

CAV. RAG. VITO DESIANTE
ISPETTORE ONORARIO PER LE OPERE
DI ANTICHITA' E D'ARTE
GRAVINA DI PUGLIA (Bari)
VIA MATTEOTTI, 14 - TEL. 851037

li,.....

~~Oct. 15 card~~

Arrivero con Demelge e
due assistenti ^{e lo strumento} verso le 11
del mattino 15 ottobre

Elizabeth Ralph
Universita di Pennsylvania

Arrivero con Demelge due
assistenti e lo strumento
15 ottobre mattina verso le 11

Gravina
Survey
Preliminary
report

15, Traquair Park West,
Edinburgh 12.

25th July 1966.

Dear Beth,

This is long overdue, but thank you, belatedly, for all the work you did at Gravina. We enjoyed your visit. Thank you too for your letter and for returning those pages. We had so many note books that I never noticed the loss of that one.

After you left we continued excavating in the upper field with the large tumb to find the plan of the C4 building and to tidy up the tumb itself. Then we dug a small dig in the centre of the triangular field. We failed to find the road here but picked up some more domestic buildings and another hearth laid on broken shreds. We had very little time left to test the non-magnetic anomaly we marked in the lower field, so we only dug a two metre square. Despite the change in soil I have mentioned in the report I am not convinced that we have properly accounted for the anomaly. I should have liked to dig a ^{larger} ~~larger~~ area here.

I hope the enclosed report is the kind of thing you wanted, though I'm afraid it hardly does justice

to your efforts. It is ironic that in the lower field where we laid out the trench to take in the big anomaly, the anomaly itself was blind, but the rest of the trench was very productive.

We never got permission to dig that upper necropolis area, but the Superintendency is putting a vicolo on this and we are hoping to dig it next year. Your readings for this field should then be very useful.

Thank you once again. I hope you are enjoying working in Greece.

Yours.

Alan Small.

In June 1966 the British School at Rome began excavating a native iron age site at Gravina in Apulia aided by a generous grant from the University Museum of Pennsylvania. The Pennsylvania magnetometer team under Miss Elizabeth K. Ralph visited the site on two occasions to test the suitability of the instruments on the Gravina soil. We dug two fields which they had surveyed. In the first, a pronounced magnetic variation indicated an abrupt change in the soil from clay to a sticky black earth. We excavated this to a considerable depth but found no archaeological traces. In another part of the field we tested a non-magnetic anomaly. Here we found a small sarcophagus of a child burial, but this was probably fortuitous since the anomaly again corresponded to a variation in the soil. Similar conditions prevailed in the second field. Here a large non-magnetic anomaly referred to a bank of tufa close to the surface, while in a magnetic anomaly we found more black soil like than in the first field. A third field surveyed by the magnetometer team in a necropolis area produced some interesting readings which we hope to test next year.

March 21, 1974

Dear Miss Ralph,

I have just found in Dr. Bass' files, your Cesium Magnetometer Report for Gravina di Puglia, Casa S. Paolo, 5th-15th July 1971. In this written report reference is made to three figures:

- Fig. 1- Site with 3 large grids shown
- Fig. 2- Close-up of Grids # 1+2
- Fig. 3- Close-up of Grid #3
(with pronounced anomaly: #3-12)

I am presently in the act of writing my dissertation on the excavations at Casa S. Paolo, which will be the final publication with sections inserted by Peter Vinson. I, therefore, need to include your magnetometer report as an appendice. I am now requesting from you 6 copies of each of the above figures (8X10 glosses). I would greatly appreciate it if you could have these made and sent to:

Nancy A. Whitney
261 East State Street
Ilion, New York
13357
(315-894-3628)

I leave for Franchthi Cave on April 5th but shall return to the above address on the 1st of July. If the copies of your plans could be finished by then, it would certainly make my project easier.

I thank you for your kind assistance with both this and other projects that you have supervised for the Gravina Expedition.

Sincerely yours,

Nancy A. Whitney

Nancy A. Whitney

March 26, 1974

Miss Nancy A. Whitney
261 East State Street
Ilion, New York 13357

Dear Miss Whitney:

Our file copy of my Gravina report has disappeared. However, I have enclosed one copy each of the figures that are available.

Xerox copies are acceptable for a Ph. D. dissertation so that I cannot imagine why you want six glossy prints.

Sincerely yours,

(Dr.) Elizabeth K. Ralph

EKR/klh
Enc.

Hope this makes some sense. With warmest regards,
S. P. Vinson

Excavations at Casa S. Paolo: 1971-1972

S. P. VINSON

PLATES 12-13

The site of Casa S. Paolo is located in an open field, just north of the house of that name, about 8 km. north of Gravina di Puglia, in the province of Bari (ill. 1, site 44). Surface finds in the area showed a large quantity of Neolithic and Bronze Age artifacts,¹ and this led to excavations by the University Museum of the University of Pennsylvania in the summers of 1971 and 1972.²

The field in question is in the south west quadrant of an area crossed by two intersecting roads which have cut through and partially destroyed the site (ill. 2). It is bordered on its north by an asphalt road and on its east by an unpaved road leading toward Gravina; a smaller track, used mostly by tractors and wagons, cuts across its southern edge. To the west, at the bottom of a gradual slope, is a small creek, now canalized, which eventually flows through Gravina, and a few hundred meters to the south are a running fountain and several wells.

Geologically, the area is of recent formation. It is part of a vast upland plain of Plio-Pleistocene clays, sandy marl, and a soft, fossiliferous marine limestone, varying in altitude between about 300 and 400 meters. To the north, the plain is bordered by an Upper Cretaceous scarp of hard limestone, called Le Murge, which stretches in a long crescent rough-

ly from Altamura to Canosa. To the south, the plain is limited by the Roviniero and Basentello valleys. Beyond those streams, the soils are similar, but the country becomes quite broken, as it does also in the west near Venosa, where one approaches the Apennines.

Gravina and the site stand at the eastern entrance of a broad corridor, running roughly southeast-northwest, which offers easy communications between the coast and the Apennines.³

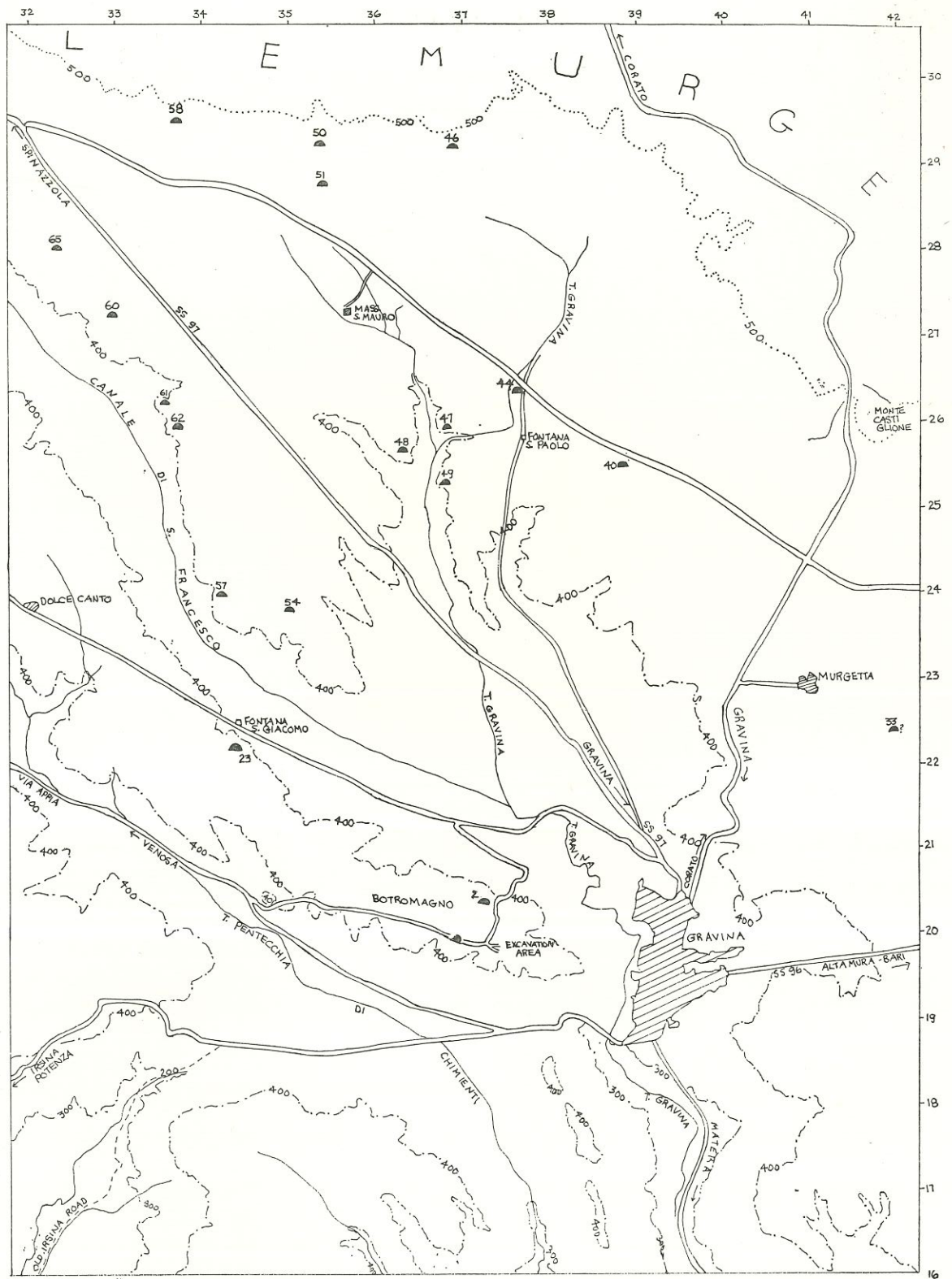
The geology of the site itself is of considerable interest, though it was not until the end of the second season that we obtained the help of Dr. Piero Pieri of the Facoltà di Geologia dell'Università di Bari in clarifying the problems that it presented. According to his report, the soils in the excavation area consist of Gravina calcarenite (the oldest), Subapennine clays, Monte Marano sands, and Irsina conglomerate. As a whole, they tilt slightly down from the Lucanian Apennines towards the northeast and the Upper Cretaceous scarp of the Murge. The plain on which the site is located was subject to intense erosion from its emergence through the middle and late Pleistocene. It was after its emergence that the conglomerate, sands, and clays were laid down.

