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Specialized Reports

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FINAL REPORT

A CERAMIC/STRATIGRAPHIC SKETCH OF HOUSE X

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INTRODUCTION

The purpose of the following sketch of the principal phases represented in House X is to summarize the evidence recovered in Trenches 11A [1977], 59A1 [1984], 66A [1985], 73A-B and 74A-B [1991], and 80A and 81A and C [1992] with the aim of outlining an agenda for the final year of excavation in and around this building in 1993. Rather than survey the building room by room, I have chosen to organize this summary by ceramic period in order to make plainer when the evidence is abundant and when it is deficient during the building's long history of occupation (from LM IA at least into LM II A2 and perhaps even into LM II B, i.e. ca. 1650 or maybe a bit earlier down at least to the middle of the 14th century B.C.; some three hundred years or so). What follows must be regarded as provisional in that my direct experience with the material is limited to the 1991-92 excavation seasons and hence to that found in Trenches 73A-B, 74A-B, 80A, and 81A and C. For the finds from Trenches 11A, 59A1, and 66A, I have depended on the trench notebooks and on the preliminary ceramic analyses of L. V. Watrous and P. P. Betancourt. As of this writing, I have not had access to the 1992 final trench reports of M. C. Shaw and J. Sabourin, with the result that some details of what follows with respect to the finds in Trenches 80A and 81A and C may require expansion, correction, or both. The excavation in Trench 11A of the northeastern room of House X, the room with a pillar (X10), has also not been included in this survey. But the broad picture of what remains to be done in House X during the 1993 season should emerge clearly enough.

For each period, the principal ceramic deposits, as well as the floors and fills in the building's various rooms, will be summarized and the relevant inventoried pottery listed.

LATE MINOAN IA

By far the most abundant evidence for the earliest history of House X comes from X2 in a sounding excavated in 1992 (Tr.80A). This has established that the building was founded at least in part on virgin soil. The earliest floor in this sounding is firmly dated to LM IA (Tr.80A Pails 66, 66A, 67, 69) and lies at ca. 4.24. A substantial fill above this floor (Tr.80A Pails 49, 62, 63, 64, 65, most of 61) also dates to LM IA and, like the floor itself, produced a substantial number of full or restorable profiles. The fill immediately below this floor and between it and bedrock contained mixed LM IA, MM III, and MM II, principally the last. At the base of this fill and lying inverted, on sterile...
soil was found a fine unpainted conical cup of MM III type (C9755; Tr. 80A, Pail 70).

Inventoried Vases from Tr. 80A Pails 49, 61, 62, 63, 64, 65, 66, 66A, 66C, 67, 67A, 68, 69, 70, 70A [except for C9755]

WHOLE OR RESTORABLE VASES:

Fine:
Conical cups: unpainted - 25 (C9639, C9673, C9674, C9682, C9683, C9684, C9689, C9690, C9691, C9692, C9693, C9726, C9732, C9733, C9734, C9735, C9736, C9737, C9738, C9740, C9741, C9742, C9749, C9750, C9751)
monochrome painted - 2 (C9730, C9731)
dipped - 3 (C9676, C9677, C9727)
patterned light-on-dark - 2 (C9696, C9752)
Teacups: monochrome painted - 2 (C9695, C9724)
patterned - 1 (C9685)
Bell cups: unpainted - 1 (C9743)
linear - 1 (C9694)
Vapheio cups: monochrome painted - 3 (C9678, C9728, C9754)
In-and-out bowl: patterned - 1 (C9744)

FRAGMENTS:

Fine:
Teacup: patterned - 1 (C9745)
In-and-out bowls: patterned - 2 (C9675, C9725)
Ostrich-egg rhyton: patterned - 1 (C9753)

Medium Coarse:
In-and-out bowl: patterned - 1 (C9640)
Low-necked jug,linear - 1 (C9641)

Immediately west of X2 in X1, a LM I floor of as yet uncertain precise date was overlain by an LM IB dumped fill (Tr. 73A Pails 82, 114, 115, 117; Tr. 81A Pails 15, 16, 17, 18, 19, 20) and itself sealed a deposit of whole vases datable to LM IA (Tr. 73A Pails 118, 120, 122). The precise nature of this LM IA deposit of whole vases is unclear, and there may very well be more of this material still to recover. This deposit clearly predates the construction of X1's north wall and thus furnishes a terminus post quem for the use of X1 as an architectural space, at least in its presently exposed form.

Inventoried Vases from Tr. 73A Pails 118, 120, 122

WHOLE OR RESTORABLE VASES:

Fine:
Conical cups: unpainted - 8 (C9048, C9049, C9075, C9077, C9078, C9089, C9090, C9092)
monochrome painted - 2 (C9084, C9091)
dipped - 1 (C9088)
blob-decorated - 1 (C9076)
Bridge-spouted jars: light-on-dark linear - 1 (C9087)
monochrome painted - 1 (C9080)

FRAGMENTS:
Fine:
Ostrich-egg rhyton: patterned - 1 (C9046)
Medium Coarse:
Jug or amphora: trickle-decorated - 1 (C9321)
monochrome painted - 1 (C9047)

In X3, a small group of whole vases was found between 4.97 and 5.06 (Tr.74B Pail 76B) underneath the south wall (Tr.74B Wall 21). This material probably again dates to later LM IA and furnishes a terminus post quem for the creation of this room as a discrete space within House X. Numerous fragments of a second, uninventoryied fine bridge-spouted jar from this unit suggest that this group of whole and restorable vessels may have been only partially excavated so far.

INVENTORYED VASES FROM TR.74B PAIL 76B

WHOLE OR RESTORABLE VASES:
Fine:
Conical cups: unpainted - 3 (C9043, C9044, C9071)
monochrome painted - 1 (C9042)
Bridge-spouted jar: light-on-dark patterned - 1 (C9070)

In the corridor X11, a LM I floor at 4.85 which clearly is to be associated with the first use of the walls defining the corridor (bases at 4.79) was exposed with Tr.73B Pail 109. Although nothing was inventoried from this unit and its contents need to be reviewed in light of the great progress made during 1992 in distinguishing between LM IA and LM IB (thanks to some groundbreaking work by A. van de Moortel on MM III - LM I conical cups), it is likely that this is a LM IA surface.

Outside of House X in Space E immediately north of X2, a distinct early LM I stratum between 6.05 and 6.15 (Tr.74A Pail 46; no inventoried pottery) was found sealing the large deposit of MM III pottery excavated here in 1991 by J. Sabourin (paved floor at 4.80 with over a meter of virtually pure MM -III fill above: Tr.74A Pails 46A, 47, 49, 50, 51, 52, 52A, 53, 54, 55, 56, 56A, 56B; see J. Rutter's pottery report for 1991, pp.5-8). Dated to LM IA in 1991, the stratum represented by Pail 46 indicates that there was a change in surface level of almost two meters between the LM IA surface in Space E at ca. 6.10 and the LM IA floor of Room X2 just to the south at ca. 4.25. The earliest north wall of X2 (Tr.80A Wall 1) was thus clearly a major retaining wall in addition to marking House X's northern facade. There could hardly have been a doorway between X2 and the area to the north in LM IA times, at least not one at a level of ca. 4.25.
LATE MINOAN IB

The richest deposits of LM IB date so far recovered from House X come from a series of at least four floors in X2 and the associated fills below the first, between them, and above the last. The lowest, a pebble floor sloping up from 4.79 in the south to 4.90 in the north where it covers the truncated remains of Tr.80A Wall 1, seals a fill of LM IA date (see above pp.1-2) which was partially mixed with LM IB material in its southern portion when a series of three pithoi (C9403, C9404, C9405) were embedded in it. (LM IA units below the pebble floor lightly contaminated with LM IB material as a result are Tr.80A Pails 46 and 48.) This pebbled surface is perhaps the same floor as that identified as "Phase 1" in Tr.74B (exposed by Pails 78-79; floor make-up excavated as Tr.80A Pails 45 and 50). This floor is in turn overlain by that called "Phase 2" in Tr.74B at ca. 4.98-5.01 (exposed by Pails 74, Pails 77-77A; probably contemporary age Tr.80A Pails 41, 42, 43, and 44, units associated with a built platform in the room's southwest corner). The "Phase 3" floor lies at ca. 5.08-5.09 (exposed by Tr.74B Pails 75-76), A still higher floor at 5.35 was exposed by Pail 74, above which LM IB debris continued upward to ca. 6.05 (roughly the interface between Tr.74B Pails 45 and 43), at which point the LM IB fill was sealed by a LM II surface associated with the rebuilding of X2's north wall as Tr.74B Wall 3. The similarity of the pottery from bottom to top of this LM IB sequence suggests that the floors were relaid at gradually higher levels at fairly rapid intervals. Each floor, however, is associated with different features within the room, so that the usage of this space, may have differed significantly from one phase to the next. For example, the three pithoi C9403, C9404, and C9405 were in use only through "Phase 2"; the west wall of the room was substantially rebuilt prior to the laying of the uppermost floor at 5.35; and the stone-paved platform in the room's southwest corner was associated with the second of the four floors at 4.99-5.01 (principally Tr.80A Pails 41, 44; Tr.74B Pails 77, 77A). Preliminary analysis of the pottery shows no major differences between the pottery associated with all four floors and the fill above the uppermost. The pottery from all four floor levels, and the associated fills is thus presented in aggregate below (including units of LM IA fill lightly contaminated with LM IB material, such as Tr.80A Pails 46 and 48). All of the LM IB material appears to be fairly late within that period; there may thus be a substantial gap in date between the LM IA deposit underneath the LM IB sequence and the earliest of the LM IB floors. [Note also that units at the very southern margin of the room were lightly contaminated with LM IB (Tr.80A Pail 69) or LM II-III A1 (Pail 61) material as a consequence of later refurbishing of the threshold in the doorway leading up into X2 from X5 to the south.] The southern portion of X2 was excavated in 1985 in Tr.66A and the lowest excavated units from that trench are uniformly LM IB also (Pails 18, 21, 25, 28).
Inventoried Vases from Tr.66A Pails 18, 21, 25, 28; Tr.74B Pails 68, 69, 71, 72, 73, 74, 75, 76, 77, 77A, 78, 79; Tr.80A Pails 41, 41A, 42, 43, 44, 45, 46, 47, 48, 50

