
An estimate of 3.20 m might be reasonable, based on a range of 3.20–3.60 m furnished by the evidence within the temple itself and fourth-century-B.C. proportions of Doric columns. Concerning the former, it is clear that unlike Temple B, for which present evidence points to a flat roof, gabled roofs characterized Temple C and other large roofed structures of the later Kommos sanctuary. This is shown dramatically by the massive numbers of roof tiles found fallen into the buildings’ interiors. Of course the terra-cotta pan and cover tiles (Pls. 1.181–1.185) are stratigraphically late in the history of the buildings. Even though some may belong, in the case of Temple C, to its earliest phase, they fell above its latest floors. For the roof tiles from the temple and other sanctuary buildings, see Section 6, “Roof Tiles, Simas, and Other Architectural Terra Cottas.”

Concerning the date of the founding of Temple C, since its interior was used for centuries, the date of the artifacts found within it help establish only intermediate and later phases of use. The stylistic date of its anta (fourth century B.C.), already discussed, is suggestive, but the latest pottery found sealed below its floor (a skyphos and a cup; Callaghan and Johnston, Chap. 4, Section 1, Deposit 30, 422 and 423), left broken there during the process of building, establishes a date of construction in the first half of the fourth century. The date is reinforced by numerous cups and a lamp found just outside the temple on the east below C’s construction chips (Callaghan and Johnston, Chap. 4, Section 1, Deposit 31), as well as a dump of Iron Age material deposited south of the temple in order to raise the exterior level there (Callaghan and Johnston, Chap. 4, Section 1, Deposit 32).

Phase 2

During a second phase of the building a new platform was set upon the original slab floor south of the statue base (Pls. 1.81, 1.97). The base molding was extended with a new section on the south, but not as far as the south wall, as mentioned earlier. The end of the molding concerned can be seen in Plate 1.107, within the fabric of the later benches. Above the molding were set three large orthostates (Pl. 1.86, left), most probably capped by a cornice, now missing. The cornice may have consisted of at least three rather large, wide blocks set next to one another. Pry holes for two of them are visible in the top surface of the central orthostate. In order for these slabs to be set into place, the original molding along the southern, upper edge of the statue base was roughly cut off, as is visible in Plate 1.105. It is likely that the new platform accommodated sculpture dedicated in the temple, as well as offerings set in front of the figures, as discussed later in the section dealing with the ascription of Temple C (Chap. 8, Section 2). The platform’s top was about 1 m above the slab floor and too high to have served for comfortable sitting.

Somewhat later, in the northwest corner was erected a stone platform, perhaps for offerings, set against the statue base (Pl. 1.93 at 1”). After this phase, the level of the platform was raised (Pl. 1.93 at 2), and not long after that a second stone bench phase was added (Pl. 1.93 at 3),
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to be followed by the final phase of the benches (Pl. 1.93 at 4). Within the enclosure below
the platform were found a number of terra-cotta lamps (Hayes, Chap. 4, Section 4, e.g., 35,
48–50, and 61), fragments of glass bowls (Hayes, Chap. 5, Section 1, e.g., 15 and 16), and
course ware.

It is perhaps during Phase 2 (Pl. 1.81) that the first stone bench (0.70 m high and 0.74–
0.80 m wide, but somewhat narrower, 0.70 m, on the east) was introduced. This was late
in the history of the site, for the ceramic material within the benches dates to as late as the
first century B.C. (Callaghan and Johnston, Chap. 4, Section 1, Deposit 39). If so, then most of
the changes in the interior of Temple C when it was still a viable religious structure (Phases
2–4) were apparently made during the last century of its use. These changes limited entry
into C to the eastern door and at the same time provided accommodation for more people
inside; benches were also added on the exterior.

Phase 3

During Phase 3 (Pl. 1.81) the first exterior bench (Bench 1; ca. 0.40 m wide and 0.30 m high)
was added outside the temple (Callaghan and Johnston, Chap. 4, Section 1, Deposit 52). At
about the same time the earlier built bench on the inside of Temple C was widened by about
0.40 m. The new bench (ca. 0.85 m high) was 0.25 m higher than its predecessor; its rubble
face was toward the hearth, the gap behind being filled with earth and rubble. Along the
east wall the bench was widened to 1.12 m on the north and 1.40 m on the south. In the
meantime, the level of the court outside had risen, probably covering over the earlier base
and enclosure on either side of the doorway there. Although the threshold of Temple C is
now missing, it is reasonable to expect that because of this rise in level a step would have
been added on top of it to provide access and to block soil and debris from entering the
temple, especially when it rained. Inside, the interior bench was extended into the northwest
corner, a sure sign that direct access to the corner was no longer required. Room A1 to the
north, recently built, had by now blocked any doorway here. To the southeast, a small hearth
of slabs was set alongside the southern bench.

Phase 4

During Phase 4 (Pl. 1.82), Bench 1 on the exterior was made higher. It was extended to the
north as well, where the large northern room (Room A1, for which see “Structures and
Buildings Belonging to the Later Sanctuary Phases”) had been built. Another, shorter bench
was added south of Temple C’s doorway. On the interior further accommodation was made
on the benches when they were widened to 1.60 m–1.80 m. The bench was extended even
along the western side next to the statue base, which had not been blocked in the past. The
height of the southern bench above the floor was about 0.70 m; on the north it was at least 0.60 m above the floor.

The usual method of creating a bench by adding a wall with packing behind it was not used. Rather, at least eleven supports of about the right height were chosen and were set or built at intervals in the corners and along the sides of the room. These supports (Pl. 1.91) consisted of stacks of slabs, blocks set on edge, and, along the west wall, two once-elaborate stone bases in reuse (J. W. Shaw, Chap. 5, Section 6, I and 2; Pls. 1.86 [center], 1.108). The top of the first was broken off perhaps for this very purpose. Above the top of the other, a tripod-shaped base, was added at least one block to attain the level. In order to span the gaps between supports, the builders may have used slabs such as that found, broken, on the top of the northwestern enclosure (Pl. 1.92). More likely, boards were used to span the gaps, which, toward the center of the long sides, were over 3 m long.

Phase 5

The subsequent period, Phase 5 (Pl. 1.82), was one of decadence. Although parts of the benches may have continued in use, the people using the building do not seem to have made an effort to clean it up. Ashes accumulated around the hearth; a stone was added next to the eastern column, perhaps for use as a small platform (Pl. 1.90). In the northeast corner a large fragment of a stone basin (Pl. 1.91; J. W. Shaw, Chap. 5, Section 6, 11) was placed on the earth within an enclosure partly created earlier by the supports for the final bench phase. Perhaps during this period the western column fell or was pulled down after the roof had weakened. The number of pan and cover tiles upon the floor reinforces the suggestion that at least part of the building was without a roof in its latest stages. This exposure could account for the surprising amount of weathering on the blocks of the western platform and statue base, implying that they remained exposed until accumulating sand eventually covered the temple.

While the temple was in use many objects accumulated on and slightly above its slab floor, among them terra-cotta lamps and scrappy, fragmentary bowls of blown glass (Hayes, Chap. 4, Sections 4 and 3, part of Deposit 57; Chap. 5, Section 1). There were many large and small amphora fragments as well as fine ware, mostly domestic in character and of early Roman date (ca. A.D. 100 and later), as well as much fauna (over 1,000 mammal and bird bones, 475 fish bones [among which were the remains of an imported freshwater catfish; Rose, Chap. 6, Section 4; Pl. 6.7], and about 250 marine invertebrates). There were also a few coins (Walker, Chap. 5, Section 2, 3 and 4); one of these (4) is that of Antoninus Pius (A.D. 138–161), of the Roman Province of Crete, suggesting the date for the fifth period of use of the temple. A number of bone needles (Schwab, Chap. 5, Section 10, 35 and 37) were also recovered. Found on the southwestern platform were four complete lamps (Pl. 106; Hayes, Chap. 4, Section 4, 31–33 and 38). Just east of here, next to the tripod-shaped base already described, were two
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more lamps (Hayes, Chap. 4, Section 4, 42 and 47) as well as a Minoan lamp of hard stone with a flaring base, here reused in a much later context (S 283; Pl. 1.109). Lying below its bowl, perhaps an offering tipped over when it was overturned, were five Tonna and two Mactra shells (Sh 3), types rare in any context at Kommos, and a fragment of a large terra-cotta lamp (Hayes, Chap. 4, Section 4, 72), possibly a temple lamp type.

Phase 6

Phase 6 (Pls. 1.82, 1.110) was a continuation of the previous period (Hayes, Chap. 4, Section 3, Deposit 57), essentially a “squatter” phase probably without the regular worship and feasting that had characterized the temple area. The uneven floor had in the meantime risen some 0.40 m, to about +6.00 m, as materials accumulated instead of being discarded as they had been earlier. The central hearth was obscured, although the same spot continued to be used for cooking. Two new, rough hearths were set: one to the east (Pl. 1.115), consisting of two vertical slabs, and the other to the west, where the earth floor became singed a deep red.

Just east of this second hearth a number of reused slabs were arranged together to form a rough north-south line (Pls. 1.110 at D, 1.112). Perhaps they formed a base of some sort, possibly for a rough partition wall between the roofed part of the room on the east and that open to the sky on the west. In connection with this floor were bone needles (Schwab, Chap. 5, Section 10, 34–39), as well as an eye cornea of bone (Bo 24; M. C. Shaw, Chap. 3, Section 4), perhaps belonging to a cult statue that by now had certainly been thrown down from its platform. Scattered in the fill above the floor were found a number of interesting objects, including a fragmentary relief of Pan playing his pipes (M. C. Shaw, Chap. 3, Section 5). Terra-cotta lamps, perhaps offerings, were especially numerous (Hayes, Chap. 4, Section 4, 42, 47, 58, 59, and 62), and many fragments of well-preserved glass bowls were found, especially on the western platform and in the southeast corner (Hayes, Chap. 5, Section 1, 1–4, 7, 11–13, 25–27, and 31–33). The pottery was a mix of fine and coarse wares of a domestic nature. In the north-central section were parts of an inscription (Csapo et al., Chap. 2, 75) on fragments of a round portable altar, probably dedicated to Poseidon. The altar’s original position is unknown; its lower portion rested in the fill rather than on the original slab floor of the building.

After this point, ca. A.D. 160–170, Temple C was deserted. Stone robbers did come, however; perhaps it was they who abandoned the anta block from Temple C’s door within the building. They may also have placed, then left, the three long wall blocks (Pl. 1.111, left), perhaps from C’s south wall, upon the bench where they were found during excavation. These blocks and the rubble pile not far from the statue base were the first evidence of the temple uncovered during the sand removal process. Scattered about were fragments of tiles from the roof, sherds of pottery, and an assortment of odd blocks. In the vicinity of the statue base, found during the sand clearing in 1978, were two blocks with curious cuttings (Section 6, 5 and 6; Pls.

1.169–1.170, 1.102), abandoned by the stone robbers, that may have played a role in the building, probably in connection with the platform and statue base at the western end of the building.

Stone robbing here was not limited to the ancient period, however, for the sand within the robbers’ trenches was light and unconsolidated when it was excavated and could easily be differentiated from the more compact sand that had been in place for some time and from the earthen scarp that lay on either side. Moreover, the elders from the nearby town of Pitsidia recall walls of cut stone in the temple area. These walls were dismantled some sixty or seventy years ago and the blocks, according to the most dependable sources, were reused by monks building the monastery at Preveli, far to the north-northwest of Kommos, and for a bridge on the way to Aghia Galene (ancient Soulia), a town also some distance in that direction.124 It was said that the local populace, helping the monks, dug deep into the sand and created depressions and mounds that did not even off quickly. The resulting formations of sand and fragments of broken stone remained for such a long time that the immediate area came to be called Pekēkia (“cut stone”). In 1976, when excavation began at the site, no blocks were visible above the deep layer of drifted sand save a few near the modern well,125 where they had been carved into basins for watering animals, especially for the sheep that would occasionally graze in the area.

Dump South of Temple C

The best evidence for the use of Temple C before its decline was to be found outside the temple, especially in the dumps to the south and southeast, where broken pottery from the ritual meals and occasional offerings were discarded. This material was apparently brought out of the temple, then often thrown to the right and downslope as one exited the building, in a manner similar to that already related for Temples A and B (Callaghan and Johnston, Chap. 4, Section 1, Deposits 4–6, 13, 37, and 38).

The “island” of sand was removed by us in two large, somewhat irregular trenches, 34A1 on the west and 34A on the east, covering an area approximately 16 m east-west by 6 m north-south. The trenches bordered the temple along its southern side and continued eastward into the court about 5 m. The total depth of sand here was 2.70–3.00 m, with the upper 0.70 m or so being of largely sterile sand that accumulated after the site was deserted. The dump rested upon the courtyard surface that represented the level contemporary with the construction of Temple C (at ca. +5.40 m).

In general, the dump consisted of sand, with occasional patches of burnt earth and bone, in some cases suggesting that burning took place on the mound itself. There was a tendency for the layers, especially the earlier ones, to slope up to the west, perhaps a reflection of the desire of those cleaning the temple (at least until Phase 5 of Temple C), to keep the mound of debris, including a certain amount of sand swept from the court, partially out of sight...
south of the temple but still at a convenient spot. This conclusion, however, is not based on excavation according to stratified layers, for the dump consisted of shifting, sandy debris, disturbed in places by tree roots, that was very difficult to excavate in a controlled fashion. The sequential analysis is, therefore, largely based upon the stylistic study of the pottery by Callaghan and Johnston (Chap. 4, Section 1).

From the debris were collected much bone and a great many terra-cotta objects, as well as a few bronze artifacts. The many bowls, cups, dishes, jugs, ladles, unguentaria, and other terra-cotta vessels are discussed, along with the stratigraphy (as best as it could be determined) in the analysis section for the six phases of the dump associated with Temple C deposits (Callaghan and Johnston, Chap. 4, Section 1, Deposits 47 and 48). Other artifacts, such as the loomweights, the bronze and iron nails, the bronze dress pins, and the iron spits or obeloi are discussed in their respective catalogues (Dabney, Chap. 5, Section 5; J. W. Shaw, Chap. 5, Section 8; Dabney, Chap. 5, Section 3; J. W. Shaw and Harlan, Chap. 5, Section 7). There was also a bronze instrument (Schwab, Chap. 5, Section 10, 1) that may once have served to mend fishing nets and had probably been dedicated in the sanctuary. The largest deposit is of first-century B.C. date (Callaghan and Johnston, Chap. 4, Section 1, Deposit 48, Phase 4). Along with the usual wares were votive bowls and fragments of leaves and stems of an exquisite bronze wreath with ivory berries (Dabney, Chap. 5, Section 3, 36), perhaps a separate dedication within the temple, although it could also have belonged to a cult statue. There was also an unusual portable terra-cotta stand (J. W. Shaw, Chap. 5, Section 6, 3), triangular in plan, its supports formed by sphinxes, of which one is well preserved. No doubt it served as part of the temple furniture.

The contents of the dump support the hypothesis that the temple with its hearth and benches, along with associated Room A1 to the north, was dedicated to feasting, as shown by the great number of ladles, drinking vessels, and animal bones. That the meals were at least partially ritual in nature is suggested by the votive bowls, unguentaria, and discarded temple dedications. It may seem curious that so few terra-cotta figurines were found in the dump (two bull legs, M. C. Shaw, Chap. 3, Section 2, CI9 and I3), but that may be explained by the view that during the time of Temple C animal figurines were not set in the temple (from which this dump originated). Rather, they were dedicated outdoors in connection with the altars.

**Structures Contemporary with Temple C, Phase 1**

**BUILDING W (PLS. 1.79, 1.165–1.166)**

A few meters southwest of Temple C, west of but on line with the retaining wall bordering the court on the south, was discovered Building W. Built over Archaic Building Q, W has the form of a reversed P. Its north wall (in its first phase) was twice as long as necessary, extending
out to the east, where it ended at a solid wall end reinforced with two ashlar blocks. Later the wall was extended further east by a thin retaining wall that linked W with the thick but poorly built sanctuary retaining wall. It is possible that the thin wall was built after W had gone out of use; the wall may have been built to prevent erosion.

Building W is rather well built, with a narrow entrance on the northeast (0.56 m wide) and with interior dimensions of 1.88 m east-west by 2.12 m north-south. Near its southeast corner a small passage (0.15 m wide at the bottom and 0.30 m high) was built into the east wall (visible in Pl. 1.166) that probably functioned as a drain, with a slab at the bottom sloping down to the east. At a later point in the building’s use a series of slabs was set along its eastern face, one of which effectively blocked the drain. Still later a layer of sand, set upon the hard-packed outer surface of clay and later burnt, raised the ground level and covered the slabs. Possibly at the same time a few stones were placed in the entrance, perhaps to prevent water from entering the interior and perhaps to form a neat border for the now-elevated outside surface. There was no sign of a threshold block.

The interior of Building W is most curious: a single reused ashlar block (0.48 × 0.70 × 0.28 m; Pl. 1.166) was set at an angle off-center, with a number of stone slabs arranged roughly around its base. Together they appear rather like a table with seats about it, set in a late period, but with hardly room for one’s knees. The table-and-seat explanation may be correct, but in Plate 1.166 one can see that the central block rests upon another, similarly aligned and projecting up above floor level, a circumstance that lessens the likelihood that the block’s positioning represents secondary use. Below floor level were found two slabs that served as a foundation. A group of tusk shells (Dentalium; Pl. 6.13) and other shells, along with the pottery dating the building to the fourth century B.C. (Callaghan and Johnston, Chap. 4, Section 1, Deposit 34), were the only objects of any interest there.

Building W’s role in the sanctuary may be explained by the manner in which its north wall discreetly prohibits a direct view of the temple. Could the reason be piety and this be the place for rites of purification before entering the temple? Or could the ashlar block in the interior have served as a platform for butchering animals after they had been slaughtered? Perhaps W served as a custodian’s hut, but it seems to be too small. In any case, the building seems to have gone out of use not too long after it was built, for the pottery above the floor level is consistently fourth century, and outside, the burnt sand level on the east contains fourth- and third-century sherds. Perhaps during the later history of the sanctuary the function for which W had originally been designed was no longer being carried out, at least inside the structure.

