CONTRIBUTI

A REVISED INTERPRETATION OF THE FUNCTION OF LA GROTTA DEL VECCHIUZZO NEAR PETRALIA SOTTANA AND THE GROTTA DEI COCCI AT CAPACI (Palermo, Sicily) DURING THE LATE NEOLITHIC OR EARLY COPPER AGE BASED ON THE ANALYSIS OF THE HUMAN REMAINS

Introduction

The culturally complex prehistory and history of Sicily (see Tusa 1983) provides a potentially outstanding location for employing the modern analytical techniques of physical anthropology to archaeological problems. Over 100 years ago the problem of recognizing culturally distinct native populations, such as the Sicels (see Sergi 1891) or Elamites, was one of the primary interests of archaeologists. Giuffrida-Ruggeri (1907) carried these early studies forward, and offers modern scholars an excellent bibliography of early reports. While these studies often provide excellent data, the anlyses of the information require the types of analytical methods only available since the computer revolution (e.g. Howells 1989). While much has been written on this subject during the past century (e.g. Ganci 1973), we have only recently begun to consider testing these differences through studies of the human skeletal remains from archaelogical sites.

By 1980 rapid changes in the attitude toward the recovery of human skeletal materials became evident as a generation of archaelogists came to recognize the potential of human skeletal analyses in the amplification of their understanding of the past. A new generation of archaeologists, often working directly with physical anthropologists, began systematic recovery of available skeletal remains and to apply modern methods of analysis (cf. Pacciani *et al.* 1982).

Although attempts to study population movements and the traditional question of the "brachycephalization" [1]) of the Sicilian peoples have yet to bear fruit, physical anthropologists can provide useful information to archaelogists. Age and gender of individuals interred within a given necropolis can be determined (e.g. Becker and Salvadei 1992), allowing excavators to interpret the mortuary behaviours more accurately (see Bietti Sestieri 1992). Over the years the data base for Sicilian archaelogy has increased, but the extensive listings of excavations (see Tusa 1983) have not been matched by useful skeletal studies. Study of skeletal materials from two sites near Palermo allows us to support recent archaelogical interpretations.

Neolithic

Robb's (1994, In press A) excellent review of south Italian Neolithic period skeletal studies was the first attempet to use the vast data base in a modern analytical

Abstract

Although human skeletal remains commonly are found at archaelogical sites, their importance in solving problems of culture history in Sicily has been recognized only recently. Mingazzini's (1937) initial evaluation of the ceramics and considerable quantities of bone from the Grotta del Vecchiuzzo led him to assign cultic functions to this site, a very traditional interpretation at that time. Bovio's (1979) detailed analysis of this excavation led her to cast doubt on the probability that this mix of materials reflected the use of this cave for ritual activities.

The analysis of the human as well as the animal bone from the site, plus a consideration of taphonomic processes enable us to determine that this cave served as a burial place for a nearby small village or perhaps a single kin-group within that community. Comparison with other prehistoric human skeletal remains from sites of similar age in Sicily enables us to infer that the island had a relatively small, moderately homogeneous population prior to the Bronze Age.

framework. This work covered nearly all published reports and provides a wider context into which the Vecchiuzzo data may be placed.

Tusa (1983: 124) places the Grotta del Vecchiuzzo (near Palermo) in the Upper Neolithic period, based on the presence of a "Diana" type ceramic assemblage (Ca. 3,000 BC). The excavator had placed these materials in the Late Copper Age. The human remains from this site are evaluated below as the focus of this report (see also Becker 1986:35).

The Grotta of Vecchiuzzo

Archaelogical excavations in the grotta of Vecchiuzzo of the Comune di Petralia Sottana (Province of Palermo) were conducted in 1937 and 1938 (Mingazzini 1937) with the intent of determining if this long, thin cave had been used in antiquity and what purposes it may have served (see also Collisani 1975). Mingazzini concluded that the cave had "cultic functions". However, this conclusion was typical of the period, when almost all cave deposits were said to have "cultic" functions (see Stiner 1991: 124).

Bovio (1979: 8-14) reviewed these data, and reached a conclusion somewhat different from the earlier "cultic" model. Clearly, new interpretations may be derived from studies which incorporate analyses of the animal bones (cf. Binford 1972) as well as studies of the human skeletal remains found in association with the ceramic and other materials (cf. Becker 1992).

