tr>
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<td>41</td>
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<td>40</td>
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<td>46</td>
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<td>32</td>
</tr>
<tr>
<td>19</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>57.49,32,12; 1-4,12-17,21-24,29,35-38, 40,42-46,48,51-56; 10,39,41;</td>
</tr>
<tr>
<td>Fig. 18</td>
</tr>
</tbody>
</table>
about to define. Furthermore, even fairly simple observations unrelated to the tomb ranking, but based upon an organized classification of the evidence, can be of interest.

To facilitate a comparative discussion of the tombs of the various cemeteries some rather arbitrary divisions in the tomb grouping have had to be suggested. For this reason we may point out that about 20% of the recorded tombs of Pantalica (Phases I and II; Fig. 14) contained not less than five objects per tomb. In cases where these were associated with one individual (9 tombs) we might consider them to represent a more privileged group than the rest. At the other end of the scale about 35% of the tombs contained one artefact or none, which might be assumed to represent the lowest ranking group (19 tombs with just one skeleton). The remainder of the tombs, which constitute about 40%, lie in the middle range, with between two and four artefacts per tomb. Sixteen tombs of this middle group contained one inhumation.

Considering the Dessueri necropolis in the same way (Phases I - II) we may point out that 29% of the tombs belong in the upper group, as defined above, though only four tombs were single inhumations, 36% of the tombs lie in the lowest group, with ten single inhumations, and the middle group (2-4 objects) comprised the remaining 35% of the tombs (ten single inhumations).

At Caltagirone 22% of the tombs belong in the upper group, 28% in the lowest group and the rest (50%) in the middle. These findings are expressed in the table below. The numbers in brackets represent the numbers of single inhumations.

<table>
<thead>
<tr>
<th>Site</th>
<th>Upper Group</th>
<th>Middle Group</th>
<th>Lower Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantalica</td>
<td>20% (9)</td>
<td>40% (16)</td>
<td>35% (19)</td>
</tr>
<tr>
<td>Dessueri</td>
<td>29% (4)</td>
<td>35% (7)</td>
<td>36% (10)</td>
</tr>
<tr>
<td>Caltagirone</td>
<td>22% (4)</td>
<td>50% (6)</td>
<td>28% (7)</td>
</tr>
</tbody>
</table>

Considering these percentages as a threefold division of artefact distribution in the tombs of three different cemeteries of approximately the same period, it appears that there is substantial agreement in the figures of the various sites. The proportions
of grave-goods in the tombs suggest that this important aspect of the funerary rite was quite similar in the various protohistoric communities under consideration. This argument could be raised in supporting the hypothesis that these communities, Pantalica, Dessueri and Caltagirone, all had a similar social structure (1).

It may be noted that there is no apparent correlation between the types of grave-goods and the different types of tomb used for the deposition in the early phases at Pantalica. Elliptical/semi-elliptical and circular tombs occur at all levels of the tomb ranking.

These observations apply to the tombs of the first phases in the Pantalica sequence (about 1250 - 850 B.C.) (2). The situation at Pantalica, Dessueri and Caltagirone can now be compared with the evidence from Cassibile and Pantalica South (about 10th - 8th centuries B.C.) using the same criteria for establishing a hierarchy of tombs. The findings may be expressed as follows.

<table>
<thead>
<tr>
<th>Site</th>
<th>Upper Group</th>
<th>Middle Group</th>
<th>Lower Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cassibile</td>
<td>20 % (3)</td>
<td>43 % (7)</td>
<td>36 % (9)</td>
</tr>
<tr>
<td>Pantalica South</td>
<td>28 % (5)</td>
<td>41 % (10)</td>
<td>31 % (15)</td>
</tr>
</tbody>
</table>

These two sites are quite closely comparable with each other and also with the above table of the earlier tomb grouping. It may be suggested that the apportioning of wealth, as reflected in the Pantalica South and Cassibile tombs, was directed on the same basis as in the earlier phases of the Pantalica culture and that a similar funerary rite persisted throughout this period in South East Sicily, a reflection perhaps of a stable social system. Although this is a suggestion in favour of cultural

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(1) If we exclude the tombs with secondary inhumations and consider only the single inhumations very similar proportions are still arrived at.
(2) It is not possible to divide the tombs into clear phases in many cases, particularly those with few or no grave-goods. In the Pantalica North and North West cemeteries it has only been assumed that these belong, along with the majority, in the earlier phases.
continuity at the level of basic social organization, it should not be allowed to obscure important spatial and temporal differences in the sites under study. Some changes in the funerary rite and in tomb design have been noted and further contrasts in the pottery and bronze industries are to be considered.