The deepest part of our excavation, Area B and (artists). During the second season, field director was Miss Whitney, assisted by Dr. Vinson. Staff consisted of Barry Brady and Ann Mintz (catalogue), both of the University of Pennsylvania; Deborah Faul (artist), Dabney Goold (logistics), James Goold, Maurizio Gualtieri, David Hillman (University of Calgary, stone tools, assisted by Mr. Van Horn), Andrew Howe, Eugene Kruysman, Peggy McNeill (photography), Lucia Nixon (University of British Columbia), and Gerald Schaus (Dalhousie University). Funds for the graduate students were provided during both seasons by the Ford Foundation through a traineeship grant to the University Museum. Throughout the excavations, Sig. Giuseppe Lo Sindaco acted as foreman, representing the Superintendent of Antiquities, and was of invaluable assistance in many ways. The site survey was made by Studio Tecnico "Lione" (Cassano Jonio, CS), from whose larger plan Eric Parkinson and Miss Faul made the plan (ill. 2), with contour lines added by Elizabeth Ralph. Finally, we must thank Dr. Froelich Rainey, Director of the University Museum, for supporting the entire project.

³ Brooks, Small, and Ward-Perkins, "Trial Excavations on the Site of Botromagno, Gravina di Puglia, 1966," *BSR* 34 (1966) 131-34.

¹ S.P. Vinson, "Neolithic Sites near Gravina di Puglia," *AJA* 75 (1971) 215-16.

² We are very grateful to Prof. F.G. Lo Porto, Superintendent of Antiquities for Apulia, for his kind permission to excavate the site, and to Dr. J.B. Ward-Perkins, Director of the British School at Rome, for his sympathetic advice and support at all stages of the operation. The excavation was conducted under the auspices of the University Museum of the University of Pennsylvania, which supplied all of the necessary funds. The town of Gravina very kindly provided us with excellent quarters at nominal cost, and we are especially indebted to Sigs. Mastrogiacomio, Pellicciari, and Franco Amodio for their unflinching help in this and many other matters. During the first season, staff consisted of Prof. George F. Bass and Dr. S.P. Vinson, director and assistant director, respectively; Harrison Eiteljorg II (photography), Nancy A. Whitney (bone and seed analysis, and flotation), Maurizio Gualtieri, David Van Horn (stone tool analysis), and Lucia Esther (financial records), all graduate students of the University of Pennsylvania; Julia Converse (catalogue) assisted by Josie Kanter and Lucy Haislip, Julius Kasovic (University of California at Berkeley), Andrew Howe, Mrs. Ann Bass, and Harriet Maggi and Jane Cook



GRAVINA

▲ - NEOLITHIC

ILL. I. Neolithic sites around Gravina di Puglia. Site 44 is Casa S. Paolo.
 Drawing by Mrs. Lorraine Stephansen



ILL. 2. Trenches and magnetometer anomalies at Casa S. Paolo. Arbitrary datum

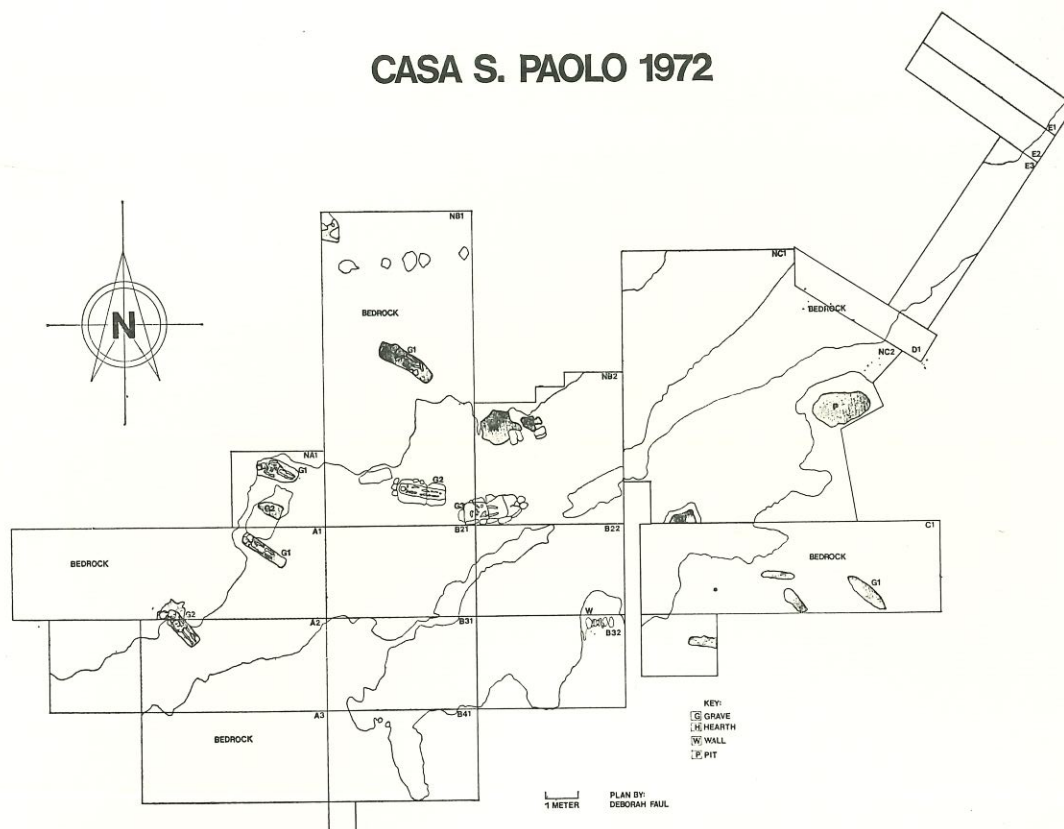
adjacent trenches (ill. 3), revealed the clays, the upper reaches of which showed signs of washing by the streams which once flowed through the site. Above the clays is a calcareous crust representing a paleosol formed in the Tyrrhenian period, a time of hot, dry climate. The rivers themselves were formed later, during a period of greater rainfall, and flowed southwest-northeast, probably debouching into a depression under the scarp of the Murge.

When we arrived in June, 1971, the wheat in the field had not yet been harvested, but we were able to buy and cut the crop on a square of land 10 meters on a side; this was to become Area NB 1, half of which was excavated that year, the other half serving as a dump. Immediately following the

harvest, Areas A-1, B-2-1, B-2-2, and C-1 (each 10 meters on a side) were partially excavated to reveal more of what we then assumed to be an inhabited sinkhole which had come to light in the southern half of Area NB. This proved so promising that we opened a trial trench 30 meters long, starting 10 meters east of the earlier trenches, in hopes of discovering other "sinkholes." Unfortunately, this trial trench reached bedrock so quickly along its entire length that there was no possibility of finding stratified remains on it. This was discouraging because we did not have the labor to continue testing the field for further deep deposits by digging potentially barren trenches.

At this point, most fortunately, we were joined

CASA S. PAOLO 1972



ILL. 3. Trench Plan of Area B and Environs

by Elizabeth Ralph, of the University Museum's Applied Science Center, who surveyed the field with a cesium magnetometer.⁴ Ten anomalies were detected (ill. 2, which does not show Anomaly 1-6), and five of these were explored with trial trenches. All five yielded greater depths of soil than we were otherwise finding outside the original areas, and four contained habitation remains: two of these (1-3 and 2-10) were Neolithic, and two (1-1 and 1-2) Bronze Age.

The areas excavated, as we learned in 1972, were not sinkholes, but were originally river beds flowing southwest-northeast. From the quantity of man-made artifacts in the river fill, it seems fairly certain that the Neolithic settlers lived somewhere in the vicinity while the stream was still active. Dr. Pieri suggested that after the streams silted up, they might have been subject to periodic flash flood-

ing, and indeed evidence was found to confirm this theory, in one trench. Despite this, hearths, pits, and battered remains of possible structures in NB 2-1 and in Anomalies 1-3 and 2-10, in addition to the proportionately tiny amount of water-worn habitation debris, in the layers overlying the active river fill, suggest utilization of the dry stream beds to a greater or lesser extent by the Neolithic settlers. It must be emphasized, however, that flash flooding did occur from time to time and that therefore a certain amount of disturbance of the strata must be assumed. In addition to water action, the Neolithic levels in the stream beds were often badly disturbed by a large number of pits dating from the Bronze Age through Late Roman or early Medieval times.⁵

Another serious problem was that the limestone bedrock through which the stream beds cut is only

⁴ Miss Ralph has prepared a chapter on the survey for the final excavation report. She was assisted in her survey by Nunzio Leone, Sheelagh Murnaghan, and Lucia Esther. The instrument used was the Varian Associates Precision Portable Cesium Magnetometer Model 4920, designed specifically for archaeological prospecting at the request of the University Museum.

⁵ The majority of the pits in Area B and environs were of Hellenistic date, probably the result of activity on a fourth-century farm a few hundred meters south of the site. The finds from these pits were undistinguished, consisting mainly of dolium fragments. A number of "Byzantine" graves, also cut into the Neolithic levels, will be published separately.

35-50 cm. below the present ground level, and deep plowing has therefore disturbed all of the soil over it. Thus the surviving archaeological strata may be compared to the thin meat in an unpalatable sandwich of limestone and riverine deposit.

In addition to the foregoing problems, there is reason to believe that different parts of the field were occupied at different times, Area B and environs representing two phases, Anomaly 2-10 perhaps another, and Anomaly 1-3 still another. The reasons for this belief will be set forth below. Suffice it to say here that in view of the difficulties mentioned, we cannot claim to have excavated a complete stratigraphic sequence: definite intrusions, the shallowness of the archaeological levels, and the possibilities of disturbance by flooding make this impossible. The evidence presented here is offered only for what it may be worth, and its interpretation must be regarded with extreme caution.

A NOTE ON THE POTTERY

Almost all of our pottery types have been described and illustrated by others, notably Whitehouse and Acanfora, to whose works the reader is referred.⁶ The only way in which we vary from the descriptions furnished elsewhere is to divide sherds *a doppia tecnica* (here abbreviated ADT) into three groups for the sake of brevity: ADT-A is La Quercia Ware (Whitehouse, 294-95); ADT-B is her Scratched and Dark-Painted Ware (298); ADT-C is impressed and incised,⁷ a combination of impressed and Matera Scratched Ware (MSW). Several sherds are *a tripla tecnica* (ATT): incised and impressed on the exterior and painted on the interior. A similar piece was found on the surface at a site two km. east, but we have not found it reported elsewhere. A crude, presumably local, variety of Matera Scratched Ware occurs and is here called coarse MSW. Biscuit rocker refers to a type of impressed ware in which a rocker pattern was impressed when the clay was biscuit hard. As a rule it is finely burnished and well levigated. Other abbreviations are GAT and IC for *graffito a tremolo* and *incisione a crudo* respectively, RBS for red burnished slip, RP for rocker pattern, and AFS for *a fasce strette*.