The original excavations at Vecchiuzzo revealed what was believed to be a late Copper Age ceramic industry, with only a few Bronze Age ceramic fragments (Bovio 1975: 12). Excavation trenches began with number III (Bovio 1979: 8, fr. 15), presumably to allow for added excavations near the entry of the grotta should such a course have been needed. A long, narrow trenching down the center of the slender chamber was later supplemented by some additional tests (see Mannino 1961, in Bovio 1979: 21).

Mingazzini discussed these findings only in light of the ceramic materials only, but the human skeletal remains clearly were believed to have been associated with cultic activities. These bones, however, were not specifically studied until 1983. Mingazzini (1937: 4) tried to explain the mass of sherds at the site and the problem of their seeming to be only a scatter rather than providing a representation of intact vessels wich may have been used in the cave. He suggested, in keeping with explanations generally considered in those days, that these deposits may have been produced through some sort of cult of initiation where mystery rites were celebrated (see Bovio 1979: 102). Her modern analysis of this excavation, reported in careful detail (Bovio 1979: 102), casts doubts on the probability of this material reflecting sacred activities in this context. Her considerable experience in this regio (cf. Bovio 1944) was brought to bear on this problem, and as will be demonstrated below, the evidence clearly indicates the wisdom of Bovio's position.

In both her article describing the circumstances involved in the Vecchiuzzo excavations and the full excavation report, Bovio (1975-1979) provides important data wich enables us to place the data from the human skeletons in proper perspective (cf. Gifford 1981). This, in turn, allows us to draw firm conclusions from this specific body of evidence.

Without a specialist to identify specific bones during the actual excavations at the Grotta del Vecchiuzzo, or to separate the human from the animal remains (see Collisani 1975; also Andrews 1991), only the excavation record and the careful identification of bone groups or "lots" from each trench enables us to reconstruct the evidence. For example, Collisani believes that a human skeleton was discovered in Trench III C, with that individual's legs extending into II C. However, although fragments of a human skull and leg bone appear among the bones in unit III C, no clear evidence for a complete burial can be seen in a review of these skeletal remains. No excavation unit from which these bones derive includes bones representing a complete skeleton, and we remain uncertain as to what actually had been located locus IIIC.

The assumption that these were late (or recent) and possibly secret burials (Bovio 1979: 8, 101), was an early speculation which now can be discounted. Certainly the absolute numbers of humans represented is far greater than Bovio (1979: 103) had believed.

Of considerable importance to this new interpretation, based on a recent study of the human remains, are two archaelogical points which remain unclear. First, was there a clear indication that any wall, however crude, may have existed to divide off one part of this grotta from the rest? Such a chamber would have provi-

ded a crypt within which bodies could have been placed and sealed off from animals during the decomposition process.

Second, the precise location of the specific collection of bone which I have designated as "red-earth" material (see below) is not indicated. This group of skeletal material appears to reflect the location of a primary deposition of bone. If this area of "red-earth" could be correlated with a "sealing" wall, this would offer the needed evidence to characterize this entire location as a single mortuary chamber with specialized areas within.

The material

When taken from storage in the spring of 1983 human and animal bones from these excavations were unseparated. A considerable quantity of these bones were found at the Archaelogical Museum at Palermo, stored in 7 large wooden boxes and 8 small cardboard boxes. One of the wooden boxes, without indication of specific provenience, contained mostly human small bones or fragments of large bones which were covered with a reddish earth. These have been designated as the "red earth" bones for purposes of specific reference. The first stage of the analysis required that the human bone be separated from the animal. The original 15 boxes of material were carefully sorted to identify and remove human bone. Bones taken from those lots of bone which were labeled with trench numbers were individually marked in order to allow later sorting. The identification of the contents of each of these units appears in Appendix I.

Approximately 70% of all labeled excavation units which had any bone were found to have human bone.

The total volume of labeled human bones which were not red stained filled one large wooden box plus two smaller cardboard boxes. The large wooden box with the red-earth bones, and a considerable amount of the earth itself, is a fourth container with mostly human bones, plus a few pieces of animal bone and a few stone tools. Whether the red color derives from the earth, or has been stained by ochres added with the bones is not known, but suggests that separate contexts within the cave are indicated.

The volume and number of bleached bones in the three other smaller boxes, which came from unmarked lots and have no indication of context, compose approximately 60% of the total number of unstained bone. The number of known excavation units which contained human bone is 37, and those bones which are not marked may have come from still other units. What is of the greatest importance is the randomness of the scatter of these remains (see below), with the exception of the red-earth material, which is noted after the following list.