ALTAR C (PLS. 1.144–1.149)
When Temple C was constructed, its orientation may have been set, as has already been suggested, by pre-existing Altar H, built during the Archaic period when no other structures were being used on the site but ritual was being carried out occasionally. The builders of
Temple C chose to set up a new altar, dubbed Altar C by the excavators and referred to usually in this section as “the new altar,” so as to avoid confusion with the temple. They set the new altar on the same line, about 9.70 m from Temple C’s east wall. It is difficult to say why there were two altars at this stage, for H was probably used at the same time, although the new altar seems to have been the center for sacrifice outside the temple, to judge from the amount of burnt bone found upon it. Perhaps the new altar was set in because it would be close to Temple C, for it was at a more convenient distance. The temple site itself was probably chosen because of the tradition set by earlier Temple B, the walls of which were still visible. Perhaps each altar was intended for a different god, for an inscription found near Altars I and M honors both Zeus and Athena.

Altar C was originally built of at least three courses of carefully cut ashlar blocks, smaller than but otherwise similar to those of Temple C. Unlike Altar H, the new altar was set on a socle that projected about 0.07 m. Not including the socle, the altar was originally about 2.50 m long, 1.60 m wide, and 0.83 m high. In a second phase, perhaps during the third century B.C., an addition of two courses was made, beginning at a level of about +5.85 m and extending the northern end of the altar by about 1.04 m. This addition was built roughly with a variety of blocks, some reused, and set on a ground level that had risen since the original construction. The latest sherd found in association with this level was a third-century basin, suggesting the date of the addition. A third, rough addition was made still later by laying two courses of slabs upon almost the entire structure except for about a block’s length on the northern end. At the same time two slabs, set vertically end to end, were positioned across the altar’s width not far from its southern end. To the south, extending the total length of the altar by ca. 0.26 m, still another addition was made of coursed slabs. The date of this southern extension is unsure, since it could belong to any period after the original construction. In its final form, in any case, the altar platform was ca. 3.78 m long north-south, 1.60 m wide, and 1.10 m high. There is no trace here, or in connection with any other exterior altar at Kommos, of a cornice capping the top.

Just west of Altar C was revealed a small squarish base or platform (Pl. 1.147). Of two courses as discovered, it measures 0.62 m east-west by 0.65 m north-south, with its top at +6.16 m and its bottom at +5.80 m. Its use is unknown: perhaps offerings were poured or placed here (for it is unburnt), or it might indicate a place where an officiating priest might have stood. That it was set there when the altar was built is likely, because of its low level and since it, like the altar in its first stage, is on axis with Temple C.

South of the altar is another curious construction, a low enclosure (Pl. 1.148). Measuring 1.50 m by 1.60 m, it was made up of small, uncut, upright stones set a few centimeters into the court’s earth surface. Within the enclosure the soil was burnt; otherwise there were no clues to determine its purpose.

Upon Altar C was a layer of burnt earth containing hundreds of fragments of bone weighing some 3.10 kg, most of which were burnt. The topmost slabs of the altar, especially those in

the center, were reddened and quite friable, because of the intense heat to which they had been subjected. On the altar’s southeast corner, still in situ after at least two thousand years of vigil, stood a weathered terra-cotta bull, facing east (M. C. Shaw, Chap. 3, Section 2, C9). It is about 0.27 m long and 0.17 m high. This constitutes a rare instance in which a votive animal has been found on a Greek altar. The bull’s curved tail was lifted onto its back. He may once have had horns, but neither were they found nor are the points of attachment visible on the very rough surface.

The bull had been partly shielded on the north by a vertical slab, already mentioned. At one time it may not have been the only animal at this spot, for leaning up against its side on the south was another animal’s lower leg (M. C. Shaw, Chap. 3, Section 2, C17). Two similar legs had been recovered earlier from near the spot when the upper sand was removed. The vertical slab next to the bull had been almost calcified by the intense heat, the burning having turned it red and gray; it began to disintegrate as soon as it was uncovered. The bull, however, did not appear to be singed. Perhaps when burnt offerings were made on the altar, they were made north of the slab and their consumption by the flaming pyre of wood on the altar affected the exposed slab but, fortunately, not the bull. The pile of ash and bone on the altar, no doubt from many separate rituals, may have been at one time quite large, for ash and bone were found scattered at ground level next to it.

South of the altar and covering it at least partially was a deep layer of sand containing roof tiles, amphora and basin fragments, as well as lamp fragments and entire lamps (Hayes, Chap. 4, Section 4, 1, 2, and 30). The lamps, of local Cretan types, are to be dated to the first century after Christ; blown glass probably first appeared in Crete at about the same time. Some of these lamps, as well as other pottery, were found in the sand above the altar, below a sloping layer of burning that could be traced in the sand scarp, a situation similar to that found in the large dump just south of Temple C. It seems clear, therefore, that the terra-cotta bull was placed on the altar during a late period of use but earlier than the accumulation above it, the latter representing a dump dating to Temple C, Phases 5 and 6.

BUILDING D, THE ROUND BUILDING (PLS. 1.141–1.143)

Temple C seems not to have had companion structures to the north. North-northeast of it, however, was constructed a circular enclosure, Building D, an unusual if not unique form, to judge from known Cretan sites of the Greek period. It was found buried below about 2 m of sand. Its walls were covered with a thick layer of clay mixed with sand, a natural accumulation common to much of the southern part of the property where hillslope met Greek buildings. The building has an exterior diameter of about 5.40 m, the single unplastered wall forming its perimeter being roughly 0.50 m wide. The top four courses of the walls are composed of well-cut slabs set in mud mortar. The lower two courses are more roughly built, forming a krepidoma that was partly set into the Minoan prehistoric level below. The building had an entranceway on the southwest (0.86 m at its widest), facing the area between the altar
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and the temple where ritual activities likely took place. There is no evidence for closure, neither in the form of cuttings for a doorframe nor accommodation for a pivot block, such as were found in all three neighboring structures to the west and southwest (Building B, Room A1, and Temple C). In order to enter the building, one stepped up from the court (at +6.50 m) to the threshold (at +6.82 m) and then, during the earliest period, down to the floor (at +6.74 m).

Within the building no major finds, architectural or other, were made. A nail (J. W. Shaw, Chap. 5, Section 8, 11) was the only nonpottery find catalogued from near the floor; a fishhook (Blitzer 1995: M 60) and a pin (Dabney, Chap. 5, Section 3, 39) were found in upper levels. Below the sand layer originally covering D, hard, clayey sand overlapped the top of the wall and appeared to be a natural accumulation postdating the building’s latest use. The latest pottery within this layer is of the Hellenistic period, probably of the second century B.C. (for the layers, see Pl. 1.143B). Below this (from ca. +6.78 to +6.67 m) was a mixture of yellow, pinkish, and white soils containing chiefly Hellenistic domestic-ware fragments from amphorae, basins, jugs, and cooking pots. This and the layer above it suggest that the Round Building, like Building W already discussed, went out of use before other structures, such as Building B next door, which was reused into the Roman period.

Below these upper layers in Building D (from +6.67 to +6.58 m) was a dark earth layer overlying the original hard-packed white earth floor. From the last stratum, as well as from below the floor, the latest pottery is fifth or fourth century B.C. This, along with the dating sherds found next to the building on the uphill side, establishes the time of the building’s construction (Callaghan and Johnston, Chap. 4, Section 1, Deposit 35). In contrast with the accumulation of Hellenistic ware above it, here there was very little cooking ware, which suggests that the original function of the building may not have been domestic. There were no traces of any floor features. Below the floor was some fifth-century ware, Archaic sherds, and much Minoan pottery. In a sounding made near the threshold was part of a collapsed Minoan wall.

As to a possible superstructure, there is no evidence. Very little stone was found within Building D, and so an ashlar wall higher than the one now preserved seems unlikely, unless one assumes that the blocks were taken for use elsewhere. Nor were roof tiles discovered, such as the masses of tiles found fallen within other buildings in the sanctuary (such as Room A1, Temple C, and Buildings B and E). Only a few random small fragments of tiles were found within D; if it had been roofed with tiles, perhaps they were taken for reuse elsewhere, although if the roof had collapsed, it is likely that more tile fragments would still have been left in the building. Nor were the tile fragments actually found of the type that would fit on a conical roof; rather, they were of the flat gabled-roof variety. Another possibility is that sun-dried mud brick may have been set upon the wall, which is remarkably level as found. The greenish clay layer found somewhat above the original floor could be earth dissolved from such a mud-brick structure, which might even have had a thatched roof of some type. If so,

there is no comparable building in the sanctuary or other evidence to show that mud brick was being used for building in the Kommos area. Another possibility is a tent, with the circular wall serving as a base, but there is no literary evidence indicating circular tents used by devotees when visiting sanctuaries (Goldstein 1982: 55).

Given the lack of evidence for a higher wall, which could be provided by a doorframe or fallen wall or roof material, at this point it is probably better to conclude that Building D was no more than a circular enclosure. Unfortunately we have no direct indications for its use, save that during a secondary period it may have been used for cooking. Among the recent studies of round buildings, one suggestion has been made that the Kommos structure may be unusual and not like those round buildings often associated with cults elsewhere dedicated to Apollo or healing-hero practices (Tzavella-Evjen 1985: 314). Another suggestion has been made apropos of the tholoi at the Kabeirion near Thebes. At that site numerous tholoi, ranging from 3.5 to 5 m in diameter, in size similar to the Kommos building (5.40 m), were used as eating establishments or “symposium houses,” with benches set around the interior. Such buildings, like D at Kommos, were oriented to spectator areas (Cooper 1982: 61; see also Cooper and Morris 1990: 68–69). Given the tradition of ritual meals at Kommos, this possibility should be entertained seriously. Another suggestion is that D was actually an altar, of the type called “Circular Parapet” by David W. Rupp, although no evidence for sacrifice was found in connection with it, either inside or outside. 134

BASE Y (PLS. 1.5, 1.167–1.168)

Almost 50 m south of the temple area was discovered a square foundation, christened Base Y, since, although it is a construction, it is too small to have had walls containing space as a building does. Unfortunately, all that was left by stone robbers was the foundation. Y is neatly built, almost square (2.25 m north-south by 2.35 m east-west). Its top, as preserved (at +4.69 m), lay immediately below the deep layer of sand that covered this part of the site. There was a hollow filled with sand in the part appearing as missing in the northeast corner (Pl. 1.167), probably evidence that stones were pulled from here by the robbers and also an indication that Y may once have been complete. No ashlar blocks or scattered masonry was found associated with the structure. No bones suggest that it may have supported an altar. As far as its date is concerned, it is at least as early as the first period of Temple C, the fourth century B.C., for its foundation (and that is all that was recovered) was set into a stratum within which the latest pottery was of the fifth century (84A/2).

Base Y was probably the base for a dedication. It is likely that this was a statue, for only a few meters away from the base was found the bronze eyelash for a large statue (B 378; M. C. Shaw, Chap. 3, Section 3), all that remained after the figure was vandalized. The eyelash was found in a sandy fifth-century B.C. context (87B/75). The base may have been stepped, although there is no evidence to show that it was.

Of some interest is Base Y’s orientation, for the structure was set at an angle unmatched
by any Greek, or for that matter, Minoan, building in the Southern Area at Kommos. This is probably not by chance, but we can only speculate as to the reason. If a statue was set on the base, then the figure, assuming it was set with its chest parallel to one of the sides of the base, would have looked toward the seaside cliffs to the southwest, the hill southeast of the site, Mount Ida to the northeast (which would not have been visible because of the hill north of the sanctuary), or the sea to the northwest. The more likely, but unprovable, direction, is the last, for if an east-west line is drawn parallel to the north or south sides of the base, it extends northwest out to sea and coincides with the Papadopla, the reef some distance offshore. It is possible that the figure was set so as to appear to be viewing the harbor area and, perhaps, any ships that might be coming in or leaving or be anchored within it. As to what figure—surely a god—may have been depicted, Poseidon, the god of the sea, would have been a natural choice, the same god to whom a dedication was to be made later within the temple precinct (Csapo et al., Chap. 2, 75). It remains to be explained why the dedication would be placed so far south of the sanctuary proper. Also curious is the fact that if the north-south line of the eastern facade of Temple C is projected southward as far as Y, the line appears to bisect the base.

Structures Belonging to the Later Sanctuary Phases

ALTARS L AND M (PLS. 1.150–1.154)

During the Hellenistic period two more altars, L and M, were set in the sanctuary court. Their date is not as clear as those of Altars C and H. That L and M are later is suggested by their position, construction, and the pottery found near their bases.

Altar L was roughly aligned with Altar C, which lies about 2.54 m to the north. L is constructed of roughly coursed slabs with larger blocks strengthening the corners. It is 2.32 m long north-south and 1.22–1.29 m wide. Upon it were found some fragments of burnt bone, as on Altar C, but in smaller quantities and with fewer traces of burning.

About 5.32 m east of Altar L is Altar M, another rectangular altar that is aligned roughly with Altar H, about 2.90 m to the north. M is smaller than L, being 2.15–2.17 m long north-south and 1.40–1.43 m wide. It is also of slab construction, and a few burnt bones were found on its top surface. A few slabs are missing on its western face (is this, perhaps, an intentional gap?).

The tops of the altars are about 0.60–0.67 m high above their built socles, which were constructed of unworked stone. While these two southern altars could be contemporary, their difference in size and the character of their masonry (that of Altar M is more neatly carried out) suggest that they are the result of cumulative addition, although there is no evidence to show which one may be the earlier. The reason(s) for their addition is also unsure, for they may have been built by dedicators simply to adorn the sanctuary court. Alternatively, their
addition may symbolize the worship of new deities or of aspects of old deities not acknowledged earlier. In any case, preference for burnt offerings was given to the two earlier altars to the north, perhaps because they were in front of Temple C and thus more accessible.

ROOM A1 (PLS. 1.80, 1.119–1.128)

Although the builders of Temple C may have planned an additional room to the north, perhaps even laying in part of its foundation, the room was not actually built until later, during the Hellenistic period, and probably coincided with Phases 3 or 4 of C. Although the line of C’s east wall was adopted by A1, on the west the room was set in somewhat (0.82 m) from C’s northwest corner. The way in which the addition was made up against C is shown clearly at that corner (PL. 1.124), where C’s east-west foundation was set neatly in place, but the foundation blocks of A1, constructed at a somewhat higher level with an admixture of blocks, abutted the temple’s original ashlars wall, since removed by the stone robbers. The interior dimensions of Room A1 were about 6.70 m north-south and 9.57 m east-west. Its south wall, of course, was that of Temple C. Its west wall, the best preserved, was rather impressive, consisting of a row of ashlars blocks upon which were set two courses of bedding slabs surmounted by a carefully laid lower leveling course (to +5.91 m). Upon it were set roughly coursed slabs and blocks, some six courses of which are preserved. Where it cornered on the north, a huge slab, now poorly supported from below, was placed against a scarp cut into the eastern hillslope. Along its northern side, the wall—in effect a thick retaining wall at this point—was made up of a variety of small and large blocks, some of them slablike and occupying the wall’s entire width. At its base this wall was about 1.10 m wide, where it would have held back the force of the earth behind. Higher up, where it would have been freestanding, a thinner wall 0.50 m thick was set upon it above the level of the benches. This upper wall stepped down at least three times as it followed the slope of the hill westward.

The east wall of Room A1, like that of Temple C, was almost entirely robbed out, but its foundation trench and subfoundations can be studied. Most likely this wall was similar to the west and north ones, well built of slabs and reused ashlars blocks—unlike C, which was constructed of freshly cut ashlars blocks. The northern end of this wall of A1 was shared partially by Building B (Pls. 1.119, 1.131), but the main foundation line of A1 turns westward rather than continuing to the northwest corner of B. Nor is there a heavy foundation below B’s threshold, for a single block serves as footing there, and this projects above the line of the subfoundation of the wall of A1. Thus the northern end of the east wall of A1 must precede B’s entranceway (and, by inference, B itself).

The eastern robbers’ trench (ca. 0.90 m wide) probably represents the actual wall width below ground level. This is confirmed, at least on the east, by the bench that begins (as preserved) about 2.25 m south of the facade line of Building B. The bench, which was continued south to incorporate the first bench of Temple C, but at a higher level, went unnoticed or was simply ignored by the stone robbers while they dismantled the heavier walls. One imagines
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their prying up the blocks one by one and then, in the case of the lower ones, raising them up to the level of the courtyard (or higher, if the removal was carried out after the sand had accumulated). The actual process of removal could not have been difficult, for, as in the other Kommos buildings, the blocks were joined neither by clamps nor dowels, and the only mortar was clay of a good quality. The robbers' time or energy may still have been limited, however, for they left half-removed blocks within the trench (one in situ, 0.75 x 0.55 x 0.48 m, is visible in Pl. 1.131).

The only entrance to Room A1 was on the east. The northern end of the bench outside is preserved, so that part of the interval allowed for the doorway is clear. Moreover, a block with a cutting to take the wooden(?) pivot block of the door was found in situ (Pls. 1.122, 1.127). The door would have opened inward, like those of other Kommos buildings (Temple C and Building B). The top of the pivot block, with a cutting 0.16 long and 0.18 m wide, is level with the floor on the interior (at +5.72 m, versus +5.67 m for C's original slab floor). In order to leave the building, one would have stepped up some 0.38 m to the court via two steps, now missing, as in Plate 1.122.