WHOLE OR RESTORABLE VASES:

**Fine:**
- Conical cups: unpainted - 12 (C7925, C7926, C8037, C8043, C8044, C9368, C9370, C9591, C9594, C9595, C9603, C9638)
  - monochrome painted - 9 (C8038, C8040, C8041, C9284, C9596, C9597, C9608, C9635, C9637)
- Teacups: patterned - 4 (C7917+C8042, C9365, C9366, C9381)
  - blob-decorated - 1 (C8046)
- Bridge-spouted jar: monochrome painted - 1 (C9270)
- Baggy alabastron: patterned [Marine Style] - 1 (C9364)
- Miniature bucket: linear - 1 (C9369)
- Miniature tripod cooking pot: unpainted - 1 (C9367)
- Miniature brazier: monochrome painted - 1 (C9607)

Medium Coarse:
- Pithoi: patterned - 3 (C9403, C9404, C9405)

FRAGMENTS:

**Fine:**
- Conical cups: monochrome painted - 1 (C8039)
- Teacups: patterned - 10 (C9296, C9297, C9375, C9376, C9377, C9599, C9600, C9605, C9606, C9653)
  - Vapheio cups: patterned dark-on-light - 1 (C9604)
  - patterned light-on-dark - 1 (C9601)
- Bell cup: linear - 1 (C8056)
- Low-necked jug: patterned - 1 (C9602)
- Miscellaneous jugs: patterned - 2 (C7752+C8045, C9298)
- Miscellaneous closed vase: patterned - 1 (C7920)

Medium Coarse:
- Pithos: unpainted - 1 (C9652)

To the west in X1, a fill of LM IB date covers a LM I floor sloping up from 5.19 at the west to 5.35 at the east. This LM IB fill extends up to ca. 5.50-5.55 where it is sealed by a fill of LM.II date.

Inventoried Vases from Tr.73A Pails 82, 114, 115, 117; Tr.81A Pails 15, 16, 17, 18, 19, 20

WHOLE OR RESTORABLE VASES:

**Fine:**
- Conical cups: unpainted - 7 (C9050, C9081, C9082, C9085, C9086, C9330, C9541)
  - Teacup: patterned - 1 (C9041)

Medium Coarse:
Trefoil-mouthed jug: unpainted - 2 (C9319, C9329)
Tripod cooking pot - 2 (C9083, C9328)

FRAGMENTS:
Medium Coarse:
  Pithoid jar: patterned light-on-dark - 1 (C9543)
  Miscellaneous closed vase: trickle-decorated - 1 (C9321)

To be associated with the dumping of this material is the blocking of the doorway south into the west end of Room X4 (Tr.80A Pails 19-20), an event which may have taken place as late as the beginning of LM II (on the basis of the cup fragment C9546):

WHOLE OR RESTORABLE VASES:
Fine:
  Conical cup: monochrome painted - 1 (C9547)
    dipped - 1 (C9548)

FRAGMENT:
Fine:
  Teacup: patterned - 1 (C9546)

In X3 to the east, a LM I floor at 5.08-5.14 was overlain by debris of LM IB date (Tr.74B Pails 74A, 75A, 76A) from which was inventoried:

FRAGMENT:
Fine:
  Bell cup: patterned [Marine Style] - 1 (C9397)

To the south of the last room in X6, a LM I floor at 4.85 was overlain by LM IB material (Tr.73B Pail 116; most of Tr.66A Pail 40; nothing inventoried) which in turn was sealed by a late LM II or early LM IIIA1 floor at 4.90 (see below pp.9-10).

Still further east in the corridor X11, a later LM I floor at ca. 5.05 sealed the fill above the lowest LM I floor in this space (see above p.3) and was itself overlain by LM IB material (Tr.73B Pails 104, 107; Tr.11A Pail 27) which included:

FRAGMENTS:
Fine:
  Cups: patterned - 3 (C346, C347, C348) [the second and third are imports from Knossos and Chania respectively]
  Side-spouted jug: patterned - 1 (C9315)
  Jug: patterned - 1 (C9317) [east Cretan import]
  Closed shape: trickle-decorated - 1 (C9316)

Like the LM IB fill in the corridor-like space X1, the above fill presumably rendered the corridor X11 no longer usable. But whereas the LM IB fill in X1 is overlain by LM II and later Minoan strata, that in X11 is mixed with historic material
directly above the LM IB level. Note the frequency of imported vessels in the small group of inventoried items from this stratum.

Finally, to the southwest in Room X14A, a LM I floor at ca. 4.55 was initially exposed by Tr.80A Pail 38 (a unit which, though lightly contaminated with later LM III material, contained a few largely restorable MM III and LM I vessels) and subsequently also by Tr.80A Pails 89, 90, 91, 92, and 93. The associated sherd material indicates that these vases should be of LM IB date; the vases themselves are for the most part not closely datable.

Inventoried Vases from Tr.80A Pails 38, 89, 90, 91, 92

WHOLE OR RESTORABLE VASES:

Fine:
- Conical cups: unpainted – 2 (C9589 [MM III type], C9712 [LM IB type])
- Low-necked jug: linear – 1 (C9403)

Medium Coarse:
- Tripod cooking pots – 2 (C9402, C9407)

FRAGMENT:

Fine:
- Closed vase: patterned light-on-dark – 1 (C9588)

Note that the excavation of Pail 90, which contained nothing later than MM IB/II, provides an explanation for the frequency of material of this early date in Pail 38, just to the north and east; the occupants of House X evidently brought in an early MM fill from somewhere nearby in preparation for the laying of the pebble floor at 4.73. Within this earlier MM fill must have been the MM III conical cup C9589 from Pail 38. The date for the actual laying of the floor is given a terminus post quem by the LM IB conical cup C9712 from Pail 89; the date of the floor's going out of use is provided by the inventoried LM II vases from the fill above (see below p. 10).

LATE MINOAN I OF UNCERTAIN PRECISE DATE

A number of LM I floors and fills have been excavated within House X whose precise date is uncertain either because the pottery recovered from within or above them has been too scanty or else because the deposits in question were excavated prior to 1991 and I. have not yet had the opportunity to re-examine the material from them.

In X5, removal of the stone slabs of a LM IIIA1 floor at 4.91 in that portion of the room outside of the light well in the southeast corner with Tr.66A Pail 38 exposed a pebble and slab floor at 4.81. Excavation below this surface with Tr.66A Pail 44 down to 4.73 produced several vessels dated by Betancourt to
early LM IA:

WHOLE OR RESTORABLE VASES:
Fine:
  Conical cups: unpainted - 2 (C8174, C8175)

FRAGMENT:
Fine:
  Closed vase: patterned - 1 (C8176)

In X7, under the earliest floor at 4.91 which could be associated with this space's use as a shrine (of either LM IB or LM II date; see below p.10), a partially paved floor at 4.81 was found with the following vessel lying on or slightly above it (Tr.73A Pails 95A, 95B):

WHOLE OR RESTORABLE VASES:
Fine:
  Conical cup: monochrome painted - 1 (C9372)

In X8 to the east, an earth and slab-paved floor sloping up from south to north from ca. 4.45 to 4.55 was exposed with Tr.80A Pails 29 and 29A and Tr.66A Pails 84 and 85:

WHOLE OR RESTORABLE VASES:
Fine:
  Conical cup: unpainted - 1 (C9614)

At the very south end of this space, the material directly overlying this surface actually appears to be LM II in date (Tr.69A Pail 83).

Further east still in X9, a probable LM I surface of hard gray clay at 4.30 was exposed in the southwest corner of the room with Tr.59A Pail 87 (no inventoried vases).