Methods of analysis

All of the analysis was done using the methods provided by Krogman (1962) and Ubelaker (1989) plus other interpretive techniques derived from the author's past research in souther Italy and Sicily (see also Bass 1979, Becker 1982, Becker and Salvadei 1992). Interpretations of these data are based on taphonomic considerations discussed by Andrews (1991) and also by Solomon *et al.* (1990). For data on the interpretation of human skeletal remains from all contexts one should note the discussion offered by Wesolowsky (1993).

Stature can be calculated for only one person, a female, using the Trotter and Glesser (1952) formula for white females (reprinted in Krogman 1962: 162). These formuli have been determined to be the most accurate of all available techniques for calculating stature when applied to Italian populations, based on comparisons of calculated stature with *in situ* measurement (Becker Ms. A).

Findings

Cranial and mandibular remains generally are the most reliable indicator for determining the numbers of individuals in a mixed collection of bones. The focus of this analysis turned to the mandibular remains, as presented at the end of this section. The importance of indicators from the post-craneal remains will be reviewed first. As noted earlier very few small bones or fragments were found among the skeletal pieces in storage. Although this could reflect excavation procedure, more likely the absence of such elements indicates that the material in this collection had been relocated from some area of primary deposition.

The relatively small number of long bone fragments and the few metacarpals and matatarsals, as well as the collection of vertebrae, was determined to be too small to be of use in an analysis. The proximal half of a left femur, the head of which had just fused before death, suggests the presence of one individual of age about 20, possibly the same individual represented by the mandibular fragment in unit VIB. The presence of a medium sized third trochanter on this piece of femur provides evidence for an interesting trait as well as for confirmation of gender identification (M).

Among the unlabeled long bones and fragments are the shafts of 3 humeri of children. One appears to be about 6 to years of age, another about 7, and the third perhaps 8 or 9 years old. The first two are "age duplicated" by mandibular elements, but the third humerus appears to represent a child known from no other source (see list of individuals). The long bones provide the only evidence for stature among the members of this small population. Although recovered from two very separate locations within the cave two bones, both from a female, could have derived from the same individual (see below).

Other bone groups which are present, but which have been eliminated from detailed study include 3 categories which most frequently are not preserved in inhumations. These include the following: innominates (see below); sacra (of which 2 appear on the inventory, while a third example plus a small fragment of sacrum were not labeled; and scapulae. The scapulae provide an idea of the population size since 7 adult (4 female and 3 male) and one juvenile right elements are present. In addition to these 8 people, the 4 left scapulae inlude 2 of adolescents, demonstrating that at least 10 people were present. The 2 left scapulae of adolescents, perhaps in the 12 to 15 years age range, offer evidence for the presence of 2 people nowhere else demonstrated as present in this collection.

Equally unusual in terms of preservation is the large number of innominates (pelvic bones) represented in this collection. These bones, on the whole, suggest that the remains were unearthed not many years (or months) after burial and allowed to dry thoroughly. Perhaps this occurred simply by their having been scattered within the cave. The 10 right innominates (5 adult, and 5 children from approximately 2 to 5 years of age) clearly indicate that a population of at least 10 and probably more individuals are represented. The children indicated provide evidence extremely useful in reconstruction of the total population, for which the mandibles serve as the prime indicator.

Six left innominates are represented (2 adult, 4 juvenile), the immature individuals could reflect those 4 juveniles represented by mandibles as noted below. Since age estimates of juvenile innominates is not easily achieved, there is a possibility that more than 4 juveniles are represented in this collection. Furthermore, these 4 juvenile left innominates do not necessarily match any of the 5 right innominates of young children noted below. Of the left innominates, that of a young adult male (age ca. 20 years based on lack of crest fusion: see Stewart and Trotter 1954: 155) appears to have a diseased sacroiliac joint.

Before turning to the bones which here have proved most diagnostic, the mandibles, a brief note must be made of the cranial material from this excavation, which is superprisingly small. The limited size of this sample of skulls suggests that they were given special or differential treatment in the course of redeposition, a practice suggested from Entella and elsewhere on Sicily during this period (see Becker 1986). The fact that *all* of the mature adult mandibles recovered appear to derive from females also may reflect differential treatment of the skulls and associated mandibles, by gender, unless all of this population can be characterized as having gracile mandibles.