Except for the gap left for the entrance on the east, the room's interior is surrounded by benches ca. 0.45 m high and ranging from 0.65 to 0.85 m wide. The floor is of earth. Set in the approximate center of the room is a well-preserved hearth (ca. 1.38 m north-south by 2.36 m east-west) elevated 0.20 m above floor level (Pls. 1.125–1.126). Its sides were constructed of thin stone slabs set on edge, unlike those of Temple C, where small blocks were set with their faces toward the exterior. While the interior of the hearth was found quite burnt, during its final use it was filled with rough unburnt stones and earth, for a still-unknown reason. In the southeast corner of the room is a small construction of a vertical slab next to a horizontal one (Pl. 1.128), perhaps a hearth.

Although the earth and sand from near the floor level on the interior was sieved, few objects were recovered that might explain the use of Room A1; only a few fragments from cups and a ladle were catalogued (Callaghan and Johnston, Chap. 4, Section 1, Deposit 40). The use of the room must, in any case, have been defined by the presence of the wall benches. No doubt they, like those in Temples B and early Temple C, were used for sitting, but their generous widths also suggest that they served as benches for eating and/or sleeping. In contrast, the benches facing the court, along the southern facade of Building B and the eastern end of A1 and C, average only 0.45 m in width and could have been comfortable only for sitting. The rough surfaces of the benches in A1 (or, for that matter, in C), could have been covered with softer material (straw or bedding). That eating or sleeping was their intended function is also suggested by the fact that the bench length in the southeast corner of A1 is about 2.20 m, roughly the length that one could comfortably stretch out in and somewhat more than the length of certain individual dining couches of the Greco-Roman period found in Mainland Greece.
If we begin with 2.20 m as a rough unit, the remainder of the room’s benches divide up easily into lengths of about 1.80 to 2.00 m, in order to accommodate some fourteen people. Another individual might have been able to rest and/or eat on the hearth space after it had been filled in with stone and earth in its final phase, but that newly created platform more likely served as a low table.

The manner of roofing of such a large space must be examined. Clearly it was roofed, for numerous pan and cover tiles were found fallen in disarray in its interior (Pls. 1.190–1.191). In all some 17.38 m² of pan tiles, or about twenty percent of what would be necessary for a gabled roof over such a large space, were recovered. The relatively limited number of pan tiles, along with the confused order in which they were found, suggests that many were removed from the building before it was abandoned. Also found, in the southwest corner of the room, were a number of fragments from a type of spouted sima (Section 6, 16; Pls. 1.188–1.189). A fragment of a round drainpipe (Section 6, 15; Pls. 1.186–1.187), perhaps for carrying water away from the roof, was recovered as well. Despite careful searching, no traces of interior supports, like the column bases in Temple C to the south, were found. One must conclude, therefore, that the wooden roof structure was strong enough to span the room without side or central supports, as suggested in Plate 1.85 and the Frontispiece. Perhaps some type of rigid frame, such as a truss, was used to span the shorter, north-south dimension of the room. This contrasts with the method adopted earlier for C, which was built using the simpler post-and-lintel system of side walls with supports along the longitudinal axis.

Even after Room A1 was abandoned, ca. 50–25 B.C., adjoining Temple C and Building B may have remained in use. Drifting sand began to accumulate within A1 not long before a massive fire was set in its neighboring courtyard to the east, a fire that was to leave a thick layer of burning within A1 (Pl. 1.123) before the building would eventually disappear from view.
building was not badly burned is fortunate, for had the calcification of the walls been uniform, our later consolidation of the front (south) wall with cement might otherwise have been impossible.

The construction of Building B’s walls is rather like that of its predecessor to the southwest, Room A1, with slabs and blocks set in neat but irregular courses. The builders of B, on the other hand, reinforced their corners with especially chosen stones. In the northwest corner, for instance, a large unshaped boulder was set in place—this boulder appeared in the sand during clearing operations in 1977 and was the first indication that there were post-Minoan buildings projecting from the sand (Pl. 1.130). Where the construction would be visible, finely cut ashlar blocks reinforced B’s corners and wall openings, points of possible structural weakness. At the entrance to B’s eastern room, for example, they were neatly bonded into the wall fabric. In B’s southeast corner two long blocks were set in (Pl. 1.140). The drafted edges on the blunted ends are not known from other buildings at Kommos.145

The single-leaf outer doorway of the western room in the south wall (originally ca. 0.90 m wide and at +6.27 m) led from the court to a partial step below (at +6.14 m) carved with a deep rectangular socket (ca. 0.15 m² and 0.05 m deep) within which a wooden pivot block was probably once set (Pl. 1.131, upper left). The door pivot would have stood upon an iron nail projecting through the wooden block. (Such a nail was actually found in situ within a similar socket in the eastern room.) The earth floor of the room was at about +5.95 m.146 The room itself (4.92 × 4.80 m) was subdivided to include an interior room (Pls. 1.132–1.133; ca. 2.12 × 2.26 m) with an entrance at the north end of its west wall. In one corner of the outer room, a steep flight of steps, the first six in stone and the remainder probably wooden, led up to the second storey or, more likely, to a loft that ran the length and width of the building. Perhaps the loft had a partition positioned over the building’s lower cross wall. The lower western rooms, as well as the loft, may have served for residence. Along the building’s south wall, between the two doorways, was set a slab bench (ca. 0.46 m wide and 3.48 m long).147

Near the doorway of the outer western room only fallen stones were found, but west of the inner room there were cups, fragments of ladles, a bowl, amphorae, jars, and other vessels (Callaghan and Johnston, Chap. 4, Section 1, Deposit 43). Within the inner room was found a series of cups, a bowl, a lekane, and a lamp (Callaghan and Johnston, Chap. 4, Section 1, Deposit 42), as well as a bronze ring and a fragment of a bronze fibula or bracelet (Dabney, Chap. 5, Section 3, 37 and 58). Also recovered was a scattering of small bronze tacks that might be left from some furnishing or accoutrement (J. W. Shaw, Chap. 5, Section 8, 4). Joins between sherds found outside and inside this room indicate contemporaneity in use and simultaneous abandonment. The function of the western part of the building remains unsure, but it is reasonable to suggest that drinking went on here. Cooking ware sherds were noticeably rare, a hint that the room was not similar in use to that on the east. Perhaps a person responsible for the building, possibly even the guardian of the sanctuary, would have stayed here. In any case it is fairly certain that the room offered a privacy not found elsewhere in the building,
except perhaps in the loft above. The carefully constructed wall of the inner room, although preserved now only about 0.69 m high (at maximum), probably was once much higher, for a rectangular sinking on the southern end of the threshold leading into that room assures the presence of a doorjamb there, and this, in turn, makes logical a corresponding height for the partition wall next to it.

The eastern room of Building B was smaller (4.92 × 2.98 m) and probably accommodated cooking activities throughout most of its period of use. It had a door block with a pivot socket (12.5 cm² and 6 cm deep; Pl. 1.138), within which the aforementioned iron spike (J. W. Shaw, Chap. 5, Section 8, 21) was found. Another spike (J. W. Shaw, Chap. 5, Section 8, 22), found somewhat to the west, could represent the one securing the top end of the door pivot, which perhaps projected down into the pivot from the top of the door frame. The door, like that of the outer western room, was composed of a single leaf, no doubt wooden, that opened in and to the right as one entered.

Built east-west within the eastern room was a line of stones (ca. 1.56 m from the northern wall; Pl. 1.129, Phase 1, Pl. 1.135) that seems to have been intended to retain a somewhat higher floor level to the north, some 0.40 m above the general floor level maintained throughout the room (at +6.09 m on the south). On the basis of the later wall (see “Secondary Use”), one can argue that there probably was a thin wall parallel to the line of stones against the north wall, and that the two may have supported some type of platform, perhaps of boards, along the northern side of the room, perhaps for storage. A small circular rubbish pit was found in the northeast corner of the platform. The contents of this pit were examined by means of dry- and wet-sieving but, as occurred in a number of instances in this building, little was found. A few carbonized olive pits, however, were discovered by the workmen when they were digging in the western rooms. During the secondary use of the eastern room, a similar “platform” was established at a higher level (at +6.41 m). The northernmost support visible in Plate 1.135 (against the wall) belongs to that later period—it was not removed by us in order to determine if there was a predecessor at the lower level, as already mentioned.

Excavation of the original floor (at +6.07–+6.14 m) revealed a number of objects: some lamps, but chiefly pottery associated with cooking, including cups, amphorae, basins, serving bowls, lids, ladles, lekanoi, and saucers, none of specifically votive character (Callaghan and Johnston, Chap. 4, Section 1, Deposit 44). In the center of the room and along its west wall appeared a bowl, a saucer, a jug, a ladle, and a cup (Callaghan and Johnston, Chap. 4, Section 1, 607, 609, 613, 611, and 599). The ladle, a graceful one, was discovered upside down and full of sand (Pl. 1.139). Many of the other pottery finds, as well as a small bronze disk (Schwab, Chap. 5, Section 10, 18), were within a thin layer of sand, more sand than was found on the floor of the rooms on the west. It would seem that the ladle, along with some of the vessels enumerated above, had fallen onto a layer of sand after the room had been left neglected—perhaps it was on a wooden shelf or had been hung from a rafter. Sand had in the meantime drifted in through the doorway and then, during a later phase, the pottery was buried.
Apparently this early floor level was covered at about the same time as that in the western room, for lamps and cups from both earlier floors are identical in style.

The curious arrangement of Building B's interior, without an interior door in the common wall between adjoining rooms, was perhaps intended to separate activities, material (e.g., stored goods), or even people. Perhaps freer access was allowed to the eastern room, where cooking material, especially pottery, was kept, than to the western rooms, where more valuable material was stored, or perhaps here was the residence of the caretaker.

Secondary Use
The rooms of Building B were to be reused during the late Hellenistic period during one of the latest uses of the sanctuary area, a "squatter" period. In each case the later occupation took place above the debris accumulating from at least the partial collapse of the roof. In the western rooms, the new level was at roughly +6.30 m, about 0.30 m above the original floor. Belonging to this period (with its base at +6.25 m) was an insubstantial wall of single, uncoursed field stones (1.38 m long) abutting the outside corner of the partition wall enclosing the inner room (Pl. 1.134, foreground). This wall was built over fallen roof tiles from the earlier period of occupation. Associated with this same upper level were two almost identical terra-cotta lamps (Hayes, Chap. 4, Section 4, 77 and 78), which lay next to a small rectangular stone slab within a fill of dark earth and tiles. When in its original position next to the stairway and at a higher level, this slab may have served as a stand used by people entering and leaving the upper storey. A number of cylindrical cups were also recovered (Hayes, Chap. 4, Section 3, Deposit 55; Table 1.5). In the eastern room were lamps (e.g., Hayes, Chap. 4, Section 4, 20) as well as a votive bowl (C 8910; Hayes, Chap. 4, Section 3, Deposit 55) at the uppermost levels.

It is not clear how the roof was covered during this late period, for although tile fragments were found at a high level throughout the fill, as well as in the court outside the building, the only substantial tile fall is to be associated with the earlier floor level within the room. The roof tiles, both pan and cover, were found fallen, usually at an angle, the tops of the best-preserved ones within the range of +6.30–+6.40 m, which suggests that the floor during the final period of occupation must have been a simple one indeed. Perhaps the tiles used during the later period were removed at or after the time that the area was abandoned, or perhaps another material (e.g., reeds or earth) was substituted for the original roof that had collapsed some time before. Of course, the rough nature of the final use of the room does not require the use of a roof at all.

The bottom of the tile fall associated with the first period of occupation was found about 0.20 m further down (at +6.10 m). This was about 0.10 m above the actual floor, the interval being composed of earth, perhaps from packing below the roof tiles or even an earth floor of the second storey. At least at one point there was an accumulation of some 0.03 m of sand.

above the floor, which suggests that sand had blown into the room during a temporary abandonment.

In the eastern room there was a parallel history of later use. A 2-m-long section of the inner face of the east wall was found fallen with its underside at approximately +6.40 m, resting on a layer of fallen tiles (Pl. 1.136). This was approximately equivalent to the top of a new threshold level created by adding field stones above the earlier threshold (Pl. 1.138). There were many pithos and amphora fragments (for the latter, cf. Hayes, Chap. 4, Section 3, Deposit 55, 45). A rough hearth had been built over fallen roof tiles in the southeast corner of the room (Pl. 1.137). 148 Moreover, the original thin wall in the middle of the room, already discussed, was replaced at the higher level, reflecting the tradition of the platform. At this time the eastern face of the west wall may have been patched, for the masonry courses there are somewhat uneven.

The Dump from Building B

As described in detail in the chapter dealing with the pottery, the contents of the two rooms of Building B give us the ceramic shapes in use at the time (Callaghan and Johnston, Chap. 4, Section 1, Deposits 42–44). This information is augmented by a pottery dump in Trench 59A1 (Callaghan and Johnston, Chap. 4, Section 1, Deposit 49), some 25 m east of B. Within it were joins to vessels from B, and, like the deposits in B, it was largely without votive material.

BUILDING E (PLS. 1.157–1.164)

Founded and used during the LH Period, Building E lies on the eastern periphery of the sanctuary. One of the neater and more solidly constructed of the later structures, in its first phase it was 6.58 m long and 4.35 m wide. That it was built largely of reused Minoan material seems assured by the tumble of some seven Minoan blocks found upon the LH surface next to its southwest corner. 149 These were probably brought originally for use in E but were abandoned behind the structure after its completion. For use in most of the walls, the larger blocks were probably reduced to smaller pieces, but like Building B, just discussed, corners were reinforced with unbroken Minoan blocks. The later northern addition to E incorporated in its corners a Minoan threshold block and a pier-and-door partition base. Just south of E, set on a southward slant next to its southeast corner, was a large circular basin (S 2300; 1.30 m in diameter, 0.30 m thick at maximum, and at least 0.15 m deep; Pl. 1.164). We have no evidence for its specific use but assume that it was for holding liquids at least temporarily. A hole had been bored in its southern edge, to allow the liquid to drain out, presumably onto the earth, since there was no sign of a receptacle to be placed there. Most likely its chief use, perhaps washing, was made possible by water brought up from the walk-down well to the
south (Pls. 1.64–1.65), found with many fragmentary Hellenistic water containers on its steps and within the well itself.

Buildings B and E resemble each other, being part of the same tradition. Each has an exterior bench next to its doorway, that in front of E being 4.23 m long, 0.54 m wide, and 0.25 m high. It was set next to the building’s only doorway, a narrow one (0.68 m wide) on the west wall, leading into the central room. As in B, there were originally two rooms. In E a single doorway gave access to both rooms, unlike the situation in B, where each room had its own exterior doorway, and there was no interior connection between rooms.

Unlike Building B, with its stairway leading up to a loft, Building E was apparently single storey. Its rooms, moreover, were smaller and simpler, without platforms or inner partitions like those in B. A single block set along the north wall of the central room probably provided a rough seat (Pl. 1.159, center right). This room, the northern of the two original ones, is larger than the southern one (2.51 × 3.18 m versus 2.14 × 3.24 m). The wall separating the two original rooms is unusual in that a passage (0.60 m wide) was provided at each end. This bit of special allowance, however, was eliminated at a later period in the building’s history, when its inhabitants set a hearth, formed of upright slabs, in the western passage facing the inner, southern room (Pl. 1.163). The central room may have been used for cooking, as implied by the pottery found there, especially two complete pots in the northwest corner, a serving bowl and a chytra (Pl. 1.162) and part of another chytra along the southern wall (Callaghan and Johnston, Chap. 4, Section 1, Deposit 45, 622, 625, and 626). During the colder winter months the heat from the fire would have been evenly distributed between the rooms, and the hearth was accessible from either side.

The southern room of E, like the central room and the later annex on the north, was found with roof tiles scattered below burnt earth above its floor (Pl. 1.161). The burning was uniform, suggesting that the tiles collapsed when the roof burnt. When this layer was removed, we found to our surprise a fine floor of irregular but carefully fitted slabs. It is not clear whether the slab floor is original or a later addition. The slabs do not continue below the hearth, and so paving slabs either were removed when the hearth was built or were placed around the hearth after it was set in. Since the hearth was a late addition, blocking the original passage and lying upon tiles believed to derive from an earlier roof collapse, the paving is likely to be original. Tiles presumably from the same collapse were found in the northernmost room and below the quarter-circular structure there (Pl. 1.160, left of d). No complete vessels were found in the southern room, although there were fragments of cups, lamps, cooking ware, and amphorae (Callaghan and Johnston, Chap. 4, Section 1, Deposit 46). Perhaps the room was kept relatively clean before abandonment.

The addition to the north was made at a late phase in Building E’s history by breaking through what was the original north wall of the building. The annex (2.80 m north-south × 2.68 m east-west) was constructed of rough reused slabs of an inferior quality compared with the original structure it abutted. Along its northeastern side on the exterior is a small pavement
of slabs, the purpose of which is not clear. Little pottery was found within the annex, but the number of amphora and bucket fragments may indicate that it served for storage (Callaghan and Johnston, Chap. 4, Section 1, Deposit 45). The tile fall noticed in the other rooms of E was also abundantly clear here. Indeed, many tiles were not removed even when occupation continued. Rather, as in Building B, the debris was roughly leveled, and an uneven floor was set above the tile fall. At this point a quarter-circular structure (Pl. 1.160 at c), of unknown purpose but with traces of burning, was built in the northwest corner. Originally this compartment could be entered through a narrow gap (Pl. 1.160 at d), but the gap was subsequently blocked. Later the addition and the other rooms of E may have been abandoned at about the same time.150

Concerning the use of Building E, its distance from and skewed position in relationship to the sanctuary court, its lack of ritual material, and the eastern orientation of its doorway, away from the sanctuary, all imply that it was not directly connected with the rites taking place to the west. One suggestion made by Callaghan is that the southern room may have been for formal dining, thereby complementing the storage and cooking activities in the other two rooms. If so, perhaps there was sufficient room for three couches.151 Connected with this room’s function may be the dump found immediately to the south of Building E, with cups, bowls, jugs, a ladle, and cooking pots that are without specifically ritual function, being essentially domestic in nature (Callaghan and Johnston, Chap. 4, Section 1, Deposit 50).