A study of the associations between different artefacts in the tombs and the skeletons is virtually ruled out by the impossibility of obtaining age or sex determinations. In fact, although we have used terms such as 'privilege' and 'rank' it must be admitted that the relative wealth of grave-goods might have correlated with age or sex of the deceased, a possibility which the data does not allow to be tested. It may be recalled, for instance, that Orsi thought the occupant of the wealthy grave P.N.37 to have been a child.

Even general observations about the proportions of different kinds of materials are necessarily limited. On the one hand the bronzes have been greatly despoiled while the pottery was often found in a fragmented state. It may be noted that metal objects are almost as common as vases and other artefacts at Pantalica (early phases) though the quantity is small in terms of their size or weight. At Dessueri metal objects are rarer than at Pantalica while pottery was very common in the tombs. This could indicate that the site was slightly poorer in metals but the evidence is so ambiguous that the suggestion is hardly worth pursuing.

In the later periods of the Pantalica culture, it does seem significant that metal objects of personal adornment become increasingly frequent in the tombs of Pantalica South, Cassibile and Cavetta (fibulae, rings, spirals, buttons). At Cassibile the number of bronze objects was probably greater than of vases. This was also the case at the contemporary site of Mulino della Badia, where the enchytrismos rite was practiced and where many of the single inhumations contained bronze objects of personal adornment of the same type as at Cassibile.

If we group the enchytrismos and fossa inhumations from Mulino della Badia in the same way as for the rock-cut tombs
the following grouping emerges.

<table>
<thead>
<tr>
<th>Site</th>
<th>Upper Group</th>
<th>Middle Group</th>
<th>Lower Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mulino della Badia</td>
<td>24 %</td>
<td>50 %</td>
<td>26 %</td>
</tr>
</tbody>
</table>

Once again, these figures compare quite closely with those of the rock-cut tombs, in terms of the number of items per tomb, though it may be inferred that a slight increase in the quantity of grave-goods has occurred since all the inhumations are single burials at this site. On the other hand the fossa and enchytrismos burials are much less susceptible to despoiling than the rock-cut chambers. The first observation here is that despite the very different kind of burial place used, the aspect of the funerary rite connected with the accompanying grave-goods, is nonetheless quite similar to the practice in rock-cut tombs.

Cassibile is the rock-cut cemetery which, from a chronological standpoint, can be most closely compared with Mulino della Badia. Various authors have noted similarities between these two sites based on the similar typology of a number of bronzes such as the Cassibile fibulae. There are also noteworthy similarities in some aspects of the burial rite at both sites. Particularly, fibulae, knives and pottery occur in both sites in quite similar proportions. This supports the idea that these two communities possessed a social system responsible for their similar distribution of wealth in their various funerary contexts.

The differences between the two communities lie in their contrasting burial places, which might be less significant than appears at first glance, and also in the slightly greater metalurgical wealth of the enchytrismos cemetery. Bietti Sestieri (1979, 627) has raised this point although one could easily be misled here by the nature of these much better hidden tomb contexts, probably much less disturbed and plundered than the rock-cut cemeteries. From the point of view of real contrast in the type of societies concerned, the most important point seems to be the persistence of secondary (or multiple) burial at Cassibile albeit in a reduced number, compared with the uniform practice of
separate individual burial. While this has encouraged some authors to conceive of such communities as radically different and somehow opposed to each other (e.g. Bietti Sestieri, 1979, 628) it should be remembered that by the 10th century B.C., when Mulino della Badia and Cassibile were both in existence, *enchytrismos* and chamber tomb burials had been practiced in Sicily, perhaps side by side in some cases, for up to five hundred years.