Finally, a LM I slab and plaster floor at 4.42 was exposed in X14A with Tr.80A Pail 93 below the LM IB surfaces described above (pp.6-7), but the precise date of that floor must remain up in the air pending a sounding below it or more extensive clearance of the fill which covered it.

LATE MINOAN I: SUMMARY

Excavation of X2 in 1992 has confirmed definitively that House X was first constructed and used in the LM IA period. Unfortunately, groups of LM IA material are so far attested only in the northern rooms of the house (X1, X2, X3) and in an exterior space just outside it due north of X2 (Space E). The LM IA material from Rooms X1 and X3 consists of whole or restorable vases underlying major walls in these two rooms, find circumstances which suggest that at least some of the principal walls in these spaces postdate LM IA. The plan of the original
building was clearly significantly different in detail from that of the LM IB and later stages of its use. What the building looked like during LM IA toward the south is a total mystery, since LM IA levels have not been reached anywhere south of the southern margin of spaces X1, X2, and X3.

In the interests of improving our understanding of the building's earliest appearance and history, I would recommend (a) continued excavation in X1 and X3 to clarify the nature of the LM IA deposits under X1's north wall and X3's south wall and to reveal any LM IA walls which, like Tr.80A Wall 7, may have fallen victim to LM IB remodellings; (b) soundings in several of the larger southern rooms of the house (especially X4, X6, X8, and X9 where there is plenty of space) to expose both LM IA and later LM IB surfaces and, conceivably, walls.

The laying of numerous new floors at consistently higher levels in X2 suggests that House X underwent significant changes within the LM IB period and not just at its end. The deposition of dumped fills within X1 and X11 during the LM IB period should perhaps be viewed as part and parcel of such modifications during LM IB rather than as events which occurred at the end of LM IB. In order to determine what changes occurred in House X at what point(s) during the LM IB phase, once again numerous soundings are called for, particularly in spaces where LM I levels have yet to be reached (e.g. X4, X13, X15, and most of X6, X7, and X9).

LATE MINOAN II

Despite the brevity of this period, it is well represented in House X, especially in the southern portions of the building.

In X1, the dumped LM IB fill above the LM I floor (see above pp.5-6) changes to an LM II dump at ca. 5.50-5.55 which is sealed by an LM IIIA1 partially slab-paved surface at 6.10 in the western two-thirds of the space (Tr.73A Pails 69, 72, 74, 75, 77, 79). The inventoried contents of this LM II fill are:

WHOLE OR RESTORABLE VASES:
Fine:
- Conical cup: blob-decorated - 1 (C9235)
- Teacup: monochrome painted - 1 (C9234)
- Conical bowl: linear - 1 (C9233)

FRAGMENT:
Import:
- Cypriote (?) juglet - 1 (C9236)

In the eastern third of this space, the north wall was destroyed and LM IIIA1 material and even some LM IIIA2 sherds had penetrated more deeply (Tr.66A Pails 19 and 22; from 5.72-6.09; see below pp.12-13).

In X2 to the east, a LM II floor was exposed in 1991 at ca.
6.05 in the northern part of the room, associated with the rebuilding of X2's north wall as Tr. 74B Wall 3. The LM II fill above this surface (Tr. 74B Pails 42, 43, 66, 67) produced no inventoried material. Just to the north in Space E, a corresponding LM II surface at 6.16 was buried by LM II fill up to ca. 6.35 (Tr. 74A Pails 35, 35A, 41), from which the following pieces were inventoried:

**FRAGMENTS:**

**Fine:**
- Teacup: unpainted - 1 (C9166)
- patterned - 1 (C9161)
- Conical bowl: patterned - 1 (C9164)
- Piriform jar (?): patterned - 1 (C9162)
- Liq.: linear - 1 (C9160)

This LM II surface and fill were associated with the curving Tr. 74A Wall 5 at the north and with the rebuilt north wall of X2 at the south. Further west and still outside of House X to the north of X1, to the west of Tr. 74 A Wall 7, a homogeneous LM II stratum from ca. 6.21 to 6.65 was excavated (Tr. 74A Pails 31A, 34A, 36; no vases inventoried) which probably represents the western continuation of the LM II deposit in Space E.

In X3, all pure LM II levels appear to have been removed in LM IIIA2. Above the LM IB deposit in this room (see above p.6), which reaches a maximum elevation of ca. 5.18, the strata excavated in 1991 were contaminated with 7th century B.C. material (Tr. 74B Pails 70A, 71A, 72A, 73A) or are of LM IIIA date (Tr. 74B Pails 68A, 69A, 70A; see below p.18).

In House X's central row of rooms, LM II has yet to be exposed in X4 and may have been altogether removed in X5 by LM IIIA1 building activities. In X6, however, a surface at ca. 4.90 was buried by material of late LM II or earliest LM IIIA1 date (Tr. 73B Pails 110, 113; Tr. 66A Pail 37) sealed by a slightly later LM IIIA1 floor at ca. "5.05-5.14" (see below pp.13-14). The rich late LM II deposit here yielded:

**WHOLE OR RESTORABLE VASES:**

**Fine:**
- Conical cups: unpainted - 3 (C9324, C93296, C9327)
- Goblet: patterned - 1 (C9325)
- Conical bowl: patterned - 1 (C8156)

**FRAGMENTS:**

**Fine:**
- Teacup: patterned - 1 (C8155)
- Goblet: unpainted - 1 (C8162)
- Jugs: patterned - 2 (C8158, C8159)
- Piriform jar: patterned [Palace Style] - 1 (C8088)

In X7 to the southwest, the earliest use of the shrine as a discrete space featured a floor at 4.91 with a small deposit of
LM II pottery above (Tr.73A Pails 66, 67, 80, 81, 89, 94A).

WHOLE OR RESTORABLE VASES:
Fine:
Conical cup: monochrome painted - 1 (C9249)
Shallow teacup/saucer: monochrome painted - 1 (C9250)

FRAGMENTS:
Fine:
Jug: patterned - 1 (C9251)
Sprinkler: monochrome painted - 1 (C9257)

In X8 to the east, LM II levels making up what appears to have been a dump overlay LM I material from ca. 4.45 at the south (Tr.59A Pail 83) to as high as 4.90 in the northern part of the room (Tr.59A Pail 77). This dump sloped up markedly from south to north and includes the contents of Tr.59A Pails 77 (with joins in 79), 80, 62, and 83 and Tr. 80A Pails 24 and 28 (plus some of Tr.80A Pails 18 and 21):

WHOLE OR RESTORABLE VASES:
Fine:
Conical cups: unpainted - 3 (C7604, C7605, C7606)
Conical bowl: linear - 1 (C9747)

FRAGMENTS:
Fine:
Teacups: patterned - 4 (C7602, C7607, C7608, C9572)
Footed bowl: patterned - 1 (C9573)
Liq: monochrome painted - 1 (C7615)
Closed vase: patterned - 1 (C7592+C8819)

Just to the west of this in X14A lies a similar LM II dump over a floor at ca. 4.70 (Tr.80A Pails 27, 30, 31, 34) which is linked with that in X8 through joins in its upper levels (Tr.80A Pails 18, 21):

WHOLE OR RESTORABLE VASES:
Fine:
Teacup: monochrome painted - 1 (C9620)
Goblet: patterned [Alternating Style] - 1 (C9566)
Conical bowl: linear - 2 (C9574, C9619)

This floor may be roughly contemporary with the somewhat higher surface at 4.91 which constitutes the earliest use of the shrine (X7) just to the north, if their proximity to each other in terms of both date and elevation is any guide.

Further east in X9, most of the room has been cleared down to a LM II partially paved floor at 4.45-4.50. The debris above this floor (Tr.59A Pails 81, 83, 84, 86; Tr.81C Pails 57, 57A; 60) contained several LM II inventoried vessels:
WHOLE OR RESTORABLE VASES:
Fine:
Conical cup: unpainted 1 (C9664)
Pitharaiki: monochrome painted - 1 (C7634)

FRAGMENT:
Fine:
Jug: patterned - 1 (C7603)

The post-LM IB sequence in the corridor X11 is a mystery due to 7th century disturbance in this area above LM IB levels. Similarly, the pre-LM III sequences in the areas of the staircases X13 and X15 are undeterminable due to the lack of excavation in these areas below LM IIIA levels.

Finally, in Space J outside of House X to the north of X3, a LM II stratum from ca. 6.30-6.60 (Tr. 748 Pails 62B, 64B; no vases inventoried) is to be connected with contemporary fill at a somewhat lower level just to the west in Space E (see above p.9). Insufficient excavation was undertaken here in 1991 to determine whether or not the LM II floor at 6.16 in Space E extends at about the same level into Space J.

LATE MINOAN II: SUMMARY

The evidence presently available suggests that LM II floor levels or surfaces stepped down sharply from ca. 6.16 north of House X and ca. 6.05 in its northernmost rooms to ca. 4.90 in the central series of rooms to ca. 4.45/4.50 in the southernmost rooms. A couple of large rooms in the central series would appear to have had their LM II floors either removed by later building activity or re-used during LM IIIA1 times (X4, X5). Corridor-like spaces either remained out of use (X11) or have been disturbed by later historic activity (X11). The areas of staircases employed in LM IIIA2 (X13, X15) have not been cleared down to LM II levels as yet. Some spaces in the southern part of the house were seemingly used as dump sites in LM II (X8, X14) in a fashion comparable to unutilized corridor-like spaces (X1), and perhaps also the spaces excavated just north of the house (Spaces E, J).