The series of pottery drawings (ills. 4, 5) was

prepared as field aids for the 1972 season at Casa S. Paolo, to assist student trench supervisors to record sherds in a consistent form. The types are not grouped chronologically, but serve to illustrate most of the classifications, some of which may be changed in the final excavation report. For the faunal remains, see the Conclusions at the end of this article.

AREA B AND ENVIRONS

These areas were excavated at and around the point where the greatest concentration of sherds had been found during the exploration of the site in 1970. Areas B-2-1 and B-2-2 (excavated by Prof. Bass and Miss Whitney) and Area NB 1 (excavated by Dr. Vinson) were explored in 1971; continued excavation of B and exploration of NB 2 were carried out by Mr. Goold in 1972. As is clear from the trench plan (ill. 2), numerous other areas were explored, but they were not sufficiently productive to be included here.

The trench plan and photographs of the area (pl. 12, fig. 1) show a long, steeply sloping, narrow ridge of caliche deposit running SW-NE across the trenches. This divided the trench system into northern and southern halves and came to be called "the island," a term retained here to distinguish it from other caliche deposits. Ill. 3 also shows the outline of the bedrock north and south of the island. It was in pursuit of these features that the trenches were dug.

The drawings of a portion of this area provide the most dramatic illustration of the layers of river fill south of the island (ill. 6). As one looks at the cross section, the island is visible at the extreme right, sloping down to the northeast. The small, roughly rectangular extension is a small trial cut, dug down to the Apennine Clay layer. All layers below the gray soil here appear to be river fill. These lower soils south of the island contained impressed, red-painted, and coarse wares, a certain amount of burned material, and a few flakes of stone tools, including a single piece of obsidian.

The upper gray soil was extremely hard-packed, forming a local stratum that was found in Areas B-2-1, B-2-2, NB 1, and NB 2 (ill. 3). In it, south of the island, fine wares were limited to red-painted

⁶ Ruth D. Whitehouse, "The Neolithic Pottery of Southern Italy," *ProcPS* n.s. 35 (1969) 267; M.O. Acanfora, "Avanzi di abitato capannicolo a Francavilla Fontana (Brindisi)," *Rivista di Scienze Preistoriche* (hereafter *RSP*) 7 (1952) 212ff, discusses

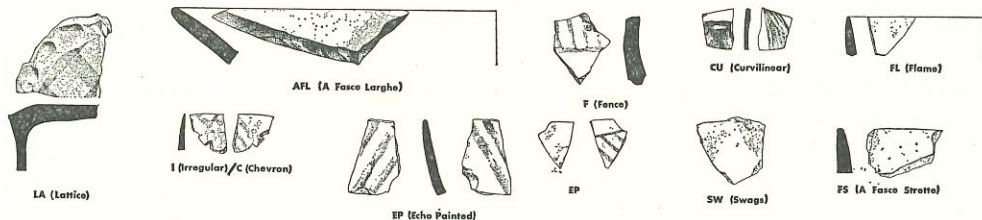
graffito a tremolo and *incisione a crudo* on 226ff.

⁷ For the type, see D.H. Trump, *Central and Southern Italy before Rome* (London 1966) pl. 17.

MSW (MATERA SCRATCHED WARE)

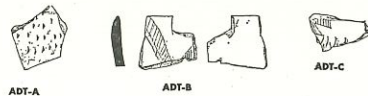


RB (RED ON BUFF) & DP (DARK PAINTED)



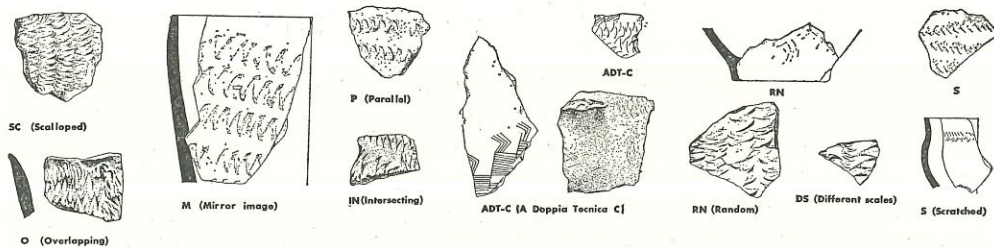
ADT (A DOPPIA TECNICA)

ATT (A TRIPLICE TECNICA)

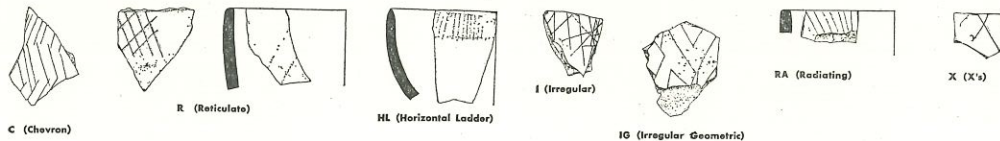


ILL. 4. Preliminary Type Series of Pottery

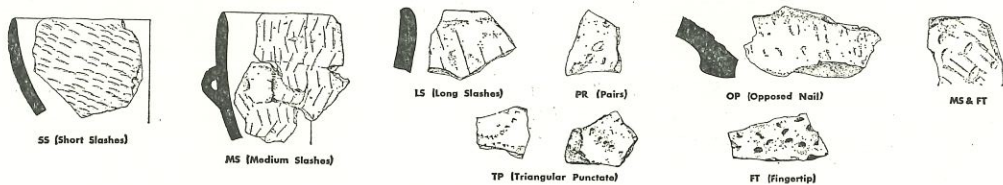
RP (ROCKER PATTERN)



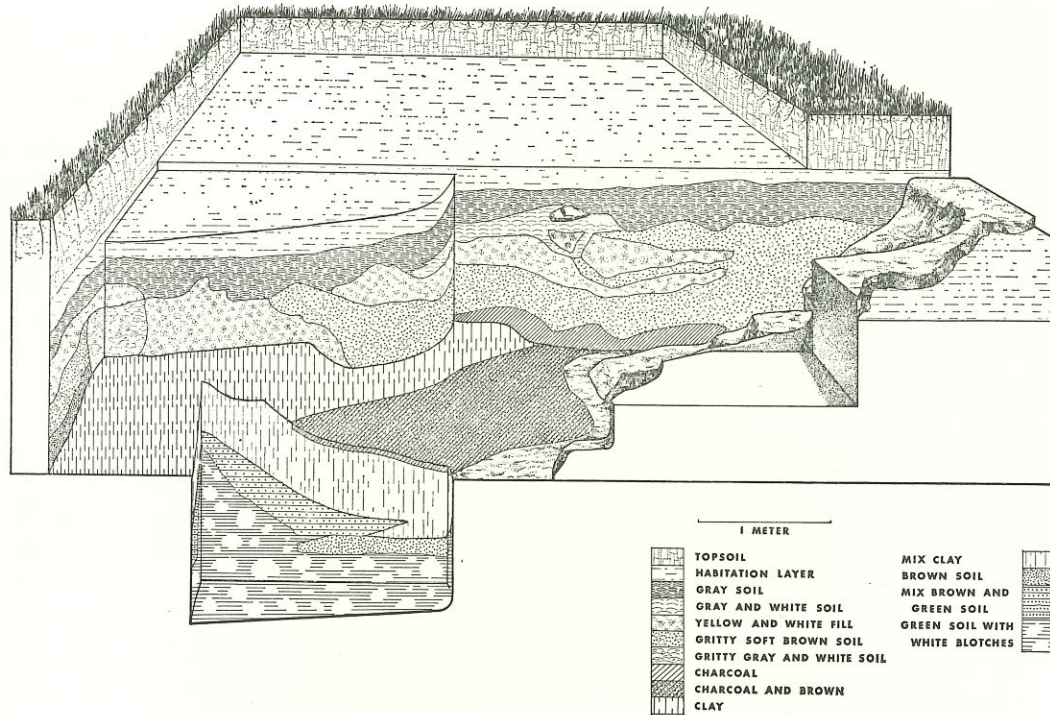
IC (INCISIONE A CRUDO)



IM (IMPRESSED WARE)



ILL. 5. Preliminary Type Series of Pottery



ILL. 6. Cross-section of Area B-2-2 looking south. Drawing by Harriet Maggi

and single examples of MSW and ADT-A. Structural remains were also absent.

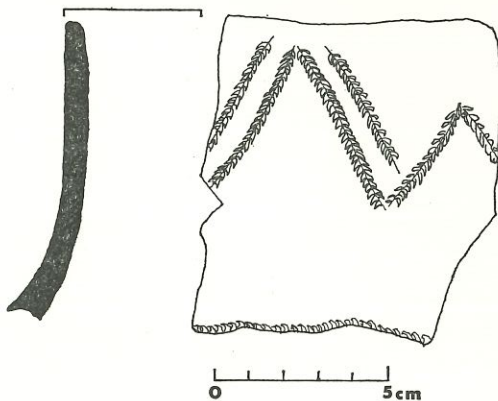
North of the island, the picture is rather more complex. Here, in NB 2-1, the two lowest levels above the clay were also laid down by the actively flowing stream. Burned matter was also found here and the conclusion that Neolithic settlers were living on the banks of the stream, and dumping their rubbish into it, is an irresistible temptation. The pottery included red-painted, GAT (ill. 7), IC, RBS, dark-painted and impressed wares—a greater

variety and in greater quantity than was found in the earliest phases south of the island.