Only two maxillary fragments were recovered, but both provide interesting information. One, a left maxilla of an adult (gender unkown) from XV B, has no palatine torus but a very sharp lower nasal margin. This is quite different from the maxillae from III C, that of an adult female, which has both a slight palatine torus as well as guttered nasal margins. The bones of actual skulls are represented by 6 frontal pieces (3 of children), 3 right parietals, 4 occipital fragments and 2 other sections of an old adult skull plus a very small number of miscellaneous fragments. Aside from the importance of the small size of this collection there is with it a loose wormian bone, possibly an *os inca.* The importance of an ossicle at lambda (inca bone) in this collection can be seen only in comparison with the 2 skulls from Contrada Pergola in Salaparuta (see Becker Ms. B), both of which are suspected of sharing this trait. Quite possibly the Late Copper Age people of the Palermo area may be characterized by the presence of this interesting and uncommon skeletal feature.

The final count of individuals represented from Vecchiuzzo is summarized below, with central reference derived from the mandibles recovered. Although the few skull fragments indicate only 7 people at most, the mandibles provide evidence for at least 12 people, and 3 other individuals should be added through the evaluation of finds of post-cranial remains. A 16th person is suggested by right innominates (see Appendix I). These 16 individuals may be tallied as follow, with the first 12 being designated by all or parts of mandibles (2 small pieces of condyles have not been placed in this list):

1. XII — Mature adult female, age 60+ (possibly relates to mature adult skull fragments).
2. — Adult female (right ramus missing), age 25-30.
3. XXIII C — Adult female (intact), age 30+.
4. — Adult female (intact), age 30+.
5. XV C — Young adult, gender unknown (left ramus fragment and a possibly related bit of the corpus), age estimated at 20-25. This may be the other half of VII - VI, a right ramus with 3 adjacent molars *in situ*.
6. VI B — Young adult male (left half only), age 18-20 years.
7. XXIX B — Adult, mentum with a canine *in situ*.
8. — XXVI AChild, age 6-7 (female?). Possibly relates to child's humerus shaft (No. 13) which was estimated to be from a juvenile of age 8-9 years (see also No. 9, following).
9. XXXIV B — Child age 6-7 years (female?). This second little girl (?) also may be linked with the humerus fragment noted with person. No. 8.
10. XXX (?) — Child, age about 3.5 years.
11. XC — Child, age about 3.5 years.
12. Red-Earth: Child age about 5.5 years.
13. — Humerus of a child of 8-9 years of age. Although differential growth rates in children could lead one to infer that this bone links with either person 8 or 9 above, this example appears to represent a distinct person.

14 and 15 — Two left scapulae of adolescents, estimated to be between 12 and 15 years of age, reflects the presence of two people nowhere else represented in this tabulation.

16. — Right innominate of a child, age 2 to 5 years. The other 4 innominates in this group could reflect individuals 8 through 12 in this list, assuming only a slight error in age identification. In order to provide a conservative estimate of population only one additional person will be considered to be represented by this collection of innominates.

Stature

The stature of only one person, a female, can be determined from the only intact two bones in this collection:

A. Right radius (VIII A, B): Maximum calculated length 21.6 cm., stature 157.314 $\pm$ 4.24 cm.
B. Right ulna (XXVIII A): Maximum length 23.4 cm., stature 157.678 $\pm$ 4.30 cm.

The ramarkable degree of agreement in the calculations of stature from these 2 bones reinforces the suggestion that both of these bones derive from a single female individual, which in turn supports the theory that these remains have been secondarily scattered in this grotta (cf. Stiner 1991, Becker 1992). This woman is quite tall, perhaps at the upper end of the range expected from an agrarian population. If typical of the population, this would indicate possibly high protein intake. The location near the sea suggests high marine resource use, and regional hunting may have provided a good share of the diet. Both of these ideas may be tested using bone mineral analysis.

Discussion

Variations in the ceramic industries on Sicily during the Copper Age suggest that the human populations, although relatively small, had achieved a significant range of genetic variation. At the present time we do not have sufficient skeletal material to permit firm conclu-

sions to be drawn, but some differences in the non-metric traits suggest that variations should be demonstrable when statistically significant skeletal populations become available.

