EXCAVATIONS AT KAVOUSI, CRETE, 1988
(PLATES 57–70)

In the summer of 1988 the Kavousi Project held its second season of excavations on the Vronda ridge and the Kastro peak in the Siteia mountains above the modern village of Kavousi in eastern Crete. 1 The excavations at Vronda took place between June 15 and August 5, while those on the Kastro ran from July 18 to August 9. Restoration and study continued until August 19. 2

1 For accounts of previous work at Kavousi, see the following:

Other works frequently cited are abbreviated as follows:
Brock = J. K. Brock, Fortetsa, Early Greek Tombs near Knossos (BSA Supplementary Paper No. 2), Cambridge 1957
DAG = A. M. Snodgrass, The Dark Age of Greece, Edinburgh 1971
EGAW = A. M. Snodgrass, Early Greek Armour and Weapons, Edinburgh 1964
Gesell = G. Gesell, Town, Palace, and House Cult in Minoan Crete (SIMA 67), Göteborg 1985
GGP = J. N. Coldstream, Greek Geometric Pottery, London 1968
Kanta = A. Kanta, The Late Minoan III Period in Crete (SIMA 58), Göteborg 1980

2 The excavations at Kavousi are being carried out by the Universities of Tennessee and Minnesota and Wabash College, under the auspices of the American School of Classical Studies at Athens. We are especially grateful for the support and assistance of the Greek Archaeological Service, in particular the interest of Iannis Tzedakis, the Director of the Service, and Nikos Papadakis, the former Director of the Ephoria of East Crete. Lola Kotzageorgi and Calliopi Michalidou represented the Greek Archaeological Service on the site.

Generous financial support has been supplied by the Office of Research Administration, the College of Liberal Arts, and the Department of Classics at the University of Tennessee; the Graduate School of the University of Minnesota; Wabash College; the National Endowment for the Humanities, an independent federal agency; the Institute for Aegean Prehistory; the National Geographic Society; the David and Lucile Packard Foundation; Mr. and Mrs. Richard L. Sias, Mr. Donald S. Kennedy, and Mr. and Mrs. James T. Bradbury.

During the 1988 season Professor Geraldine C. Gesell (University of Tennessee) served as general director, oversaw all aspects of the excavation, and made the study of the shrine material included in this report (with the aid of a Professional Development Award from the University of Tennessee). Professor Leslie P. Day (Wabash College) served as Field Director of the Vronda site and is responsible for the report on the excavations at Vronda. Professor William D. E. Coulson directed the excavations on the Kastro and is responsible for the report on work there. The staff consisted of the following:

Trench Supervisors: Kevin Baldwin (University of Minnesota), Thomas Brogan (Wabash College),
VRONDA

At Vronda the major goal for the season was to continue uncovering the Late Minoan IIIC–Subminoan \(^5\) settlement (Fig. 1) and to investigate important features revealed in earlier seasons. Work at the site concentrated in four areas: the north side of the summit; the north slope of the ridge; the area of Building I, an interesting domestic complex west of the summit; and the southwest slope of the ridge, where a deposit of shrine material had come to light in 1987. A Byzantine farmstead just to the north of Vronda at Xerambela was also explored, and the search for tombs contemporary with the LM III–SM settlement continued.

I. BUILDINGS ON THE SUMMIT

Building C/D

Investigation continued in Room 4 of Building C. The eastern and southern parts of the room were uncovered down to a brecciating\(^4\) floor surface. Although the room had been

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Pedar Foss (Gustavus Adolphus College), Kevin Glowacki (Bryn Mawr College), Donald Haggis (University of Minnesota), James Higginbotham (University of Michigan), John Lenz (Columbia University), Margaret Mook (University of Minnesota), Julia Shear (Harvard College), Lee Ann Turner (University of Pennsylvania).

Trench Assistants: Stuart Evans (Randolph-Macon College, Ashland, Va.), Robert Johnston (Wabash College), Mark Lawall (The College of William and Mary), Roberta Lawson (University of Tennessee), Susan Lucas (College of Saint Catherine), LaDelle Mackeben (College of Saint Catherine), Shannon Meyer (College of Saint Catherine), Heidi Mittelstadt (Gustavus Adolphus College), Mark Tyler (Randolph-Macon College, Ashland, Va.), Antoinette Way (Gustavus Adolphus College).

Physical Anthropologists: Maria Liston and Jonathan Reynolds (University of Tennessee).

Zooarchaeologists: Professor Walter Klippel and Lynn Snyder (University of Tennessee).

Soil Scientists: Professor John T. Ammons and Michael Timpson (University of Tennessee).

Palaeobotanist: Kimberly Flint (Duke University).

Other staff: Karen Moukheiber (University of Tennessee; photographer), Charles Hall (University of Tennessee; architect), Professor Michael Hoff (Tulane University; architect), Stephen Mooney (artist), Noël Siver, Helen Kingsley, Barbara Hamann, and Xenia Hiloudaki (conservators), Alden Arndt (computer specialist), Professor Ann Blasingham (Colby College; registrar), Professor George Rochefort (College of Saint Catherine; camp manager). All the drawings connected with the 1988 report have been inked by Roxane Portokala.

We are grateful to the following consultants who gave of their expertise: Peter Day (petrology), Julie Hanson (palaeobotany), James Raab-Rust (remote sensing), David Reese (shells), David Day (surveying).

Professor Stavros Papamarinopoulos (University of Patras), Theodore Stamos, and a team of students from the University of Patras again conducted a geophysical survey both at Vronda and on the Kastro with magnetometer and electrical resistivity apparatus.

We wish to thank the British excavations at Palaikastro and Knossos, Professor Harry C. Rutledge, Head of the Classics Department at the University of Tennessee, and Evangelis Sachperoglou for their assistance.

Volunteers included Richard and Jeanette Sias, George Martin, Philip Ammerman.

We owe great thanks to the people of Kavousi who have worked with us and without whose help the excavations could never have taken place. We are especially grateful to our foreman, Nikolaos Spiliarotis, the Cultural Society of Kavousi, and the mayor, Demetrios Kophinakis.

\(^{5}\) The following abbreviations are used for dates: MM = Middle Minoan; LM = Late Minoan; SM = Subminoan; EPG = Early Protogeometric; MPG = Middle Protogeometric; LPG = Late Protogeometric; PGB = Protogeometric B; EG = Early Geometric; MG = Mature Geometric; LG = Late Geometric; EO = Early Orientalizing; LO = Late Orientalizing.

\(^{4}\) The local bedrock on Vronda is a poor quality of breccia. Above this is a hard soil with chips of limestone
disturbed at least twice by burials, the northwest corner and the east side of the room remained untouched. The walls were constructed both with pieces of the local breccia and representing an early stage in the creation of the breccia. This layer served as a floor in many rooms. In appearance it is rather like a pebble surface, but because of its nature we have labeled it a “brecciating surface”.

5 Buildings A–D at Vronda are not oriented exactly on a north–south axis. For simplicity, in the text the
with limestone blocks. Access to the room from the north was through a wide (ca. 1.18 m.) doorway. A bench had been built up against the east wall. In the northeast corner of the room, between the end of the bench and the north wall, there is a badly fragmented deposit of hard, red terracotta (Pl. 57:a), the remains of a small oven similar to a better-preserved example in Building I (see pp. 163–164 below). In the northwest corner was a small, rectangular installation, like the bins or potstands encountered elsewhere on the site but filled with ashy soil. It would be reasonable to interpret this installation as a hearth, but the clay surface around it showed no evidence of burning. Perhaps the installation was meant to hold some organic material. Above the floor in the room was a thick deposit of gray clay, probably the remains of the collapsed roof.

Room 4 had suffered later disturbances. Cist Grave 5, excavated in 1987, had been set in the center of the room. It is clear that the grave builders dug a roughly rectangular pit through the collapsed wall rubble down to the floor. They then constructed the walls of the cist against the rubble, filling in whatever gaps were left in the rubble with stones and earth. The southwest corner of Grave 5 was built over an earlier intrusion labeled Grave 11. Grave 11 may have been the site of a pyre for one of the many cremations found in this part of the summit. Red clay and calcined bedrock showed clear evidence of burning in the area. The earth above was soft and ashy, containing a few fragments of burned human bone and pottery. The evidence suggests that one body was burned here and then most of the remains were gathered and taken away for burial elsewhere. The area was covered with stones and later became the habitat for the small land snails whose shells appear over most of the cremations on the site.

Excavations were also carried out to the north and to the east of Room 4. In neither place was there any sign of roofing material, a fact which suggests that these two areas were open to the sky. The room to the north, Room D2, may have been a court, while that to the east, a street or court. Further investigation is needed to determine the relation of Buildings C and D to the structures farther east.