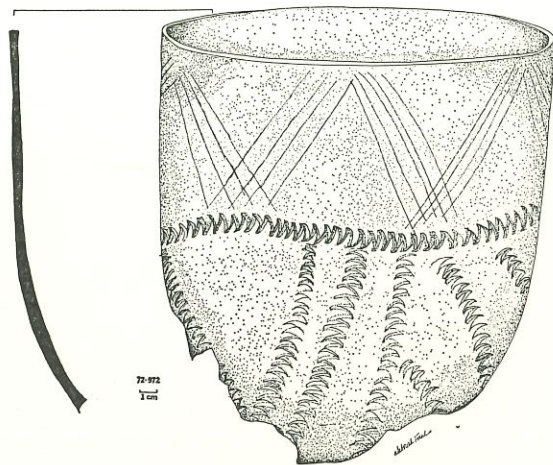
Above these levels was a rather complicated layer, some 68 cm. deep. The soil was a soft dark fill, some of which may have been deposited by flash floods. However, it is fairly clear from the archaeological evidence that this soil was laid down after the stream had ceased to flow continuously. A most striking feature, in the north bank of the channel, was a natural cave which had been used as a hearth (pl. 12, fig. 2; ill. 8). Below the floor, and south of the hearth was a large deposit of ash and burned matter, sloping down the caliche bank. This deposit was fairly compact and homogeneous and probably represents a cleaning of the hearth at an early stage of its life. This material was later covered by a soil which eventually rose some 9 cms. above the hearth floor. No traces of structures were found in this soil.

The hearth contained seven more or less restorable vases, which merit detailed description here:

72-969: Jar with pedestal foot (ill. 9). Max. L. 0.148; diam. 0.18; base diam. 0.06. IM, nail marks on black exterior. Some brownish areas have traces of burnish. Interior red-brown burnished areas, the rest black. Hard, gritty black clay.



ILL. 7. Neck of collared jar, decorated *Graffito a Tremolo*



ILL. 11. 72-972, jar with rocker impressed and IC decoration

rim, composed of four parallel lines, with a design in rocker pattern below. Traces of burnish on interior. Originally buff, the pot was blackened by fire. The base is missing. Hard, slightly gritty buff clay.

72-973: Bowl (ill. 12). Ht. 0.112; max. diam. 0.206; rim diam. 0.18; th. 0.008. Exterior orange-burnished slip from rim to base, the area with rocker pattern decoration is unslipped; pattern-burnished design of lattice, chevrons, and parallel zig-zags, barely visible due to fire action, which, as with 72-971, seems to have darkened the entire vessel. The base bears a crude X, incised when the pot was biscuit hard, and shows signs of wear. Interior buff with an orange burnished band around the rim. Two

lugs, spaced 90° apart are located on the belly. Soft, slightly gritty buff clay.

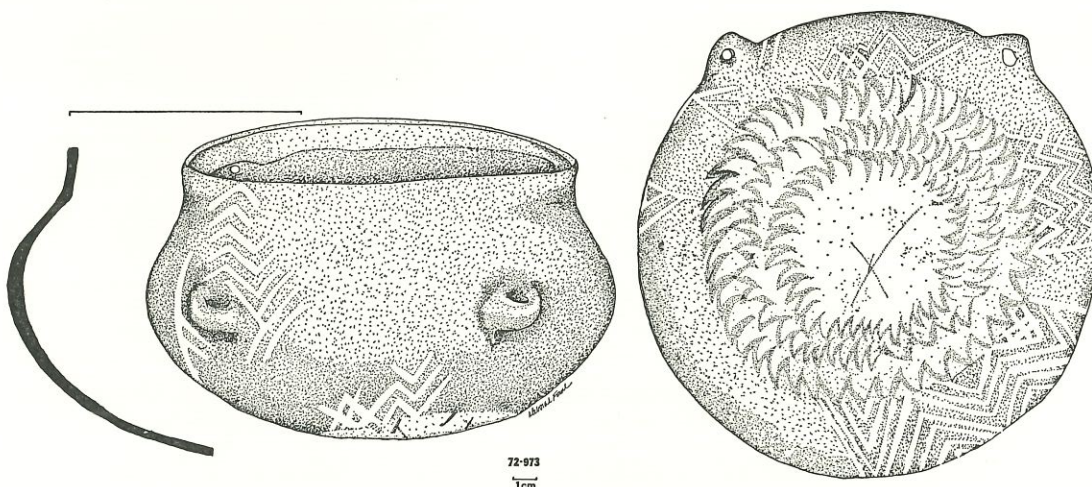
72-974: Bowl (ill. 13). Max. ht. 0.116; max. diam. 0.26; rim diam. 0.22; th. 0.006. RB AFS. Two lugs located at point of max. diam., 60° apart. Interior buff, orange stripe AFS around the rim. Hard, well-levigated clay, some discoloration due to burning.

72-975: Wide-mouth jar (ill. 14). Max. ht. 0.252; max. diam. 0.28; rim diam. 0.18; th. 0.012. Exterior burnished red-orange with extensive fire damage; interior bears a red stripe around the rim. Soft, well-levigated buff clay with gray core. This, 72-970, 72-971, and 72-973 appear to have been produced by the same workshop.

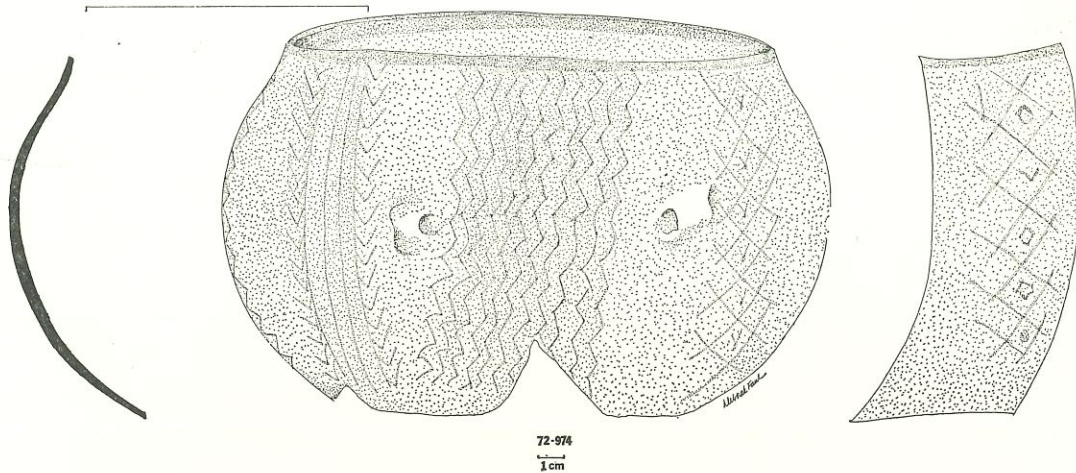
72-973 is closely paralleled by an uncatalogued piece from Anomaly 1-3, west end, layer 3, thus providing a convenient link-up between the two trenches.

Sherds from the whole pots were distributed throughout the hearth deposit which suggests that the hearth may have continued in use after the vessels had been placed in it. The hearth also contained MSW, biscuit rocker, impressed ware, and ten slightly abraded sherds. All of the pottery bore traces of burning, but the vases cleaned easily and do not appear to have been exposed to the fire for long. Wear is evident on the bases of the two bowls with potter's marks, so they must have been in use for some time before being placed in the hearth.

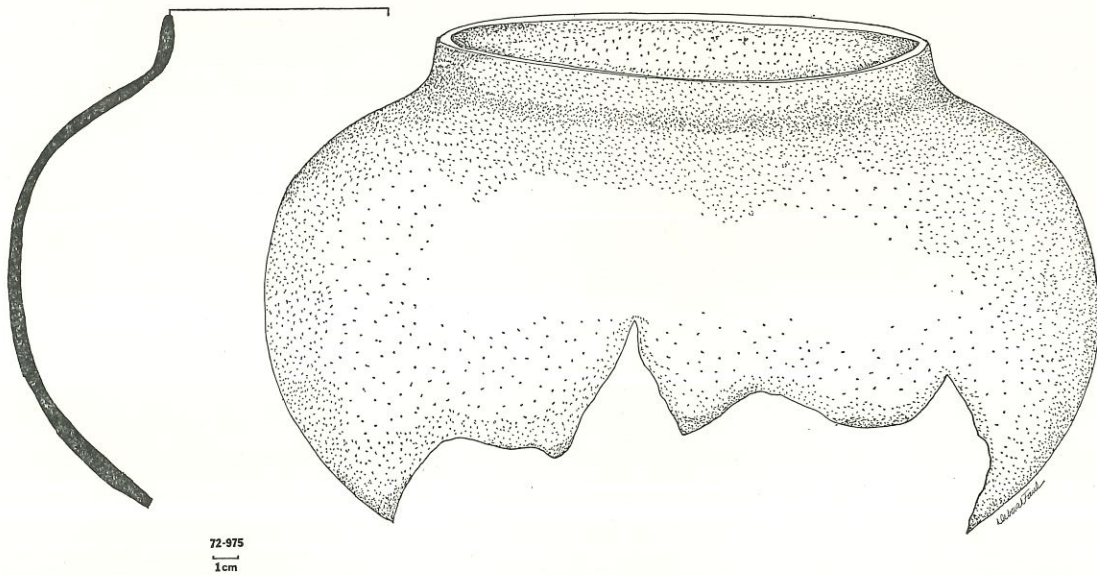
Also in the hearth were fragments of four fine chert blades—and an adze fragment. In a prelimi-



ILL. 12. 72-973, bowl with pattern-burnished, rocker impressed decoration, and potter's mark



ILL. 13. 72-974, red painted bowl



ILL. 14. 72-975, wide-mouthed jar

nary study of the stone tools, Mr. Van Horn has indicated that the blade fragments suggests a rather advanced type.⁸ The adze fragment (pl. 12, fig. 3) is the only polished stone tool found on the site, and indeed the first that we know of from the numerous surveys in the area. The absence of identifiable bone fragments is remarkable.

Immediately above the ash deposit in the hearth was a thin layer of soft brown soil that contained a number of badly water-worn sherds. Since a thin skin of similar soil covered the area outside the

hearth as well, it seems clear that flooding occurred after the hearth had gone out of use. The flood apparently washed some soil and the badly abraded sherds into the hearth, but without seriously disturbing the ash deposits. The absence of structures in the level associated with the hearth might be accounted for by flooding, but this would render unaccountable the survival of the pits. Rather, such absence suggests that the settlers may have lived beside the dry stream bed and used the cave as a hearth for one reason or another.

⁸ Mr. Van Horn is preparing a detailed chapter on the stone tools for the final excavation report.

The layer above the flood layer represents a phase separated by very little time from its predecessor. This was determined by Hearth 2, a carefully constructed ring of stones placed directly above ash and sherds from around the area of Hearth 1 (ill. 8; pl. 12, fig. 4). Ash and burned matter were piled some 20 cms. thick in the area, and the stones of Hearth 2 showed signs of extensive burning.