This procedure is akin to the 2 chamber system used with chamber tombs throughout the Mediterranea as well as in other parts of the world (see Borgognini 1980 for a mesolithic example of a double tomb chamber). These tombs generally are constructed with 2 chambers; the anterior being used to receive new burials and related tomb offerings, and the posterior chamber being used as an ossuary to receive the defleshed and disarticulated bones from the anterior chamber. Thus the burial procedure involved may be described as "two-stage". The first step being the placement of the articulated body and offerings in the front chamber, and the second being the relocation (redeposition) of these remains, in no particular order, in the rear chamber. This process may also relate to the selective removal of skulls (possibly predominantly male) for placement in other locations (cf. M. Sergi 1975). Note also should be made that collective burials of all types generally reflect the presence of chiefdoms, or advanced tribal societies.

Note should be made that no infants or young children up to the age of about 2 years appear to be represented in this collection, a period of life during which the highest morbidity rates prevail. Quite probably the remains of infants below the age of 2 years (or perhaps below the age of 1 year) were deposited in or near the residential area or in some location which was involved with less formal ritual than appears to have been the case with this grotta. Comparative data is offered by Castellana and Mallegni (1986; see also Mannino 1961; Becker 1986; McConnell 1987).

Conclusions

The Vecchiuzzo grotta appears to have served as a burial chamber during the Late Neolithic or Copper Age, possibly for the people from a very small village. Since the human skeletal remains indicate that only a very small total number of people were involved (at least 16), quite possibly only a single extended family used this natural chamber as a repository for its deceased members.

Within this cave the bodies of these 16 individuals over the age of 2 years may have been interred in shallow graves of beneath protective rocks at the front of the cave, and subsequently the defleshed remains were relocated behind a stone wall or placed in a separate chamber in the far end of the cave away from a crypt or primary place of interment (secondary deposition). This process is discussed above.

The specific bones found by the excavators scattered throughout the lenght of this grotta, including very few cranial elements, long bones, or the tiny bones of the hands or feet, suggest that these pieces were treated differently from the vertebral and other irregularly shaped bones. This suggests that long bones, and possibly skulls, were placed in a separate common deposit while the small bones were left scattered in the defleshing crypt.

The apparent complete absence of adult male mandibles and the low incidence of skull fragments in general suggests that there had been differential post-inhumation treatment of skulls. This process has been suggested for other Copper Age sites in western Sicily, but from limited evidence. The findings at Vecchiuzzo provide some support for those tentative ideas as well as additional information regarding the inferred process. The presence of 5 identifiable adult female mandibles but not a single mandible from a mature adult male suggests that male heads together with their mandibles may have been removed on a regular basis and given some sort of differential treatment, as yet unknown. The Entella find hints at possible treatments, but this problem can only be solved through further excavation.

The unusual distribution of sherds which so troubled Mingazzini may have been produced in part by the secondary scattering of funery vessels. The associated animal bones, and perhaps some of the pots, may have derived from burial feasts or from subsequent visits to the grave area for purposes of family celebrations. An analysis of these animal bones may determine if this assemblage would be expected to be produced by feasts or by random butchering of animals.

Those "burials" found at the mouth of the grotta, if they were intact individuals, might represent people placed in the area which had been used for the interment of corpses, the bones of which later were redeposited or scattered into the farther reaches of the cave. However, the "red-earth" remains, given the particular bones found in this group, appears to represent clearly

a place in which interments were made and from which long bones and skulls as well as larger bones in general were later removed and redeposited elsewhere. The identification of this unit, therefore, becomes critical to the interpretation of the data listed above. The apparent decline in the number of human bones associated with excavation units farthest from the mouth of the grotta lends support to the idea that the primary interments may have been made near the entry to this cave.

TABLE 1:

A summary of age/ gender distribution

AGE (in Years)	MALE	???	FEMALE	TOTALS
2-5.5	–	4	–	= 4
5.6-15	–	3	2	= 5
16-20	1	–	–	= 1
21-45	–	2	3	= 5
46+	–	–	1	=2
TOTALS	1	9	6	= 16

Appendix I: human bones from excavation units at Vecchiuzzo

An evaluation of gender (M or F) is provided only when a clear indication is present. All bones are of adults unless age is specified:

III C: Left tibia shaft (M), fragment of skull (M), both right and left maxilla, the condyle of a mandible.

VI B: Left mandible fragment (M), skull fragment.

VII (?): Three fragments of parietals and one of an occiput, fragments of a right mandible and metacarpal; a frontal fragment (M). The unfused head of a humerus believed to be human also was found.