Building J (Fig. 2)

Investigation of the north part of the summit revealed a number of rooms, much disturbed by later activity. These disturbances make it difficult to determine the plan or number of buildings in this area, but for the sake of convenience it has been labeled Building J.

Building J had a complex history. To its earliest phase (LM IIIC) belong Walls 1, 2, and possibly 3. Built in a later phase, but evidently within the LM IIIC–SM period, are

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6 For example, in Room 6 of Building B; "Kavousi 1983–1984," p. 373.

7 Study of the modern field houses around Vronda has shown much about the dynamics of roof disintegration. In the modern houses the clay is laid on top of bushes, which are supported on large wooden beams and smaller crossbeams. As it dries, the clay filters down through the bushes onto the floor, where it is ground into the surface and becomes part of the floor. The roof collapses gradually, usually the center section first, then the sides. It is almost impossible to distinguish between the clay built up on the floor during the use of the building and the clay which is later deposited from the collapsing roof. This accords well with the stratigraphic sequences at Vronda, where floors are difficult to distinguish from the roofing material found above them.

Walls 4 and 5, which are not precisely aligned with the earlier walls. Walls 6 and 7 represent still a third phase of construction prior to the building of Graves 9, 10, 12, and 20 in the Geometric period. Finally, Walls 8 and 9 formed part of a Byzantine building.
The presence or absence of roofing material serves as a guide to determining exterior and interior spaces in Building J. Interior rooms were north of Wall 1, between Walls 1 and 3, and east of Wall 2. The building originally continued farther east, but the walls have eroded away. Wall 1 ends in a finished edge on the east, which is likely to have been one side of a doorway, the other side of which has been lost. Wall 2 may have continued north of Wall 1. Although no blocks of this part of the wall remain, the bedrock appears to have been cut down to serve as the base for the wall.

Undisturbed deposits belonging with the walls were few. East of Wall 2, fragments of a number of vessels were found on a red, brecciating surface sealed by gray clay roofing debris. Included in this group were fragments of several decorated pots (an unusual fenestrated stand, a large body sherd, and a stirrup jar) along with two stone tools.

The fenestrated stand (V88.83) is particularly interesting. Its full profile (Fig. 3:1) is preserved, and some of its decoration can be reconstructed. The stand is open at both top and bottom with the larger opening at the top. There are two zones of rectangular “windows”, one below the carination, the other just above the base. The windows are set in such a way that they alternate, rather than lying one above the other. The surface is divided into two horizontal zones and several vertical zones with different patterns in each area. Above one of the fenestrations is a panel with vertical and horizontal strokes; another upper panel has crosshatching. One panel on the lower zone bears a hatched rectangle. The rest of the decoration is too worn to determine.

Fenestrated cylindrical stands, open at both top and bottom, dating from LM IIIA to LM IIIC, have been found at other sites on Crete. Two with painted decoration came from Knossos.9 Another, more elaborately decorated, resembling a circular tower topped with horns of consecration, is from Gournia.10 A stand decorated with plastic rings at top and bottom was found in the cemetery at Karphi.11 A few snake tubes, which are coarse-ware cylindrical stands with serpentine handles used in the cult of the goddess with upraised hands, are also fenestrated.12 These were found at Kannia and Prinias. Similar rectangular stands, which are usually called “altar” stands, have been found at Karphi and Ayia Triada.13 The Karphi example is decorated with painted and cutout horns of consecration.

9 A. Evans, The Palace of Minos at Knossos, London 1921–1937, II, p.133, fig. 67. Figure 67:a, which is closer in general shape to the Vronda example, is from the East Palace slope at Knossos and belongs to LM IIIB. Figure 67:b is from the cult deposit containing the hut urn with the goddess with upraised hands, from the lower part of the Spring Chamber of the Caravanserai at Knossos, and should be dated to LM IIIC (Gesell, p. 100).

10 Evans (footnote 9 above), p. 139, fig. 70 bis. See also Gesell, p. 51. This example is dated LM IIIA from its painted decoration.


13 For the Karphi stand, see Pendlebury et al. (footnote 11 above), p. 84 and pl. 34 and Gesell, pp. 51 and 81. For the Ayia Triada stand, see Gesell, pp. 51 and 76. The Karphi stand, which is from the Small Shrine (Room 57), is dated LM IIIC; the Ayia Triada stand, which is from the Piazzale dei Sacelli, is also likely to be LM IIIC.
Although many of the above stands are marked with cult symbols and came from shrines or deposits of cult equipment, there is no such evidence for the Vronda stand. It may have had a domestic function or possibly been used in a household cult. Its context indicates a date in LM IIIC, and its decoration fits with this date.

The fragment from a large, open vessel (Fig. 3:3) is of LM IIIC date. The shape of the original pot is uncertain, but it may have been a large, carinated kylix, similar to one found in Room 3 of Building B.\textsuperscript{14} The painted decoration can be used to date the vessel, although

\textsuperscript{14} "Kavousi 1983–1984," p. 367, fig. 7:11.
the piece is too fragmentary to allow for the reconstruction of the entire motif. The over-all arrangement of the design, in particular the use of concentric loops and dots as filling ornaments in every open space, resembles the close style of LM IIIC. A parallel for the decoration is to be found on a krater from Karphi.\textsuperscript{15}

The fine-ware stirrup jar (V88.61) is too fragmentary and worn to be dated independently. Its shape fits with the LM IIIC date of the rest of the deposit.

Building J, like the previously excavated houses at Vronda, was apparently abandoned. Although there is no clear evidence for the date of the abandonment, a preliminary study of the pottery suggests that it was in or after the LM IIIC–SM period.\textsuperscript{16}

During the Geometric period, the area of Building J was disturbed by at least five and possibly six graves (Fig. 2). Three of these were stone-lined cists containing cremation burials (Graves 9, 12, and 20). Grave 10 was a cist containing a pithos burial. Grave 17 made use of existing house walls without further construction. Burned human bones were found in the area labeled Grave 14, but they were scanty and may represent a secondary deposition or spill over from other graves.

Grave 9

Grave 9 is the richest of the Geometric graves so far excavated at Vronda. The rectangular cist measures roughly 1.85 E–W × 1.00 N–S m. (Fig. 2, Pl. 57:b). The south wall of the cist incorporated an existing wall (Wall 1), while the other three walls were constructed of limestone blocks pushed against banks of rubble and earth. The stones of the walls had been fractured by fire, and the clay floor had been burned hard and red, indicating that the cremation had occurred within the cist. In it the skeletal remains of four cremated adults and an infant were found.

Much pottery and many bronze and iron objects were recovered from this grave. Most of the objects had been damaged by fire, and many had been broken when the bones and grave goods were shoved to the sides of the cist to make way for later burials. Hence the material was fragmentary and scattered, and it was difficult to assign objects to individual burials, even to the last one. Some 40 metal objects and 80 vessels have so far been recognized in the cist. Identifiable iron objects include the following: at least 15 spearheads,\textsuperscript{17} 5 daggers or dirks (V88.178, V88.186, V88.193, V88.194, V88.206), 3 axeheads (V88.196, V88.197, V88.202), 3 knives (V88.184, V88.213, V88.215 + 216), 2 scrapers (V88.181, V88.192), 2 sickles (V88.175, V88.187), and three artifacts of unknown use (V88.159, V88.171, V88.198). Bronze objects include three fibulas (V88.130, V88.158, V88.169) and many fragments of bronze sheathing with rivets.\textsuperscript{18}

Of particular interest are the spearheads from the grave. These are of varying shapes and lengths, but three major types can be distinguished. Common in other graves at Vronda

\textsuperscript{15} Seiradaki, p. 36, fig. 26:a.


\textsuperscript{17} The following spearheads were inventoried: V88.155, V88.156, V88.157, V88.173, V88.174, V88.179, V88.180, V88.183, V88.188, V88.189, V88.191, V88.195, V88.199, V88.201, V88.214, V88.217. One of these (V88.214) is a small fragment of a tip and may eventually be found to join one of the others.

\textsuperscript{18} The fragments of bronze sheathing were recovered in various places within the grave and so far have been given seven inventory numbers: V88.190, V88.207, V88.208, V88.209, V88.210, V88.211, V88.212. They may originally have belonged to the same object or several different ones.
but rare in Grave 9 is the long, socketed spearhead (V88.201; Pl. 58:b). On this type the long, narrow blade runs directly from the socket in a continuous curve, without shoulders. At Vronda such blades do not generally have a pronounced midrib but are elliptical in section. The second type is similar (e.g. Pl. 58:a): it also has a long, narrow blade, but the blade has distinct, sharply squared shoulders and, generally, a pronounced midrib (V88.155, V88.156, V88.179, V88.180, V88.183, V88.189, V88.195, V88.199). A shorter spearhead has also been found (V88.157, V88.173, V88.217); it, too, has the squared shoulders (e.g. Pl. 58:c). Nothing is preserved of the wooden shafts of the spears, but much burned wood was recovered from the grave, some of it appropriate for shafts. Examination of the wood by Julie Hanson showed it to be olive.