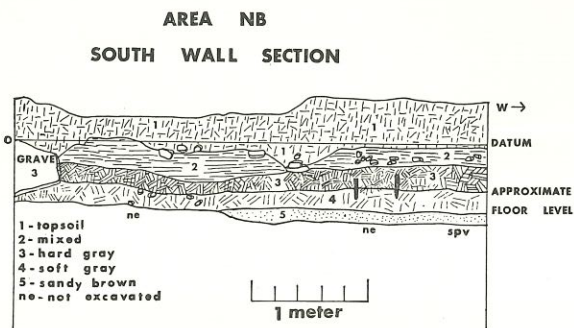
In association with Hearth 2 deposits was what appeared to be a pavement or walking level composed of a hard gray soil, including lumps of clay, bits of daub, and small stones. This layer extended west into NB 1 (where it had been cut into by two much later, probably Byzantine, graves) and into B-2-1 (a similar soil is found south of the island in B-2-2, but there is good reason for assigning that level to an earlier phase). In NB 1 a semicircle of small stones outlined a curved area west of the hearth and two stake holes were found in a baulk still farther west (ill. 15). In NB 2, itself, parallel

flint, all in small quantities. Pottery included ADT-A, ADT-B, IC, crude and fine MSW, GAT, RBS, red-painted, dark-painted, biscuit rocker, and impressed wares, all in greater quantity and variety than in demonstrably earlier levels. The most surprising item was a human mandible, showing severe tooth wear, found east of the hearth. Possibly F5 (ill. 8), a pit, was an earlier disturbed grave. Judging from the finds, it is clear that those north of the island represent a later phase of activity than the finds south of the island in B-2-2.

No readily identifiable structures were found in B-2-1. A large pit was found in or just below the hard gray layer that covered almost the entire area north of the island. A piece of iron renders the upper part of the fill suspect, but that having been removed, the lower layers of fill seem secure. Pottery from the pit comprised MSW, ADT-B, dark-painted and impressed wares, the latter making up about 70% of the total. The pit also contained, rather curiously, fragments of a human tibia and femur, possibly another disturbed grave.

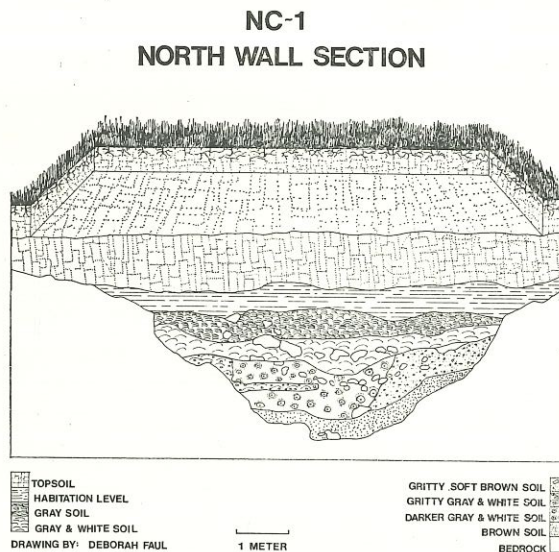
The finds below the hard gray are entirely consistent with those found further east in NB 2-1, comprising a wide variety of finely decorated wares. The stone tools are remarkable for a surprising quantity of flint.

NC 1 provides another very striking illustration of the stream bed (ill. 16). Here the hard gray level noticed elsewhere lies between the plowsoil and the curving line of stones. The pottery sequence is



ILL. 15. Area NB, South Wall Section. The postholes are near the right edge of the drawing

lines of fist-sized stones were found on either side of Hearth 2 (ill. 8), almost certainly the battered remains of structures (similar features were found in Anomaly 2-10). Due to the amount of later disturbance and the lack of postholes, it would be hazardous to attempt a detailed reconstruction of these features. Remains of possible walls were also found east of the hearths, but their associated levels were badly disturbed by a series of Hellenistic pits so that their date is uncertain. The most that can be said is that the westernmost walls were presumably flimsy constructions of wattle and daub on stone footings and that Hearth 2 appears to have occupied a single "room." There was no indication that the lower hearth formed part of this arrangement. The level and pits associated with Hearth 2 and the western walls produced bones, obsidian, chert, and



ILL. 16. Area NC 1, North Wall Section

rather different from that farther west on the north side of the island: here the lowest layers in the active river fill contain mainly impressed and RBS wares, with only a few sherds of fine burnished ware. No identifiable animal bones were recovered. Stone tools are restricted to chert, mainly flakes, but including a few cores and a scraper.

One remarkable feature in NC 1 was a large rock fall near the western edge of the trench (pl. 12, fig. 5). This appeared to be the remains of a wall of very large stones, built up on the bedrock, which eventually toppled eastward into the silted-up stream bed. If this is what happened, then the date of the possible wall must remain uncertain, since only plowsoil now covers the bedrock.

A group of large stones, some as much as 20 x 40 cm., formed what appeared to be a right-angled wall fragment, in the hard gray layer, corresponding to the same level in NB 2-1. Associated pottery comprised MSW, ADT-B, ADT-C, GAT, dark-painted, a small amount of red-painted, IC, and a fair quantity of impressed ware. A mixed assemblage of flint, chert, and a possible blade of obsidian were also found.

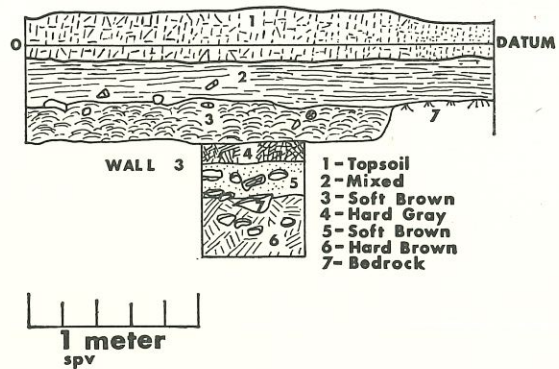
The total impression gained from the various features in B-2-1, NB, NB 2-1, and NC 1 is that in this, the second phase of Neolithic occupation, the silted up stream beds were used for hearths, rubbish pits, and temporary shelters.

ANOMALY 2-10

This trench measured 4 x 2.5 m. and was opened in order to test an extremely strong magnetic anomaly, 20-30 m. long, located by Miss Ralph. The trench was excavated only in 1971 and thus could not be studied by Dr. Pieri, but in all likelihood, judging from the configuration of the anomaly and from the results of the excavations, it too was probably a silted-up stream bed that was used by the settlers.

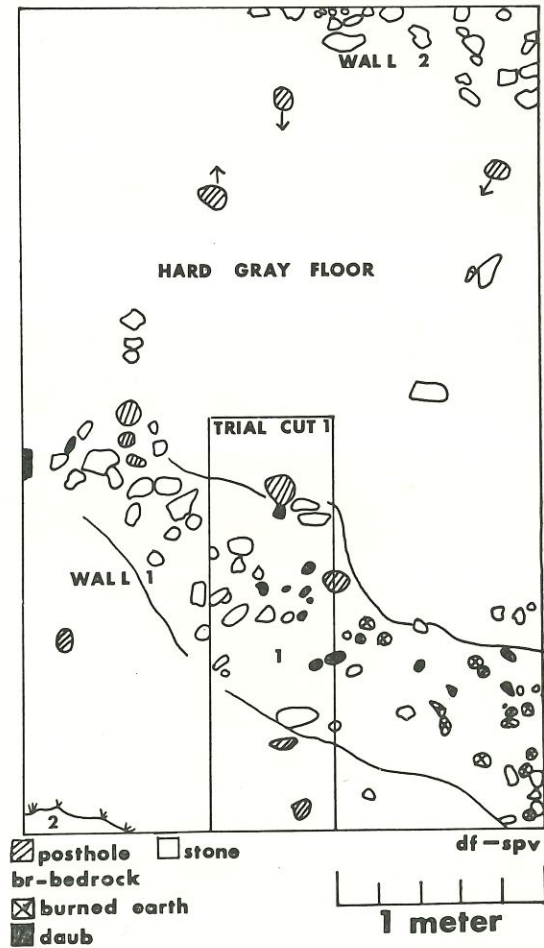
The lowest level (6) is shown in a small trial cut made across the line of a wall in layer 4 (ills. 17, 18). At the extreme south end of this trial cut appeared a considerable quantity of fist-sized stones (tentatively labelled Wall 3). This was separated from the rest of the trench by a narrow saddle of bedrock running across the trial cut (pl. 12, fig. 6). The diagnostic pottery from this layer consisted of red-painted, dark-painted, RBS, impressed, 1 possible GAT, and several undecorated sherds of MSW type. Only a very few sherds of each type

**ANOMALY 2:10
SECTION IN SOUTH WALL**



ILL. 17. Anomaly 2:10, Section in South Wall, showing trial cut

ANOMALY 2:10 PLAN



ILL. 18. Plan of Anomaly 2:10

were found. In addition, a bone disk and a piece of flint were recovered.

Layer 4 was a very hard, uniform gray soil, suggestive of a walking area, extending over the entire floor of the trench, except for the southwest corner, where a small strip of bedrock was found. The most distinctive features were Walls 1 and 2 (ill. 18), consisting of fist-sized stones, much burned daub, and a very few postholes. The trial cut across Wall 1 showed that it had been laid in three strata ("courses" is too grand a word), the bottom of which was in Layer 5, the middle in Layer 4, and the upper in Layer 3. Much of the daub preserved reed impressions, strongly suggestive of a wattle and daub hut. The vast majority of the burned material followed the lines of Walls 1 and 2, but there was little or no charcoal or ash as such, suggesting that the site was exposed to at least some weathering after burning took place. The pottery comprised red-painted, a large number of undecorated sherds of red-painted type, various fine burnished sherds, RBS impressed, and miscellaneous coarse wares were also recovered. The absence of GAT and MSW is noteworthy.

Layer 3 was a soft brown soil overlying Layer 4, again over the entire floor of the trench. In addition to the pottery, it contained a good deal of bone, none of which could be identified, and a few pieces of burned daub. Apart from the upper layer of Wall 1, no distinctive features were noted. Diagnostic pottery: a preponderant amount of red-painted and of red-painted type, dark-painted, ADT-B, MSW, and impressed.