The Character of the Last Phases of the Sanctuary, Ca. 20 B.C.–A.D. 170

By the end of the LH period, Building W, Round Building D, and Building E had certainly gone out of use. Room A1 was to be abandoned soon, and sand accumulation had begun to obscure the four altars. This was the time, lasting until about A.D. 20, when sanctuary use seems to have been restricted to the very upper levels of Building B, already described (Hayes, Chap. 4, Section 3, Deposit 55). Flimsy walls and lack of evidence for substantial roofing characterize this ephemeral period. It is possible that this same “squatter” period extended into the time of Deposit 56 (Hayes, Chap. 4, Section 3), which represents disparate materials, including amphorae and lamps, recovered from the uppermost level of the dump in the sand south of Temple C (see Callaghan and Johnston, Chap. 4, Section 1, Deposit 48, Stage 5). The earliest lamps there may actually be contemporary with B’s latest use.

Of interest is that some of the material on the dump from this period may actually derive from within Temple C and thus represent a use phase therein, intermediate between Phases 4 and 5, but one with little if any evidence from within the temple itself. At least two “wasters” from possible kiln activity, one piece from near Altar C (C 391) and the other from the court near the robbers’ trench (C 395) may be assigned to this period. A Greek kiln or traces of one, however, has not yet been discovered at the site.

The presence of local Cretan lamps in the temple dump, in the sand near the altars, and
The Architecture of the Temples and Other Buildings

within Temple C itself probably introduces the final occupation within C (Phases 5 and 6), which covers the period ca. A.D. 50 (or earlier)–160/170. Although Phases 5 and 6 are stratigraphically separable, with the former below the latter, distinguishing the two with absolute dates may prove to be impossible; nevertheless, their span is certainly from about A.D. 50 through at least A.D. 160. Characteristic of Phases 5 and 6 are the transport amphora fragments, many found in the highest levels within the temple (Hayes, Chap. 4, Section 3, 49–51, 53–54).

It is not easy to explain the presence of these amphorae during the last periods of the sanctuary. Possibly, rites had ceased by this time, and pilgrims no longer came. The numerous lamps in the temple and altar area, however, and an occasional votive bowl (e.g., C 8896 in Hayes, Chap. 4, Section 3, Deposit 56, from Temple C) suggest that occasional religious use continued. Possibly the amphorae represent longer-term occupation within Temple C. It is also possible that this was a semicommercial phase and that trade dealing in local Cretan amphorae and their contents had been established, the amphorae being exported or imported by sea, a situation analogous to that of Building Q during the Archaic period, but on a significantly smaller scale.

Also to be considered are the numerous clay lamps that characterize these latest phases. In Chapter 4, Section 4, J. W. Hayes groups them chronologically, with 1–38 being the earliest typologically, of the mid to late first century after Christ. Of these, those around the sides of Altar C (Hayes, Chap. 4, Section 4, 1–2) suggest its partial burial under sand by about A.D. 50. Some lamps are from the general court area (Hayes, Chap. 4, Section 4, 15–18) and near the then-buried Altar L (Hayes, Chap. 4, Section 4, 27–30). Of some significance are the numerous lamps from the uppermost temple dump. The lamps in Trench 34A/1 are among the group (Hayes, Chap. 4, Section 4, 3–11).

Of these typologically early lamps from within Temple C (some 12 [32%] of the total of 38), some are from the southwestern bench (Hayes, Chap. 4, Section 4, 31–33 and 38) and corner (Hayes, Chap. 4, Section 4, 34), others are from near the southeastern corner (Hayes, Chap. 4, Section 4, 21–26), and one is from the northwestern corner (Hayes, Chap. 4, Section 4, 35). All these could represent use during Phase 6.

Of some 33 items listed as representing the later lamp types (Hayes, Chap. 4, Section 4, the Romanized type [39–46] and those corresponding with Loeschcke typology [47–71]), only 3 (9%) are from outside Temple C (Hayes, Chap. 4, Section 4, 40, 44, and 71), suggesting that dumping outside C may have slowed. None were found in the Trench 34A dump, suggesting that dumping there had ceased. Of the 30 remaining later lamps from this category, some 5 were found in the northwestern “closet” (Phase 6?; Hayes, Chap. 4, Section 4, 48–50, 61, and 64, but 35, an earlier type, was found there as well) and 8 were in the southwestern corner (Phase 5; Hayes, Chap. 4, Section 4, 41 and 51–57). Perhaps many of the lamps were stored on a shelf in the southwest corner, as they seem to have been in the northwestern “closet,” where they were less likely to be broken. Of the late-first- and second-century Knidian imports (Hayes, Chap. 4, Section 4, 72–76), all but one worn scrap, from the dump area south
Architectural Fragments of the temple (Hayes, Chap. 4, Section 4, 74), were from the uppermost levels of Phase 6, perhaps a meaningful distribution.

From the preceding it can be seen that the contexts within the temples are mixed. As for the amphorae, there are fewer within Phase 5. Concerning the lamps, the earliest type coincides with the latest general use of the dump, where the later types usually do not appear. Within the temple the lamp distribution does not help us with chronological divisions.

One of the final acts of the inhabitants was to light a great fire in the northwest corner of the sanctuary court. The fire was set above the area of the small east-west wall built earlier in the court for an unknown purpose, and within which was found a regula fragment (Section 6, 10). The fire seared Building B’s facade and spread layers of soot over the sand-covered ruins of Room A1 (Pl. 1.123), as well as to the south near the altars and to near where Round Building D once stood. It is curious that masses of this soot were not found within either Temple C or Building B. Perhaps the fire was actually lit earlier, during the hiatus period between Phases 4 and 5, already described, when the walls and roofs of C and B were still fairly intact. The presence of the regula fragment, if it belonged to the facade of A1, suggests that the structure’s walls had been at least partially dismantled by stone robbers by the time that the fire was kindled. Perhaps the fire was fed by the ceiling beams and doors and/or doorframes from that room, which by then had been abandoned for some time.

6. Architectural Fragments

This catalogue lists and describes stone architectural fragments and blocks of interest from the sanctuary, as well as some of the roof tiles from its buildings. Sanctuary furniture, consisting of stands, basins, and miscellaneous items, is discussed in J. W. Shaw, Chapter 5, Section 6. Most if not all of these objects can be attributed to the period of the use of Temple C. Dimensions are given in centimeters unless otherwise noted.

Architectural Fragments and Blocks

1 (S 802). Cult statue base block. Pls. 1.99–1.105. Length 96.0, w 60.0, h 31.6. Limestone of the general type used in the buildings at Kommos. Eastern edge preserving a small part of a projecting molding, so worn that it was difficult to recover a reliable profile. Southern side (Pl. 1.105) unworn. Top of block much weathered. In southeast corner rectangular cutting 25.4 × 23.0 cm and now 1.7 cm deep. A narrow channel, which first might appear to be a pour channel for lead, adjoining it on the west. On the western face of the block another cutting, now about 6.5 cm deep. In situ within Temple C, on axis at the western end of the building (29A1/30). The block belongs to the third course of the statue base in the temple and is probably one of three blocks that formed the eastern edge and top of the base (three or more may have been used to complete the top of the base along the western side, next to the cela wall). The date of the base is presumably that of the temple itself. The southern side of the block was protected during antiquity by the top of the additional platform set next to the statue base (see Section 5, Temple C, Phase 1), preserving the fine original surface that undoubtedly characterized all the statue base blocks that were exposed when the temple was being used. See also the
The somewhat enigmatic cuttings on the block are probably related to the cult statue(s), perhaps one to which the bone eye (Bo 24; M. C. Shaw, Chap. 3, Section 4) found in the temple fill may be attributed. The cutting on the western face of the block is the edge of a much larger socket that would have continued onto the other platform blocks. Into this socket, most likely roughly rectangular, would have been set the plinth(s) for the main cult statue(s). The rectangular cutting on the southeast corner of the block might well have been for cast metal or carved wooden posts forming part of a railing, or perhaps even supports (colonnettes?) for a canopy of some type over the figure(s). If so, then there would probably have been other, similar cuttings in the blocks, now missing, at the northeast corner of the original platform, as well as along its northern side. These features are discussed in more detail in Chapter 8, Section 2.

J. W. Shaw 1980a: 225–27, fig. 9, pl. 61b–e.

2 (S 2118). Base. Pls. 1.117–1.118. Length 44.0, w 49.0, h 29.0. Limestone. On its upper surface a cylindrical socket, 13 cm in diameter at the top (somewhat larger below) and 5 cm deep. A shallow, rough-cut, circular depression 30 cm in diameter surrounding the socket, suggesting that a round base (a dedicatory column?) had once been secured on it with a dowel perhaps stabilized by lead, since removed. The block cut with care, except along the lower edge, which, presumably, was not visible at the time. See also the description under Section 5, Temple C, Phase 1.

In situ (Pls. 1.117–1.118) just north of Temple C’s entrance and once next to exterior cella wall, since removed by stone robbers (42A/6). Presumably contemporary with the temple.

J. W. Shaw 1982a: 191, pl. 56d.

3 (S 801). Column drum. Pl. 1.95. Length 1.185 m, d 0.438–0.495 m. Limestone. Orderless, unfluted, and without sockets for empolia. Quite worn by weathering. A substantial part of one of the sides of the column removed during antiquity for an unknown purpose.

Found in the northwest corner of Temple C (29A1/30). Presumably it is one of the drums, perhaps one of the lowest, that was set on either of the two column bases of C, although the west ern one is more likely, based on our interpretation of the temple’s later use. Presumably contemporary with the construction of C, found in a second-century-after-Christ context. Perhaps part of one of the sides of the column was removed, so that the column would rest more solidly when set in its position on the slab floor in the northwest corner in front of the “closet” there. See also the description under Section 5, Temple C, Phase 1.

J. W. Shaw 1980a: 225, pl. 60f.

4 (S 636). Doric anta capital, nearly complete. Pls. 1.113–1.114. Length ca. 80.0, pres w 57.5, h 34.5. Sandy limestone similar to other blocks of Temple C. Anta capital with a crowning cavetto (weathered fascia), hawksbeak with full curving profile, drip edge, and convex return above a 10-cm-wide fascia (lower surface badly weathered). Original face of the anta at least 56.3 cm wide with a return along the right side of 34 cm; a probable minor return on the left side no longer preserved. Top face of the block with two Lewis holes 23.6 cm apart (interior edge to interior edge), 10 cm deep, and ca. 8 × 5.5 cm at top. Inscribed line on the axis of the holes from the front. Top well smoothed, but the vertical face of the rear unevenly cut by chisel, with diagonal and horizontal strokes 1.8 cm wide. Traces of fine thin coat of white plaster over the molding; hawksbeak painted red.

Found fallen in two joining sections within Temple C (29A1/26). Presumably it belongs to the temple because of its findspot and the apparent care taken to embellish the building (e.g., the cult statue base block [1] found in situ) as contrasted with the lack of embellishment characterizing the other sanctuary buildings. Contemporary with the construction of C, although found within it among second-century-after-Christ re-occupation material. See also the discussion under Section 5, Temple C, Phase 1, concerning the probable original positioning of the block, which has now been removed from the temple and taken to the excavation storeroom in Pitsidia.

J. W. Shaw 1980a: 228 n. 45, pl. 62c.

5 (S 2115). Rectangular block. Pl. 1.169. Max length 72.0, w 57.0, h 31.0. Limestone. The (assumed) upper face cut widthwise to form three separate surfaces. The central, highest one (ca. 26 cm wide) stretching the width of the block. On either side of this, the surfaces cut down. Surface

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Architectural Fragments

C in Plate 1.169 (20.5 cm wide) cut down evenly by 7.0 cm. On the opposite side of the block, the original surface first removed down some 6.0 cm, creating a surface 25.6 cm wide. A further step down then chiseled out evenly along 43.0 cm of the edge of the block, resulting in a surface 15.2 cm wide.

Found in the sand just west of the statue base of Temple C (29A/2), along with 6. No doubt it belongs to the temple, probably to its western end, near which it was found. ER context, but the block probably belongs to the statue base with the fourth-century B.C. temple (see Pls. 1.99–1.105). The number of steps and part of the rectangular sinking carved in the block give the impression that they are original rather than the result of reuse. The irregularity of the block may have caused it to be abandoned by those who removed most of the squared blocks from the temple walls. See also Section 5, Temple C, Phase 6.

6 (S 2116). Block. Pl. 1.170. Length 87.5, w 60.0, max h 30.5. Limestone.

Found in the sand near the western end of Temple C (29A/2). ER context, but probably belongs to the statue base installed originally in the fourth-century B.C. temple. Based on an estimate of the size of the plinth cuttings for the statues on the central base there, this block can be restored on either the northwest or northeast corner of that base. It was found along with 5. See also Section 5, Temple C, Phase 6.

7 (S 655). Block with herringbone pattern. Pl. 1.171. Length 61.2, max pres w 22.5, max pres h 18.4. Sandy limestone. Long rectangular block with one smoothed face decorated with a linear herringbone pattern, without traces of paint, made by a claw chisel. Sides of the block worked with diagonal chisel strokes (where measured, 1.5–1.8 cm wide), upper edges smoothed, one showing traces of a claw chisel.

Found within final floor of Temple C (29A1/19), in reuse within second-century-after-Christ context. Suggested date of the block is, at the latest, to the mid first century B.C., as part of an unidentified structure in the sanctuary. It is possible that it may be as early as Temple B.

8 (S 870). Architectural molding, partially preserved. Pl. 1.172. Length along very smooth face 12.0, perpendicular to smooth face 13.9. Lime- stone. Chiseled face set back from border ca. 1 cm wide; side face of border with white, plasterlike, smooth surface, perhaps the proper face of block, especially if it was to be inscribed.

Found in the Hellenistic temple dump south of Temple C (34A/11). Hellenistic. The fragment has been catalogued here because its careful workmanship is preserved, unlike that of other weathered stone blocks from the sanctuary.

9 (S 659). Crowning molding. Pl. 1.173. Pres length 12.9, pres w 6.4, pres h 9.0, of fascia 5.2, of ovolo 4. Sandy limestone. Ovolo crowned by a fascia; ovolo with flat lower curve and a groove at bottom (almost a reverse curve). Traces of red and blue decoration on fascia and of red darts (top and bottom) with blue eggs(?) between.

Found in the top layer of dump south of Temple C (34A1/1). ER in context, but most likely Hellenistic or earlier work broken up and discarded.

10 (S 59). Regula and taenia, two joining fragments. Pls. 1.174–1.177. Pres length 30.6; h from guttae to taenia 12.0, of taenia 5.5, of regula 4.7, of guttae 1.55–1.80; pres th 4.6. Limestone. Complete regula and section of taenia preserved, one gutta missing; back broken away from original architrave block. Seven guttae (the usual number is six per regula) roughly circular and conical, preserving traces of red paint, possibly only a circle, on underside. Guttae cut from square pro- jections, with exposed surfaces smooth, and hidden ones roughly finished. Left end of taenia and regula finished, right end of taenia broken, with beginning of a curved surface that might be a molding-ovolo.

10A2/39 and 10A3/46. The larger piece was found built into a flimsy late wall (Pl. 1.129) set onto the LH court before the great fire was lit there. The wall may have served as a base for a lean-to-type structure using the front wall of Building B, although that is not sure. The second fragment appeared in the loose sand within the robbers' trench of the east wall of Room A1. Date by context ER, but the quality of the cutting places the fragments in the fourth century B.C. or Hellenistic period.

Clearly, the regula and taenia fragment was removed from a block that was to be reused either in the sanctuary or elsewhere, probably the latter. It is possible that the block was already in reuse in the foundation of Room A1, from an earlier
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structure that had gone out of use. It also may have belonged to the facade of A1, although there is no evidence that the Doric order was used in that large but otherwise unpretentious structure. There are no other similar fragments from the sanctuary, although a single regula would probably have been accompanied by others, which perhaps attests to the thoroughness of the stone robbers. Nor are there any indications of a triglyph and metope frieze that may have accompanied it. The regula may have played a role at least in the eastern facade of Temple C, but the presence of an ovolo (?) molding adjoining would seem to make that less of a possibility.

J. W. Shaw et al. 1978: 141–42, n. 48, pl. 41f.

Roof Tiles, Simas, and Other Architectural Terra Cottas

During the course of excavation of the later Greek Sanctuary, tile falls were encountered in a number of the buildings, specifically Temple C, Room A1, and Buildings B and E. No tiles were recovered from the Archaic sanctuary, and for that reason the roof of Temple B, for instance, may have been flat. Although in all cases the tiles were fragmentary (not a single intact tile was recovered), their shapes were recoverable to the extent that types could be distinguished, and in some cases the lengths of the pan tiles could be estimated. Occasionally there were tile marks and letters, discussed here in the separate section on graffiti and inscriptions (Csapo et al., Chap. 2). All the tiles were apparently of the “Corinthian” type, with flat pan tiles whose joints were covered by ridged tiles that shed the water sideways.

In all these buildings there was generally one type of cover tile and two types of pan tile. Of the latter, the first type (A) had a triangular ridge on its upper surface, not far from the higher end of the tile as placed on the roof’s slope, that would prevent water from backing up during a downpour (e.g., 12; Pls. 1.181–1.182). The ridge along the two lengths of the tile could be abbreviated toward the upslope part of the tile, so that the pan tile set on it could rest more neatly. The second type of pan tile (B) was plain, with the usual projecting ridges along the long sides (e.g., 13; Pl. 1.183). Cover tiles were always of the ridged variety (Pl. 1.180), generally uniform, and often poorly made (e.g., 14; Pls. 1.184–1.185). Room A1 and Building B had rough simas with projecting waterspouts (Pls. 1.188–1.189).