To clarify the history of the building in LM II times, further excavation is required in X4 and X15 (below LM IIIA1 levels) and in X13 (below LM IIIA2 levels).

LATE MINOAN IIIA1

The LM IIIA1 ceramic phase represents the period during which the occupation of House X is most widely and abundantly documented, particularly in its central, western, and northern portions. Further excavation, except perhaps in X13, is unlikely to produce any significant additional evidence for this period within the limits of House X itself.
In X1, a partially slab-paved floor at 6.10 sealed a LM II stratum in the central portion of the space (see above pp.8-9) and was itself overlain by LM IIIA1 and LM IIIA2 fill (Tr.73A Pails 29, 31, 32; Tr.81A Pails 10, 11) capped by a LM IIIA2 or LM IIIB floor at 6.43 (see below p.18). At the east, the north wall of the room was preserved to a significantly lower level and as a result LM IIIA1 material had penetrated here to a significantly lower depth (ca. 5.72), well below the level of the top of the LM II fill at 6.10 further west (Tr.66A Pails 16, 19, 22). The inventoried material from the LM IIIA levels here includes much highly fragmentary pottery due to extensive inventorying of sherd material in 1985 by P. P. Betancourt and E. Banou. It is important to note that a couple of LM IIIA2 fragments were found in this fill both to the west in Tr. 73A and to the east in Tr.66A, a fact which suggests that this space may have been open to the level of 6.10 while LM IIIA2 activity was occurring at a level approximately one meter below in X4 and X5 to the south and southeast. That this was indeed the case is indicated by the fact that the tripod cooking pot C7541 from Tr.66A Pails 19 and 22 has joins from Tr.59A Pail 25, used to excavate the southeast corner of X5 and the northeast corner of X8 from ca. 5.20 to ca. 5.50.

Inventoried Vases from Tr.73A Pails 29, 31, 32; Tr.66A Pails 16, 19, 22; Tr.81A Pails 10, 11

WHOLE OR RESTORABLE VASES:

Fine:
- Conical cups: unpainted - 1 (C9144)
  - dipped - 1(C7862)
- Teacup: patterned - 1 (C7835)

Medium Coarse:
- Tripod cooking pot - 1 (C7541; with joins in Tr.59A Pail 25)

FRAGMENTS:

Fine:
- Conical cups: unpainted - 2 (C7946, C7947)
  - dipped - 3 (C7948, C7949, C7954)
- Teacups: patterned - 8 (C7836, C7955, C7958, C7959, C7960, C7961, C7962, C7963)
  - monochrome painted - 2 (C7951, C7953)
- Kylix: patterned - 2 (C7957, C7964)
  - unpainted - 3 (C7965, C7966, C7967)
- Low-necked jug: patterned - 6 (C7865, C7952, C7971, C7972, C7973, C7988)
- Closed vase: unpainted - 1 (C8004; lost?)

Medium Coarse:
- Oval-mouthed amphora: unpainted - 1 (C7943)
  - linear - 1 (C7944)
- Closed vase: linear - 1 (C7984)
In X2, Minoan strata in the northern part of the room had been disturbed in the 7th century B.C., above the LM II level described earlier (see above p.9) (Tr.74B Pails 39, 40) and the floor level here at 6.72 with a stamnogates found in situ is likely to be historic rather than Minoan. Even if 'this is a remnant of a LM III surface, its date is likely to be LM IIIA2. There is consequently no surviving evidence for a LM IIIA1 surface in this room. At the same time, the fill below some steps leading up into X2 from X5 to the south was pure LM IIIA (Tr.66A Pail 30), thus indicating that the room continued in use into this period rather than being abandoned altogether. It is likely that this "staircase" is of the same date as that in X15 and that constructed south of X4 in X13 to provide access to X4 when that room functioned as a basement storeroom in the early LM IIIA2 period (see below pp.18-19).

In X3 also, no LM IIIA1 surface or deposit has survived between this room's use in LM IB (see above p.6) and its re-use in LM IIIA2 (see below p.18).

In X4, limited exploration in 1991 under the early LM IIIA2 floor at 5.07 exposed a lower floor at 4.91 (Tr.73A Pail 63; no inventoried pottery) which presumably dates either to LM IIIA1 or conceivably to LM II with continued use throughout LM IIIA1.

In X5, excavation in areas outside of the lightwell in the room's southeast quadrant below the early LM IIIA2 floor at 5.02-5.07 revealed a partially slab-paved floor at 4.91, some ten centimeters above the LM I floor described earlier (see above p.7). The fill above this intermediate floor was of LM IIIA1 date (Tr.66A Pail 33; no vessels inventoried), thus suggesting that the floor itself was of either LM II or LM IIIA1 date, the lowest floor so far exposed in X4 at precisely the same level. With this floor in X5 goes a threshold with its top at 4.90 in the doorway leading south into X8. This doorway was subsequently blocked and the latest material from the earth below the actual blocking wall dates to LM IIIA1 (Tr.66A Pail 41). The opening was presumably blocked before X5 served as a basement in the early LM IIIA2 period.

In X6, the LM II surface and fill above it (see above pp.9-10) was overlain by a LM IIIA1 floor at 5.06-5.14, above which was discovered a rich dump full of fine pottery which extended up as far as ca. 5.75 (Tr.66A Pails 26, 27, 31, 34, 36; Tr.73B Pails 71, 99, 101, 102, 106; 108, 111). The door near X6's northwest corner leading into X5 must have been blocked at some point during this dump's period of accumulation and certainly prior to X5's use, in tandem with X4, as a sunken basement level in early
LM IIIA2 times. The inventoried material from the LM IIIA1 dump in X6 is extensive, but consists largely of fragments rather than of whole or even largely restorable vessels:

WHOLE OR RESTORABLE VASES:
Fine:
- Conical cups: unpainted - 3 (C9324, C9326, C9327)
- Monochrome painted - 1 (C8009)
- Kylikes: unpainted - 3 (C8125, C8126, C9326)
- Teacups: monochrome painted - 1 (C9379)
- Patterned - 3 (C7503, C8007, C8011)
- Ring-based shallow cups: patterned - 1 (C8092)
- Low-necked spouted jug: patterned - 1 (C8090)

Medium Coarse:
- Cooking pot: kalathos/chalice - 1 (C8012)

FRAGMENTS:
Fine:
- Teacups: patterned - 5 (C8013, C8014, C8016+C8094, C8017, C9318)
- Kylikes: unpainted - 1 (C8147)
- Patterned - 2 (C8119, C9392)
- Jugs: patterned - 4 (C7521, C8015, C8158, C8159)
- Stirrup jar: patterned - 1 (C8018)

Medium Coarse:
- Oval-mouthed amphorae: linear - 2 (C8010, C8118)

Imports:
- Cycladic: unpainted - 3 (C8019, C8020, C8127)
- Cypriote: unpainted - 2 (C8006, C9382)

In Tr.73B (1991), a possible LM IIIA1 surface in the approximate middle of this dump was identified at ca. 5.42-5.44, but the excavator noted in her final report that no confirmation for such a surface existed in the previous excavation record in this space in 1985 (Tr.66A).

Within the shrine (X7), two LM IIIA1 floors were isolated above the earlier LM IB or II floor (see above p.10). Above the lower LM IIIA1 surface at 5.06-5.16 was a deposit containing several inventoried vases and fragments (Tr.73A Pails 64, 65, 70, 78):

WHOLE OR RESTORABLE VASES:
Fine:
- Conical cups: unpainted - 1 (C9309)
- Trefoil-mouthed handleless juglets: unpainted - 2 (C9313, C9314)

Medium Coarse:
- Brazier - 1 (C9310)
FRAGMENTS:
Fine:
Small low-necked jug: patterned - 1 (C9658)

The upper LM IIIA1 floor at 5.20-5.25 was furnished with a more extensive deposit of whole vessels (Tr. 73A Pails 47, 51, 51A, 51B, 57, 61, 76):

WHOLE OR RESTORABLE VASES:
Fine:
Conical cups: unpainted - 8 (C9002, C9016, C9019, C9020, C9301, C9302, C9303, C9306)
Dipped - 1 (C9017).
Piriform handleless sprinkler: patterned - 1 (C9145).