Finally, the resistance to change in the area of funerary ideology in the South East is demonstrated by the emergence of the site of Finocchito. This site, which is the last of the major protohistoric sites, occupies a strikingly similar location to that of Pantalica. Rectangular and occasionally elliptical tombs continued to be used, while the practice of secondary or multiple burial also persisted alongside the more common single depositions in the chambers (Orsi, 1894, 58).
Chapter 4
The Middle Bronze Age Inheritance of the Pantalica Culture

It has been possible to refer to changes in settlement, in the funerary rite and architecture and perhaps in the social organization of communities at the end of the Middle Bronze Age. The studies of the bronze and pottery types of the Pantalica culture raise further questions concerning the beginning of the protohistoric period. As far as the pottery industry is concerned, a substantially new repertoire has been discussed in the previous pages. Nevertheless, frequent reference has been made to the forms of the Middle Bronze Age and it may be said that the prehistoric precedents for the early protohistoric vases provide a stronger indication of cultural continuity than any other aspect of the evidence.

The decorative motifs of incised triangles and groups of lines on amphora shapes, bowls on stands and jugs, though uncommon, closely recall the techniques of the Middle Bronze Age. The plates on stands, hour-glass vessels, tubular-spouted jugs, cylindrical beakers, amphora-shaped vessels, ovoidal jugs and bowls on stands are all reminiscent of earlier types. These represent a considerable proportion of the pottery repertoire of the early period at Pantalica.

At Caltagirone, the continuing tradition of Middle Bronze Age funerary practices is even more striking than at Pantalica. The pottery industry has a narrower range of types than Pantalica and may have been derived from West or Central Sicilian Middle Bronze Age groups rather than from the South East region. The pottery forms do indicate some differences between the various cemeteries of the Pantalica North phase. At Caltagirone the collar-necked storage jars were most common, a type not found at Pantalica, while the Pantalica bowls on stands were not found at Caltagirone. Most of the Dessueri forms could be paralleled at one or the other of the major sites, though the frequency with which particular vases occurred here also suggested the individual character of the local industry.

Changes in the pottery industry are indicated by a number of factors. The use of the potter's wheel represents the acceptance
and adoption by the local potters of this technological innovation. The changes in designs, colour and the frequency of burnished ware at least reflects a change in taste. At the same time a wider variation in quality may be noticed perhaps due to a re-organization of production along professional lines. Small, course, hand-made forms contrast with the finely made and decorated bowls on stands, perhaps intended for display or produced for a high-ranking class, since they occurred in both the large chamber tombs of the North West necropolis. The colossal specimens must have required particular skill in construction and firing.

In general it seems legitimate to evaluate the changes in this local production as positive advances. Of course it is the funerary pottery which has been preserved at the major sites where almost nothing is known about the household wares. The discovery of the domestic facies of the Pantalica North period remains a challenge in Sicilian archaeology. Some indications have been obtained from the Sabucina hut-levels. Most of the forms were large storage vessels: ovoidal pithoi, basins on stands and large open bowls mostly of dull orange-red fabric, while stralucido ware does not seem to have been current. Smaller forms included strainer-jugs.

The design of some Pantalica vases for funerary use is clearly discernible in the case of miniaturized forms. A group of tiny vases came from P.S.166. As well as these, many other common types including jugs and cups were very small, doubtless designed for the 'burial' market. Miniature forms were also found in the Thapsos tombs, emphasizing the symbolic importance of this aspect of the funerary rite (Orsi, 1895, Pl.V:13).