With the exception of Room A1, there seem to have been multiple tile falls within buildings, as shown in Temple C and Building B, where an accumulation of tiles was found, often slanting in the fill, above and below upper floors of reoccupation. In B, however, most of the tiles were found between the floors, bringing up the question of to what extent tiles actually covered B during its final period of occupation. In Building E’s annex on the north, tiles
Architectural Fragments

typified both the upper and lower floors. In E’s southern and central rooms, sufficient tile fragments were found built over by later floor features to suggest that tiles fallen and broken earlier had been reused or disposed of by the users of the building. In A1, with only one clear use level below the burnt sand that covered the floor, either a tile fall had been cleared out or, more possibly, the building was deserted after a first tile fall, from which the best-preserved pan tiles were later selected.

The general procedure followed was to collect tile fragments during excavation, then study them as a group when a room or level had been cleared. As was done in the case of Room A1, terra-cotta architectural fragments were then laid out on the sanctuary court, where pan and cover tiles as well as sima fragments were separated (Pls. 1.190–1.191). Each tile was inspected for any special markings. A few of the unusual or better-preserved ones were given separate catalogue numbers, and the square area of the pan tiles was estimated.

TEMPLE C

As discussed in Section 5, Temple C may have been partly open to the sky, the western part of its roof having collapsed when the western column fell or was pulled down. This suggestion may explain the number of tiles found south of the temple in the dump of Trench 34A, where they had been discarded by those using the room.15 Some 81 m² of pan tiles were recovered from within C, perhaps enough to cover, including overlapping, fifty percent of the roof. Another 16 m² were recovered from the dump to the south. A few inscribed roof tiles were recovered (Csapo et al. Chap. 2, 87 and 88).

ROOM A1

Within the single use level in Room A1 were found numerous tiles, spread in disarray rather than in the neater, canted groups that were sometimes found in other buildings. Only 17.38 m² of pan tiles were recovered from A1, perhaps twenty percent of what would be necessary to cover a large gabled roof such as the building must have had. It is possible, therefore, that many of the better-preserved tiles were selected to replace those in other buildings that continued in use after A1 had been abandoned (Temple C and Building B). Of some interest in this respect is that cover tiles are more common than pan tiles in both eastern and western halves of A1 (Pls. 1.190–1.191). It is unlikely that the users of the sanctuary would have partially cleared out a building that was to be abandoned.

In the southwestern part of the room were found some 24 sima fragments (e.g., 16; Pl. 1.189), of a type similar to the pieces found in connection with Building B (see Pl. 1.188 for a restored view) as well as a lone piece of terra-cotta pipe (15, Pls. 1.186, 1.187) that may have been used to dispose of water accumulating on the roof, perhaps at the point where the sloping roofs of Room A1 and Temple C met.
**BUILDING B**

Within Building B some 21 m² of pan tiles were recovered, perhaps 25 percent of the area to be covered, again suggesting that many were removed for reuse elsewhere. One pan tile length was complete (64 cm long). Found both inside and outside the building were a number of sima fragments. See also the description of this building in Section 5 for the positioning and frequency of the tiles within the two rooms. A tile with an incomplete inscription was found in the upper levels of the tile collapse (Csapo et al., Chap. 2, 85).

**BUILDING E**

Within the annex on the north of Building E there were only 1.5 m² of cover tiles, suggesting that, again, the still usable ones were removed for reuse elsewhere. Within the two rooms to the south were some 8.5 m² of pan tiles, again hardly enough to cover the roof.


16 (C 781). Weathered sima fragment. Pls. 1.188–1.189. Pres length 34.0, h 14.0, th 3.0. Spout length from lower projection 13.0, interior d 6.0–4.5, th 1.0–2.0. Small plastic addition on front: d 4.0, h of projection 3.0. Terra cotta with medium-sized inclusions. From Room A1 (14A1/18). LH. This is the largest piece recovered from either Building B or Room A1, which apparently shared a similar sima arrangement, suggesting that they may be close in date. So weathered as to be tawdry, the fragment contrasts with others recovered that were either better made or simply less exposed to weathering. The nipplelike projections appear to be purely decorative. The restored sima in Plate 1.188 is a combination of this piece and some from Building B.

17 (C 736). Pan tile, Type A. Pres length 43.0; pres w 29.0, of side ridge 3.5; total th 2.0. Pithos fabric with angular white and black inclusions. Thin slip all over. From Building B (10A/71). Hellenistic.

18 (C 737). Pan tile, Type B. Pres length 26.0; pres w 26.0, of side ridge 3.0; total th 3.7. Terra cotta. From Building B (10A/61). Hellenistic.

19 (C 735). Cover tile. Pl. 1.180. Pres length 42.5, w 17.0, h 8.5, th 1.5–2.5. Terra cotta. Peaked exterior, roughly rounded interior. From Building B (10A/3). ER context but probably Hellenistic.

20 (uncatalogued). Pan tile, Type A. From annex of Building E (20A/23). LH.

21 (uncatalogued). Pan tile, Type B. From annex of Building E (20A/23). LH.

Appendix 1.1

Conservation of Walls and Scarps

As excavation progressed on the Kommos site there were two major problems of conservation. The first was the consolidation of the rubble walls built with only earth as a binding medium. This was partially resolved, after some experimentation, by a mixture of local earth and cement that we used to gradually replace over the years the original mortar, an ongoing process that must be continued as long as the walls are exposed. Some deep soundings could be filled in, and structures that otherwise would have been exposed to weathering are now covered with protecting earth and sand, the medium that preserved them in the first place.

The second, and major, problem, was the retention of levels where we excavated deeply alongside buildings, which resulted in scarps that would be eroded easily by the fall and winter rains. To alleviate the problem, on the hillside we constructed retaining walls, reusing stone originally in the Minoan walls that had collapsed. Along the western edge of the cliff, bordering the area of the House with the Snake Tube, a high retaining wall was constructed once it had been ascertained that there were no antiquities on that much eroded slope.

To the south, in the sanctuary area, the situation was more acute, for as excavation progressed it became clear that the Greek structures were built over Minoan buildings that required exploration. Moreover, especially along the western and southern side of the Greek temples (Pls. 1.47–1.48), the Greek foundations were at least partly set in sand. As time passed, the earth and sand would have been eroded from below the blocks, which then would have collapsed. In order to stabilize these scarps, masons built at some risk to themselves very solid stone walls from the Minoan level up to the Greek, a process that took some months and left the temples, as well as the four Greek altars, on secure, safe “islands” partly visible in Plates 1.2 and 1.3.155 Occasionally, gaps were built into the modern walls by means of reinforced concrete lintels set horizontally, so that features that would otherwise be covered over might remain visible. The same was done around exposed Altar C, which had been isolated more than 2 m above the LM I floors. After these supporting and retaining walls had been built, there was some justified complaint that they could be confused with the ancient walls. Finally, we decided to coat the new walls with cement and earth, a technique that worked with some success (Pls. 1.2–1.3, background). Elsewhere, where special walls were not built, a thick cement/earth coating, renewed yearly where necessary, was applied to the high scarps. Care and continual renewal in the future will be necessary to protect them.

For advice and other help relating to site conservation matters, we are indebted to The Greek Antiquities Service, especially to Alekos Papadakis and Costas Vitorakis of the Herakleion Museum, who visited the site and made subsequent recommendations concerning conservation.

A word about sand, of which we have removed an estimated 30,000 m³ from the site. During
1976 and 1977 we pushed a good deal of it over the top of the western cliff next to the seashore. During those first winters much sand did blow back onto the site, but with the wind and rain these layers became consolidated. In the Southern Area we usually dumped sand onto the beach, sometimes in great accumulations that reached out to the waterline. During the winter, when the waves washed up almost to the northwestern corner of Building T (formerly called Building J), these high piles of sand were undermined and were subsequently spread out over the surrounding beaches.

Appendix 1.2
Ironworking in the Greek Sanctuary
J. E. Rehder

Finds that had appeared to be composed of or concerned with the production of iron had been stored for eventual specialist attention, and in the summers of 1992 and 1993 these were examined by the author at excavation headquarters in Pitsidia, about 1 km inland from the site. Recognizable iron artifacts such as weapons and tools had been catalogued and are described elsewhere in this volume (J. W. Shaw, Chap. 5, Section 7), but there were many containers of material that had not been examined in detail. The objective of specialist examination was to metallurgically assess the extent, technology, and time span of the smelting and use of iron at the site. The time span was found to cover a discontinuous period from Middle Minoan III to Early Roman times, but this appendix focusses on the considerable evidence for iron smelting and use during the seventh century B.C. in the Greek Sanctuary.

Materials Examined

All the iron found, with one exception, had been converted entirely back to iron oxides during the course of more than two thousand years on a seashore site. The resulting physical expansion furrowed and distorted the material, and smaller pieces simply became rounded earth-covered lumps of various sizes. By the summer of 1993 the finds amounted to 277 envelopes, bags, and boxes identified by year, trench number, and level or pail number. A container might have one small lump to a dozen or more, or in a few cases one hundred or more; although no detailed count was kept, there were more than 2,000 items.

Identification at Pitsidia was made on the basis of surface and fracture appearances assisted by a 10x hand lens, attraction by a small magnet, and handheld estimation of specific gravity, and so in some cases it was provisional. The many lumps were found to contain five categories of material. Small broken pieces of forged iron such as 0.5-cm-diameter bar stock, sheet iron, or nails were unmistakable. Some lumps on fracture showed the slightly faceted, black color of oxidized unforged or forged iron; were of appropriate specific gravity; were attracted by
a magnet; and were considered to be iron before forging. Some fractures showed a mixed structure of apparently iron ore and reoxidized iron and were believed to be iron ore in partially reduced condition. Others, because of fracture appearance, lower specific gravity, and lack of magnetic attraction, were considered to be slag. Finally, about twenty percent were simply earth or clay with little color or texture.

Twelve iron artifacts from the seventh century B.C. had been sectioned by Deborah K. Harlan, mounted in plastic, and polished for metallography. These were examined by the author in Toronto. Also, two exceptional, complex, and important artifacts were found. One was a shaft bloomery furnace in good condition (Mi 178), and the other was a massive cubical iron construction (Mi 76). Both will be described here in some detail.

In order to place the present report of ironworking in the eighth–seventh century B.C. in the chronological context at Kommos, Table 1.6 shows the time distribution and number of samples for each period of all iron objects in the first two categories noted above, as well as the catalogued weapons and tools already mentioned. Not included in the table is a box (from 65A/2) that contained more than one hundred iron nodules of a wide variety of sizes from the fourth century B.C. This could indicate that iron and perhaps ironmaking was more extensive in the fourth century than is indicated in the table. Of course, some of the iron in fourth-century contexts probably derives from earlier activity.

Table 1.6. Dates and quantities of iron samples.

<table>
<thead>
<tr>
<th>Date</th>
<th>Number of Samples</th>
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<tbody>
<tr>
<td>MM III</td>
<td>2</td>
</tr>
<tr>
<td>LM I</td>
<td>1</td>
</tr>
<tr>
<td>LM III</td>
<td>2</td>
</tr>
<tr>
<td>LM IIIA</td>
<td>3</td>
</tr>
<tr>
<td>Ninth century B.C.</td>
<td>1</td>
</tr>
<tr>
<td>Eighth century B.C.</td>
<td>7</td>
</tr>
<tr>
<td>Seventh century B.C.</td>
<td>83</td>
</tr>
<tr>
<td>Sixth century B.C.</td>
<td>1</td>
</tr>
<tr>
<td>Fifth century B.C.</td>
<td>5</td>
</tr>
<tr>
<td>Fourth century B.C.</td>
<td>11</td>
</tr>
<tr>
<td>Third century B.C.</td>
<td>2</td>
</tr>
<tr>
<td>Second century B.C.</td>
<td>3</td>
</tr>
<tr>
<td>Hellenistic</td>
<td>23</td>
</tr>
<tr>
<td>Early Roman</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>163</td>
</tr>
</tbody>
</table>
Iron evidently had a long history at Kommos. Major evidence dates to the eighth century, which fits accepted ideas of the onset of the full Iron Age in the Eastern Mediterranean. This was followed by a sharp decrease in activity at Kommos, and then a possibly underestimated resurgence in the fourth century. Another decrease followed, and then another increase occurred toward the end of the millennium. It seems clear that there was a particularly active time in the seventh century.

A considerable number of fragments of iron artifacts were found in 48 envelopes containing 76 pieces, consisting mostly of small pieces of iron bar, sheet, and nails. These came from contexts dating to Late Minoan IIIA to ER, but the 21 envelopes from the seventh century, including 6 from Trench 60B, are listed in Table 1.7. These finds are from areas east, south, and west of Temple B, and although some or all may be adventitious, they suggest areas of seventh-century metallurgical activity.

### Examination at Toronto

The twelve metallographic samples from the seventh century B.C. that had been prepared by Harlan are listed in Table 1.8 with their trench and pail numbers and locations. These locations, with the exception of 42A/12 and 13, are in addition to those shown in Table 1.7.

Sample 11 (from 43A/1) was a cross-section of a square rod or bar of iron about $0.4 \times 0.4$ cm, with only a thin skin of iron oxide. The microstructure was of nearly pure ferrite, that is, it was not oxidized and was in the condition in which it was made. The iron was of excellent metallurgical quality, and the ferrite grains were elongated by about 50%, showing that the
Ironworking in the Greek Sanctuary

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Trench/Pail</th>
<th>Findspot</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52B/70</td>
<td>Eastern end of Building Q</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>2</td>
<td>50A/12</td>
<td>South of Buildings T and N</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>3</td>
<td>42A/13</td>
<td>East of temple</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>4</td>
<td>42A/11</td>
<td>East of temple</td>
<td>Specular hematite</td>
</tr>
<tr>
<td>5</td>
<td>27B/7</td>
<td>Building T, Room 5</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>6</td>
<td>42A/12</td>
<td>East of temple</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>7</td>
<td>42A/15</td>
<td>East of temple</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>8</td>
<td>27B/14</td>
<td>Building T, Room 5</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>9</td>
<td>33C/51</td>
<td>Sounding in temple</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>10</td>
<td>59A1/39</td>
<td>House X and Minoan Road 17</td>
<td>Oxidized iron</td>
</tr>
<tr>
<td>11</td>
<td>43A/1</td>
<td>North of Building T, Room 5</td>
<td>Unoxidized iron</td>
</tr>
<tr>
<td>12</td>
<td>29A1/85</td>
<td>South of temple</td>
<td>Oxidized iron</td>
</tr>
</tbody>
</table>

Iron had been cold-worked after forging in order to increase its hardness and strength (Rehder 1992). There was no discernible reason why this sample of iron was not oxidized throughout as were all others of similar date, particularly because the cross-section is so small, and the iron is not of modern manufacture.

Samples 6 and 7 were evidently from broken pieces of the object Mi 76 and will be discussed with its description.

A puzzling feature of the microstructures of all the iron samples was the existence, apparently at random in the matrix of iron oxides and visible only at considerable magnification, of occasional small angular pink-colored inclusions that suggested the presence of copper. Thorough examination, however, as well as chemical analysis of several of the inclusions by scanning electron microscope (SEM), showed no trace of copper to be present. It is believed that they are titanium cyanonitride inclusions, which are usually present in very small quantity in most iron.

Iron Dedication (Mi 76; Pls. 1.192–1.193)

A cubical mass of complex structure was found in a dump east of Temple B (42A/12), weighing 7.85 kg, including some pieces detached during the process of storage. One side is now open because a section has been removed; since the object is symmetrical there is no identification as to top or bottom. The opening makes visible an apparently solid central core of square cross-section, slightly rounded at the corners, about 7.0–8.0 cm on a side. It is of uniform
black fracture, nonporous, and with faintly visible striations following the corners, as though it might have been formed by wrapping and then forging into a mass one or more pieces of sheet or thin plate.

Each of the six sides of the approximately cubical core had been enclosed by packages about 4.0–5.0 cm thick of square iron sheets that vary in thickness from about 0.2 to 0.35 cm. In Table 1.8, Samples 6 and 7 were evidently, from findspot and microscopic examination, fragments broken from one of the packages of sheets. There was no clear evidence, even at high magnification, of remnants of a clay wash that might have separated the sheets, and it would, in any case, be difficult to distinguish from the fully oxidized iron without special treatment. The samples do, however, establish the structure of the packages.

Each package as a whole apparently became oxidized together (as shown in Pls. 1.192 and 1.193), which show the layered structure, but how each package had been held together originally and how each had been fastened to the faces of the cube was not determined. The packages were about as wide as the central cube, so that at each rounded corner of the central mass there was an open wedge-shaped vertical gap. The packages from two opposite sides had become detached during storage.

The amount of time and physical effort necessary to make the object would have been very considerable, because about one hundred pieces of sheet iron about 8.0 cm square and 0.3 cm thick had to be hot forged from iron blooms just for the enclosing packages. Sheet iron was of high value for armor, since, as has recently been shown (Rehder 1992), work-hardened iron is so much stronger than similarly treated bronze that only half the thickness and weight gives the same protection against penetration.

Sheet iron, however, was the most labor intensive and costly form of forged iron in antiquity. The size of bloom that was forgeable, and therefore the size of the sheet, was limited by the fact that only human muscle powered the forging hammer. Loss of iron to forging scale during the many reheatings necessary, and the amount of physical effort necessary, both increased with the thinness of the sheet, with yields from blooms as low as 15 to 25 percent. In addition, the 8.0-cm central cube would strain human-muscle forging power. In the absence of any discernible use, the object may have been a votive offering as a display of resources and of technical power. Just how the object was manufactured can be discovered only by sectioning the whole with a thin abrasive saw, taking samples for metallurgical structure and composition, and then reassembling for display. It is possible that some unoxidized iron remains in the center of the cube.