The daggers or dirks (Pl. 58:d) are all flange hilted. The axeheads (Pl. 58:e) are similar to those found in 1987, although not so well preserved. The knives (Pl. 58:f) resemble two from Grave P at Fortetsa. The “scraper” (Pl. 58:g) is a tool shaped like a chisel with its broad end bent over. Its function is uncertain. Similar examples have been found in other Geometric graves at Vronda; possibly they were used for scraping hides or wood.

Three other iron artifacts are of interest. The first (V88.159) is long and thin; one end appears to have a long tang for insertion into a wooden handle, while the other end is broken. It resembles a spearhead, but it does not have a socket. The second (V88.198) has a socket like a spearhead, but instead of a blade it has a short, thick, rounded end; it may be a spear butt. The third (V88.171), a long, pointed object, square in section with a pointed tip, may have been a spit.

There are several types of bronze fibulas. One (V88.130; Pl. 59:a) is a simple arched type, similar to many found earlier in graves in the Kavousi area. Its spring, however, is made of iron, and such a mixture of iron and bronze is unusual. The second fibula (V88.158; Pl. 59:c) is a small leech type. The third (V88.169) is represented only by the catchplate.

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19 These belong to Snodgrass’s Type P (EGAW, pp. 129–130). Other examples were recovered in Graves 5 and 6 in 1987 (see “Kavousi 1987,” pp. 286, 288, where they were erroneously identified as Type J).

20 The shape with the squared shoulders is similar to Snodgrass’s Type L (see EGAW, pp. 126–127), an 8th-century Cretan type (e.g. Brock’s Type 3; Brock, no. 1606, pp. 201–202, pl. 171), or his Type V (see EGAW, pp. 131–133), which has Cypriot or Eastern connections (e.g. Brock’s Type 4; Brock, no. 1620, pp. 201–202, pl. 171). Snodgrass suggests that Type L developed from Type V; if so, some of the Vronda spears may represent an intermediate stage in the development.

21 We follow Snodgrass (EGAW, p. 104) in labeling a weapon of 35.5 cm. or less a dagger, that between 35.5 and 50.8 cm. a dirk, anything over 50.8 cm. a sword. Based on estimated length, 3 of the weapons from Grave 9 are daggers (V88.178, V88.186, V88.193) and one is a dirk (V88.194). All the Vronda examples seem to fit into Snodgrass’s Type I, generally Type IA (EGAW, pp. 98–99).


23 V88.184, V88.215, and V88.216 belong to Brock’s Type 3 knives (Brock, no. 1611, p. 202, pl. 172); V88.213 is his Type 4 (Brock, no. 1594, p. 137, pl. 172).

24 See “Kavousi 1987,” p. 286, where it is called a chisel with a bent tip.

25 Spurs are usually rectangular or square in section. Firedogs and possibly spits from Evans’s Tomb at Plaï tou Kastrou, Kavousi, are pictured in J. Boardman, “Ship Firedogs and Other Metalwork from Kavousi,” Κρητηarchs 23, 1971, pp. 5–8, pls. I–IV. The type is discussed in V. Karageorghis, “Note on Sigynnae and Obeloï,” BCH 94, 1970, pp. 35–44.

Many fragments of thin bronze sheathing (Pl. 59:b) were also found. Most of these are small, rectangular, and roughly flat, as though they had been fastened onto a flat surface with the small rivets that always accompany them. No doubt they decorated objects of perishable materials; they may have served as decorative panels on wooden boxes.\(^{27}\)

The pottery from the tomb is fragmentary, and much of it had been damaged by repeated burning. Of the 80 vessels identified, most (approximately 34 vessels) are cups, the majority of them undecorated. Of particular interest are the fragments of a large pithos which were found in the upper levels of the grave and scattered in the surface soil of the trenches in the immediate vicinity (V88.59; Pl. 59:d). There are no traces of burning on the vessel, and the position of the fragments suggests that the pithos may have stood as a marker over the grave. Below the painted rim is a zone of "S" pattern. A large panel on the body contains at least three horizontal zones of patterns: the first zone has filled lozenges (\(?\)); the second contains triple concentric circles with billets, along with other scattered motifs (an upright, solid leaf pattern and a curvilinear motif); the third zone has maeander hooks with rectangular crosshatching. Although maeander hooks appear as early as Cretan Early Geometric, the circles support a later date for the vessel.\(^{28}\) Further study is necessary, however, before the exact date can be determined.

Grave 10

Grave 10 is a narrow, rectangular cist, 0.75 E–W × 1.85–2.20 N–S m. (Fig. 2, Pl. 61:a). The grave made use of existing Wall 7 of Building J for its eastern boundary; its other walls were constructed of large boulders, with good faces only on the interior. The cist contained a pithos burial of a child (Pl. 57:c). The pithos was placed on its side on the brecciating surface, with its base toward the north. A circle of stones surrounded the vessel. The pithos contained the unburned bones of a child of five to six years of age. The position of these bones indicated that the child lay on its side. Within the pithos were also found the bones of a rabbit. There were no accompanying grave goods to date the burial, but the impressed decoration of rosettes on the pithos can be paralleled by examples from the Geometric period on the Kastro.\(^{29}\)

Grave 12

East of Grave 10 is another cist (1.88 E–W × 1.00 N–S m.), which contained a large number of burials (Fig. 2). The builders of Grave 12 used Wall 3 of Building J for the

\(^{27}\) Fragments of bronze plate have been found in other Kavousi tombs. Some fragments appeared in Tomb VIII (Boyd's Tomb 4) at Vronda (Boyd, "Kavousi," p. 135). More elaborately decorated plate, including the famous figured Orientalizing piece, was found in the tomb at Skouriasmenos ("Rusty Ridge"; Boyd, "Kavousi," pp. 145, 147–148).

\(^{28}\) The motif at Vronda, consisting of three bars rather than the usual two, is somewhere between a maeander hook and a true maeander. The maeander hook (e.g. Brock, no. 706, p. 65, pl. 40) occurs in the Cretan EG, MG, and LO periods (Brock, p. 174). Coldstream (GGP, p. 260) uses the motif to show the influence of Attic Middle Geometric II on East Cretan "Etocretan" Geometric. The rectangular crosshatching is generally an early feature in Central Crete, appearing on LPG–PGB (Brock, p. 170, motif 3 on zigzags) and EG motifs (Brock, p. 174, motif 7a). Concentric circles are a common decoration on Cretan PG, Geometric, and Orientalizing pottery, but the use of zones with fillers are more common on Orientalizing vessels (Brock, pp. 175–176). The complexity of the motifs suggests a later rather than an earlier date.

\(^{29}\) A similar type of rosette, although not identical, can be seen in "Kavousi 1982–1983," pl. 97:b.
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southern boundary, while the other walls were constructed of boulders in single rows. Within the cist were found the remains of seven cremated adults. Grave goods include pottery along with metal weapons, tools, and jewelry. Identifiable iron objects include at least 7 spearheads, 1 dagger or dirk (V88.92), 16 arrowheads, 4 knives (V88.100, V88.111, V88.117, V88.118), a sickle (V88.134), a small saw (V88.86; Pl. 60:a), a chisel (V88.128), a possible spit (V88.126), an unidentifiable tool (V88.135) and two pin fragments (V88.132). Bronze objects include two straight pins (V88.136, V88.145) and a fibula.

The spearheads are the short or long socketed type without shoulders, resembling those found in Graves 5 and 6, rather than the type with sharply squared shoulders common in Grave 9. One example (V88.115) is not socketed but has a tang for insertion into a wooden shaft. The arrowheads (e.g. Pl. 59:e and f) are all of the simple leaf type, with one exception. V88.109 is larger (9.7 cm. in length) and barbed; its tang is round, rather than thin with rectangular section. The bronze pins are similar in shape; both have nail-like heads, one (V88.136; Pl. 60:b) with a bulb, the other (V88.145; Pl. 60:c) with a biconical swelling near the upper end of the shaft. An incised clay bead (V88.74) was also found. The assemblage of grave goods is similar to those found in other cist graves on the site, but the percentage of arrowheads is larger than usual. Pottery includes a lid or tray, with lugs of reflex type, and many cups. A small aryballos was found outside the cist just to the north, possibly an offering made after the burial.