Medium Coarse:
Conical bowls: unpainted - 1 (C9305)
Linear - 1 (C9304)
Trefoil-mouthed handleless juglets: unpainted - 2 (C9001, C9003)
Braziers - 4 (C9015, C9018, C9137, C9308)
Censers - 3 (C9139, C9146, C9149)
Cooking pots: kalathoi/chalices - 2 (C9311, C9312)

FRAGMENTS:
Medium Coarse:
Brazier - 1 (C9307)
Snake tube - 1 (C9659)

Import:
Canaanite jar: unpainted - 1 (C9014)

In X8, the LM II levels were overlain by a LM IIIA1 dump between ca. 4:90 and ca. 5:50 over much of the room (Tr. 59A Pails 25, 46, 63, 65, 67, 68, 71, 72, 74, 76; Tr. 80A Pails 21, 24, 28). A few fragments of LM IIIA2 suggest that this dump may have persisted in use into the period represented by the early LM IIIA2 floor deposits in X4 and X5. Alternatively, such LM IIIA2 material may represent occasional intrusions into what is essentially a pure LM IIIA1 fill. Large numbers of inventoried pieces from this LM IIIA deposit are for the most part fragmentary, but a few restorable profiles were also found:

WHOLE OR RESTORABLE VASES:
Fine:
Conical cups: unpainted - 3 (C7536, C7548, C7556)
Teacups: patterned - 5 (C7497, C7500, C7503, C7515, C7551)
Conical bowl: patterned - 1 (C7352+C7594 [LM II])

Medium Coarse:
Lid/plate: unpainted - 1 (C7504)
Import:
Canaanite jar: unpainted - 1 (C7061)

FRAGMENTS:

Fine:
Conical cups: unpainted - 3 (C7513, C7547, C7558)
dipped - 1 (C7554)
Teacups: monochrome painted - 1 (C7531)
blob-decorated - 2 (C7501, C7517)
patterned - 11 (C7330, C7331, C7514 [LM II],
C7529, C7530+C7538, C7532, C7540, C7552, C7559, C7597 [LM IIIA2],
C7598 [LM II])
Wishbone-handled cup: patterned - 1 (C7553)
Klyix: unpainted - 5 (C7495 [LM IIIA2], C7525, C7533, C7542,
C7568)
patterned - 1 (C7502)
Footed bowls: patterned - 2 (C7498, C7499 [LM II??])
Champagne cup: unpainted - 1 (C7595 [LM IIIA2])
Dipper: unpainted - 1 (C7562 [LM IIIA2])
Miscellaneous cups or bowls: patterned - 5 (C7058, C7555,
C7577, C7579, C7580)
Low-necked spouted jug: patterned - 1 (C7560)
Miscellaneous closed vases: patterned - 3 (C7537, C7550,
C7599)

Medium Coarse:
Basin: linear - 1 (C7573)
Jugs: unpainted - 1 (C7526)
linear - 1 (C7535)
Oval-mouthed amphoras: linear - 4 (C7543, C7544, C7574,
C7635)
Miscellaneous closed vase: patterned - 1 (C7562)
Pithoi: unpainted - 1 (C7539)
monochrome painted - 1 (C7527)
Cooking dishes - 2 (C7564, C7565)
Cooking trays - 2 (C7549, C7567)
Tripod cooking pot - 6 (C7505, C7541, C7545, C7546, C7566,
C7572)
Hole-mouthed cooking pot - 1 (C7575)

In X9, a LM IIIA1 stratum was excavated from ca. 4.55 (over
the LM II floor and overlying fill described above p.11) to
ca.4.85/4.90. Only a couple of pieces from this stratum (Tr.59A
Pails 74, 76; Tr. 81C Pails 54, 55) were inventoried.

FRAGMENTS:

Fine:
Teacups: patterned - 2 (C7600, C7360+C7601)

In X11, X13, and X14, LM IIIA1 levels have either been dug
away by subsequent Archaic activity (X11, X14) or have not yet
been reached below LM IIIA2 strata (X13).

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In X15, the final units excavated in 1992 in Tr.81C exposed a LM IIIA1 surface at 4.70 with a good deal of mendable pottery (Pails 74, 77, 78):

WHOLE OR RESTORABLE VASES:
Fine:
  Conical cups: unpainted - 5 (C9715, C9716, C9717, C9718, C9719)
  Kylix: unpainted - 1 (C9714)

This LM IIIA1 deposit was sealed at the top ca. 5.13 by a surface of LM IIIA2 date which just covered the top of Tr.81C Wall 12 at the north; the surface was exposed with Tr.81C Pail 37 (no vessels inventoried).

North of X2 in Space E, a deep and extensive LM IIIA1 dump from ca. 6.35 to 6.80 comparable to that found in Rooms X6 and X8 was excavated in 1991 (Tr.74A Pails 25, 27, 27A, 27B, 30A, 30B, 30C, 32, 32A, 33, 33A; Tr.74B Pail 52C; a touch of LM IIIA2 material was found in the uppermost purely Minoan unit excavated in this area, Pail 25). As in the other LM IIIA1 dumps, the inventoried material is highly fragmentary rather than fully preserved, but is of high quality and includes much fine decorated material:

WHOLE OR RESTORABLE VASES:
Fine:
  Conical cups: unpainted - 2 (C9134, C9142)
  Dipped - 1 (C9143)

FRAGMENTS:
Fine:
  Teacups: patterned - 8 (C9127, C9129, C9132, C9133, C9135, C9140, C9153, C9267)
  Bowls: patterned - 2 (C9130, C9131)
  Piriform jar: patterned - 1 (C9128)
  Patterned [Palace Style] - 1 (C9147)

Further to the east in Space J, still north of House X's north wall, LM IIIA1 levels are not preserved above the LM II fill described earlier (see above p.11). To the northwest in Spaces D/F, LM IIIA1 strata contain joins with pieces inventoried from Space E, so the LM IIIA1 dump appears to have continued into this area at much the same level, from ca. 6.25 (i.e. the base of Tr.74A Wall 7) to ca. 6.80 (Tr.74A Pails 29B, 31B, 31C, 34B, 36A; inventoried pieces with cross-joins in Space E are C9135 and C9147). West of Tr.74A Wall 7, however, no undisturbed LM IIIA1 levels survive above the LM II fill previously described (above p.9).

LATE MINOAN IIIA1: SUMMARY
With the exception of the staircase X13 which has been explored only as far as LM IIIA2 levels, no spaces exist within House X where LM IIIA1 remains can be expected, yet where they have not already been thoroughly investigated. The general picture of occupation in House X during LM IIIA1 times is virtually a carbon copy of that for the LM II period (see above p.11) except that it took place at a somewhat higher level. That is, from an architectural rather than ceramic standpoint, the LM II and LM IIIA1 phases represent a single major stage in the house's long history.

Aside from further exploration in the stairwell of X13, no additional excavation of LM IIIA1 levels in House X is required.

LATE MINOAN IIIA2

In most areas of House X, LM IIIA2 levels represent the final purely Minoan strata. Above these, 7th century B.C. activity is abundantly represented by ceramics, large deposits of limpet shells, substantial numbers of bull figurines, and various other features of Komotini life in the early Archaic period. It may be doubted, however, whether the Minoan occupation of House X truly ceased before the destruction of Building P early in the LM IIIB period and the abandonment of the entire site fairly soon thereafter. Unfortunately, with the possible exceptions of the final Bronze Age surfaces within Rooms X1, X3, and X6, there are no surfaces above which any LM IIIB material is preserved in a purely Minoan context, free of 7th century B.C. contamination. Indeed, there is very little Minoan material which need be as late as LM IIIB from any contexts within the bounds of House X's exterior walls.

In X1, a LM IIIA2, or just possibly LM IIIB, surface at 6.43 associated with a pi-shaped hearth was overlain by Tr.73A Pails 21 and 22, neither of which produced inventoried vases. The fill below this surface contained some LM IIIA2 pottery, so the surface must be at least as late as that ceramic phase. Whether this surface in X1 was actually used contemporarily with the early LM IIIA2 floor at ca. 5.07 in X4 just to the south remains to be demonstrated through careful re-study of the associated ceramics in both areas.

In X2, the fill in the room's northeast corner from ca. 6.20 to ca. 6.65 contained mixed Minoan pottery down to as late as LM IIIA2/B (Tr.74B Pail 40), but this may conceivably have been deposited as late as the 7th century B.C. There is no evidence from X2 for LM IIIA1 activity nor were any Bronze Age surfaces later than one of the LM II period exposed here.

In X3, LM IMA2 fill began at a level of ca. 5.50, although it was often found contaminated by 7th century B.C. material (Tr.74B Pails 68A, 69A, 70A). Two inventoried vases made up from joining sherds found in all three of these units suggest that a LM IIIA2 surface might once have existed here, but the floor noted at 5.91 may be of 7th century rather than Minoan date. This
floor was plausibly connected by the 1991 excavator of this area with the base of Tr.74B Wall 15 at the west. If the wall is Minoan, then perhaps so is this surface. Since some definitely LM IIIB pottery was found above this surface (Tr.74B Pail 67A, but latest is 7th century B.C.), X3 preserves a tiny bit of tenuous evidence that House X may have been occupied as late as LM IIIB.