Layer 2 is mixed plowsoil and apparently disturbed habitation. The only significant piece was 1

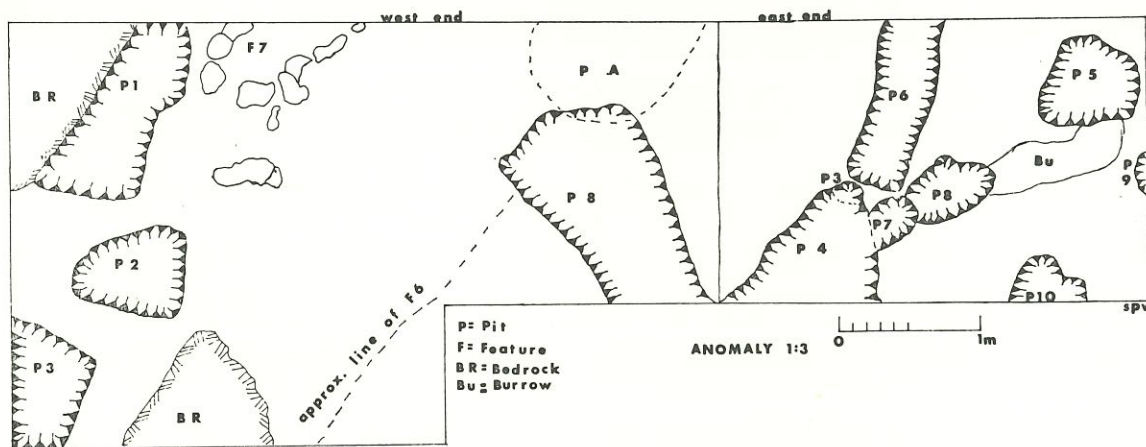
GAT, and the layer above this (plowsoil) produced a lugged Bellavista rim (for the type, see pl. 13, fig. 7).

Typologically, the pottery is similar to that south of the island in Area B, i.e. red-painted predominates and other types of fine wares are scarce, though present in greater quantity than in that area. This may indicate a phase of activity later than B-2-2 but earlier than NB 2.

ANOMALY I-3

This trench, excavated on a magnetic anomaly located by Miss Ralph, was 5.5 m. long by 2 m. wide, expanded to 2.5 m. at the western end (ill. 19). Its excavation was supervised by Sig. Maurizio Gualtieri and by S.P. Vinson. Dr. Pieri diagnosed the area as a river bed, contained as it was between limestone bedrock along its entire southern edge and at its northwestern corner. Though forming part of a different system from that of the stream bed in Area B and environs, this stream also flowed southwest to northeast. A glance at the overall site plan (ill. 2) raises the question of whether these two streams might have converged at some point outside the excavation area. The trench was not excavated deeply enough to reach the river fill, but it is probable that occasional flash flooding occurred, perhaps washing out the tops of pits and disturbing the possible structural remains.

Paradoxically, much of the value of the trench lies in its pits (19 in all, plus a modern ditch) which caused so much annoyance during excavation. Many of these had been disturbed by plowing, but many others were free of recent disturbance. All unplowed excavated layers in this trench were cut by



ILL. 19. Plan of Anomaly I:3

pits or overlay layers cut by pits, so that in most cases a relative sequence can be established.

The trench was dug in two sections, eastern and western, and the layers numbered sequentially in each, a distinction retained here. A large part of the western end had to be abandoned since it consisted of three pits that had been disturbed by plowing, a ditch, and bedrock.

The Eastern End (ill. 19):

The earliest material is represented by Pit 9, in the same stratum (3) as Pits 10 and 8, but at a slightly lower level. The pottery finds were a dark-painted rim; five pieces of IC; hard-fired, thin-walled rocker pattern ware of a type very common in this trench; 1 combed rocker pattern; 2 sherds of plain buff ware of red-painted type; and assorted plain wares. No bones or stone tools were found.

Pit 10, at a slightly higher level, contained MSW; GAT with notched rim; stab and drag; and fine burnished wares in roughly equal proportion.

Pit 8 had been cut first by a possible animal burrow or ditch (sealed by Layer 3), and then by a Roman pit. The contents noted here are those recovered after removal of these intrusions: 1 coarse MSW and 4 impressed.

Layer 3 itself was of a soft, very gritty gray soil. It was deeper than, and otherwise differed considerably from, the soils in the west end of the trench, but its top was at the same absolute level as the west end's Layer 4. The pottery consisted of ATT, GAT, MSW, impressed, and various nondescript plain wares. The only stone tools were two chert flakes.

Layer 2 was badly disturbed and must be regarded as unstratified. Diagnostic material was a portion of a pot of fabric and color like that of Bellavista ware; 4 fragments of Bellavista ware (pl. 13, fig. 7); various types of ADT, GAT, impressed wares, dark-painted ware, and a very small quantity of red-painted ware. It is worth noting that the soil of this disturbed layer was the same as that of Layer 3 immediately below.

The Western End:

After removal of topsoil, a number of recent pits and a ditch, a complex variety of soils was struck at approximately the same level (Layer 2), which gradually shaded into a uniform soft dark brown at the lowest level (Layer 4).

This latter layer contained traces of possible structures (ill. 19 and pl. 13, fig. 8), a line of stones (F

6), the western side of which ran quite straight across the trench. Though cut by two successive pits, it was visible in the north section of the trench. To the east of this line was an area of fist-sized or slightly larger stones, and the whole gives the impression of a wall that had fallen eastward.

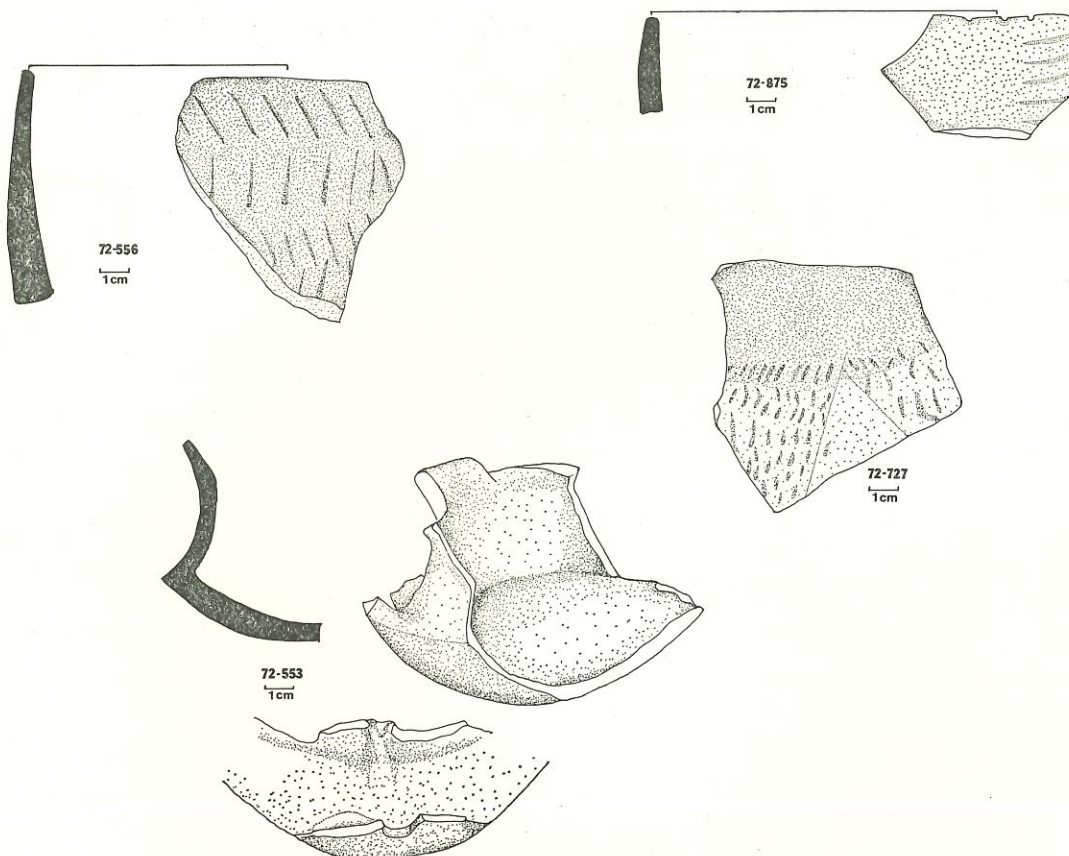
The pottery included MSW (probably 7 separate pots), GAT, ADT-A, ADT-B (2 pots), red-painted (plus five undecorated sherds of the same fabric), crude MSW, IC, coarse rocker, biscuit rocker, 1 incised RBS, a variety of coarse impressed wares (including a sherd with IC and SS, 72-727 ill. 20), and fine and coarse burnished wares. Two chert flakes were found.

Pit 8 cut through Feature 6 and Layer 4 and was sealed by Layer 3. It contained some small bits of daub, ADT-A (2 pots), ATT, GAT, fine MSW, IC, coarse MSW, dark-painted, fine and coarse rocker, 2 RBS, 19 impressed (notably one with notched rim, 72-875 ill. 20), and the usual assortment of impressed and burnished wares.

The layers of soil sealing Pit 8 were a fairly soft yellowish gray to the east, and a hard gritty brown to the west. Their contents are listed together. A sherd from the seal is from the same pot as one from Pit 8. Pottery included MSW, GAT, ADT-B, MSW, IC (including one with red paint and two undecorated sherds of the same fabric), dark-painted, RBS, biscuit rocker and a high proportion of impressed wares. A chert core and a chert flake were also found.

Notable in this layer were a number of sherds of a hard, gritty, thin-walled fabric with IC or impressed decoration, sometimes with a fine burnish (72-556 ill. 20). The fabric is rare elsewhere on the site and is technically similar to Bellavista ware. An uncatalogued piece of fine ware is very like 72-973 from Hearth 1 in NB 2-1 (see supra).

Against the north wall of the trench was an area of very hard gray-brown soil about 75 cm. square, bordered on the west by a row of large stones (Feature 7, ill. 19) and otherwise surrounded by Layer 3. Circumstances prevented extending the trench north to expose more of this patch of soil and associated stones, and the most that can be said here is that the type of soil was strongly suggestive of a hard-packed walking area. Contents were: ADT-A, ADT-B, ADT-C, MSW, GAT, dark-painted, red-painted type, possible red-painted RBS, and a high proportion of impressed ware. Flint and chert were found.