Grave 17

Grave 17 is not a built cist, but rather the burials placed next to the existing walls of the earlier building and Grave 10 (Fig. 2, Pl. 61:a). The wall which appears to form the east boundary was constructed over the burial at a later date and belongs to the Byzantine building to the east. The burial area measures approximately 2.00 m. east–west and 1.00 m. north–south. The bedrock had been burned, and it was obvious that the cremation of the two adults took place on the spot. The grave goods include at least one iron spear (V88.94), two iron sickles (V88.102, V88.103), two iron pins (V88.99, V88.104), a bronze pin (V88.139), and bronze sheathing (V88.137) similar to that found in Grave 9 (see p. 154 above). Pottery from Grave 17 includes a LG skyphos (V88.56; Pl. 60:d) similar to one from Grave 5 and two LG or EO aryballoi (V88.60, V88.66), the latter a Creto-Cypriot type similar to an example from Grave 4.

The construction of Graves 10, 12, and 17 left a small rectangular area which was full of dark, soft soil similar to that found in the graves but containing only animal bones. One

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30 Inventory numbers: V88.93, V88.95, V88.96, V88.97, V88.98, V88.114, V88.115, V88.133.
32 The example with the globe represents an earlier type, going back to the Submycenaean period on the Mainland (see V. R. d’A. Desborough, The Greek Dark Ages, London 1972, pp. 296–297, fig. 33:E). The pin with the biconical swelling is probably PG and can be paralleled by pins from Vrokastro Tomb III (E. H. Hall, Excavations in Eastern Crete: Vrokastro [University of Pennsylvania, The University Museum, Anthropological Publications III, iii], Philadelphia 1914, p. 144, fig. 85:1).
33 A similar object from Grave 3 is pictured and discussed in “Kavousi 1987,” fig. 6:7 and pp. 294–296.
fragment of a bronze pin (V88.141) was found in it. The area, like the areas east of Grave 20 and north of Grave 16, may have served some function related to the burials.

Grave 20

Grave 20, lying west of Grave 10, is another cist grave (Fig. 2). Existing house walls were used for its north and east boundaries, but its west and south walls were constructed out of boulders. The cist measures roughly 1.85 N–S × 1.12 E–W m.; its southwest corner has not survived. Ashy soil containing the remains of five cremated individuals lay just below the surface. Many iron and bronze objects, including a piece of bronze sheathing with rivet holes, accompanied the burials. An ivory bead (V88.150; Pl. 60:e) was also found. The pottery, badly fragmented and burned, included a large vessel with Geometric patterns and a fine cup, which had been set in a niche in the north wall above the burial. This cup (Pl. 60:f), decorated below the rim with billets separated by verticals, has close parallels among the LG cups at Knossos and Fortetsa, even to the reserved band on the inside of the rim.36

Apsidal Building

Further disturbance and rebuilding in the area occurred in the Byzantine Period. Wall 3, which had been part of the LM IIIC–SM building and was subsequently incorporated into Graves 12 and 17, was extended to the east to form the northern boundary of a new structure. This building has a curved east end with a bench along its east wall (Pl. 61:b). The short wall constructed over the east end of Grave 17 forms the western side. The apsidal room had a distinctive floor of hard yellow clay, different from any other floors encountered at Vronda; it was disturbed in several places by pits. At the point where the wall begins to curve is a small horseshoe-shaped installation of hard, burned red earth which resembles a hearth (Pl. 61:c). A large rectangular block of stone set near the center of the room may have served as a support for the roof or as a stone seat. Objects found in the apsidal building were few but included a grinding tool, an iron object in the shape of an arrowhead, and green-glazed pottery of the 8th to 9th centuries after Christ. A large pit to the north of the apsidal building also contained Byzantine pottery and glass. It is difficult to interpret the structure. The form of the building, with its apsidal east end, suggests a small church. The pottery and the “hearth” found in the building, however, may indicate domestic use.

Building K

North of Building J and at a slightly lower level are two pairs of rooms identified as Building K (Fig. 1). Because of the slope of the ridge in this area, it is not certain whether both pairs belong to the same building or whether the southern pair is part of the higher Building J. The west room of the southern pair was probably an open courtyard, as no roofing material was found within it. The east room, however, since it had a thick layer of gray roofing clay, was no doubt an interior space. A stone bench was constructed along its southern wall. A pit in the bedrock along the northern wall contained a deposit of stone tools and pottery, which includes 5 grinders, a quern, and many fragments of a large, coarse

36 Brock, no. 420, p. 45, pl. 35. Unfortunately, this piece cannot be dated any more closely than “Geometric”; see p. 167. Another similar decoration is found on a skyphos from Knossos with Argive LG II affinities; see Coldstream, “Knossos,” G 87, p. 94, pl. 28.
stirrup jar (Fig. 3:2). The shape of the stirrup-jar is squat, with a large flat base, similar to LM IIIC examples from Karphi and Praisos. The decoration on the body is worn, but enough is preserved to show that there was at least one and possibly two zones of octopus tentacles. Such decoration is common on LM IIIC pottery.

Of the two northern rooms, the one on the east was apparently an open court, while the western room was an interior space. The floor of the large, open court is partly a brecciating surface and partly bedrock. Along the southern wall stands a bin or potstand, similar to one found in Room 1 of Building D. The western room is entered from the court through a doorway ca. 1.02 m. wide. Along the east wall of the room is a stone bench, which turns the corner and extends westward along the south wall. Roofing material overlay both the bench and the brecciating surface. There were many pithos fragments in the room but little diagnostic pottery. The room had been disturbed by the construction of a large Geometric cist, Grave 16.

Grave 16

The builders of the cist grave dug into the collapsed wall rubble that filled the room. On the south and east sides they simply lined the rectangular pit with a row of stones, then filled in behind with small stones and earth. On the north and west sides they seem to have constructed real walls with two faces (Pl. 61:d). The interior of the cist measured 2.10 E-W × 0.88 N-S m. and contained two adult cremation burials. Scanty remains of the earlier cremation were found along the bedrock. The later individual was a 40–60-year old placed on its right side, its head to the west. There were sufficient traces of burning within the cist, particularly the heat-caused fissures in the stones of the walls and the calcination of the bedrock floor, to show that cremation took place within the cist. Most of the pottery was placed at the head and feet of the body, although fragments were scattered about the grave. Vessels had been placed on a smooth “shelf” of bedrock at the east end of the cist, and this deposit was surrounded by a small semicircle of stones (Pl. 62:a). Most of the metal objects were also arranged at the head and feet of the body. With the head at the west were a dirk (V88.85), 2 spearheads (V88.119 a and b), a needle (V88.87), and a small obsidian blade (V88.4). At the east end were an iron chisel (V88.88) and fragments of iron blades. Two joining fragments of an iron pin (V88.91) were found, one each at the east and west ends; possibly this pin had been affixed to a piece of clothing or a shroud and it broke and fell subsequent to the cremation. The pin is long (ca. 11.5 cm.) with moldings on either side of a biconical swelling, similar to bronze pins from Grave 4.

There were nearly twenty vessels in the tomb, chiefly cups and skyphoi. The most common shape is the large, monochrome cup (e.g. V88.70; Pl. 63:a), like those found in

37 Karphi: Seiradaki, p. 17, fig. 11:5. Praisos: Kanta, fig. 69:3 and 4 and p. 181, dating to an early phase of LM IIIC. Kanta dates the use of the shape from LM IIIB to late LM IIIC.

38 It appears, for example, on a LM IIIC kalathos from Ayios Theodoros; P. Betancourt, The History of Minoan Pottery, Princeton 1985, p. 181, fig. 128. A stirrup jar from LM IIIC Kastri bears a similar decoration; “Palaikastro,” no. P24, p. 295, fig. 15. The motif also appears earlier; it can be seen on two stirrup jars from Anopolis of LM IIIB date; Kanta, fig. 20:1 and 3.


Fig. 4. Vronda: Pottery from Grave 16
Grave 3 and other graves at Vronda. A unusually deep cup is seen in Figure 4:3 (V88.57). The interior is painted except for a wide reserved band around the middle; the exterior is monochrome. Similar deep cups have been found at Knossos and Fortetsa, where they are usually LG–EO. An unusual cup with a simple conical profile (V88.55) has a large reserved panel in the handle zone and horizontal stripes on the handle (Fig. 4:4). There are no good parallels for the decoration, but the shape is reminiscent of an unpainted cup from Knossos. A similar “panel cup” was found in Grave 3. One of the skyphoi (V88.71) has an unusual banded decoration (Fig. 4:6). The shape can be paralleled at MG–LG Knossos and LG–EO Fortetsa. Another skyphos (V88.58) is similar in shape but monochrome (Pl. 63:b). Fragments of a third skyphos (V88.68) have a design of cross-hatched maeander hooks.