In X4, a large floor deposit of early LM IIIA2 date at 5.07 was covered by collapsed ceiling debris above which were found a couple of restorable vessels constituting a floor deposit for the second storey above this room. A date early rather than late in LM IIIA2 is indicated by the lipped bowl and flaring rather than deeply hollowed foot of the unpainted champagne cup C9010 and by the finely painted decoration of the pyxis C9012. The exceptional preservation of two superimposed, contemporary floors in this space is due to the fact that in early LM IIIA2 times the lower LM IIIA2 surface in X4 was in effect that of a semi-subterranean basement: contemporary LM IIIA2 levels to the south (X8, X14) and east (X6), beyond the bounds of the light well in X5 and the staircase in X13, lay at considerably higher levels.

Lower Floor Deposit (Tr.73A Pails 55, 59, 60, 60A, 63, 63A)

**Whole or Restorable Vases:**

**Fine:**
- Conical cups: unpainted - 2 (C9006, C9008)
- dipped - 2 (C9007, C9173)
- Champagne cups: unpainted - 2 (C9010, C9011)
- Pyxis: patterned - 1 (C9012)
- Four-handled jar: palm-printed - 1 (C9004)
- Pithos: unpainted - 1 (C9013)

**Medium Coarse:**
- Jug: unpainted 1 (C9009)

**Import:**
- Canaanite jar: unpainted - 1 (C9167)

**Fragments:**

**Medium Coarse:**
- Round-mouthed jug: linear - 1 (C9172)
- Cooking dish 1 (C9005)

Upper Floor Deposit (Tr.73A Pails 53, 54, 55)

**Whole or Restorable Vases:**

**Fine:**
- Teacups: unpainted - 1 (C9151)
- patterned - 1 (C9141)

**Fragments:**

**Fine:**
- Champagne cup: monochrome painted - 1 (C9182)
Import:

Canaanite jar: unpainted - 1 (C9159)

Just to the east in X5, another and even larger floor deposit of precisely the same date was found at exactly the same level, ca. 5.02-5.07. As in X4, this floor deposit was overlain by a very deep accumulation of debris of the same date extending upwards to ca. 5.95 (Tr. 59A Pails 20, 25, 88; Tr. 66A Pails 17, 20, 24, 29, 32).

WHOLE OR RESTORABLE VASES:

Fine:

Conical cups: unpainted - 4 (C7985, C8061, C8071, C8276)
    dipped - 1 (C8138)
Champagne cups: unpainted - 2 (C8073, C8075)
Teacups: monochrome painted - 1 (C8074)
    patterned - 1 (C8077)
Wishbone-handled bowl: monochrome painted - 1 (C8068)
Pyxis: patterned - 1 (C8001)
Angular alabastron: patterned - 1 (C7636+C8002)
Low-necked spouted jug: linear - 1 (C7927)

Medium Coarse:

Stirrup jar: linear dark-on-light. - 1 (C7981)
Squat jug: unpainted - 1 (C8070)
Pithos: unpainted - 1 (C8072)
Lug-handled ring-based bowl, cooking fabric - 1 (C8078)

Import:

Canaanite jar: unpainted - 1 (C8069)

FRAGMENTS:

Fine:

Champagne cup: unpainted - 1 (C8145)
    monochrome painted - 1 (C8076)
Kylikes: unpainted - 3 (C7859, C7993, C8057)
Teacups: unpainted - 1 (C7992)
    monochrome painted - 1 (C7991)
    patterned - 2 (C7860 [LM IIIA1], C7861)
Angular cup/bowl: linear - 1 (C8143)
Footed bowls: patterned - 1 (C8059, C8060)

Medium Coarse:

Round-mouthed rim-handled jug: linear - 1 (C8082)
Oval-mouthed amphora: unpainted - 1 (C7989)
Jug, amphora, or stirrup jar: linear - 1 (C8081)
Stirrup jar: linear dark-on-light - 1 (C7986)
Stirrup jar: linear light-on-dark - 1 (C7987)
Pithos: unpainted - 1 (C7990)
Cooking dish - 1 (C8079)
Tripod cooking pot - 1 (C8080)

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Imports:
- Cypriote (?) juglet: unpainted - 1 (C8058)
- Canaanite jar: unpainted - 1 (C8058)

Above the LM IIIA1 dump in X6, a surface was identified at ca. 5.70 (Tr.73B Pail 98; Tr.59A Pail 22). The fill above this surface contained some historic material, but also some Minoan pottery which might date as late as LM IIIB.

WHOLE OR RESTORABLE VASES:
Fine:
- Teacup: monochrome painted - 1 (C9379)

Import:
- Cypriote (?) cup - 1 (C9382)

In X9, LM IIIA2 fill above the stratum previously described (see above pp.) was mixed with much LM II and LM IIIA1 material (Tr.81C Pails 47, 52A) and extended upwards only as far as ca. 5.30 before it became mixed with 7th century debris (Tr.81C Pail 42A).

Further east in X15, virtually all excavated levels of the staircase produced material datable to LM IIIA2 (Tr.81C Pails 36, 38, 48, 51, 52, 54A), although the amount of earlier material LM II and LM IIIA1 material present was often high. Only one vessel from these units was inventoried.

WHOLE OR RESTORABLE VASES:
Fine:
- Teacup: monochrome painted - 1 (C9643)

LM IIIA2 or later Minoan activity in X7, X8, X11, and X14A cannot be documented in view of the disturbance of these spaces in the 7th century B.C.

Northwest of X1 in Space B a pair of inventoried vessels characteristic of the material found in the LM IIIA1 shrine X7 well to the south were found mixed with historic material in an apparent dump at ca. 6.90 (Tr.74A Pail 14). These vessels may be LM IIIA2 versions of LM IIIA1 types from the shrine. Whether they indicate that the shrine was moved in LM IIIA2 times from X7 to a space further north is open to debate.

WHOLE OR RESTORABLE VASES:
Medium Coarse:
- Trefid-mouthed-handleless juglet: unpainted - 1 (C9021)
- Censer - 1. (C9022)
KOMMOS 1992:

GREEK POTTERY

ALAN W. JOHNSTON
GREEK POTTERY, 1992 SEASON

A significant part of my work this season (15/7 - 21/8) was concerned with the final editing of the text on Greek Pottery for volume IV. Many details were elucidated, mostly in Pitsidia, but some in HM. A small number of objects remained untraceable, but only in one case did this result in an awkward lacuna (lack of measurements) in the text.

Some material left for further study by PJC was also examined and the more significant pieces catalogued, or isolated for cataloguing.

As in 1991, a considerable proportion of Iron Age material, from all trenches, was processed by JBR before my arrival, and I subsequently looked through the pails, making some minor revisions and cataloguing some items. Little of interest of the Classical period or later was excavated; a few exceptions are noted below. The major body of material came from Building Z and its environs, from which over 60 pieces were catalogued.

80A

Material treated by JBR and reviewed by AWJ. Upper pails tended to be very mixed, with a good range of material of the seventh and probably later eighth century of general "sanctuary" character. Corinthian imports, or imitations of them, appear frequently. The few catalogued pieces include an imported hydria (C9552) of perhaps Milesian origin. Pails 4, 5, 7 and 8 contained many sherds of one or more decorated semi-coarse pots of local, seventh century origin, but they fail to yield profiles or overall schemes of decoration.

80B

The relevant trench report describes the excavations at the east end of P, partly designed to elucidate the history of the south wall of the Greek well. Some of the pertinent pottery (pails 52 and 53) was not closely datable, but Iron Age material was found as deep and far south as pails 55 and 57.

81C

Work here has once more revealed the two periods assciable with Building P, seventh century and Classical. The former material, though impressive in quantity, was not so in quality. A tile fragment in pail 24 was a matter of discussion, since its stratigraphic position did not prima facie support a fourth century, or later, date; the piece was perhaps from a Minoan
drain. As has been the habit, it was not kept. In future it would be wise to retain tile material where it is the major dating evidence for a pail.

The seventh century material, pails 24 and below, was noteworthy in particular for the considerable number of graffiti; Building F was clearly somewhere where literary expertise was frequently displayed. Most of the texts are on the ubiquitous black-glazed cups, though one oddity is a sign on the foot of an SOS amphora, to my knowledge an unparalleled position. At least at this period.

Down to pail 32 pails normally contain material of advanced seventh century date, though in individual pails an earlier terminal date may be seen (compare 30D with 32A). There are many joins and "joins" in this series of pails. Material includes many imported storage jars and a good deal of Corinthian, including a Thapsos cup of c.700, rare at the site; one piece would seem to be a Phoenician slipped plate (C9551). A coarse pithos, much fire-damaged, was found in association with a hearth (C9575).

The graffiti are unfortunately all very fragmentary. One has the start of an abecedarium - the first known on Crete? None are surely in non-Cretan alphabets. Two could be read as parts of the name of Apollo, but another might yield the name of Zeus; either restoration would be over-speculative. Graffiti on pottery elsewhere on the site concentrate on the area south of the temple (50A, 57A, 60B, 64A), although in many cases the marks are likely to be, in the broadest sense, commercial (on amphora handles).