The bronze industry appears to have developed a new repertoire in keeping with developments in the Late Bronze Age over a wide area. A number of daggers, one-edged knives, fibulae, razors and perhaps even mirrors, constitute the bulk of a new range of equipment. Only the short swords with three rivets and shaft-hole axes appear to be manufactured in the same tradition as Middle Bronze Age types. Much more so than the pottery, the bronzes indicate considerable uniformity between the different sites. Violin-bow
and early arched fibulae are of a similar type all over Sicily, even in the Ausonian contexts and in the west of the island. It seems unnecessarily limited to regard the Pantalica North bronze industry as indirectly linked with Central Tyrrhenian Italy because of the hatched design on some of the knob fibulae (Bietti Sestieri, 1980–81, 43). More widespread links with South Italian facies have been referred to in previous discussions of the metal types of Pantalica, including Apulia and Calabria in the 12th and 11th centuries B.C. and also with the Aegean in the 12th century B.C.
Foreign Influences on the Pantalica Culture

Since Orsi's time much has been written about the influence of Mycenaean culture in Sicily, particularly during the Middle Bronze Age, which is the period generally thought to reflect the high water-mark of Mycenaean trade with the West. After the Middle Bronze Age trade between the Aegean and Sicily is thought to have diminished significantly due to the decline of Mycenaean power and the beginning of an unstable and insecure period in the Aegean. This is a traditional view which new discoveries in Italy and the Aegean may yet modify to some extent.

In recent years more sites have come to light with LH IIIB and LH IIIC pottery in Italy, particularly in Apulia and Sardinia (cf. Vagnetti, 1982). For the protohistoric period in Sicily the picture has perhaps altered little over recent years since the pace of discovery has been slower. It has long been seen that the impact of Mycenaean trade with Sicily was profound. Apart from the testimony of a wide range of pottery and bronze artefacts it has even been possible to envisage the presence of Mycenaean persons and perhaps other foreigners (Maltese, Cypriot?) resident in some settlements like Thapsos.

Regular exchanges of many commodities would have lead to important cultural exchanges in the realms of language (cf. potter's stamps on Milazzese pottery), religion (cf. funerary architecture), technology (cf. the potter's wheel) and perhaps in warfare and fashion (cf. bronze weaponry and ornaments).

The question of Mycenaean influence in the Pantalica culture received more summary treatment (Bernabo-Brea, 1957, 151-154). The fullest account was the survey by Taylour (1958). Within the discussions of the material evidence frequent reference has been made to Taylour's work and in some cases it has been possible to suggest modifications of his views, mainly on the basis of new discoveries and by close study of the different elements involved. A clearer idea of the extent of Mycenaean influence on the material may be had from Figure 19 where the various types which are also found in Italy, the West Mediterranean and Greece are listed.
<table>
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<th>SICILY</th>
<th>S. ITALY</th>
<th>N. ITALY</th>
<th>AEGEAN</th>
<th>W. MEDITERRANEAN</th>
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<tr>
<td>Violin-bow fibulae</td>
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<td>X</td>
<td>X</td>
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<td>Axes</td>
<td>X</td>
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<td>Razors (G.1,2)</td>
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<td>Mirrors</td>
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<tr>
<td>Knobbed fibulae</td>
<td>X</td>
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<td>Daggers (G.7)</td>
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</tr>
<tr>
<td>Daggers (G.5)</td>
<td>X</td>
<td></td>
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<td>X</td>
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<td>Short Swords (G.2,8)</td>
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<td></td>
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<tr>
<td>One-edged knives</td>
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<td>X</td>
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<tr>
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<td>Small arched fibulae</td>
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<td>Fibulae with square bow</td>
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<td>Cassibile fibulae</td>
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<td>Razor (G.6)</td>
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<td>Buttons</td>
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<td>Serpentine fibulae</td>
<td>X</td>
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<tr>
<td>Gold rings</td>
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<tr>
<td>Strainer jugs</td>
<td>X</td>
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<td></td>
</tr>
<tr>
<td>Cylindrical beakers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tubular spouted jugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Painted Jug</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Askoi</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Amphora</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trefoil Jugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collar-necked Jars</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemispherical lids</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oblique-mouthed Jug</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Concave-sided cups</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Fig. 19
Of course there are considerable difficulties of interpretation. The pottery itself is often a mute witness to trade in non-durable materials and the activities of metal traders are only rarely directly documented in the Mediterranean by dramatic underwater contexts like the Cape Gelidonya wreck. In this sense even a limited number of vases and bronzes from indirect contexts, like the Pantalica tombs, represent the 'tip of the iceberg'.