Closed shapes are generally rarer in the graves at Vronda. One type of small aryballos, however, extremely common in EO graves at Fortetsa, is found in Vronda cremations. The small aryballos from Grave 16 (Fig. 4:5) has a surface so damaged that it is impossible to determine what, if any, decoration had been on it; an interesting feature is the collar at the base of the neck. Unusual for the Vronda graves are two neck-handled amphoras found at the west end of the cist (Fig. 4:1 and 2). They are of similar shape and resemble examples from the settlement at Knossos and from tombs at Fortetsa. Amphora No. 1 has a panel of decoration on the neck; the zones include zigzags and “S” pattern. On the shoulder is a foliate band, similar to the decoration on a jug from Grave 1. Below the handle zone the body is decorated with bands. Amphora No. 2, of which only the body is preserved, has on the shoulder a panel of crosshatching and below the handle zone a band with triangles hatched in alternate directions. The lower body is decorated with broad bands.

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42 Knossos: Coldstream, “Knossos,” no. F19, p. 83, fig. 8 and p. 87; this cup has a taller rim and decoration added in white. Fortetsa: Brock, no. 1023, p. 94, pl. 73 and no. 1058, p. 96, pl. 62. No. 1023, dated Orientalizing (Brock, p. 167), also has a taller rim, more sharply offset, and is decorated with white. It is possible that the Vronda example originally had decoration in white paint, but the surface is so badly worn that no traces of painted decoration could have survived.
43 J. Boardman, “Protogeometric Graves at Agios Ioannis near Knossos,” BSA 55, 1960, no. V.20, p. 137, fig. 5 and p. 134. It is tentatively dated MGP.
44 Knossos: Coldstream, “Knossos,” no. D28, p. 82, fig. 7. Fortetsa: Brock, no. 396, p. 40, pl. 27; nos. 1005 and 1006, p. 93, pl. 72; no. 948, p. 89, pl. 73; no. 1406, p. 122, pl. 103; no. 1417, p. 123, pl. 103. The shape also finds parallels outside Crete, particularly in Corinthian Middle Geometric II (GGP, pl. 17:b). This type of skyphos is most regularly decorated in the handle zone with chevrons. The surface of the Vronda example is badly worn, and there may have been some motif other than bands in the handle zone.
45 See footnote 28 above.
46 It is Brock’s Type II.B.(ii), which he describes as the “standard type” for the EO period, although it does occur in LG (Brock, p. 157).
47 Knossos: Coldstream, “Knossos,” pp. 78–79 and pl. 24:1. Fortetsa: Brock, no. 458, p. 48, pl. 35; no. 476, p. 49, pl. 35; nos. 652 and 663, p. 62, pl. 43; nos. 673, 680, and 681, p. 63, pl. 43. Brock suggests (p. 146) that these (Type I.C) are not Cretan but mainland and Cycladic. Coldstream (p. 78) finds that the Knossos examples are of local fabric and suggests a local development. The exact date is uncertain; Brock calls the shape “Geometric”. His examples tend to be more elongated than the Vronda amphoras. Coldstream (pp. 78–79) suggests that the more slender shape is LG.
49 The crosshatched panels occur on vessels from LPG–LG at Fortetsa; see Brock, p. 169, motif 2r. The triangles hatched in alternate directions are more commonly LPG–PGB in date; so Brock, p. 171, motif 3ac.
The pottery from the tomb is mixed and difficult to date. The aryballos and possibly the deep cup would appear to date to the LG–EO period, but other shapes are earlier; the amphoras, which are not so elongated as the Knossian LG examples, may be MG. Despite the range of dates for the individual pieces, a date of LG–EO must be given to the last burial in the grave.

To the north of Grave 16 the room deposit had also been disturbed; this disturbance may have been connected with the burial. The area was filled with large stones and black, burned earth. The soil resembled that associated with the burials and included a large number of snail shells but no human or animal bones. It is possible that some organic material was burned, perhaps as part of the funeral ceremony.

II. NORTH SLOPE

Several trenches were excavated down the north slope in an attempt to define the northern limit of the settlement (Fig. 1). The construction of a modern threshing floor just north of Building K destroyed any remains of earlier architecture under it, but trenches still farther north also failed to produce any conclusive evidence for domestic activity.

Grave 13

The remains of what had been a funeral pyre have been labeled Grave 13. There was no architecture associated with this patch of ashy earth containing a few human bones and burned pottery. The only bones came from the cranium and jaw of an adult, and so it is likely that the long bones had been removed for burial elsewhere. There were some fragments of iron and fine pottery of Geometric date. The pyre had been constructed in a pit dug into a gray clay that resembles the roofing material encountered in the buildings on the summit. The fire had burned the clay red and hard in patches. It is not certain what the presence of the "roofing material" indicates; possibly it slid down the slope from the roofs of buildings higher up to the south.

Area of Grave 18

A robbed tholos tomb (Grave 18) and several curious walls came to light west of Grave 13 (Fig. 1). Only two or three courses of the walls of the tholos are preserved (Pl. 62:b), and they are built of local breccia and limestone. The ground plan of the tomb is roughly square, measuring two meters on each side, but the corners begin to round in the third course. The stomion, constructed of large, neatly dressed limestone blocks, faces north. As with other tholos tombs at Vronda,50 a pit had been dug in front of the stomion. The lower part of the stomion and the pit had not been touched by the grave robbers, who apparently had entered from above.

The tomb had been thoroughly looted, but around the edges and along the bedrock floor some fragments of bones and objects remained. The bones indicate that there were at least two inhumations. Some human bones were also found in the soil above the grave. Along the bedrock of the tomb we found fragments of bronze, including a pin with a bulbous swelling (V88.140). In the stomion were partial, articulated skeletons of sheep/goat and rabbit (Pl. 62:c), perhaps offerings made at the time the stomion was sealed. The tomb was refilled

after robbing, and the fill may have contained some material from the grave; it included pottery of LM IIIC–SM date, a fragment of a stone bowl, and bones of sheep/goat, pig, cow, rabbit, and dog.

Just east of the stomion two walls were found, apparently forming the corner of a room. Another long wall ran east–west, north of Grave 18 (Fig. 1, Pl. 62:d). The function of these structures is uncertain. Gray roofing material found within the small corner suggests that it was an interior space. Similar roofing material was also found north of the long wall in front of the tomb, along with much pottery and a possible mud brick. Associated with these structures is coarse domestic pottery, rather than fine funerary vessels: a tripod tray, a large jug, and small pithoi. The small amount of fine ware that was found suggests a date in the LM IIIC–SM period.

It is difficult to interpret these architectural remains and their relationship with the tholos tomb, and so definite answers must await further investigation. It would appear at first glance that the tholos tomb lies within the settlement. Such an arrangement is not otherwise known at Vronda or elsewhere; usually the tholos tombs are arranged on or outside the boundaries of the town. It is possible that the architectural remains represent a funerary building, although the domestic nature of the pottery associated with the walls suggests otherwise. It is more likely that these buildings had already been abandoned prior to the construction of the tomb, although it is also possible that the tomb had passed out of use before the houses were built.

III. Southwest Slope

Investigation continued in the area south and west of Building G (Fig. 1), where fragmentary material from a shrine had been uncovered in 1987. Building G and the area east of it were also explored in an attempt to locate the building from which the shrine material came.

Shrine Material

The large deposit continued to the east and north of the area excavated in 1987. The current extent of the shrine material, which shows signs of continuing to the south, west, and north, is marked on Figure 1. The surface on which the deposit lay slopes down from east to west (Pl. 64:a); hence many of the fragments were found at a higher level in the eastern part of the deposit than on the west. There seem to have been two different layers of fragments, both of them associated with large amounts of stone tumble. Both layers of fragments lay below the bottom of the wall of Building G (see Pl. 64:a). Excavation in 1988 revealed later disturbance of the area. Although some was probably caused by the planting of two olive trees and the construction of a modern terrace wall, the pits with dark ashy soil and the fragments of Geometric and Byzantine pottery found in the deposit suggest ancient disturbance in the area as well.

The shrine material excavated so far consists of well over a thousand fragments of snake tubes and goddesses with upraised hands. More examples of the parts of the goddesses found in 1987 (noses, mouths, eyes, ears, hair, hands, arms, torsos, skirts) continued to

appear. The most interesting new feature is a large fragment of a tiara with antithetic birds (Pl. 63:c). Although only one bird has survived, the broken area at the base of the second is preserved. The closest parallel is on goddess 9306 from Gazi, whose tiara is decorated with two birds, one on each side of the central horns of consecration. A second goddess from Gazi and two from Karphi, as well as the goddess from the Shrine of the Double Axes at Knossos, also have birds on their tiaras.

Building G

Two trenches were excavated in an attempt to determine whether Building G was the shrine to which the deposit of religious equipment belonged.