Shaft-Smelting Furnace (Mi 178; Pls. 1.194–1.196)

A well-preserved shaft-smelting furnace was found about 25 m east and slightly north of the temples, close to the south corner of Building V (54A/20). The furnace is shown during excavation in Plate 1.194 and as excavated in Plate 1.195. Before describing the furnace and
Table 1.9. Furnace slag composition from Mi 178.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Symbol</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous oxide</td>
<td>FeO</td>
<td>60.5</td>
</tr>
<tr>
<td>Silicon dioxide</td>
<td>SiO₂</td>
<td>20.4</td>
</tr>
<tr>
<td>Calcium oxide (lime)</td>
<td>CaO</td>
<td>11.7</td>
</tr>
<tr>
<td>Magnesium oxide (magnesia)</td>
<td>MgO</td>
<td>1.4</td>
</tr>
<tr>
<td>Aluminum oxide (alumina)</td>
<td>Al₂O₃</td>
<td>3.0</td>
</tr>
<tr>
<td>Sodium monoxide</td>
<td>Na₂O</td>
<td>1.1</td>
</tr>
<tr>
<td>Potassium monoxide</td>
<td>K₂O</td>
<td>0.69</td>
</tr>
<tr>
<td>Phosphorous pentoxide</td>
<td>P₂O₅</td>
<td>0.55</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>99.3</td>
</tr>
</tbody>
</table>

its capabilities, it may be useful to review the following brief description of a contemporary shaft furnace, called a bloomery furnace when it is used for smelting iron.

Since the earth surrounding Mi 178 was for a short distance discolored an orange-red, it is possible that the excavated furnace may have been an inner lining of the original furnace. It is of dry and fragile earthlike material (4.0–6.0 cm thick) and had been removed in sections after excavation was complete. The pieces were fitted together to re-form the furnace enclosure (31.0–32.0 cm diameter on the inside). The internal height as excavated was 30.0 cm. This is about half the usual height for a shaft-smelting furnace, but it may have been cut off by later activity. One section fortunately included part of the hole in the wall where a tuyere had entered (Pl. 1.196). The hole was angled slightly downward, which was a usual practice, and its size indicated a tuyere with an outside diameter of possibly 3.0–4.0 cm, which, with walls 0.5–1.0 cm thick, would give an inside diameter of 2.0–2.5 cm. This inside diameter would be typical of that used for the furnace size, but no tuyeres or tuyere fragments have been found. No bellows or recognizable fragments of them have been found either.

Some fragments of the inner lining showed a duplex structure on fracture, the inner layer (0.2–0.3 cm thick) being black and glassy, evidently part of a glazed and partially melted lining. Adhering to the furnace wall just below the tuyere hole was a small shelf of solidified slag, exactly as would be the case in an operating bloomery furnace. A medium-sized, partly formed bloom, one end of which fitted the end of the slag ledge, was also found in the furnace (Pl. 1.197, the location of the tuyere nose having been at a). The whole establishes that only one tuyere had been used in furnace operation, which would be normal for a furnace of this diameter.

A sample of slag that had clearly been molten was found near the furnace (Pl. 1.198). Its chemical analysis, given in Table 1.9, shows it to be of typical bloomery furnace composition,
and the ferrous oxide content suggests that a moderately low-carbon-content iron was being made.

The temperature of acceptable fluidity of this slag would be about 1,150°C. These findings establish that the structure had been an active iron-smelting furnace. It may be noted that a furnace such as this one can be used to smelt copper as well as iron ores, and that the slags from iron and copper smelting can have very similar compositions. The latter, however, invariably contain some copper, and since none was found in the slag analyzed, copper had not been smelted in this furnace at least contemporaneously.

In the seventh century B.C., iron smelting and working were well developed in the western Mediterranean, for example at Ischia (Pithecusae) in 775 B.C. (Murray 1980), and so the existence of the furnace and the iron are not surprising. What is so far missing at Kommos, however, is evidence of tuyeres, bellows, tools, and particularly the furnace slag heap. The size of the latter would depend on how extensively the furnace had been operated.

Analysis of furnace operations by the author (Rehder 1986) has shown that a shaft furnace of the size and wall thickness found at Kommos would require a combustion air supply rate of about 350–400 l per minute to make a satisfactory bloom of iron. Experimental work on a furnace of the same size (Tylecote et al. 1971) has shown that the rate of bloom formation under these conditions is about 1.2 kg per hour, and slag is formed at the rate of 3–6 or 7 kg per hour, depending on the iron content of the ore used. If such a furnace was to be operated for five to six hours a few days per week over a period of a year, about 1,300 kg of iron bloom would be made, with 3,500–8,000 kg of slag as by-product, depending on the quality of the ore used. The iron-smelting capacity of this furnace was therefore ample to make much more than all the contemporary iron artifacts found at Kommos. It is possible, however, that the furnace was operated only a few weeks per year, sufficient to make the weapons and tools necessary locally, with proportionately less slag produced.

**OUTLINE OF THE CONSTRUCTION AND OPERATION OF A SMALL SHAFT FURNACE FOR SMELTING IRON**

The furnace is usually approximately circular in plan, 40.0–ca. 150.0 cm high, and with an inside diameter of 20.0–30.0 or 40.0 cm, although in later antiquity the inside diameter can be up to 100.0 cm or more. It is usually freestanding, although it may be supported by a back wall or a corner. The walls are built of a mixture of earth and clay, and there may be a lining 1.0 or 2.0 cm thick of particularly heat resisting clay. Total wall thickness of a freestanding furnace is increased for stability as diameter and height are increased and can be 5.0–7.0 cm for a 30.0-cm-diameter furnace, depending on the materials available.

For this size furnace a single tuyere is commonly used, but for larger diameter furnaces two or more tuyeres give more uniform distribution of air into the fuel bed. The tuyere enters the furnace 10.0–15.0 cm from the bottom, usually angled downward at an angle of about
Ironworking in the Greek Sanctuary

15° and penetrating only 1.0 or 2.0 cm into the furnace. The inside diameter of a tuyere is nearly always between 2.0 and 3.0 cm, to give sufficient velocity to the air to obtain adequate penetration into the charcoal fuel bed. A drawing of a typical construction is given in Plate 1.199 (which is similar to Tylecote and Merkel 1985: fig. 8, but it has been modified in light of the writer’s experience in furnaces and in making blooms).

For operation the empty furnace is preheated with a wood fire, and then lump charcoal and crushed iron ore are added in alternate layers a few centimeters thick. No flux is added because iron oxide is itself a flux. The weight ratio is typically about one charcoal to two ore, depending on furnace size and insulation, but owing to the large difference in bulk densities of charcoal and ore, the furnace when full contains about ninety percent charcoal by volume. Air is supplied by bellows at a rate of about 0.30 m³ per minute for this size furnace, and as charcoal disappears by combustion at tuyere level the charge column sinks, and so more layers of charcoal and ore are added to keep the furnace full.

The ore is reduced to metallic iron as it descends in the furnace, and a slag is formed from the nonmetallic gangue in the ore and part of its iron oxide. Temperature increases as tuyere level is approached, and the reduced small bits of iron are protected from reoxidation by the slag, which becomes molten as it approaches tuyere level. Just below tuyere level, temperature decreases rapidly and the small bits of hot but still solid iron agglomerate to a slowly growing mass containing some trapped slag. The mass is called a bloom and continues to increase in size as long as charcoal, ore, and air are supplied. Much of the slag falls past the bloom to accumulate in the hearth, and to prevent its rising to and plugging the tuyere as operation is extended, is periodically tapped off through a slag tap hole.

To finish operation, no more material is charged, and when the furnace is nearly empty, the air supply is stopped. The bloom of iron is then taken out of the furnace with tongs, either from the top, or through a hole knocked in the side of the furnace, which is then repaired. The bloom must be reheated in a bellows-blown charcoal forge fire to 1,100–1,200°C, at which temperature the iron is still solid but plastic and the slag is molten. Extensive hammering with many reheats to maintain temperature squeezes out most of the slag, consolidates the iron, and shapes it; the quality of the iron improves with the amount of forging.

Iron Ore, Slag, and Flooring

Only a small amount of iron ore was found, again not nearly as much as might be expected. It was of specular hematite and to a lesser extent red hematite, both of very good quality. In 1993, however, a short exploration by the author in the area east and south of Kommos showed that there is ample supply of good hematite ore within a few kilometers of the site, and so little would have needed to be stored.

The material in nodules that was apparently slag was almost entirely in the form of rounded
earth-covered lumps. They were nonmagnetic, of medium density, with fractures that usually looked more like slag than oxidized iron, and their surfaces were coated with closely adherent earth. Two small samples were sectioned, polished, and examined under a microscope in Toronto, and these were found to be composed of the mixtures of wustite dendrites in fayalite matrices typical of bloomery slags. What is puzzling is the small rounded shapes, since furnace slag usually has been molten enough to flow and is in anything but rounded pellets or balls. Another odd factor is that the total amount found, about a few kilograms, is not nearly as much as would have been generated in producing the quantity of reduced iron found. The shaft furnace described would have generated considerable molten slag, which is normally discarded not far from the furnace, but there was only scant evidence of such material, consisting of a few small pieces of the black, ropey slag (for its analysis, see Table 1.9).

There were some small pieces of what was apparently forge slag and of workshop floor in 72B/29 and 73A/14, of Archaic context and catalogued as Mi 182, Mi 183, Mi 184, Mi 186, and Mi 188. These were within Building V below the slab platforms (J. W. Shaw, Chap. 5, Section 6). Since the furnace was found close to the south corner of the building, the room or area involved may have been the forge shop. A forge furnace and bellows, tools, and anvil were not found in the immediate area, however. Seventh-century B.C. burnt flooring was also found in 81A/6 and 7A.

Small Bars and Sheet Iron

The many pieces of small-diameter bar stock found are puzzling, because no use to which such short lengths can be put comes to mind, and in many cases their ends are sharp transverse fractures as if freshly broken, although they are covered with undisturbed earth, as is the remainder of the piece in all cases. Their diameter is such that if they were in long pieces they could have been the currency bars that have been described by Andrew Burn (1960: 178) as in use in Greece in the eighth and seventh centuries B.C. They could also have been used as spits for roasting meat at the sanctuary.

In conversation, Dr. T. Cuyler Young, Jr., of the Royal Ontario Museum wondered if the short pieces could have been stock for forging arrowheads. While the author, with some forging experience, realized that this would be impractical, it was also clear that if the bars were initially of greater forged lengths, they would be excellent for this purpose. An example procedure would be to point the end, flatten it to a wedge shape, form the two wings while narrowing the diameter of the tang, and after cutting off the tang at the right length with a chisel, form a point to start making another arrowhead. During this operation the bar could be held by hand while being moved between reheating forge and anvil, and as it became shorter and conducted more heat, tongs would be used. The final stub of original bar stock too short to manipulate would be about the same variable length as the objects found.
Unforged Iron Nodules

The many unforged lumps or nodules of reduced iron were a continuing and still unsolved puzzle throughout the examinations, both as to how they were made and how they were used. Under certain conditions, iron produced by the hearth version of the bloomery process can be in the form of many small nodules rather than a single larger bloom. The nodules are then reheated in a forge fire and laboriously welded together to make a bloom large enough to form a useful object. This method was still in use in Africa until early in the present century (e.g., Jeffries 1952), but there was no evidence of welding or agglomeration in the material at Kommos. As noted above, the dates of nodules range widely, from MM III to ER, although the majority were post-eighth century B.C.

Notes

1. Trench 1A, as luck would have it, came down upon a tilefall within what was in later years christened Building A2, or Greek Temple C (Pl. 1.86). The method adopted for record keeping, described in more detail in J. W. Shaw 1995: 24–26, was to give the trench being excavated a number corresponding to the notebook being used, thus Trench 1 was recorded in Notebook 1. The suffix A in this case denoted the first trench in the Trench 1 series. Another trench in an adjoining area (had there been one in this case) would have received the label "Trench 1A1." As actually happened, the next trench in the Trench 1 series was labeled “Trench 1B,” with the “B” denoting that the second trench in the series was not located nearby. Thus, for instance, the label “Trench 33C” denotes Notebook 33 and specifies the third separate area, not necessarily in the same part of the site, being investigated by a specific trenchmaster during a particular year.

During any excavation season four to six notebooks were kept (one for the director, the others for the trenchmasters), and depending on the size and depth of the trenches and the length of the season, one to five trenches were recorded in each notebook. At the end of the season each trenchmaster wrote an illustrated report detailing, first, the progress of the excavation (what happened sequentially) and any finds recorded and, second, the significance of what was found in relationship to nearby structures and/or strata. The contribution of individual trenchmasters, who were expected to provide professional basic records, cannot be underestimated, and it is upon much of their careful work and insights that our later accounts are based. They are acknowledged more specifically in the preface as well as in Table 1.2 and in Volume I, Part 1 (J. W. Shaw and M. C. Shaw 1995: xiv–xv; J. W. Shaw 1995: table 2.1). Specific trenches are not mentioned in this introductory section but are cited, where appropriate, in the remainder of the volume.

2. During the 1976–95 seasons the letters A through Z were used as designations for Minoan or Greek structures in the Southern Area, assigned in the order in which they were found. Certain letters remain unused for various reasons. The first of these is G, originally designating the latest Greek temple until we realized that the temple and its adjoining room on the north, although of different dates, should be considered as a functional unit with the designations Rooms A1 and A2 (the latter is now more commonly designated Temple C). R and S were first assigned to seemingly independent Minoan structures below and to the south of the temple until excavation showed them to belong to a much larger building, N (Pl. 1.6). R is now used for an LM II wall found below S, as well as to a slightly earlier room, below the later temples, against which R abuts on the north. Neither I nor O was used, since these letters could be confused with numerals.

3. Originally labeled J, this building is referred to as such in subsequent publications. In this and following volumes, however, it will be referred to as Building T, Room 5, because it formed the northwestern part of palatial Building T.
4. On the hilltop, however, a complete Proto-geoamorph was discovered above the ru-
wins of the North House (C 1657, in Trench 24A/
1, 3, and 4, for which see M. C. Shaw 1996: 59).
For trench locations on the Hilltop and Hillside
see J. W. Shaw and M. C. Shaw 1996: pls. 1.5,
1.11. Aside from a few Archaic sherds in 19B/
22 and 25 and 30A/2/6, no other Greek pottery
was recorded. From the later Greek and Roman
periods, there was a scatter of roof tile fragments
in 3A/1 in the northeastern corner of the property
and to the west in 1B/2d, 5B/9, 12A/1, and 13A/
11, which could indicate a building of that date
in a still-unexcavated area. Greco-Roman sherds
were reported in eleven trenches (1B/2a and 2d;
3A/1; 3A1/2; 5B/9, 11B/1 and 2; 13A/1, 10, and
11; 19B/1; 19B1/3, 22, and 25; 19B2/37, 27A1/22;
and 30A1/2 and 3), and a few Byzantine glazed
sherd were inventoried from the southern part
of the Hilltop (C 99 in 5B/8 and C 407 in 12A3/
55). Normally, post-Minoan pottery was recov-
ered in the uppermost levels of earth, usually
in the first pail or two, once the superficial covering
of pure drifted sand had been removed.

On the Central Hillside the situation was simi-
lar, although no roof tile fragments were recov-
ered. Preclassical material was found in 33B2/
25 and 48A/35 and 39, with a fragment of a
Phoenician amphora in the last pail cited. Occa-
sional Classical/Hellenistic/Roman sherds were
found on the west, as in 33B/24 and 25, but
more were recovered in the first pails in trenches
began on the eastern slope (19A/1; 22A1/7;
22A2/22 and 25; 33A1/47, 48, and 50; 35A2/84
and 85; 40A/1; 40A1/1; and 41A2/9). Perhaps
some of the sherds had eroded down the slope
from the west. The clear evidence for post-Mi-
noan erosion on the hillside here (see Wright
and McEnroe 1996: passim), combined with the
Greek pottery found in the upper levels, tends
to confirm that the deep sand accumulation re-
moved here, as suggested by geologist John Gif-

5. The slabs were first drawn and photo-
graphed. After work was complete, the sounding
was filled with sand and earth, tamped down,
and the slabs were replaced. Here I would like to
acknowledge in particular the careful excavation
and recording of the work done within the tem-
pies by Douglas Orr (Trenches 29A, 29A1, 34A3,
and 34A4) and John McEnroe (Trench 33C), with
the help of our excavation architect, Giuliana
Bianco. Outside the temples, Maria C. Shaw’s care-
ful excavation and detailed sections (Trenches
37A, 42A, and 47A) provided much crucial infor-
mation about sanctuary development.

6. Activities continued to the south in Building
P and west in Building N, however, until about
the beginning of LM IIIB2, at which point, about
1250 b.c., the site was abandoned (Watrous 1992:
146). For the form and plan of the Minoan build-
ings underlying the Greek temples, see J. W. Shaw
1986: passim, especially figs. 6a–6e.

7. The former constitute the latest pottery and
the final deposit in Watrous 1992: 100–102 (De-
posit 98); the latter, of LM IIIC (mid-twelfth-
century b.c) date, is to be described by Jeremy
Rutter in Kommos V on the Minoan civic build-
ings.

8. The SM dating constitutes an earlier date
for Temple A than proposed in the preliminary
reports, one made after a re-evaluation of the
floor pottery. The absolute dates suggested in the
text are based on the chronological chart in Brock
1957. By general agreement, Deposit I (Callaghan
and Johnston, Chap. 4, Section 1) seems to be
later than the two contexts mentioned in n. 7.
We are indebted to Nicolas Coldstream, Mervyn
Popham, L. Vance Watrous, Alan W. Johnston,
and others for helping to clarify the relationships.

9. Datum above sea level was established for
the site in 1975 by John Bandekas, an Athenian
topographer who was responsible for the topo-
graphical survey of the Kommos area in prepara-
tion for excavation (J. W. Shaw 1996: 12, appendix
1.1).

10. The wall is bounded on the northeast by a
vertical slab extending out from its northeast
corner for an unknown distance. Unfortunately
the slab could not be followed further.

11. This contrasts with the sill of Temple B,
Phase 2 (Pl. 1.33), which was built almost directly
above that of Temple A when the level outside
B had risen. In B’s case the wall was built to
maintain the lower interior level, and therefore,
the face of the sill is to the west.