ILL. 20. Various pottery types. Upper L. 72-556; upper R. 72-875; middle 72-727; bottom 72-553

The top of Layer 2 in the west end of the trench was the same absolute level as the contaminated Bellavista stratum at the east end, though the soils were quite different. The earths were much the same as those below, but lighter in color and more friable. The hard gray produced red-painted, impressed, and a few bits of fine and coarse undecorated wares. The surrounding soft brown soil produced ADT-A, MSW, RBS, red-painted possible (abraded), impressed, and miscellaneous undiagnostic wares. Fine burnished wares included a hard-fired, thin, gritty fabric of Bellavista type, although no diagnostic shapes were found. Coarse burnished wares included two sherds with a very shiny black burnished surface of a type occasionally found in Area NB. It is surprisingly similar to Apennine pottery, but its Neolithic context is certain. Brown flint was also found.

Cut into this layer was an Apennine pit, representing the last certain phase of prehistoric activity in the area of the trench. It produced an Apennine

D pot kindly dated by Professor A.M. Small (72-553 ill. 20), and rims from two other Apennine fine ware vases, fragments of Bronze Age coarse ware, and two Neolithic impressed sherds, the latter presumably from Layer 2, or from some later phase.

To summarize, Layer 4 in the West end, with its possible structural remains, seems to be a phase distinct from Layers 3 and 2, and to be contemporary with the East end's Layer 3. The West end's Layers 3 and 2 appear to be, on the basis of soil types, a single phase, and to be roughly contemporary with the East end's contaminated "Bellavista" stratum. The former produced some undiagnostic pieces similar to Bellavista fabric.

The West end's Layer 3 seems also to be roughly contemporary with Hearth 1 in NB 2-1, on the basis of pottery similarities. Anomaly 1-3 as a whole produced a variety and quantity of fine wares uncommon in other trenches and this may suggest a slightly later date.

ANOMALY I-I

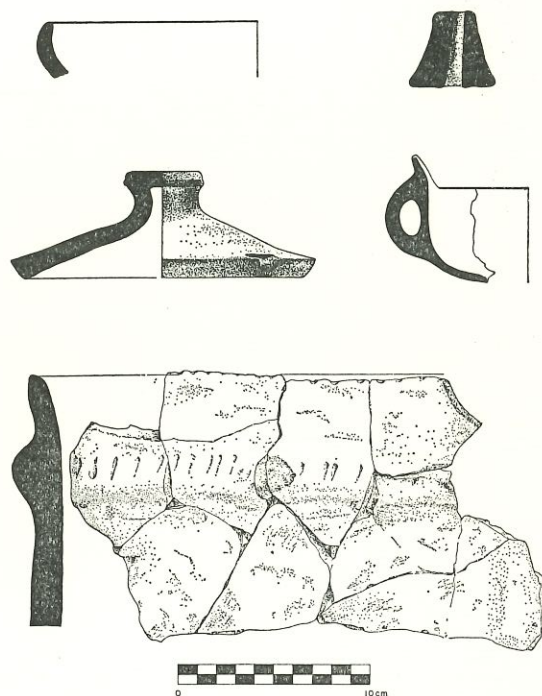
Magnetometer anomaly I-I, ca. 75 m. northeast of Area NB, was investigated in 1971 by Mr. Van Horn in a series of five trenches which uncovered an area basically 7 by 3 meters, with a few smaller extensions to reveal the nature of partially exposed features such as a later burial.

Just below the surface, preventing the plow from reaching any great depth, was a wall foundation, slightly more than a meter and a half wide, running in a N-S direction. The foundation, rock fill between two rows of large stones, was nowhere preserved more than one level course high, leading to some speculation that it might have been a road, although it is similar in size and construction to walls still seen in the area around Casa S. Paolo. The date of the "wall" is uncertain, but a lid (ill. 21, middle left) recovered from the rock fill is probably Roman;⁹ this, and a fragmentary but similar lid, were the only wheel-made pieces of pottery from the anomaly. The "wall" ended abruptly at its south end, where stones had been removed for a later burial, and then continued on into unexcavated soil farther south. The grave was a simple pit cut into bedrock to hold the remains of a child; it was covered with five large limestone slabs (the largest 55 by 30 by 23 cm.), and contained a single jug near the skull, unidentified iron, and traces of copper wire.

The presence of the large stone formation was largely responsible for the preservation of a Bronze Age habitation level at the relatively shallow depth of between 32 and 42 cm. Although a single Neolithic sherd and some later sherds appeared at this depth, that some of the level had escaped the plow was indicated by the presence of large concentrations of joining sherds from pots smashed where they lay (in one case 22 sherds joined to form three separate fragments of a large storage jar with slashed cord decoration). The stone formation rested directly on the Bronze Age deposit (only the largest of the border stones extended deeper than 40 cm. from the surface), and one of the

⁹ Cf. G.C. Duncan, "A Roman Pottery near Sutri," *BSR* 32 (1964) 82, with fig. 15.177 and 178.

¹⁰ C.E. Oestenberg, "Luni sul Mignone e problemi della preistoria d'Italia," *Acta Instituti Romani Regni Sueciae* ser. 4, 25 (Lund 1967) 118, fig. 10.25 (Chalcolithic p. 56), and 58, table 1. D.H. Trump (infra n. 12) 20, 22, 24, and fig. 16e. F.G. Lo Porto, "Leporano (Taranto), La stazione protostorica di Porto Perone," *NSc* 17 (1963) 295, fig. 16.9, sub-Apennine.



ILL. 21. Pottery from Anomaly I-I: U.L. Bronze Age bowl rim; U.R. spindle whorl; M.L. Roman lid; M.R. Bronze Age cup fragment; Bottom, Bronze Age storage jar

sherd concentrations came to light directly beneath it when the stones were removed. Traces of daub with reed impression and scattered fist-sized rocks were the only evidence of Bronze Age architecture. A small bronze chisel and two bone awls were probably from the same period, but were so high in the level that this is not certain.

In the deepest 20 cm. of soil above bedrock, at an average depth of 62 cm., very few sherds were found; these could be attributed to rodent activity, which was intense.

A few significant pieces of pottery from Anomaly I-I are shown in ill. 21: the large storage jar, discussed above, is a striking example of its type, but difficult to date;¹⁰ a cup fragment (middle rt.) is Middle to Late Apennine;¹¹ the bowl rim (upper l.), Late Apennine¹² or Early Iron Age, is of a

¹¹ E. Baumgaertel, "The Cave of Manaccora, Monte Gargano, Part II," *BSR* 21 (1953) fig. 2.25, possibly early stratum 3. For the handle type, cf. Lo Porto (supra n. 10) fig. 25.15, middle Apennine. Oestenberg (supra n. 10) figs. 24.1, 33.6, dated to 1300-1150.

¹² D.H. Trump, "Excavations at La Starza, Ariano, Irpino," *BSR* 1963, fig. 22A, Apennine E.

shape which seems to persist in Apulian geometric ware; and the loomweight or spindle whorl (upper rt.), though about twice the size of the examples cited,¹³ finds convincing Late Bronze to Early Iron Age parallels in shape and fabric.

Surface finds in 1970 include the large fragment of a Middle Apennine¹⁴ storage jar of brown burnished, thick, fairly well levigated clay with raised curvilinear design, and a Middle to Late Apennine¹⁵ black burnished tongue handle, with triangular perforation, which had been mashed in the kiln.

The bulk of our Bronze Age material ranges from Trump's Apennine C and Luni I to the end of the Bronze Age or Early Iron Age. Surface finds on the site attest a limited amount of occupation during the full Iron Age and Hellenistic period as well. The absence of Copper Age and Early Bronze Age material should be noted but may be accidental.

Finally, magnetometer anomaly 1-2 was investigated only far enough to reveal Bronze Age sherds; work in that area continued for only a few days in 1971.

CONCLUSIONS

The earliest phase of activity on the site is represented by the occasional sherd, bone fragment, and burned matter accumulated in the actively flowing river bed in Area B-2-2, south of the island. The sherds consist of impressed and red-painted wares, though it would be hazardous to draw chronological conclusions from such deposits. What is noteworthy is the absence of elaborately decorated fine wares (MSW, ADT, etc.) in these levels. Further, only one piece of obsidian and a few pieces of flint were found there.

As to the animal bones, much study remains to be done, but a few preliminary remarks can be made. South of the island in Area B and environs (that is, in the earlier phase of the site's life), sheep/goat predominate, followed by red deer. Bones of *bos*, pig, and dog are present, but may be

intrusive and in any case are present only in small quantity. North of the island, that is, in the second phase of the site, *bos* and sheep/goat show a considerable increase followed by a low proportion of pig, dog, fox, and red deer in roughly equal quantity. Further, the sheep/goat bones north of the island indicate sturdier and larger animals than those to the south, and this, taken with the higher proportion of *bos*, may well indicate an advance in domestication of these animals.

The position of the lowest levels of active river fill in NB 2-1, in the site's relative chronology, is problematic. It is at least possible that the river changed its bed during the site's occupation, and this would go far to explain the GAT in its lowest levels, which were at a higher level than the river bottom south of the island. In any case, the upper levels of NB 2-1 are clearly later than anything south of the island. Here we have the battered remains of structures, more bones of domesticated animals, the hearths, and elaborately decorated pottery in some quantity. The lowest levels of Anomaly 2-10 may also belong to this phase or to a slightly earlier one, on the basis of its ceramic typology; generally its pottery is much less sophisticated than that from NB 2-1, and fewer types are represented.

The hearths and their associated levels in NB and NB 2-1 represent a fairly sophisticated phase on the site. No exact parallels for the elaborate vases from Hearth 1 have yet been found,¹⁶ but their advanced technique, refined shapes, and rigidly geometric decorative schemes suggest a period not earlier than the last part of the middle Neolithic. To this period also belongs Layer 3, East and West, of Anomaly 1-3. The final Neolithic phase on the site is represented by a single unstratified Bellavista lugged rim from Anomaly 2-10, and by a contaminated Bellavista stratum in Anomaly 1-3. For what it is worth, the Bellavista layer immediately overlay, and was in the same type of soil as, the uppermost secure stratum in Anomaly 1-3. This

¹³ Lo Porto (supra n. 10) 297 and n. 1, fig. 20.36, Late Bronze or Early Iron Age. S.M. Puglisi, "Le Culture capanicoli sul promontorio Gargano," *MemLinc* ser. 8, vol. 2 (1950) 24 and pl. I.12, same date (22-23).

¹⁴ Oestenberg (supra n. 10) figs. 24.24, 29.50, date 1300-1250.