VIII A/B: Fragment of right radius (see Stature in text).

VIII C (?): Shaft of a right humerus from a child of 11-12 years.

IX: Bovio (1979) indicated that a "patella" was included in this lot, but no patella was found with this unit designation. The "bone" in question may have become mixed with the unlabeled bones, but the excavator may be referring to a limpet (marine shell) rather than a human patella.

X C: Mandible of a child, age ca. 4 years.

XI A: Left humerus shaft (M?).

XII: Left half of the mandible of an elderly person (F)

XII A: Two fragments of a scapula (M).

XIII A: A Thoracic vertebra; right scapula (F).

XIII B: Sacrum (M) age ca. 17-18; right ilium of child age 3-4 (?); atlas (F?).

XV B: Thoracic vertebra (F?); left maxilla; right ilium of a child age 6-8 years (?).

XV C: Tiny fragment of mandible; left mandibular ramus; frontal fragment (F).

XVII A: Sacrum (M); scapula fragment; thoracic vertebra; 5 vertebrae of individuals of various ages.

XVIII A: Frontal of a child 5-6 years (?); thoracic vertebra.

XIX A: Spine from a lumbar vertebra (F); intact lumbar vertebra (F?), spine from a thoracic vertebra of a child (?).

XIX B: Right scapula (F); one thoracic and one lumbar vertebra from a person about 16-18 years of age; a thoracic and a cervical vertebrae of an adult female; a section of skull including a portion of the occiput and some parietal bone.

XXI A: N.B.: The frontal bone of a child from which a disk of bone is missing. The edges of this circle are rough so that deliberate removal is not clearly indicated. This damage (?) may have resulted postmortem from adhesion to some other surface, or even from exca-

vation, but the possibility of deliberate removal should be considered.

XXI B: Right humerus and occipital fragment of an adolescent; fragment of a radius shaft (M?); a right ilium and small adjacent sections of an innominate (M?); two tibia shaft fragments (M & F).

XXII A (?): Fragment of left innominate (M?).

XXII B: Skull fragment of a young adult, age 20-24; left humerus fragment; fibula shaft (F); a left scapula and lumbar vertebra of an aged person (M), both pieces having evidence of pathology.

XXII BI: Special layer producing animal bone and bits of stone and pottery, but a preliminary evaluation revealed no clear evidence of human bone.

XXIII A: Right scapula of child, age 10-12 (?); tibia shaft of a child, age 6-8 (?); fibula shaft; right innominate of child age 13-15 (?).

XXIII C: Adult mandible (F); lumbar vertebra; 2 fibula shafts (F).

XXVI: Lumbar vertebra; right scapula (M).

XXVI A: Mandible of a child, age ca. 8 years.

XXVIII A: Atlas; 2 lumbar vertebrae; the occiput and an ilium of a child, both indicating an age of about age 10 years. A left tibia fragment in this lot has a cross-fit with one in lot XXXVII. The right ulna found in this unit appears to be a probable mate of the right radius found in VIII A/B (see stature, below).

XXIX B: An adult mandibular fragment (mentum).

XXX (?): Mandible of a child, age ca. 4 years.

XXXI A: Axis.

XXXII B: Two lumbar vertebrae (f?).

XXXIII A: A right innominate.

XXXIV A: Right scapula fragment.

XXXIV B: Intact mandible of a child age 6-7; fragment of an ilium of a child, age ca. 10 years.

XXXVII: Left tibia fragment (which fits a piece in XXVIII A). Metacarpal; distal 2/3 of a right humerus; right innominate; right parietal fragment; fibula shaft (F); frontal fragment.

XXXVII A: Lumbar vertebra (M).

XLIV: Metacarpal.

The bones from the red-earth at Vecchiuzzo

As noted above, one wooden box held almost nothing other than small human bones or small fragments of human bone. This box, now labeled "d", was sorted, with skull fragments being placed with other skull fragments from the site with the hope that cross-fits (matching pieces) could be found. This attempt was *not* successful. The remainder of the bone material was examined. All of it appears to be the kind of bone expected at the location of a primary burial chamber from which the larger bones have been removed after the flesh has decomposed. These bones include large numbers of terminal phalanges, carpals, tarsals, a patella and other small bones which are almost completely absent in the rest of the sample which has been tabulated above.