12. Here the Minoan orthostate-faced wall of
Building T averages 1.33 m wide. This is approxi-
mately the width of Temple B’s north wall, in-
cluding the bench, and so by analogy the width
of Temple A’s wall and bench could be that of
the Minoan wall it was set on. If the slabs of
the bench/platform of A were overlapping, one
could argue, as M. C. Shaw has (personal commu-
nication), that they represent the top of the inner stone face of that orthostate wall. For the wall itself, see J. W. Shaw 1983: passim.

13. Or the southern bench of Temple B (see Section 2, Phase 1).

14. Unfortunately, the features in the southern sounding within Temple C (PI. 1.24, Trench 29A1) and the wall corner visible in the scarp to the south were never exposed at the same time, since the former had been covered over the season before the latter was discovered. Judging the relationship between them was made more difficult by the intervening bench of Temple C set at the upper level.

15. J. W. Shaw 1986: fig. 6d. A fuller description of the LM I–III sequence here is planned for Kommos V.

16. Probing below the sill of Temple A did not reveal an underlying wall.

17. Although it was not possible to explore the LM I room, lying below the temples as it does, excavation next to it revealed nothing unusual, such as ritual material, and so it is probably best not to consider Room R as a functional predecessor to Temple A, even though the Minoan room seems to have determined at least part of A’s plan.

18. In the southeast sounding of Trench 28A1 made within the temples, some eighteen different types of soil were found between the levels of +4.22 and +5.21 m, with a plaster and slab surface at +4.55 m (floor of Temple A, Phase 2); a hard-packed surface at +4.88 m (floor of Temple B, Phase 2); and a packed clay surface at +5.11 m (floor of Temple B, Phase 3).

19. The earliest fragment of a Phoenician amphora at the Kommos site is C 3270, found within Temple A’s first floor (33C/83).

20. For temple orientation, see J. W. Shaw, Chap. 8, Section 2, “Temple Orientation.”

21. For the position of Room R, see J. W. Shaw 1986: 244, figs. 6c–d.

22. In Trench 47A. Within this sand there were a few small stones and blocks and, remarkably, a partial cranium of a young human (Bo 45; Anderson, Chap. 5, Appendix 5.1) without any related bones nearby. It is worth noting that this meager find constitutes the most complete remains of a human discovered up to now in the Kommos town and sanctuary, an area that was eschewed for burial.

23. Here ends a patchy LM IIIB pebble floor rising to the east to +4.54 m (see J. W. Shaw 1982a: 185, 187).

24. This wall was discovered in 1985 (in Trench 63A) and cleared the following year (Trench 68) when permission was given by the authorities to remove a portion of the fourth-century B.C. Temple C retaining wall that lay above it. The adjoining strata, probably confused by erosion, gave only a PG/Archaic range for the wall’s setting in place above the accumulation over the LM III court of Building P. Rather than giving the wall an early date, we suggest that it dates to the time of Temple B, Phase 2, when the builders may have wished to retain the slope, and before the construction of Building Q further south made such a wall unnecessary.

25. Above the road to the east, just north of Temple A (in Trench 44B), the Greek levels begin at +4.84 m and further east (in Trench 47A) at +3.27 m. Perhaps the relatively higher levels on the west represent a combination of sand buildup and wash from the hillslope to the north. That the Minoan road hollow was less likely to fill in on the east is shown by the fact that north of Altar H Minoan Building T’s krepidoma seems to have been exposed during much of the EIA. Still further east, north of Hellenistic Building E (Trench 59A1), the road was covered with only 0.85 m of sand and rubble of Bronze Age date. The earliest pottery was Archaic, reinforcing the impression that Geometric use of the site was confined to the temple area to the west and south-west and suggesting that during much, if not all, of a six-hundred-year period (ca. 1300–700 B.C.) the facade of T was exposed. By the end of the seventh century, however, after the period when the court of Temple B was laid out (during Phase 2), the facade wall lay below at least half a meter of deposit.

26. At least one of Building P’s walls here had not fallen (J. W. Shaw and M. C. Shaw 1993: 175, pl. 33b). 27. The original floor of Building P is at +3.41 m here; the Middle Geometric level begins at about +3.75 m; the base of the hearth and possible bench are at +3.85 m. The bench is paralleled on the west by another, similar structure of the same date found in Trench 65A2 and shown in PI. 1.58 (Phase 1).

28. See Callaghan and Johnston, Chap. 4, Section 1, Deposit 14. 29. This could be a reused block from a Minoan
pier-and-door partition, perhaps from Building T on the west (J. W. Shaw 1986: fig. 6a, far left, Room 5j), but the block seems too high and the shape too rough (cf. J. W. Shaw 1971: 150–51, fig. 181, for the type).


31. The pillar was set back some 0.20 m from the presumed roof line. The later Temple C had a gabled roof, for masses of roof tiles were found fallen within it. No roof tiles were found within Temple B, however, nor should they be expected so early at Kommos. Presumably, therefore, the roof of B was flat, in the tradition of the earlier Minoan buildings (J. W. Shaw 1971: 221–22), and similar to that of a Geometric house model from the Tekke cemetery at Knossos (Hutchinson and Boardman 1954: 220). The statement also applies to the Dreros temple, apparently of Apollo Delphinios (J. D. S. Pendlebury et al. 1939: 318), which has sometimes been restored incorrectly with a gabled roof based on terra-cotta models found on the Mainland.

32. The width of the north wall is ca. 0.80 m, that of the western wall foundation ca. 0.72 m, and so the wall width in general was about equal to that of the foundation.

33. Unless subsidence is involved, the temple was built without due regard for leveling, on ground that sloped down to the southwest. The bench in Temple B slopes westward from +5.07 to +4.88 m. The top of the west wall of B slopes southward from +5.21 to +4.93 m.

34. Since the hearth could not be removed, we were unable to ascertain whether a hearth belonging to Temple A underlies it.

35. An itemized list of separate finds from Temple B, including pottery deposit numbers (Callaghan and Johnston, Chap. 4, Section 1), is to be found in Table 1.4.

36. The block, in shape typical of Minoan ashlar blocks used in an ashlar facade, is 0.86 m long (north-south), 0.76 m wide at its center, and 0.33 m high.

37. The shrine was described in some detail in J. W. Shaw 1989: passim, from which portions of this text are derived, with the permission of the editors of that periodical.

38. I am obliged to Jennifer M. Shay for the identification of the “bowl” (O 4), in her letter of 18 August 1990. Excavation further west than the bowl was not possible in Trench 29A1 because of the already overhanging statue base of Temple C. On the other hand, during the following year, in Trench 34A4, a small sounding was made west of the later statue base and partly below Temple C’s foundations (a few of its blocks were temporarily removed). The aim was to find if a bench or base had been set along the back of B, next to its west wall. The probe was carried down within a confined space to +3.93 m, some 0.80 m lower than the wall of B, below the layer of stone chips and sand fill upon which B’s wall was constructed. Burnt, hard-packed surfaces at +4.71 m (the bottom of the wall on the interior) and +4.88 m are probably floor surfaces. A few sherds and a curious votive snake of terra cotta (M. C. Shaw, Chap. 3, Section 2, AB39) were recovered. The easternmost extension of this probe, partly under-mining the earth below the statue base of Temple C, was laterally about 0.80 m from the wooden bowl mentioned in the text.

39. If so it may have served the same structural function as the western stone column base of Temple C, which actually was set upon one of the pillars of the shrine.

40. Because of the cramped excavation conditions, where one was working in a narrow space between the later column base and the statue base of Temple C, the sounding could not be carried down further in order to ascertain the shape of the exterior of the “bowl.”

41. For the history of the shrine during the period of Temple B, Phase 2, see the following section.

42. For recent discussions of the “Phoenician” aspect of the Kommos shrine and site, see now James Muhly (1990: 94) and Nicolas Coldstream (1998: 259), who interpret the Kommos area as a logical way station or emporium for the Phoenicians on their way to the western Mediterranean, or Hans-Georg Niemeyer (1993: 339), who believes that the “baetylic shrine” is further evidence for Phoenician presence in numerous areas of the Aegean. Sarah Morris (1992: 154–55, 158) emphasizes an Oriental influence at the site in the form of an “imported” god (Apollo Amykalios), the triple-pillar shrine, and the bench-and-hearth arrangement in the temples, which she compares with that at Tell Sukas. C. Bonnet (1995: 656), although correctly stating that the Kommos sacred pillars are not necessarily Phoenician in inspiration (but see J. W. Shaw
Concerning the time of the earliest Phoenician presence at Kommos, Patricia Maynor Bikai dates the Phoenician pottery in Temple A, Phase 2, to about 900 b.c. (Chap. 4, Section 2). Peter J. Callaghan and Alan W. Johnston, discussing the absolute dating of the associated Greek pottery, are in broad agreement with this estimate (Chap. 4, Section 1, Deposit 2). See also J. W. Shaw, Chap. 6, 1998, in press a. The best overall evaluation of the Phoenician character of the shrine and its possible interpretations as far as resident Phoenicians are concerned is Hoffman 1997: 172–76, 188–89; see also Di Vita 1998.

One could argue, therefore, that the shrine might be earlier and be reused from Temple A, Phase 2. Since excavation in the immediate area could not be carried down any further, however, there is no evidence for or against the possibility. One could also speculate that the shrine commemorates some happening or event, such as a burial set below the slab, for the Punic settlements made use of such stelae as grave markers in their tophet or burial grounds. It is possible that the jewellery associated with Temple A, often reserved for funerary rather than votive uses in PG Crete, might strengthen this argument (see Dabney, Chap. 5, Section 3).

The irregularity of the cutting, the form and setting of the slab, and the later date of the accompanying offerings all suggest that the slab and its respective cutting are later additions to the original shrine.

For the form of the courtyard and the possible activities carried out there, see "The Sanctuary Area during Phases 2 and 3."

For analyses of the bones and the accompanying sacrifice, see Reese, Chap. 6; Rose, Chap. 6, Section 4; J. W. Shaw, Chap. 8, Section 1, "Animal Sacrifice at Kommos."

Although it was determined that there is a northern edge to Hearth 3, it was decided not to remove the superimposed column base of Temple C from its original position, and thus the northernmost part of the hearth remains unexcavated.

The bit was originally thought to be a possible obelos (J. W. Shaw 1980a: pl. 62g).

Visible within the hearth in Plate 1.37 is a flat slab set next to the central pillar, below the vertical slab forming the eastern side of the hearth. It is possible that the first slab represents a transitional stage of hearth between Temple B, Phases 2 and 3, or that it was, unlike the other hearths, set in as a base for the later hearth of Phase 3. Between the slab and that of the Tripillar Shrine was a 0.15-m-thick layer of ash that continued to the east.

Trenches 29A1, next to the western column base, and 33C, set further east, almost merge. They were not linked when 33C was being excavated, for we wished to avoid contamination.

Later, in the time of Temple C, the figures on the statue base supplanted the pillars as a center of attention.

For their detailed publication, see M. C. Shaw 1983: passim. The theme of a warrior paying his respects to the dead man lying on the bier suggests that hero worship could have been part of the local cult.

The pit visible in Plate 1.34, excavated down into the late levels of Temple B mentioned in the text, dates from after B's abandonment.

Among the thin layers of Temple B's chips recorded:

+ 4.45 m (62D/60, east of the temple); + 4.40 m (63A/46, south of the temple); + 4.17 m (43A/46) to + 4.50 m and + 4.49 m (37A/38, west of the temple).

The east-west wall can be seen in Plate 1.60 at c and d. At d is its eastern end, partly collapsed. Against this was set the north-south wall (at e).

The free span was thus reduced from 5.90 to 4.70 m.

The western end of the wall as preserved can be seen in J. W. Shaw 1986: pl. 55c.

See Callaghan and Johnston, Chap. 4, Section 1, Deposit 22. Alan W. Johnston is preparing a special study of the pottery from Building Z (in press). In Trench 36B (J. W. Shaw 1981a: 242–43, pl. 57d), part of the MG/LG occupation level within Z was excavated in a sounding carried down through deep sand. The sounding initiated the exploration of this general area. At the time the pottery and burning were thought to belong to a Geometric dump.

These spearheads date to the time of Temples B, Phase 1 or 2, and are part of the small group found at the Kommos site that includes two bronze spearheads from Temples A, Phase 1, and B, Phase 1, respectively (J. W. Shaw and Harlan, Chap. 5, Section 7, 2 and 5[?]). There are
also an iron spearhead from Hearth 3 in Temple B (J. W. Shaw and Harlan, Chap. 5, Section 7, 12) and two from the dumps south of Temple B (J. W. Shaw and Harlan, Chap. 5, Section 7, 31 and 29). Spearheads do not appear at Kommos during the time of Temple C. See also J. W. Shaw and Harlan, Chap. 5, Section 7.

60. There were also joined between pottery found here and within Building Z, e.g., C 9609 and C 9723. Perhaps there was a window or doorway, its sill no longer preserved, in the east wall separating the spaces.

61. In Trenches 57A, 57A2, and 58A the transition from seventh century B.C. to LM III is immediate, the abruptness of the change suggesting two possibilities. One is that during LM III there was a use surface on the east, north of Building P, that perhaps reached from the stairs of P on the east. One could argue that this same surface was reused during the Archaic period. The other possibility arises when we note that little Iron Age pottery has been found in the eastern area, and so there was probably less activity there. Moreover, certain places where leveling did not take place (e.g., above the Minoan road to the east) do not contain Geometric pottery.

62. From where Building V was soon to be established (Trench 54A1) directly south to a point just north of Building P’s north wall. In front of Temple B the slope was from ca. +5.16 m to, south of the temple, ca. +4.70 m.

63. Maria C. Shaw, who discovered all but three of these (one southwest of Temple B, another south of Building F [J. W. Shaw and M. C. Shaw 1993: 183, pl. 43d], another far to the south in the area of the Minoan pottery kiln), assembled the information for the description in the text.

64. These enclosures are in 50A/51, 37A/6, and 37A/33a-35, respectively.

65. Perhaps during Phase 2 a retaining wall was established in the sand north of Building T, Room 5 (Pl. 1.30, Phase 2). The wall is similar in function to that established near the same point, but lower, during Phase 1.

66. Such cobbles are most common in strata connected with Temple B, Phases 2 and 3, where they were found, for instance, in 56A/2 southeast of the temple and 37A/38 west of the temple. Those from Temple C were at the level of the exterior benches in Trench 29A2, such as S 1607 in Plate 1.156 from 29A2/17.

67. Smaller pebbles were even found as they had been placed within a Hellenistic cup (Callaghan and Johnston, Chap. 4, Section 1, Deposit 38, 560).

68. Bronner 1971: 55–56. At Isthmia they were found mixed with ash and burnt animal bone in Archaic through Classical and Roman times. For the ritual casting of pebbles and various missiles into fires or at cult objects, see Myres 1902–3: 382.


70. Building V was excavated at intervals over a number of years in Trenches 54A, 72B, and 73A, all supervised by Maria C. Shaw.

71. In a discussion of metalurgy in Greek sanctuaries, Robin Hagg suggested that smiths may have dedicated the first fruits of their production to the deity (Kilian 1983: 147).

72. Concerning Knossos, in the later Greek and Roman levels above the Minoan Unexplored Mansion, Keith Branigan has shown that ironworking was common in that area of the town, perhaps being carried out intermittently over the period of at least two centuries (Branigan 1992: 368). A great deal of slag, many fragmentary furnace bottoms, and linings comparable to parts of our shaft-smelting furnace are reported, including at least two with the remains of tuyere slots (Branigan 1992: pl. 314). The furnace chambers were quite small, either circular or slightly oval, with their bases apparently set in the soil. According to one report, the Knossos furnaces were used for copper smelting (Photos et al. 1985: 189, 193, 196). No obvious workshops or installations were found, however, and so the remains reported may have been disposed of by smiths working outside the limits of the excavation. On the Mainland of Greece, there was a tradition of metalworking in connection with sanctuaries, as described and documented by Klaus Kilian (1983) in connection with a sanctuary of Athena in Philia, Thessaly, where a variety of iron weapons, thought to be dedications, as well as tools, obeloi, metal vessels, and iron detritus are discussed with reference to the sanctuary itself but also more broadly in connection with other Greek sanctuaries. For metalworking and dedications of arms at Bassae, see also Yalouris 1979: 91; Snodgrass 1980: 139–40.

73. For a brief review of metalworking in other sanctuaries, see Risberg 1992.

74. In at least the early part of Temple B, Phase
The upper part of the orthostatic facade wall of Minoan Building T, directly southeast of Building V, was visible, but it was eventually covered over by eroded earth and debris if not by deliberate filling operations. The rather even surface that resulted also covered the northeast corner of T—the corner is at +5.03 m; the later Greek levels begin at +5.50 m above it (Foldout F).

57. That construction continued to the east is suggested by a diagonally set Archaic wall about 10 m east of Building P’s northeast corner. The wall’s base (at +2.60 m) is over 2 m lower than corresponding Archaic levels to the west, and so one imagines a declivity, caused by erosion, before the ground sloped up to the east. Perhaps this wall was built to prevent erosion. Another Archaic wall, oriented east-west, was built up against P’s eastern facade, east of Gallery P4.

76. I am indebted to Alan W. Johnston, who has published the pottery from Building Q (Johnston 1993). The best-preserved, C 8332 (J. W. Shaw 1986: 226, n. 21), has a height of 75 cm and an interior diameter of ca. 60 cm. The thickness of the drums varies from 2 to 2.5 cm. The “foot” is strengthened inside with probably regularly set vertical strips of added clay. Another Archaic wall, oriented east-west, was built up against P’s eastern facade, east of Gallery P4. The ground level east of Building P’s facade was at +5.33 m (on the north) to +5.50 m (on the south, just east of Gallery P3). The facade itself was at least +6.58 m (northeastern corner), sloping down to +5.80 m next to Gallery P3.