One trench revealed a room on the north side of Building G, with an undisturbed deposit along its east wall (Pl. 64:b). The deposit was a thick layer of gray clay, containing much carbonized material, which surrounded six nearly complete snake tubes, seven kalathoi (V88.160, V88.161, V88.177), a terracotta plaque (V88.165), and the torso of a goddess with upraised hands (V88.176). Since five of the snake tubes were standing upright, it appeared during excavation that they were in situ. After removal and restoration, however, it became clear that one of the snake tubes (V88.163) was upside-down and that none of them sat in its original position.

Although nearly complete, the tops of the snake tubes had been broken where they had lain exposed. Five are of the usual type with cylindrical bodies decorated with plastic rings around the top and serpentine handles on either side. One (V88.163) is unique. Its spreading top, similar to the shape of a kalathos, is decorated with a small pair of horns of consecration on each side (Pl. 63:e). The function of the snake tube is to hold a conical cup or kalathos. In fact when the snake tube from Kommos was excavated, it held a conical cup. The kalathoi from the shrine are the usual coarse-ware bowls with one exception (V88.177), whose interior is decorated with snakes in relief (Pl. 63:d). The plaque (V88.165) has a raised ridge along its top edge, which is pierced at the center by two holes presumably for hanging. Each end of this ridge is decorated with a pair of horns of consecration (Pl. 63:f). The joining fragments of the goddess (V88.176), which extend from mid-skirt to upper torso, are not decorated (Pl. 63:g). This cult equipment decorated with the standard Minoan religious symbols indicates that Building G served as a shrine for the goddess with upraised hands.

53 For an illustration of goddess 9306, see S. Marinatos and M. Hirmer, Crete and Mycenae, London 1969, pls. 128 and 129.
54 For a discussion of this type of goddess and illustrations, see Gesell, pp. 42–45 and pls. 45, 46:a, and 48:a.
55 Inventory numbers V88.162, V88.163, V88.164, V88.166, V88.167, V88.168.
56 See p. 150 and footnote 12 above.
58 Although this kalathos is unique, snakes commonly appear on snake tubes and goddesses with upraised hands (e.g., those from the shrines at Gournia, Kanni, and Prinias). See Gesell, pp. 72, 77–79, 132.
59 Plaques appear among the cult equipment at Gazi and Kanni (Gesell, pp. 69–71, 77–79). The Gazi plaque, published as an offering table, has holes for hanging but no decoration. The Kanni plaques have relief decoration.
60 For a discussion of this type of shrine and its cult equipment, see Gesell, pp. 41–54.
The second trench, farther south, proved inconclusive. Only the fill below the floor remained; the floor and walls above it had eroded down the slope. At the spot where there was some chance that the floor might have remained, a Geometric cist grave had disturbed the earlier levels.

Grave 19

Grave 19 is a rectangular cist, measuring 1.50 N–S × 1.00–1.25 E–W m. (Pl. 64:c). The builders used the existing walls of Building G for its north and east boundaries; the south and west walls were constructed of boulders. A bench running along the east wall was incorporated into the grave, and no attempt was made to even the floor. Although the skeletal material is not complete, it is clear that the bones represent three cremated adults. It is possible that the rest of the bones were removed for burial elsewhere or that they disappeared through the destructive action of the tree roots which ran through the grave or the natural erosion on the steep slope. There are ample signs that cremation took place within the cist, and the pottery lying on the floor of the grave, including at least one fragment of a goddess, was burned. No metal objects were found in the cist, but there was considerable Geometric pottery, including a cup or skyphos (Pl. 63:h) decorated with a dotted zigzag, probably of LG date.61

IV. West of the Summit

Building I (Fig. 5)

Excavation continued in Building I, west of the summit. Two more rooms were uncovered (Rooms 3 and 4) to the west of those excavated in 1987, and rooms continue farther west, perhaps on a lower terrace.

Room 3

A small portion of Room 3 was excavated in 1987. At that time it was thought to be a courtyard,62 but now it appears to be an interior space. It is more difficult to distinguish between interior and exterior spaces in Building I, since the builders did not use the customary, easily recognizable, gray clay for roofing. A claylike material, however, different from the roofing material in houses on the summit, was found below the collapsed stone tumble of the walls and is likely to have come from the roof.

Room 3 had been entered at one time from Rooms 1 and 2 through a doorway in its east wall; this doorway, however, was found blocked up. A second door leads north from Room 3 into a small storeroom (Room 4). A possible third doorway, also blocked at excavation, led to the west. A long bench runs the entire length of the east wall (Fig. 5, Pl. 64:d). In the northeast corner is a stone construction, in which was found a great quantity of baked clay (Pl. 65:a). Some of the fragments were curved, and one piece had a hole in it. It seems most

61 A similar motif occurs on a LG stemmed cup from the Plaï tou Kastrou tomb at Kavousi (GGP, pl. 57:h and j), on a PGB pyxis from Fortetsa (Brock, no. 361, p. 38, pl. 26), and on a LG thelastron from Adromyloi (M. Tsipopoulou, «Κυπριακά στοιχεία στη γεωμετρική και ανατολίζουσα κεραμική της ανατολικής Κρήτης», Annual of the Association of Cypriot Archaeologists 1, 1985 [pp. 33–50], p. 39, pls. V:18 and X:17).
likely that these remains represent a small, domed, baking oven.\textsuperscript{63} No ashes were actually found in the oven, but it is possible that they were removed before the food was placed in the oven to bake, as is done in village ovens today. Other stones near the bench may have

\textsuperscript{63} This oven is smaller than those found at Karphi; see Pendlebury \textit{et al.} (footnote 11 above), pl. XX:2 and 5.
functioned as furniture. In the center of the brecciating floor surface was a large, irregular patch of burned red clay labeled a hearth on Figure 5. Such patches of clay have been found in other rooms on the site. Although they are not like the more common built hearths of LM III Crete and there was no trace of ashes, they could have been the result of cooking fires. It may have been customary for the inhabitants to cook in their tripod vessels set over a fire built directly on the floor. Ashes would then be swept away after each use.

The room was found with many of its contents intact. All evidence points to a sudden abandonment of the building, followed by a slow, gradual decay. Near the hearth were three whole or nearly complete vessels: a stone blossom bowl (Pl. 65:b), a pyxis (Pl. 65:c), and a small tripod cooking pot (Pl. 65:d). The finely preserved blossom bowl (V88.1; Fig. 6:1, Pl. 63:i) was probably an heirloom; it is a palatial type belonging to the MM III–LM I period. The undecorated pyxis (V88.138; Fig. 6:3) is similar to decorated examples from Karphi and probably belongs to the LM IIIC–SM period. The small, elegant, tripod vessel (V88.69; Fig. 6:4) is also similar to examples from Karphi and Kastri. Also around the hearth were found a number of ground-stone tools for food processing, while other tools were found elsewhere in the room. A study of the groups of tools may help to define different work areas. Along the bench near the northeast corner was a large fragment of an ovoid lekane (V88.185). A small bin or pot stand stood along the wall south of the hearth, and fragments of a pithos were found in and around it. Another pithos was found in the southwest corner.

Room 4

This is a narrow room, with a small ledge and a bin or pot stand at its east end. It has two doorways, one leading into Room 3, the other going north. In form and size it resembles the storerooms in Building B. One storage vessel (V88.72) was found in the northeast corner (Fig. 6:2). This coarse vessel was originally a tripod, but its feet had been broken off and the pot set into the floor. In shape it is similar to tripods from Kastri. A number of stone tools and obsidian chips were also found in the room. Diagnostic pottery was scarce, but enough was recovered to date the use of the room to the LM IIIC–SM period. Two fragments illustrate the date: A deep bowl fragment (V88.67) is decorated with a crosshatched chevron between tricurved streamers (Fig. 6:5); the motif of tricurved streamers is common on Crete from LM IIIC into Subminoan. A close parallel can be seen on the kylikes from

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64 In modern field houses at Vronda, beds are created by outlining a rectangle with stones against one of the walls, then filling in the rectangle with bushes, which are covered with woolen blankets. A similar rectangle may exist next to the bench in Building I. The stones may, however, have had an entirely different function.

65 So P. Warren, Minoan Stone Vases, Cambridge 1969, pp. 14–17. The type (Type 5) is found in LM I contexts, but a dozen or so examples were found as survivals in LM III contexts.

66 Seiradaki, p. 18, fig. 12:1, pl. 7. The example from Vronda is shallower, and the handles are simple round horizontal handles.

67 Karphi: Seiradaki, p. 7, fig. 4:2; this also has the same type of vertical handle and the thumbprint at the top of the feet. Kastri: "Palaikastro," no. P12, p. 297, fig. 17; this one has a different handle from the Vronda examples.


69 M. R. Popham, "Some LM III Pottery from Crete," BSA 60, 1965 (pp. 316–342), p. 323, fig. 4:12–14; p. 329, fig. 8:61, where the chevrons are multiple but not crosshatched.
Chamber Tomb V at Vrokastro.\textsuperscript{70} The other fragment (Fig. 6:6), of indeterminate closed shape, resembles the fragment from Building J (see pp. 151–152 above and Fig. 3:3); the use of arcs and strokes as filler suggests the LM IIIC close style.