On the basis of the evidence which has been discussed the bronze industry clearly belongs within the so-called koîné of protohistoric metallurgy in the Central-West Mediterranean. On successive occasions South Italian and Aegean parallels for the Sicilian bronzes have been cited. The evaluation of Sicilian bronze craftsmanship as inferior or less creative than that of central Italy (Bietti Sestieri, 1973, 404) is highly debatable. During the 12th century the bronze mirrors, bronze vessels and finely decorated gold rings testify to an educated clientele and it cannot be safely presumed that local craftsmen failed to live up to the standards of Mycenaean designs. The high standard of some of the pottery has been noted.

The pottery industry has even closer parallels in the Aegean, perhaps more so than with Mycenaean sites of South Italy, which provides the most direct indication of the continued impact of Aegean culture on Sicily after 1200 B.C. Many of the pottery forms of Mycenaean type cannot be derived from Thapsos but must have continued to arrive in Sicily after the establishment of the major protohistoric sites. In very few cases has it been possible to discern imported forms. We have dealt almost entirely with local imitations of Mycenaean forms. Some of these are very close to their models (collar-necked jars, askoi, cylindrical pyxides) while others seem to have evolved locally (strainer-jugs, hemispherical lids, trefoil-lipped jars, amphora-shaped vessels, spouted jugs).

Many of the forms have analogies in Attica, the Islands, Rhodes and Cyprus, a wide distribution which may partly reflect the areas best known in the Aegean. It does not seem possible to propose a
single specific relationship between Sicily and a particular region of the Aegean, such as Cyprus, which has sometimes been suggested (Vagnetti, 1970, 379). The most that can be said is that while the distribution of the commoner bronze types is very wide, including Crete, the North Aegean and the Balkans as well as Attica, the Islands, Rhodes and Cyprus, the pottery types seem to have had few parallels in Crete, the North Aegean or the Balkans.

During the 12th century B.C. significant influences from Mycenaean Greece were felt in Sicily though contacts with the Italian peninsula seem to have been maintained throughout the Pantalica culture. Many of the bronzes of the Pantalica North period belong in the Italic tradition. Similarities with the Ausonian and Pertosa facies have frequently been referred to in previous pages (cf. Bietti Sestieri, 1973, 1980) as well as some recently discussed similarities with Calabrian fibulae (cf. Lo Schiavo-Peroni, 1979).

It is sometimes thought that Phoenician traders took over the role of the Mycenaeans in the West Mediterranean after LH IIIC. Some authors see this reflected in the local Sicilian protohistoric cultures of Pantalica, Cassibile and Mulino della Badia (Bernabò-Brea, 1963-64). However it has not been possible to substantiate any of the claims which have been made on the basis of the material evidence. The strainer-jugs, the trefoil-lipped jugs and the Cassibile fibulae do not seem to imply, or at least necessitate, the presence of Phoenician sailors in Sicilian waters. A recent study (Anagnostou, 1981) discerned further traces of Phoenician influence on the Ausonian II facies of Mulino della Badia on the basis of the bronze rods, though parallels for these can in fact be found further afield than those discussed.

New discoveries may encourage further reviews of this question, but at the moment there seems to be no tangible evidence from the Sicilian material for Phoenician cultural influence in the local cultures. The question of Phoenician influence does not obscure the importance of exchanges between Sicily and the West
Mediterranean suggested by a number of bronze forms of the ninth and tenth centuries B.C. which were discussed by Bernabò-Brea (1957, 155-156). The Sardinian pottery from Lipari Ausonian II levels was recently fully published (Contu, 1980) and some Sardinian elements in the later phases of the Pantalica culture have been noted.
Cultural Continuity in the Protohistoric Period

It has long been noted that one of the most significant transformations in the Pentalica sequence took place at around 1000 B.C. with the emergence of the Cassibile facies at the end of the 'Pentalica North' period. Bernabò-Brea (1957, 154-156) emphasized how the bronzes allowed correlations to be made between Sicily and other Mediterranean regions at this time, while Bietti Sestieri (1979, 622) emphasized the similarities with Ausonian groups like Mulino della Badia.