84A-E and 82C

Scanty Iron Age material came from these trenches and little comment is needed. The pottery dating the square's foundation in 84A is no later than fifth century, though the two diagnostic sherds are not very helpful. The single Attic pot of 1992 was found, oddly, in a low pail of 84A, while a pithos probably of the seventh century, of good quality which at first suggested an Attic origin, comes from 84D/2.60 and 82C/1.60 (C9572). An early PG skyphos (C9769, 82E/1.62) is of some interest - from this part of the site, as perhaps a terracotta bull's leg (C9618), from 84C/3.38, the only clearly Iron Age object in the pail.

83A-C

Little of interest can be gleaned from the Greek pottery from the rear part of Gallery 3 of P. In 83A/2.17 C9631 is an unusual and fairly early SOS amphora neck. In 83C fragments of two Lesbian amphorae are of interest typologically rather than stratigraphically, an early seventh century (?) rim from the surface pail 59 and from pail 64 a handle in red clay, probably
the fragment from 82B is from pail 51, the cleaning of the top of the rear wall of Z, and the pail also contained a sherd which I am confident is from a seventh century SOS amphora.

(3) Joins up and down 82A-B. We may note that joins so far found include very few that straddle the floor at c.4.30; most of these few involve pails that are either just above or just below that floor. See the kraters below and add C9555 (mainly from above the floor, and from pails 25 and 52 below), and C9688i (50, 52 and perhaps 54). Further joins, especially in the undecorated pots, may come to light.

(4) A number of stirrup-kraters have now come to light and most have been catalogued. One, C9766, is perhaps the most diagnostic piece in Z as far as dating is concerned, with a maeander that can be no earlier than MG. A more difficult question is how many such kraters are involved, since fragments were also discovered in trenches 36B and 65A2. One illuminating point is that via a strap handle from 65A2 (C9764) we can attribute at least some of these kraters to the same workshop as a number of skyphoi, such as C9577. Further linkage between large and small pots may be possible. Study of 65A2 may help, though the uncatalogued material from 36B has been discarded.

(5) Cretan Geometric. These stirrup-kraters belong to the "normal" Geometric tradition of the mainland; much else in Z is more Cretan, whether Knossian or local Cretan. The mix of influences renders comparative dating hazardous. While it may be tempting to place some of the Cretan material in PGB (even LPG - or the ninth century), it is quite possible that it was produced later, in MGII in Attic terminology. Examples are C9555 (lowest pail 52) and C9585 (34 and 37), both of which are decorated in the PGB style, the former with an unusual double-axe motif in its body frieze (cf. a hydria from Khavousi). Pail 37 may then indicate a PGB date for the lower floor in Z, which was not productive of diagnostic material (i.e. pails 17, 28, 37-3, 54-5). C9584(28) is a pedestal foot compatible with PGB but C9580 is a presumably MG krater pedestal (17) and C9729 (54) is a skyphos perhaps associable with the plainly painted MG stirrup-kraters.

The general character of the pottery is clearly sympotic - kraters and amphorae, cups and skyphoi; cooking pots (and also burning on floors) are also in evidence, while numerous coarse ware bases also show heavy burning. Food was regularly prepared in Z and prestige pottery was either used or stored there (or both). It remains to compare the material with contemporary pottery from the Temple area.
to be dated to the end of the Cretan Dark Ages, c. 500. More closely
associable with Building Z to the west is C9756, a Geometric amphora from pail 66. A further "Z" piece is noted
below.

82A-B and 81B

The bulk of the Iron Age pottery found in this season came from
gallery 3 of P, in association with the building termed Z. Here
stratigraphy and pottery blend well enough together, though
questions remain open about the length of life of Z and its
precise dating, questions arising mainly from the idiosyncratic
nature of S. Cretan pottery. To a certain extent stratigraphy
will help in determining the relative chronology of the pottery.
In particular, the black-glossed cups and the skyphoi will bear
closer scrutiny, especially as the early history of the BGC is
still not fully elucidated; at first blush it seems that cups
with a variety of more and less "advanced" features were in use
concurrently, perhaps the product of different centres. Imports
are not, however, very visible in the Z material.

In none of the trenches was much post-seventh century material
found; Hellenistic was virtually absent. The seventh century
material was a largely predictable mixture of local wares and
imports - notable Corinthian kotylai and various amphorae. In
81B:50E a fragment of semi-coarse ware with white on dark
orientalising decoration, poorly preserved, points up the
probable fact that the soil of Kommos and vigorous cleaning have
removed much of interest from the surface of Iron Age pots.

Material of the later eighth and early seventh century does
not seem abundant, though it undoubtedly exists; it is found
mainly in pails 45-48 of 82B (not so clearly in the same strata
of 82A to the west). In fact the bulk of the pottery above the
floor at c. 4.30 is either of the full seventh or the first half
of the eighth century.

The main period of use of Z was clearly in this earlier
period. It is characterised by pottery, ranging, in Cretan
terms, from LPG to MG. The PG element requires further scrutiny,
but the body of material is not extensive, being confined mainly
to pail 54 of 82B.

It would be superfluous to single out many catalogued pieces,
and the range of joins and "joins", but some remarks may be made:

(1) Micaceous pots. High mica content is found in a number of
decorated pots. C9609 poses particular problems. Its origin
may be the Cyclades, and it may also be plural, since it is
difficult to fit the scattered fragments, from however
distinctive a fabric, into one profile and decorative scheme.
The range of pails in 82A-B in which sherds are found is wide and
it is one of few pieces also in 81B....

(2) Joins with 81B. C9609 and two other pieces, C9723, with in
fact non-joining fragments at compatible levels, and an
uncatalogued coarse amphora foot with a joining fragment high in
REPORT ON STONE TOOLS AT KOMMOS 1992

Helene Whittaker, August, 1992

The processing of the stone objects collected in the course of the 1992 season followed the same procedures as last year. 30 objects have been catalogued as stone tools (S2176, S2178, S2180, S2181, S2185, S2189-S2198, S2200, S2201, S2203-2207, 2208-2214, S2218). Three (S2206 stamnosta, S2207 stamnosta, S2218 unfinished mortar) catalogued items have been left on site. The remainder are stored in Apothiki 4. The stone tools catalogued in 1991 have now been transferred to the Kitchen Annex.

The stone tools found this season include querns, mortars, various types of grinding stones, as well as weights. As concerns the typology and type of stone utilised, the 1992 stone tools are comparable to the Kommos stone tools recovered in 1991 and in the earlier years of excavation.

As in 1991, most of the stone tools have come from House X. Particularly worth mentioning is a LM1B floor deposit from X2 (S2191, S2194, S2195, S2197, S2198, S2200, S2205, S2214 80A/9:41) consisting of several grinding stones, a quern, and polishing tools.
The possibility of a stone vase making industry at Kommos was discussed in my 1991 report. Great joy was therefore occasioned by the find of another drill wedge and another tool used in stone vase making (S2201 80A/11:63, S2208 80A/11:65; see MSV, 159 for use). From the same context as the drill wedge came a pounder made of serpentine (S2209), showing the use of waste material from stone vase production being used for tools; as mentioned in my last year's report, this is otherwise attested at Kommos. The stone vase making tools were found associated with LMI pottery. All of the stone vase making tools came from the area of House X, and it seems therefore possible to suggest a workshop area in House X. Two of the tools came from X3; S2173 was found on the LMIB floor. Two came from X2; S2208 was found just above the LMA floor. Other stone tools which could be associated with stone vase making are the serpentine pounder found with S2208 and another pounder from the same context (S2210). The above-mentioned floor deposit from X2 could also well be connected with this industry. Querns, mortars, grinding stones would have been used for grinding the abrasive used with the drill.1 Pumice, commonly used for the final polishing of stone vases, was also found in some quantity within House X. A number of stone vessels made of the same type of serpentine as these drill wedges have been found at Kommos and it does not seem

1 Emery is known to have been used as an abrasive in stone vase production (MSV, 160) and chunks of unworked emery have been found elsewhere on the site; however, the most likely abrasive used at Kommos is quartz sand.
unreasonable to surmise that they are products of the local industry.

Very little obsidian was recovered at Kommos in 1991 and 1992 (five small pieces in 1992; one complete prismatic blade (802/7:84) and one small fragment of a blade (81C/10:59) in 1992). Also in the earlier years of excavation very little obsidian was found at Kommos (Harriet Blitzer, manuscript, 209-237). This would seem to indicate either that obsidian was not easily obtainable or there was not much interest in the use of obsidian for the production of chipped stone tools at Kommos. The small amount of obsidian recovered at Kommos contrasts greatly with sites in the northeast of Crete (Mokhlos, Pseira, Palaikastro) where obsidian is found in great abundance throughout the Bronze Age. Moreover, very little worked chert has been recovered at Kommos. Since several varieties of chert can be found in the Kommos area (Harriet Blitzer’s manuscript, 210-211), this leads to the conclusion that chipped stone implements did not play a large role at Kommos. As has already been suggested by Harriet Blitzer, the inhabitants of Kommos must have had easy access to metal (manuscript, 211). It would be of great interest to see whether the situation at Kommos is analogous to that at other sites in the south of Crete.