\textsuperscript{70} See Hall (footnote 32 above), pp. 150–151, fig. 89:A and C.
Grave 15

The area around the north doorway of Room 4 had been disturbed by a Geometric burial. Grave 15 is not a cist. Three cremated adults were placed in the doorway after the walls had collapsed, and a cairn of stones was erected over them. There were few bones and objects, and so it is not certain if this was a primary burial.

V. Xerambela

More of the Byzantine farmstead at Xerambela, some 200 meters north of the settlement, was uncovered, but the plan of the building and the function of the rooms are still unclear. Only the foundations of the walls remain; the upper walls were destroyed when the area was plowed in recent times. When the room excavated in 1987 was cleaned, two hearths were found in the southwest corner (Pl. 66:a, lower left). Both hearths were filled with ash, and the clay around them was burned. The floor of the room was broken by projecting spurs of bedrock. It now seems likely that this was an open courtyard used in the summer, with hearths which had been set up in the angle of two walls for protection from the winds. This court is entered from the northwest corner. A major room with clearly defined walls is located to the southwest of the court (Pl. 66:d). South of the courtyard is a puzzling area (Pl. 66:b). The space was bounded on the south and west by walls and on the north by the wall of the courtyard. In the center lay a deep deposit of roofing clay, above and around an unusual arrangement: a cut, rectangular block of limestone flanked at either end by two square stone plaques. Currently, there is no clear explanation for this feature. Much pottery was recovered, but it is mixed, including sherds from the 6th through the 14th centuries after Christ. Two coins were found, one (V88.143) possibly Roman, the other (V88.146) Venetian (Pl. 66:c).

THE KASTRO

Fragments of walls on the surface indicated that the settlement on the summit of the Kastro, which had been excavated by Harriet Boyd in 1900, continued down the east and west slopes of the peak. In 1988 excavations concentrated on the west slope and in the area of the false peak (Fig. 7), although trenches were opened on the east slope as well. It soon became clear that the west slope contained a series of rooms on long, narrow terraces.

I. The West Slope

Upper Terrace (Figs. 7 and 8)

This area had previously been identified as a street. The discovery in 1987, however, of an additional room (Trench 10100) to the west of Room 7, with a set of steps at its south

71 Compare an undated Venetian coin from Nichoria, which bears a similar emblem of the Lion of St. Mark (W. A. McDonald, W. D. E. Coulson, and J. Rosser, Excavations at Nichoria in Southwest Greece, III, Dark Age and Byzantine Occupation, Minneapolis 1983, no. 590, pp. 430 and 434, pl. 14:8.
73 Boyd ("Kavousi," p. 139, fig. 5) originally called this area a corridor, an identification which was later modified by the authors to that of a street; cf. "Kavousi, 1982–1983," pp. 335–337.
Fig. 8. Kastro: Plan of West Slope
end (Fig. 8), suggested the possibility that a series of rooms, and not a street, ran along this
terrace. Accordingly, two trenches (12000, 12100) were opened to the south of Trench 10100. After the removal of approximately 0.75 m. of fill mixed with tumble from the stone walls, the foundations of a room were uncovered in Trench 12100 (Pl. 67:a). This room is bounded on the east by a wall at least three courses high built against the bedrock, but on the west and south the walls are fragmentary and preserved to the height of only one course. A small stone oven (Pl. 67:c) was found built into the southeast corner of this room.

Further to the south in Trench 14000, after the removal of a similar amount of tumble and fill, a second room was discovered (Pl. 67:b). An interesting feature of this room is the double west wall (Pl. 67:d). At the west, the ground drops off sharply to a lower terrace. The presence here of two walls, both bowed to the west, indicates that the stability of the area had become a problem. It is likely that pressure against the east face of the inner wall caused it to slip out of position. Such pressure may have been caused by inadequate drainage of the fill on which the room had been built. In order to stabilize the original wall, a second

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was built a little to the west, but in time this also slipped, and the entire western part of the room collapsed into the lower terrace (Trench 14100).

To judge from the pottery found within, both rooms can be dated to the LG–EO period, although there are earlier pieces. Diagnostic examples include fragments of a krater (Fig. 9:1), a painted pithos (Fig. 9:2), a skyphos (Fig. 9:3), and a deep cup (Fig. 9:4). A large, coarse lekane (Fig. 9:5) was found in the fill to the east in Trench 13900; decorated krater (K88.54; Fig. 10:1 and 2, Pl. 69:a)\(^{75}\) and pithos (Fig. 10:3) fragments were found in the fill which had collapsed onto the lower terrace to the west (Trench 14100).

**Lower Terrace** (Figs. 7 and 8)

Excavation continued in Trenches 8400/8500 and 10300/10400, where in 1987 two rooms (Rooms 1, 2) appeared on a lower terrace. The east wall of these rooms also serves as

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\(^{75}\) The hatched leaf cross and the triple concentric circles on the krater (Fig. 10:1), have good LG and EO parallels at Fortetsa; cf. Brock, no. 758, p. 69, pl. 47, dated LG; no. 1411, p. 126, pls. 86, 163, dated EO. For a list of other LG–O pots with triple concentric circles, see Brock, p. 175, motif 9i.
the west wall of Boyd’s Room 8 on the terrace above (Pl. 68:a); the rooms are separated by an east–west spur wall. The northern room (Room 2) contained a deep deposit of yellow-brown clay roofing material. A sounding excavated in the clay exposed a yellow clay surface and on the east, a segment of wall running north–south and built against the bedrock shelf supporting Room 8. The southern limits of Room 1 were defined by an east–west wall built up against the bedrock and buttressed along its north face by a secondary wall. The west walls of these rooms no longer exist because of the erosion of the west slope. LG pottery rested on the deposit of clay roofing material.

New trenches (6500/6600–8400/8500), opened to the north along the lower terrace, revealed a third room (Room 3) divided from the two to the south by a narrow east–west cross wall. A small doorway with a stone-built threshold connects the room with those to the south (Pl. 68:a). The room has two roughly parallel north–south walls along the east side, built on bedrock and preserved two to three courses high. Since the north and west walls are not extant, the full dimensions of the room cannot be determined; it was excavated to a rough and uneven surface of rhegolith and bedrock. No clay floor surface was discovered; a bin cut into the bedrock of the southeast corner of the room indicates that the bedrock itself provided the living surface. Two small LG cups (Fig. 10:4 and 6) found on the bedrock floor indicate that this room also was in use in LG times. Associated with these vessels was a small conical cup (Fig. 10:5).

II. The False Peak

The Northwest Building (Figs. 7 and 11)

Excavation continued in the building toward the false peak on the northwest, where at least four rooms can now be distinguished (Fig. 11). The bedrock in this area slopes steeply from northeast to southwest, with many intervening outcrops. Along the north side there is a sheer cliff face.

Room NW1

This room (2.50–4.00 N–S × 1.70–2.00 E–W m.) was built in a cleft so that its east and west limits were formed by bedrock outcrops (Fig. 11, Pl. 68:b); the height of these outcrops was extended by stone and clay masonry. The north wall, which was not found in the levels reached during the 1988 season, may have collapsed over the precipice which now marks that end of the room. The south wall, however, was well preserved (although it had slipped slightly out of position), including the doorway at its east end, ca. 0.60 m. wide, which led into Room NW2. A deposit of light, yellowish brown clay, apparently collapsed roofing debris, was found throughout the area, ranging in depth from ca. 0.30 to 0.50 m. After some of this roofing clay had accumulated, the doorway between Rooms NW1 and NW2 was intentionally blocked with carefully placed schist slabs.