From Figure 20 it is possible to gain an impression of the extent to which the pottery and bronzes of Cassibile reflect local traditions as well as new styles which are also sometimes found in Ausonian assemblages. It is clear that the bronze industry, as in earlier periods, was most susceptible to new influences. The pottery industry perpetuated many earlier traditions and at the same time adopted new techniques of decoration such as the piumata style. Continuity and contrast in the funerary rite and tomb type has also been discussed.

A number of elements of the Cassibile facies are found at Dessueri. Here the continuity of site location and burial practice from the preceding 'Pentalica North' phase indicates a more steady development. Despite the emergence of some new forms, it is once again the pottery industry which indicates continuity (cf. Fig. 21). On the other hand, it is the fibulae and some of the personal ornaments which have changed more markedly and are similar to those of Cassibile and Mulino della Badia. Nevertheless, there is little evidence for an abrupt cultural change at this site caused by the impact of Ausonlan cultural assemblages on the local facies.

At Pentalica the paucity of tombs assignable to the 'Cassibile phase' has been interpreted differently. Bernabò-Brea (1957, 163) thought this might be a largely accidental fact, while Bietti Sestieri (1979, 623, regarded it as an indication of the conservative nature of the Pentalica community, avoiding any contact with the Ausonian facies. This is an interesting supposition though it must be remembered that the bronze industry of Pentalica
<table>
<thead>
<tr>
<th>CASSIBILE TYPES</th>
<th>Cf. PANTALICA NORTH</th>
<th>AUSONIAN</th>
<th>ITALY</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-edged knives</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Thin arched fibula (Cas.61)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thick-bowed arch fibula</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Square/Rectangular bow fibula</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Daggers</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassibile fibulae</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Razors</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Buttons, belt-hook</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Rings</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Axes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plate-stands</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concave cups</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Trefoil-lip jug</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Amphora-shaped vessel</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jugs</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lids</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage jars</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovoidal jars</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaker with basket handle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestal cup</td>
<td></td>
<td></td>
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</tbody>
</table>

Fig. 20
<table>
<thead>
<tr>
<th>DESUERI TYPES</th>
<th>Cf. PANTALICA NORTH</th>
<th>AUSONIAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-edged knives</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Incised arch fibulae</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Square/Rect. bow fibulae</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thick round bow fibulae</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Swords, daggers</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cassibile fibulae</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Knobbled fibulae</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Razors</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Needles</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Axes</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Plate-stands</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Concave-sided cups</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Trefoil Jugs</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Amphora-shaped vessels</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Bowls on stands</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hour-glass vessels</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Handled Cups</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Saucers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cassibile Plate-stands</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Jugs</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Jugs with tubular spouts</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cylindrical beaker/Pyxis</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Strainer-Jugs</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Collar-necked jars, Storage jars</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lids</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 21
before about 1000 B.C. displayed widespread contacts with other areas, including the Ausonian facies of the Lipari acropolis (Ausonian I).

Nevertheless, only a few Ausonian II or Cassibile types have been found at Pantalica such as the plates on stands. The Cassibile fibulae are absent while the arched fibulae with incised decoration are common. In fact, significant changes in the Pantalica corredi are not well documented until the Pantalica South period. This has been interpreted as a radical cultural change at the site in the 9th century.

"L'inizio della fase di Pantalica Sud, tradizionalmente collocato in questo momento, non sembra infatti identificabile semplicemente con una serie di mutamenti tipologici in un contesto culturale sostanzialmente immutato; esso appare invece come un cambiamento radicale, con il quale l'intero patrimonio tipologico della cultura di Pantalica, di antica tradizione locale, viene sostituito da un nuovo e diverso sistema di tipi e di forme ceramiche e di bronzi" (Bietti Sestieri, 1979, 624).

Although this transformation has been described as absolute (1979, 624) it is nevertheless possible to discern a very small number of traditional elements, albeit fully absorbed into the new facies, such as trefoil jugs, strainer jugs, the odd storage jar (Orsi, 1912, 35, Fig.14), needles, and possibly the odd razor or mini-amphora (P.S.68, P.S.99; the tomb associations are open to question however).