Also found in this red-earth group is the right temporal of a juvenile (?), which is the only temporal bone recovered from Vecchiuzzo. The relative absence of temporal bones is peculiar, but not improbable. With it are two mandibles: one of a child about 5.5 years old and intact, the other the left mandibular corpus of an adult male (includes the entire area from 2M to 12, but all of the teeth have been broken off postmortem). A collection of loose teeth were found among the bones in this red-earth group. These teeth have been bagged together, but the identification of specific mandibular origins was not considered to be necessary for this analysis. No detailed study was directed toward the teeth to determine if traits known from central and southern Italy appear in Sicilian populations, and at this early date (cf. Pinto-Cisternas *et al.* 1995). These two mandibular sections may be significant in the tabulation of the number of people represented by these remains.

Appendix II: A Human Skeleton fom the Grotta dei Cocci, Capaci (Palermo): Copper Age, Conca d'Oro Culture.

During June of 1983 these bones were studied as part of this overall program. A small collection of bones from an excavation at the Grotta dei Cocci in the territory of Capaci (Province of Palermo) which were in storage at the Archaelogical Museum in Palermo. The entire collection which had been recovered was quite small and included the bones of a small adult female whose age was estimated at 22 years (based on palatine fusion, tooth wear and the fusion line on the head of the femur).

Also included with this young woman's bones were 21 animal bones and tooth fragments, 2 probable animal bone fragments, 1 small piece of shell (a limpet?), 2 pieces of iron, 3 sherds, and 9 small pieces of cork. These were separated from the human bone. The mixture of this material with the human remains confused the question regarding how many humans were present and in what condition were the bones. Since not all of a skeleton is represented the mixture had to be sorted and evaluated on the basis of the material recognized.

As can be seen from the following list there is no duplication of bones, which suggests that only a single person may be present. Those bones from which an age or a gender evaluation could be derived all indicated a small female who had just reached maturity. Since the bones were not seen *in situ* and no record was made of specific positions of any of the remains we cannot tell if these pieces came from a primary burial or from a secondary deposit. The indications of the pelvis and other small fragments suggest that this may have been a primary burial.

A list of the bones follows:

a. One small piece of skull 2 cm. square.
b. Maxilla from 3M to 12, but present are only the 3 molars, 2PM (which had been glued in the wrong socket), and the root of IPM. The remainder of the teeth had been lost post-mortem.
c. Mandible from 1M to M3, but only 1M, M1, and M2 are present, the other teeth having been lost post-mortem.
d. Right clavicle. Although the lateral end is damaged the lenght can be estimated at 133 mm.
e. Manubrium (piece only).
f. Four fragments of the pelvis.
g. Left ulna (proximal end).
h. Proximal end of a right femur (in 3 pieces). The head diameter is 38.6 mm and the subtrochanteric diameters are 20 mm (A-P) and 23 mm 8 (Lat.).
i. One shaft fragment of a tibia (left?).
j. Three small fragments of fibula.
k. One questionable fragment of fibula.

These data do not offer much to the literature on the archaelogy of the area of Capaci (see Bovio-Marconi 1944: 56-62). The vivid red stains which effect other skeletons (ochre used in burials?) are not clear on these skeletal remains. The lack of associated grave goods prevents us from making comparisons with the data provided by Quojani (1975), nor with those from Vecchiuzzo described above. Other "Conca d'Oro" culture (Copper Age) sites may be considered.

There are some observations on these fragmentary remains which are of interest. Although no palatine torus is present, nor an accessory lesser palatine torus on the surviving left side, there is bilateral nasal guttering. However, the development of the nasal spine is quite odd, with its growth into the floor of the right side of the nasal orifice somewhat obscuring the visual effect of the distinct guttering. These traits may be limited in their value at present, but when a large population from this region has been studied these few data may allow us to place this young into a more specific context.

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NOTE

([1]) Early physical anthropologists recognized that the form of the skulls, when seen from above, of various populations differed considerably. Populations, therefore, once were characterized on the basis of this shape. Thus a dolichocephalic population had "long heads", or a length much greater than width. On the other hand, brachycephalic peoples had "short heads", or a length not much different from breadth. These basic extremes were then combined with other observations in complex, but solely descriptive, terminologies.

At the beginning of the 20th century several physical anthropologists noted that the shapes of the heads of offspring of immigrants into America differed from those of their parents. At about the same time note was made of changes in these shapes in presumably the same population through time. Speculations regarding reasons for these changes abound.

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