¹⁵ Trump (supra n. 12) fig. 17G, pp. 23-24, dated to his Apennine C. Cf. S. Tinè, "La grotta della Manca nella contrada Romito di Papisidero, Cosenza," *RSP* 20 (1965) 350 nos. 8-9, fig. 5a, f, and p. 354, late or sub-Apennine.

¹⁶ The shape and rocker pattern on base 72-973 is paralleled by no. 3297 in the Matera Museum; it was found in a *sepolcro a pozzo* at Tirlecchia and is reported by R.B.K. Stevenson, "The Neolithic Cultures of South-East Italy," *ProcPS* n.s. 13 (1947) 89 and pl. II.3. P.C. Sestieri, "La necropoli preistorica di Paestum," *RSP* (1946) 259 and tav. 1, row 5 extreme right, publishes a similar shape, but with incised decoration and no discussion of the fabric. The context is apparently Copper Age. A separate article on these vases has been submitted for publication.

seems to indicate that, in the *retroterra* at least, red-painted and impressed wares lasted virtually to the end of the Neolithic period.¹⁷

Bellavista ware was found only in Anomaly 1-3 and in Anomaly 2-10. None was found in Area B and environs. This may mean that the southern part of the site had been abandoned by the Final Neolithic period.

The site also produced some provocative negative evidence. While a few unstratified sherds of white-painted ware were found, there was no trace of identifiable Trichrome or Serra d'Alto ware. Indeed, of some 27 known Neolithic sites explored on the surface around Gravina, only six have produced these or Bellavista ware and none produced these wares in any quantity. Yet Casa S. Paolo is only about 30 km. north of the type site of Serra d'Alto itself, and a recent survey along the Gravina-Matera road has produced few if any examples of the wares in question. The implication of the scarcity of these wares in the area will have to be explored more fully elsewhere. Suffice it to say here that such wares may have more significance for distribution patterns than as chronological indicators.¹⁸ As for the pot-

ter's marks, they are, to our knowledge, only the second set found in Italy, but bear no relation to the first.¹⁹ Our pot marks are much simpler yet occur on much more sophisticated vases. Our vases were almost certainly imported from a site in Italy, and this, with the presence of flint (not found in the immediate area) and obsidian (not found in mainland Italy) suggests a relatively advanced and active trading network. The picture of a continually developing society is borne out by the differences in the locations and types of the bones. The nature of the remains suggests that the animals' hides and sinews were extensively used, as well as their meat, marrow, and brains.

During the summer of 1973, Miss Whitney was able to consult with specialists in Greek Neolithic pottery, to examine such pottery first hand, and then to re-examine our vases 72-971 and 72-973 in the light of further study. Her well-founded conclusion is that these vessels and 72-698 were not pattern-burnished. Rather, the designs were first painted on the vessels, which were then burnished.²⁰

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¹⁷ Cf. D. Ridola, "Le grandi trincee preistoriche di Matera: La ceramica e la civiltà di quel tempo," *BPI* 46, 1926, 135.

¹⁸ I am indebted to Prof. R.D. Whitehouse (pers. comm.) for this suggestion. In fact I have been happy to profit several times from her generous help while I was writing this report.

¹⁹ S. Tinè, "La Grotta di S. Angelo III a Cassano Ionio," *Atti e Memorie della Società di Magna Grecia* 1963, 1-55.

²⁰ The close similarity of the two techniques has been noted by Prof. S. Immerwahr (*The Athenian Agora* XIII, "The Neolithic and Bronze Ages," p. 5 and notes 23, 24). Her pl. 4 and cat. no. 35, true pattern-burnished, resemble our examples, none of which have the damaged surface that Prof. Immerwahr notes for flaked paint.



FIG. 40. Marble lion's head water spout,
Inv. 73-979, right profile



FIG. 38. Marble female statuette
head, Inv. 73-444

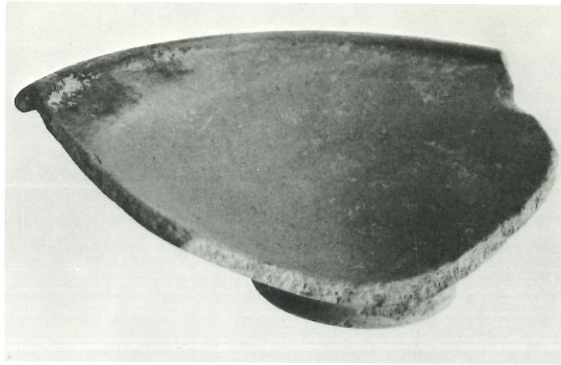


FIG. 37. Red slip plate fragment



FIG. 36. Red slip bowl



FIG. 33. Fragment of "Syrian" glass
bottle, Inv. 73-165



FIG. 1. Area B and environs looking southwest, and showing "The Island"



FIG. 2. NB-2, Hearth 1, looking north



FIG. 3. Adze fragment from Hearth 1, upper left



FIG. 4. Hearth 2



FIG. 6. Anomaly 2-10, trial cut, looking south. "Wall" 3 in background, saddle of bedrock in foreground



FIG. 5. Rock fall in NC 1, looking west

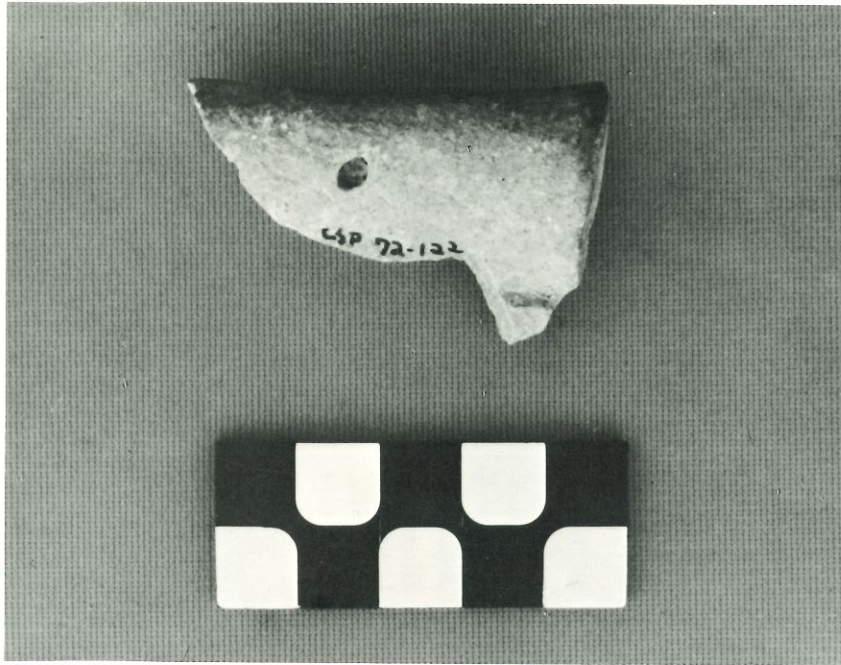


FIG. 7. Bellavista rim



FIG. 8. Anomaly 1:3 West End, with F 6 and Pit 8, looking northeast



FIG. 1. Site of the Mausoleum, eastern part (phot. K.J. 1972)

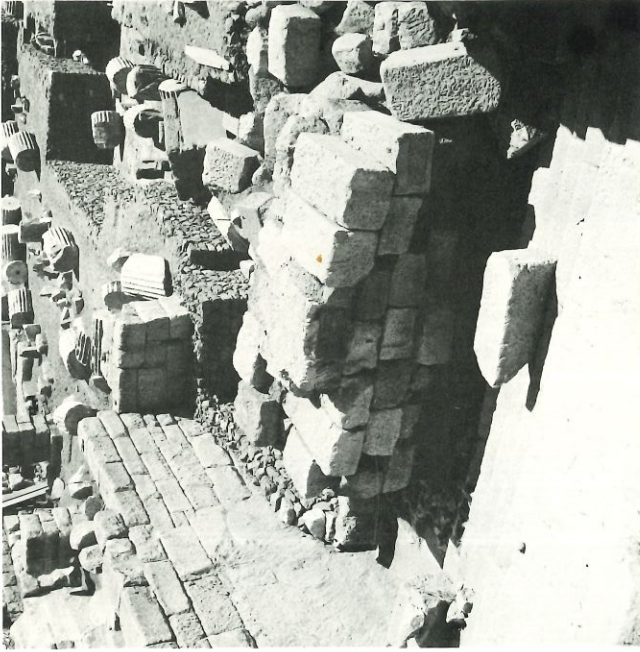


FIG. 2. Site of the Mausoleum, western staircase and entrance to tomb chamber (phot. K.J. 1973)



FIG. 3. Upper Gallery, eastern section near shaft U 2 (phot. J.Z. 1973)

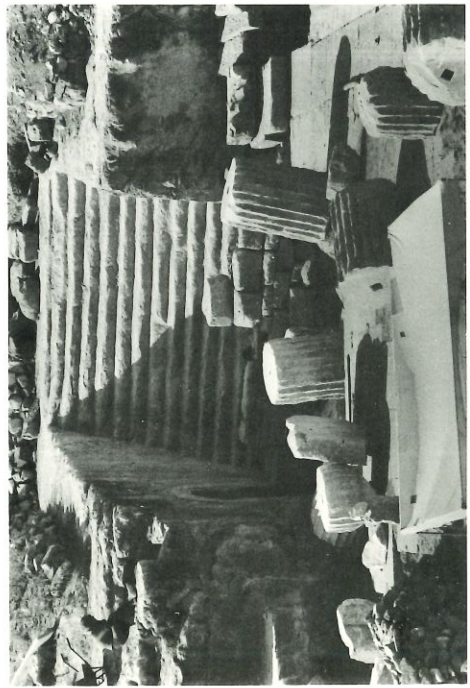


FIG. 4. Southern staircase looking south (phot. J.Z. 1973)

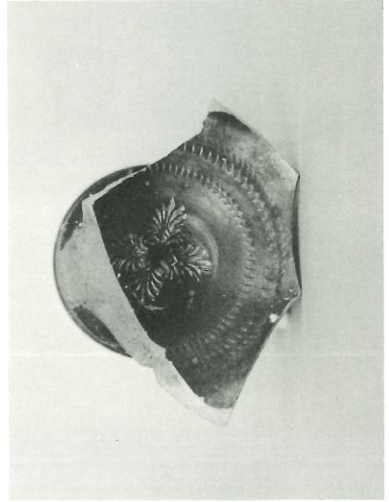


FIG. 5. Sherd of Attic black stamped ware with rouletting (phot. J.Z.)