It is also just possible that the radical transformation of the assemblage was not as sudden as might be thought. Some tombs in the Pantalica South necropolis could be regarded as foreshadowing change before the 9th century B.C.: P.S.70, P.S.102, P.S.30, P.S.234, P.S.68, P.S.99, P.N.145. In these tombs it is possible to notice the association between 'Ausonian' or 'Cassibile' types as well as more traditional elements. It has been pointed out of course that most elements in the Pantalica South facies are to be derived from Cassibile and Ausonian II types (1979, 622). Despite this it is not possible to fully understand the Pantalica South period in terms of simple derivation from earlier groups.

The relationships between the various sites and assemblages of the 9th and 8th centuries in Sicily have hardly been examined
in preceding discussions and certainly merit a full separate treatment. Some early protohistoric types have been traced to this late moment but only for the sake of comparison. In terms of historical continuity and cultural development it is noteworthy that the Pantalica South period is not documented at Cassibile or Dessueri and even the Ausonian II facies of Mulino della Badia and Lipari acropolis seem to have ended before this time.

New evidence may soon permit a comparison with the still little known Ausonian III period (cf. Villari, 1982) while a full study of the North Eastern cemeteries of Pozzo di Gotto, Longane and Cocolonazzo for example (cf. Bernabò-Brea, 1967) will certainly reveal new groupings and new influences on local cultures from peninsular Italy and the Aegean.
BIBLIOGRAPHY


ARIAS, P. E., 1975, 'Paolo Orsi in Sicilia e in Calabria', Klearchos 65-68; XVII: 9-27

ASTRÖM, L., 1967, Studies on the Arts and Crafts of the Late Cypriot Bronze Age, Lund.


BERNABO-BREA, L., 1956, Akrai, Catania.


BIANCO PERONI, V., 1974, 'Altre Spade dall'Italia Continentale', Prähistorische Bronzelfunde XX, 1: 11-26


BLAKEWAY, A., 1932-33, 'Prolegomena to the study of Greek commerce with Italy, Sicily and France in the 8th and 7th centuries B.C.', Annual of the British School at Athens XXXII: 170-208.


BLINKENBERG, C., 1926, Fibules Grecques et Orientales, Copenhagen.


BRANIGAN, K., 1968, 'Copper and Bronze Working in Early Bronze Age Crete', Studies in Mediterranean Archaeology XIX.


COF TRU, E., 1980, 'Ceramica Sarda di Età Nuragica a Lipari' in BREA-
CAVALIER (1980), 829-836.


DESHAYES, J. & DESSENNE, A., 1959, 'Mallia', Études Crétoises XI.


EVANS, A., 1921, The Palace of Minos at Knossos, 1 (London)
" 1930, " 3 "


FRASCA, M., 1982, La Necropoli di Monte Finocchito, Catania.


GABRICI, E., 1927, 'Il Santuario della Malophoros di Selinunte', Monumenti Antichi dei Lincei XXXII.


GRAS, M., 1980, 'L'Etruria Villanoviana e la Sardegna Setten- 
trionale: Precisazioni ed ipotesi', Atti della XXII Riunione 
Scientifica dell'Istituto Italiano di Presistoria e Protostoria 
(Sardegna, Oct. 1978) 513-539.


GUZZARDI, L., 1978, 'Calaforno', Rivista di Scienze Preistoriche 
XXXIII, 2: 443.

GUZZARDI, L., 1980, 'Un Ipogeo Preistorico a Calaforno e il suo 

GUZZO, P.G., 1969, 'Considerazioni sulle fibule del ripostiglio 
dal Ria de Huelva', Rivista di Scienze Preistoriche XXIV, 1: 
299-309.

HANKEY, V. & WARREN, P., 1974, 'The Absolute Chronology of the 
Aegean Late Bronze Age', Bulletin of the Institute of Classical 
Studies 21: 142-152.