77. At the time of writing, only the ends of Galleries P1 and P2 have been explored, although P3 has been cleared entirely. Galleries P4–P6 have been uncovered only on the west—the remainder is still covered by tamarisk trees deeply rooted in the deep sand.

78. Water, mud, and the fear of undermining adjacent walls prevented excavation from continuing further down, and so there could be at least one more step below.

80. The stairs first appeared to belong to Building P, to provide access to P’s roof (J. W. Shaw 1986: 258–61; see also J. W. Shaw and M. C. Shaw 1993: 167, fig. 10a–e [the structural phases in the immediate area], pl. 32b). The case can still be argued, for the area is an extremely complex one, but the argument is weakened by the fact that the stairs reach P’s floor level, suggesting the possibility that the well or spring chamber could originally have been reached by someone standing at floor level within P, before the staircase and the rough retaining wall just south of the well were constructed. This could have even been during the PG period, for there was a thin Geometric lens of deposit (C 9299 was catalogued) overlying the sloping LM IIIB debris on P’s floor. There is a possibility, therefore, that the lower six steps of the well were set in before the Archaic period, then the well-built southern wall of the staircase with the remaining seven steps was constructed. The rough retaining wall immediately south of the well was probably set in at that time as well, although it could possibly have been later. Fragments of several drums were found in the area south of Building Q, in Trenches 65A5, 65A7, 90D, and 101A. Where the material from the relevant area was diagnostic, the latest pottery was normally of the Classical period; there is no distinctly Hellenistic material, but sherds with features are lacking.

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ancient beehives known from elsewhere, which range from about 20 to about 41 cm in diameter, averaging 33 cm. (We are grateful to Eva Crane, an expert on beehives, for providing us with tables including relevant measurements; personal communication, 11 August 1992.) The context at Kommos suggests an IA date, although it should be pointed out that Minoan sherds were found in all the respective strata, albeit with later material. Large pieces of well drums are not to be treated as readily transportable, however, and any attempt to date the drums to the BA would require argument involving deliberate reuse. On the whole we prefer what appears also to be Evans’s conclusion, that the drums are of developed IA date (Alan W. Johnston and Joseph W. Shaw).

82. The rooms of Building Q were numbered in the order of their discovery.

83. There may have been a second doorway in the east wall of Room 40, to the south, but this is not certain.

84. Another possibility is that the work was carried out south of the original phase of Q when there was perhaps only a retaining wall.

85. Room 30 was partly excavated in 1982 in an exploratory trench (56A). Along with part of Trench 31 to the west, excavation was completed in 1984 (in Trench 66B) during an effort to locate certain Minoan features suspected to lie below its floor level.

86. One can still inquire, however, why a less elaborate doorway was not built, still using part of the retaining wall on the north. Perhaps the answer lies in rights to the property being used or the fact that another structure might require more effort and more material if the retaining wall could not be partially dismantled.

87. The nomenclature is adapted from Yavis 1949: no. 47.

88. What was tentatively identified in an early report (J. W. Shaw et al. 1978: 147) as a monument base possibly connected with F was later found to belong to underlying Minoan House X (J. W. Shaw and M. C. Shaw 1993: 137).

89. The west wall of the large room with the hearth north of Temple C (Room A1) was among the first Greco-Roman structures to be discovered during the sand clearing in 1977 and was dubbed A at the time. When a second room was found continuing to the south, the two structures were labeled A1 and A2, respectively. The term Temple C will be preferred here, but Temple C and Building A2 can be considered synonymous.

90. Lying upon the Archaic/Geometric slopes just south of Temple C was found a large limestone block (0.95 m × 0.95 m × 0.34 m) in 51A/12. The block may originally have been an orthostate, for it has dimensions quite like those in the northwestern orthostate facade of Minoan Building T.

91. It would appear that when Temple C was built, the upper levels of Temple B’s interior were left more or less intact (at +5.10 m), at about the level of the outside ground level. Some of the building chips from C’s construction were used to raise the interior level to that of C’s slab floor.

92. The estimate, based on the line of the west wall of Temple B, is only approximate. The angle given is based on grid north. Magnetic north is ca. 1.5 degrees east of grid north. For temple orientation, see also Chap. 8, Section 2.

93. After Altars H and C were found during 1978, and before Temple C was identified as such, it was speculated that the altars had been set so as to conform to the axis of a temple on the west (J. W. Shaw et al. 1978: 171). Most of Temple C lay, however, south of the excavation property line. As a result a new purchase of two stremata was arranged with the owner, and the temple was discovered during the next season. At the time we did not realize that only Altar C was contemporary with Temple C.

94. The bottom of the exterior wall there and the interior floor are at the same level (+5.67 m).

95. As demonstrated in Trench 44B.

96. In Trenches 37A and 63A, respectively.

97. East of Temple C significant chip layers
were observed in Trenches 42A, 62D, 52A, and 53A1 and around Altar C in Trench 10A1. They were noted as far east as Trench 54A, above the Minoan orthostate wall, although there they might represent work in connection with another building. Chips were not found in Trench 47A, northeast of the temple, which can probably be taken as an indication that most sizing work for the blocks was done further south.

98. In Trenches 53A1 and 63A, respectively.
99. This wall performed the same function as the two built to retain the Archaic sanctuary in the same area, described in Section 3 in connection with Temple B. It also defined the religious area on the south. Aside from Base Y, far to the south, no structures dating to the time of Temple C have been identified south of it. It should be noted here that the wall’s main function seems to have been simply that of a retaining wall, rather than a temenos wall set to announce the limits of the sacred area. Similar walls have not been found west, north, or east of the later sanctuary for any of the Kommos temple periods.
100. See Callaghan and Johnston, Chap. 4, Section 1, Deposit 33. For finds within the temple and related structures, see Table 1.5.
101. A stone was added on the south during a third phase.
102. There is no cut channel to facilitate the pouring in of the lead, however. The possibility that a bowl or perioppinrharatereon was set on a base here is probably ruled out by the fact that the base was set next to the wall and, therefore, the basin supported would fit only if it had an unusually small diameter. See also the altar or thymiaterion (I 9; J. W. Shaw, Chap. 5, Section 6, 4; Csapo et al., Chap. 2, 79). The upper diameter of I 9, taken at a point on the molding near the inscription, was ca. 46 cm. We do not know the diameter of the lowest part of the altar. If the legs of the tripod projected out from the base molding, the lower diameter may have been over 50 cm. Could I 9 have been set on the squarish base just north of the entrance to Temple C (Section 6, 2; Pl. 1.112)? Perhaps, but its minimum measurement on top (44 cm) seems small for the altar to have fit comfortably. Moreover, on the basis of letter forms of its partially preserved inscription, the altar appears to be much later than Temple C, when the base was apparently installed (Csapo et al., Chap. 2, 78).

103. Compare this socket with that of Room A1 to the north (Pl. 1.127) and Building B (Pl. 1.138), where separate blocks were used. In Temple C, which was the only building of the three with a slab floor, the setting block became simply part of the floor. The general method of setting, nevertheless, is similar and seems to have been the normal way of securing door leaves in place in the Kommos sanctuary.

104. Since other blocks with moldings were carried away, the former possibility is more probable. The molding finds its closest parallels, as James C. Wright has pointed out to me, in the fourth century B.C. (Shoe 1936: Hawksbeak III, Anta cap, pl. LIX). For advice on the position and appearance of the doorway, the author is indebted to Nancy Bookides, John Camp, and Charles Kaufman Williams.
105. On the other hand, the regular fragment found north of Temple C suggests that a Doric frieze may have run around the building, as it did at the later Temple of Asklepios at Lissos (Pls. 8.13). The fragment in question (Section 6, 1b; Pls. 1.174–1.177) has the unusual number of seven guttae. The lack of corresponding frieze fragments in the temple area, however, makes it doubtful that it belonged to Temple C. Perhaps it belongs to some undiscovered building or monument.
106. Originally they made have been cut to a uniform diameter of ca. 0.662 m (at floor level) and 0.65 m (at top).
107. For the placement of the columns in the building, see the following discussion and also Section 6, 3.
108. The hearth is equidistant from the side walls, but its center is approximately 0.50 m east of the center of the building along its longitudinal axis.
109. That the statue base is part of the original construction is shown by its fine detail and the fact that the floor slabs stop next to it rather than running below it. They are replaced below the base by C’s working chips. See also Section 6, 1.
110. The base molding of the statue base corresponds fairly closely with a molding from the altar of the Ekklesiasterion at Priene (Shoe 1936: 144, pl. LXIII.15). The possible parallel from Asia Minor is dated to ca. 240 B.C.; the evidence for dating the Kommos statue base to the first phase of Temple C provides an earlier example.
Sounding elsewhere along the back edge of the southern benches also failed to expose any floor slabs extending to the south wall. Probing into the northeast and southeast corners of the benches revealed slab platforms of uncertain character at a height of approximately 0.30 m above the floor. Future soundings at strategic points within the later benches might strengthen the argument presented here.

Trench 34A5. Like the benches just described, there was probably an earlier period of use when a platform, perhaps wooden, was set in north of the statue base, as suggested in Pl. 1.81, Phase 1. Evidence for this is to be found in the unfinished base molding along the northern side of the statue base (Pls. 1.97 at 1, 1.104 [1]). Presumably this molding would have been hidden by the platform, perhaps 1.10 m wide east-west.

One can only speculate, however, about a possible doorway here, since the exterior wall is missing. If there was an entrance, perhaps it was a private entry for a priest. Such a side entrance exists, leading into one of the two cellas (that of Ares), in the Hellenistic Temple of Ares and Aphrodite at Olous (Bousquet 1938: pl. 43).

The last measurement is from the center of the eastern column base to the east wall. From the same column center to the western edge of the southern doorleaf the distance was 3.74 m. Widths of the two end walls are not included.

Given a general scarcity of information on column proportions for Crete at the time, some idea of the range may be gained from the 5.40- to 6.30-m proportions of lower diameter to height for contemporary buildings elsewhere in Greece (Dinsmoor 1973: “Chronological list of Greek Temples” [foldout]). If we take the preserved column drum within the Kommos temple with a lower diameter of 0.495 m (assuming that it is the lowest drum, which may not be so), the result is a range of about 2.70–3.20 m. To this must be added 0.25 m (the projection of the base from the slab floor) and the thickness of the wooden crossbeam set upon the column (perhaps 0.25 m). The total of 3.20 m given in the text is based on a column height of 2.70 m, given the fact that the column was on the interior and not part of an exterior order that might follow the more slender proportions in vogue elsewhere.

It could be argued, judging from the quality of the materials used, that the southern platform was placed there while the earlier “benches of wood” were in use and not at the same time that the rough stone benches were first placed there. This is possible and would justify introducing a seventh period of use.

The separate items introduced in Temple C, Phases 2 through 4, may have been timed somewhat differently from the order suggested in Plates 1.81 and 1.82, although sequences of adjoining features (e.g., the rise in level of exterior Bench 1, the expansion of the interior benches, the sequence of additions in the northwest corner) are reliable when considered separately.

Excavation within the western end of the southern bench produced cups and dishes (Cal- laghan and Johnston, Chap. 4, Section 1, Deposit 39) suggesting a date within the first century B.C., which therefore marks the introduction of the first stone-built bench.
All the fill from within Temple C, as well as that within Temples A and B lying below it, was dry-sieved; selected pails were water-sieved. For the shells below the stone lamp, see Reese, Chap. 6, Table 6.27. J. W. Shaw 1980a: pl. 60d.

For the stories related by the elders, recorded by us then, see M. C. Shaw 1981: passim. Therein is also the story of their recollection of the visit by Sir Arthur Evans to Pitsidia, during the period in 1924 when he was the first to point out Kommos as a prehistoric site.

Shown in J. W. Shaw 1995: pl. 2.3, north-west of the temples.

Aside from Deposit 34 (Callaghan and Johnston, Chap. 4, Section 1), which dates the construction, the pails concerned are 50A/63, 71, and 75 (inside down to floor level) and 50A/72 and 81 (outside).

Altars C and H are separated from each other by some 5.18 m. They are almost parallel. The axis of C actually bisects the final phase of H, rather than the first phase, which could support an argument that the addition to H was made when the new altar was built. This is unlikely, however; if work had proceeded in this manner, the construction of that addition would probably be finer, like that of the new altar. More likely, both phases of H are Archaic.

The date of the founding of Altar C is provided by Callaghan and Johnston, Chap. 4, Section 1, Deposit 36, the later use of the court surface above the working chips of the temple and Altar C is demonstrated by Deposit 37. The krepidoma of the altar itself was set at +5.81 m, above the working chips (+5.66 m). In a small sounding within the altar were found burnt animal bone and a knife (J. W. Shaw and Harlan, Chap. 5, Section 7, 39), which could reflect sacrifice made when the altar was being constructed, intentional transfer of sacrificial remains to hallow the site, or even an earlier altar on the same site.

The blocks measure 0.14–0.41 m in width and the courses 0.22–0.24 m in height. Those of the socle or krepidoma are as high as 0.33 m.

One of the animal’s ears was reattached when fragments recovered through dry sieving were being studied in Pitsidia. It has since been replaced on the altar by a similar slab.

A sounding made in the floor of Hellenistic Room A1 just north of the temple (Trench 44B) exposed a pit with working chips from Temple C but no contemporary floors or architecture. Only on the west is there a hint that a building next to the temple may have been contemplated. This evidence is in the form of a wall visible in the scarp below the west wall of A1 (Pl. 11.1A) continuing the line of the foundations of Temple C. Upon the wall were set foundations, with quite a different style of masonry, of later Building A1. Perhaps the lower foundations for another structure were set in, but then C’s construction used up available resources. Perhaps the wall in question was only for retaining the slope north of the temple. Within both rooms of adjacent Building B, shallow soundings made below the original floors came upon Minoan levels, suggesting, unless later levels were removed when B was excavated, that the building had been set directly into Minoan levels.

At the Dictynaion in northwestern Crete, however, there was a circular area (4 m in diameter) where there may have been a round building. In 1913 a statue of Dictyna was found there (Sanders 1982: 84).

The suggestion was made by Christine Niarchos in a seminar at the University of Toronto, citing Rupp 1983: 101–7.

The reef, see Gifford 1995: pl. 3.11, upper left.

The measurement given is to C’s addition on the south (the addition is about 0.20 m wide). Pottery recovered from beneath the floor dated to the second century B.C., presumably the time of Room A1’s construction (Callaghan and Johnston, Chap. 4, Section 1, Deposit 40). Hellenistic sherds found alongside its western foundations confirm the suggestion. LH/first-century B.C. pottery from within A1 suggests the time of its abandonment (Callaghan and Johnston, Chap. 4, Section 1, Deposit 41).

An indication of this is that there was no major working chip level associated with Room A1.

On the east the lowest blocks in the trench are wider than the trench itself, an indication that
the actual wall was set back somewhat from their
eastern edge, and that the original foundation
trench excavated for them was wider than that
left when the wall was removed.

140. There may have been two door leaves
opening inward, as in the case of Temple C, or,
instead, a single one, as in both rooms of Build-
ing B.

141. The hearth is actually 0.70 m closer to the
eastern bench than to that on the west.

142. The benches are not all of the same width.
That on the north is 0.85 m wide; that on the
west, 0.70 m, as is that on the south, that on
the east, 0.90 m. Even though the entrance to the
room is on axis, the southern part of the doorway,
where the door would swing inward and against
the end of the bench there, took up more room
than the northern. Thus the bench there is about
0.50 m shorter than the one on the north along
the east wall.

143. At Isthmia in the Corinthia, for instance,
the couches, which were usually separated by
short raised platforms, range from 1.60 to 1.80 m
in length. They are 0.85 to 0.97 m wide and 0.27
to 0.30 m above floor level (Broneer 1971: 34, 38,
40, 45, 53). Those at Corinth in the fourth-century-
B.C. Sanctuary of Demeter and Kore range in
length from 1.63 to 2.27 m, with a width of 0.50
to 0.95 m, and are 0.30 to 0.46 m above the floor
(Bookides and Fisher 1972: 283–331, passim). The
floors of the dining rooms at both sites were usu-
ally of clay or earth, as is the case in Room A1
at Kommos.

144. Five on the northern bench, three on the
western, four on the southern, two (total) on the
eastern benches, giving a total of fourteen.

145. The technique is not Minoan, although
the blocks themselves may be from a Minoan
building. Perhaps a mason working on Building
B was responsible for the unusual finishing.

146. The floors of the rooms of Building B seem
to have been set upon prehistoric levels, below
a hard-packed layer of red earth. In the western
rooms the reddish floor or floor packing appears
to go below the partition wall.

147. Unlike the exterior benches associated
with Temple C, that in front of Building B was
probably set in at the same time as B was built
(Callaghan and Johnston, Chap. 4, Section 1, De-
posit 51).

148. This hearth was later removed in Trench
46A2.

149. In Trench 66B/2.

150. The tile fall and burning, however, contin-
ued under the quarter-circular structure, suggest-
ing that it was later than the general burning
noted in Building E.

151. If movable couches, well known else-
where in Greece, were used, they were probably
unusual additions to the Kommos sanctuary,
where wall benches were usually provided for
people to sit or recline on, as shown in Temple
C and Room A1.

152. I am indebted for the original informative
cataloguing of the architectural blocks to James
C. Wright.

153. Analogously, in Trench 59A1, in the
dump associated with the first floor of Building
B (Callaghan and Johnston, Chap. 4, Section 1,
Deposit 49), numerous tiles were recovered. Pre-
sumably they represent a cleaning from the room
of at least part of an earlier tilefall.

154. Reference here and for the next two cata-
logue entries is to Notebook 20, p. 50, and Note-
book 67, p. 35.

155. Mr. Aristotelis Fasoulakis, our workman
for many years even when over seventy years
old, constructed the wall with great care, chip-
ing and fitting each block in the traditional
technique.