A narrow ledge along the main face of bedrock forming the east wall of Room NW1 formed a natural shelf (Pl. 68:c), on which were found a plain cup (K88.53; Fig. 12:1, Pl. 69:b), a lekythos (K88.52; Fig. 12:3, Pl. 69:c), and a small jug (K88.51; Fig. 12:4,

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76 This report on the Northwest Building has been prepared with the assistance of the excavator, Margaret Mook (University of Minnesota).
Fig. 11. Kastro: Plan of Northwest Building
Pl. 69:d). At the bottom of the roofing-clay stratum, the floor deposit was reached. The floor surface was composed of compacted clay with a few paving stones embedded in it. Smashed upon this surface were parts of several coarse cooking and storage pots (Pl. 68:d), including a fragmentary tripod vessel (Fig. 12:6). On the floor in front of the northern end of the shelf was a roughly circular schist slab, broken in two, on top of an overturned pithos base. A kalathos (K88.63; Fig. 12:2, Pl. 69:e), a jug (Fig. 12:5), two stone tools, and a pyramidal terracotta loomweight (K88.104) were also found on the floor. In the southeast corner of the room, adjacent to the doorway, four spindle whorls and several pieces of pumice were recovered. In the northwest corner of the room was a hearth defined by a layer of carbon
fragments on top of an area of burnt red clay. The pottery found within Room NW1 is consistent with a date in the LG period, although cup K88.53 may be later.\textsuperscript{77}

Room NW2

This space is an irregularly shaped room, of which the southeast extent has not yet been precisely determined (Fig. 11, Pl. 70:a). There are no traces of a wall in the northwest, only irregular bedrock outcrops. The east wall of the area is poorly preserved; the apparent bottom of the wall was associated with a surface of mostly horizontal schist slabs which had been uncovered at the conclusion of the 1987 season. Further work in 1988 has suggested that this was the top of a deep deposit of tumble (with a silty soil), mostly from the surrounding walls. Some of the pottery recovered from this stratum may be dated to the MG and some possibly to the EG period. In the northeast corner of Room NW2, below the dislodged upper courses of the wall, a large deposit of pottery was found; it included two stone tools, a pyramidal terracotta loomweight, an oinochoe rim and neck fragment (Fig. 13:1), and a small aryballos (Fig. 13:2) and should be associated with the tumble. The aryballos, however, may date to the EO period.\textsuperscript{78}

Below the tumbled stones, a secondary deposit of overlapping schist slabs was found within a dark, yellowish brown clay matrix. This clay deposit appeared to be the upper level of collapsed roofing clay, into which schist slabs from both the rooftop and surrounding walls fell. The tumble above would have been composed of stones from walls which continued to collapse after the roof had fallen in. It is possible, however, that the area of NW2 was never completely enclosed or roofed. The wall forming the southern boundary of this space has the appearance of a terrace wall which consists of rough stones loosely fitted together with little clay mortar between them; it does not appear to be suitable for supporting a superstructure. In addition, the lack of evidence for a wall at the west may suggest that NW2 was an open-air courtyard on a built terrace, or a veranda, with a light roof supported mainly by the walls of the adjoining rooms. Finds from NW2 include numerous sherds, two stone tools, a fragmentary quern, a coarse bowl (Fig. 13:4), two coarse trays (Fig. 13:5 and 6), a miniature conical cup (Fig. 13:7), and an incised clay bead (K88.83; Pl. 69:f).

Room NW3

After the removal of the LG surface exposed in Trench 3400 during the 1987 season, the southwest crosswall, which separates Rooms NW3 and NW4, and the northwest wall of Room NW3 were uncovered (Fig. 11, Pl. 70:b). The room is a small rectangular unit (2.50 [northwest–southeast] \times 1.50 m.) bounded by bedrock on the northeast. Below a later

\textsuperscript{77} Similar cups with tall offset rims occur at Fortetsa where they are mostly LO; Brock, no. 1188, p. 104, pl. 103 and no. 1547, p. 137, pl. 103. For discussion of the date, see Brock, p. 167.

\textsuperscript{78} The solid eight-petal rosettes on the shoulder of the aryballos provide a date of Orientalizing, especially LO (see Brock, p. 182, motif 14i). A similar arrangement of rosettes flanking a panel of triple horizontal zigzags can be seen on a Cretan imitation of a Protocorinthian kotyle from Fortetsa, which also has narrow bands on the bottom (Brock, no. 1346, p. 116, pl. 104). The shape is unusual; its closest parallel is Brock's Type II.J aryballos (Brock, p. 159) but it lacks the wide flaring disk mouth. Perhaps the Kastro example had such a mouth, but it was worn and broken.
platform, located outside the south corner of the room, a doorway was found connecting Rooms NW3 and NW4. The fill within the room yielded a terracotta spindle whorl, five fragments of terracotta loomweights, a partially preserved stone quern, and much pottery, including a kalathos (Fig. 13:3). This fill overlay a stratum of very compact, dark, yellowish brown clay with scattered schist slabs. Since no surface could be distinguished, this deposit probably represents a layer of roofing clay; two stone querns were found within it. All the pottery recovered within Room NW3 is datable to the LG period.

Room NW 4

Only the northern section of Room NW4 within Trench 3400 and part of the eastern edge in Trench 5300 were explored in 1988 (Fig. 11, Pl. 70:b). Tumble was removed from these areas of the room, exposing a portion of the east wall and the bedrock against which it had been built. Five roughly hewn steps (Pl. 70:c and d) had been cut into the face of this
bedrock, leading from the higher ground level on the east down into NW4. The steps themselves were very worn since the local schist weathers easily. The original line of each step, however, is still visible in the rock face on the east (Fig. 11, Pl. 70:c). Most of the pottery recovered can be dated to the LG period, although the lowest levels began to yield some EG sherds.

Once the north and east walls of NW4 had been defined, it became evident that a rectangular platform was built above the doorway between NW3 and NW4, obstructing the entire east corner of the room. The function of the platform is unclear, although it now appears to be the latest structure in the building, erected after Rooms NW3 and NW4 had been partially filled in. The southern limits of NW4 have not yet been determined.

The 1988 season produced additional evidence for the development of the LM IIIC–SM settlement on Vronda and yielded significant information on the important shrine and its cult equipment. The discovery of ten new cremation graves of LG–EO date has added to our knowledge of 8th-century burial practices. Excavation on the Kastro has revealed new areas of inhabitation on the east and west slopes and in the area of the false peak to the northwest. Although most of the remains are Late Geometric, pottery from these areas suggests that the settlement continued in use until late in the 7th century B.C.

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Vronda

b. Building J, Grave 9 from east

a. Building C, Room 4: oven in corner

c. Grave 10: pithos burial from south
a. Spearhead (V88.155)
b. Spearhead (V88.201)
c. Spearhead (V88.157)
d. Dagger (V88.186)
e. Axehead (V88.196)
f. Knife (V88.184)
g. Scraper (V88.181)

a. Bronze fibula (V88.130)

b. Bronze sheathing (V88.211)

c. Bronze fibula (V88.158)

d. Pithos used as marker (V88.59)

**Grave 9**

e. Iron arrowhead (V88.89)

f. Iron arrowhead (V88.90)

**Grave 12**

**Vronda**

a. Grave 12: iron saw (V88.86)

b. Grave 12: bronze pin (V88.136)

c. Grave 12: bronze pin (V88.145)

d. Grave 17: skyphos (V88.56)

e. Grave 20: ivory bead (V88.150)

f. Grave 20: Geometric cup fragment

Vronda

a. Graves 17 (right), 10 (bottom left), and 12 (top left), from above (north at left)

b. Building J: Byzantine apsidal building from west

c. Building J: "hearth" in floor of apsidal building, from southwest

d. Grave 16 from above (north at left)

Vronda

a. Grave 16: circle of stones at east end, from south

b. Grave 18 from above (north at bottom)

c. Grave 18: animal bones in stomion, from south

d. Area north of Grave 18, from above (north at bottom)

Vronda

a. Grave 16: Geometric cup (V88.70)
b. Grave 16: Geometric skyphos (V88.58)
c. Area of shrine deposit: tiara fragment decorated with bird
d. Building G: kalathos holding snakes (V88.177)
e. Building G: snake tube (V88.163)
f. Building G: plaque with horns of consecration (V88.165)
g. Building G: goddess with upraised hands (V88.176)
h. Grave 19: skyphos fragments

Vronda

a. Area of shrine deposit from west

b. Building G: north room from west

c. Grave 19 from north

d. Building 1: bench and oven, from west

Vronda

b. Blossom bowl (V88.1) in situ

c. Pyxis (V88.138) in situ

d. Tripod (V88.69) in situ

Vrona, Building I

PLATE 66

a. Byzantine farmstead: courtyard from above (north at left)
b. Byzantine farmstead: features south of courtyard from above (north at left)

c. Venetian coin (V88.146). 1:1
d. Byzantine farmstead from above (north at left)

Xerambela

b. Room in Trench 14000 and double west wall, from above (north at top)

c. Oven in northeast corner of room, from west

d. Double west wall in Trench 14000, from southwest

Kastro

a. Rooms 2 and 3 to west of Room 8, from above (north at top)

b. Northwest building: room 1 from above (north at top)

c. Northwest building: deposit on shelf along east wall, from west

d. Northwest building: floor deposit from southwest

Kastro

a. Late Geometric krater fragment (K88.54) from Trench 14100

b. Northwest building: LG cup (K88.53) from Room 1

c. Northwest building: LG lekythos (K88.52) from Room 2

d. Northwest building: LG jug (K88.51) from Room 1

e. Northwest building: LG kalathos (K88.63) from Room 1

f. Northwest building: incised clay bead (K88.83) from Room 2

Kastro