HARDING, A., 1975, 'Mycenaean Greece and Bronze Age Europe: the 
evidence of Bronze Tools and Implements', Proceedings of the 

HAZZIDAKIS, J., 1934, 'Les Villas Minoennes de Tylissos', Études 
Crétoises III.

HENCKEN, H., 1955, 'A Western Razor in Sicily', Proceedings of the 
Prehistoric Society 18: 160-162.

HENCKEN, H., 1956, 'The Fibulae of Huelva', Proceedings of the Pre- 

HENCKEN, H., 1968, Tarquinia, Villanovans and early Etruscans (2 Vols.) 
Cambridge (U.S.A.).


JACOBSTHAL, P., 1956, Greek Pins and their connections with Europe and Asia, Oxford.


KARO, G., 1930-33, Die Schachtgräber von Mykenai, Munich.

KILIAN, K., 1970, Früheisenzeitliche funde aus der Südostnektropole von Sala Consilina (Provinz Salerno), (Archäologische Forschungen in Lukanien, III), Heidelberg.


LIBERTINI, G., 1930, Il Museo Biscari, Milan.

LILLIU, G., 1952-53, 'Il Nuraghe Barumini e la stratigrafia nuragica', Studi Sardi XII-XIII.


MARAZZI, M., 1976, Egeo e Occidente alla fine del II millenio a.C., Rome.


MEE, C., 1982, Rhodes in the Bronze Age


MILONE, F., 1960, La Sicilia. La natura e l'uomo, Turin.


MONTELIUS, C., 1895, La Civilisation Primitive en Italie, Stockholm.


MÜLLER-KARPE, H., 1959, Beitrage zur Chronologie der Urnenfelderzeit Nordlich und Sudlich der Alpen, Munich.


O'CONNOR, B., 1980, 'Cross-Channel Relations in the Later Bronze Age', British Archaeological Reports International Series 91 (2 Vols.).


ORSI, P., 1891, 'La necropoli sicula del Plemmirio (Siracusa)', Bullettino di Paletnologia Italiana II, XVII: 115-139.

ORSI, P., 1893, 'Necropoli sicula presso Siracusa con vasi e bronzi micenei', Monumenti Antichi dei Lincei II: 5-36.


ORSI, P., 1895, 'Thapsos', Monumenti Antichi dei Lincei VI: 89-150


ORSI, P., 1907, 'Nuovi documenti della Civiltà Premicenea e Micenea in Italia', Ausonia I: 5-12.


ORSI, P., 1923, 'La Sicilia Preellenica', Atti della Societa Italiana per il progresso delle Scienze, XII Riunione (Catania, April 1923).


PAPADOPOULOS, T.J., 1979, 'Mycenaean Achaea', Studies in Mediterranean Archaeology LV.

PARETI, L., 1959, Sicilia Antica, Palermo.


PEDRIZET, P., 1908, Fouilles de Delphes (Tome V; Ecole Francaise d' Athènes), Paris.


PERSSON, A.W., 1931, The Royal Tombs at Dendra near Midea, Lund.


PETRIE, W. M. F., 1927, Objects of Daily Use (British School of Archaeology in Egypt), London.

PETRIE, W. M. F., 1928, Gerar (British School of Archaeology in Egypt), London.

PIGGOTT, C. M., 1946, 'Late Bronze Age razors in the British Isles', Proceedings of the Prehistoric Society 121-141.


VOZA, G., 1972-73, 'Thapsos' (Intervento) in BERNABO BREA 1972-73, 186-188.


WACE, A.J.B., 1921-23, 'Excavations at Mycenae', *Annual of the British School at Athens* XXV.


BIBLIOGRAPHICAL ADDENDUM

HAWKES, C.F.C., 1952, 'Las relaciones en el bronce final, entre la Peninsula Iberica y las Islas Britanicas con respecto a Francia y la Europa Central y Mediterranea', Ampurias XIV: 81-119.

KILIAN-DIRLMEIER, I., 1975, 'Gürtelhaken, Gürtelbleche und Blechgürtel der Bronzezeit in Mitteleuropa', Prähistorische Bronzefunde XII,2.