Considerable amounts of obsidian (blades, cores, debitage) were recovered by Xanthoudides from the EM tholoi at Koumasa and Platanos (VTM, 21, 105-106), and in general obsidian blades are common in the Mesara tholoi (Branigan: The Tombs of Mesara, 66).
This suggests that the use of obsidian was widespread in the Mesara in the Early Minoan period. No obsidian is, however, reported by Xanthoudides from the MM settlements at Knossos and Kalathiana (VTM, 49, 84-85). Although at this stage only very tentative conclusions can be drawn, it can perhaps be suggested that the import of obsidian and the manufacture of chipped stone tools to a large extent ceased in the south of Crete around the beginning of the Middle Bronze Age or sometime during the Middle Minoan I period, and that this can only be the result of the fact that metal becomes readily available; also for common types of tools. It seems to me that further investigation into the occurrence of obsidian and chert and the use of chipped stone tools in the south of Crete compared to other areas of Crete would be a profitable line of research.

All the pumice has been looked at and stored in the Kitchen Annexe. Most of it had no obvious signs of being worked. Only two pieces showed clear signs of use. One small piece (81B/1:55A) had a V-shaped groove and could have been used as a whetstone, and one small piece (81C/8:30) had a flattened surface from rubbing and the remains of yellow colour.
KOMMOS 1992:

MM III AND LM I CONICAL CUP CHRONOLOGY

ALEYDIS VAN DE MOORTEL
1992 FINAL REPORT:
MM III AND LM I CONICAL CUP CHRONOLOGY AT KOMMOS

This study is an attempt to develop, on the basis of a number of stratigraphically secure deposits, a detailed chronological sequence of conical cups at Kommos. Since conical cups are much more frequently found in the field than the better datable straight-sided and rounded cups, a reliable conical cup sequence would be particularly helpful for dating purposes.

Previous studies on conical cups of Kommos and the Mesara have been done by E. Fiandra (1973:90-91), C. Gillis (1990), P. Betancourt (1990:38), and L.V. Watrous (1992; only the manuscript is available at the time of writing). Fiandra comments on the large size and relative coarseness of the MM III conical cups in Phaistos, but she does not offer a typology for this phase. Her illustrated examples (pls. 32, 34, t-v) correspond to several Kommos cups, but do not cover all the types established in the present study (cf. infra, p. 2). Betancourt distinguishes only two MM III conical cup types in Kommos, those with straight or incurved rims (his #478), and lower cups with flat, outturned rims (#485). Also, Watrous’ treatment of LM IA and B conical cups is rudimentary. He cites only 2 cup types for each phase. In the present study, an abundant number of cups found in the 1991 and 1992 excavations seasons at Kommos was added to the earlier evidence. Several more types were discerned per phase, and their evolution traced throughout MM III and LM IA-B. Even though more evidence is needed for dating some of the minor types, we can state that the major types are now sufficiently known to be used as dating tools.

In the first part of this study, I established a classification of conical cups coming from contexts that have been securely dated by their fine wares. The classification is based on general shape, dimensions, and proportions of the cups, which often correspond to fabric type and surface treatment as well. The MM III, LM IA, and LM IB phases can be distinguished quite well from each other, each presenting various types of cups. Several cup types persist, with changes, through the three phases. LM IA can be divided into two typological groups, but it is not clear yet whether or not these groups represent chronological subphases. We need more evidence to clarify the issue. In this report, the subphases will be marked by question marks.

In a second stage, conical cups found in less well-datable deposits, and also cups found this season were compared to the established classification as a test. In general, they confirmed the validity of the basic scheme.

It was decided that the results of this study would be represented in the form of a chart that would form an easy reference for dating purposes. The chart will be made up of 1:3 scale drawings showing the range of variation within each cup type. An easy-to-use determination guide will be added. In
addition, group photographs have been taken of the cups organized per phase as well as per type.

MMIII

- 69 inventoried vases, including 29 conical cups; 25 conical cups were available for this study.
- 67 complete vases, including 17 conical cups; 6 conical cups were available for this study (Tr.28B/62, 41A/27), the remaining ones are in the Heraklion Museum and were studied from catalog cards (only profile and dimensions taken).

6 types: - Low, flaring cup with flattened to everted rim:
  10 in Tr.74A, 5 in context 16, 4 from 1992 deposits, Tr.80A/38 (X14a), 56 (X2), 60B/55 scarp, 84B/16 (south of southern doorway of T).
- Low, flaring cup with straight, rounded rim:
  2 in Tr.74A, 4 in context 16, 4 in other deposits, 1 in 1992, Tr.84B/16 (south of southern doorway of T).
- Steep, convex cup with straight to incurving rim:
  6 in Tr.74A, 3 in context 16, 4 in other deposit, 1 in 1992, Tr.80A/70 (X2).
- Large, flaring cup with everted and dipped rim:
  6 in Tr.74A, 2 in context 16
- Large, semi-globular cup with straight; rounded rim, unainted: 1 in Tr.74A, 1 in context 16 (HM), 1 in NE rooms of T (Tr.58A/57).
- Large, convex, monochrome cup: 1 in context 16

(1) Low, flaring cup with flattened to everted rim

Rim: flattened; part of top surface may be slightly rounded; several with rather sharp interior edge; 2 with projecting interior edge; exterior edge often slightly projecting; some cups with S-profile have truly everted rims (only in context 16; Betancourt's lower type with flat, outturned rim
[1990:38, 110]). Since such cups seem to be lacking in Phaistos (Fiandra 1973:pls. 32, 34), they may be local Kossian shapes.

Profile: straight, slightly convex or S-curve

Base: nearly all have a more or less projecting foot

Dimensions: height: 3.8/4.4 to 5.5/5.7 cm
rim diameter: 8.2/8.3 to 13 cm
base diameter: 3.5/3.7 to 4.4/4.5 cm
wall thickness: 0.37/0.42 to 0.58/0.7 cm

Proportion height/rim diameter: 0.39 to 0.60

Weight: 73 to 130 g

Fabric: 12 cups have fine fabrics, brown, pink, orange, buff
4 cups have medium-coarse fabrics, brown, buff or green

Surface treatment: unpainted, unpolished; most cups feel rather smooth because of their fine fabric

Examples drawn: C. 9198, 9348, 9032, 9335, 9366, 2200, 2593

The type continues into earlier (?) LM IA. The MM III examples are generally taller, wider, thicker-walled and with a wider base diameter, even though there is some amount of overlap. Cups taller than 4.8/5 cm, with rims wider than 10 cm and bases wider than 4.2 cm can be dated to MM III. Bases with a diameter of 4 cm or more are likely to date to MM III, because they are very rare in earlier (?) LM IA. Only about 50% of the MM III cups have such wide bases, however. MM III cups also tend to be heavier than LM IA examples, and many have insufficiently raised bases.

(2) Low, flaring cup with straight, rounded rim

Rim: some are tapering or have a slight exterior bevel

Profile: straight, slightly convex, or S-curve

Base: many have a projecting foot

Dimensions: height: 3.7/4.1 to 4.9/5.3 cm
rim diameter: 8/8.4 to 11.5 cm
base diameter: 3.3 to 4/4.5 cm
wall thickness: 0.33/0.45 to 0.73/0.75 cm

Proportion height/rim diameter: 0.40 to 0.59
Weight: 87 to 125 g

Fabric: 6 cups have medium-coarse fabrics, brown, orange, buff or green
4 cups have fine fabrics, brown, buff or green

Surface treatment: unpainted, unsmoothened; the medium-coarse cups have a "sandy" feel

Examples drawn: C. 9194, 2372, 2206, 2591, 7399

This type may continue in earlier (?) LM IA, but we do not yet have secure examples. In later (?) LM IA it is the dominant low cup type, and it is then much smaller and lighter than in MM III.

(3) Steep, convex cup with straight to incurving rim

Rim: rounded

Profile: convex

Base: nearly all end in a vertical, undercut base

Dimensions: height: 5.4/5.6 to 7.2/7.4 cm
rim diameter: 8.2 to 11.2/11.3 cm
base diameter: 3 to 4.6 cm
wall thickness: 0.29/0.36 to 0.55/0.8 cm

Proportion height/rim diameter: 0.60 to 0.75

Weight: c. 80 to 150 g

Fabric: 6 cups have fine fabrics, brown, buff, greenish buff;
1 of these has a very fine fabric (C. 9030, Tr. 74A)
2 cups have medium-coarse fabrics, brown, brown buff

Surface treatment: nearly all unpainted, except C. 2202, which has a dipped rim; it also also has the largest height, rim and base diameter; all cups are unsmoothened; the fine cups feel rather smooth

Examples drawn: C. 9030, 9351, 9031, 9333, 2202

This type seems to have evolved from the MM II convex cups with undercut base. It continues into LM IA but becomes much smaller and is rare.

(4) Large, flaring cup with everted and dipped rim

Rim: flattened, everted; rarely a sharp inferior edge
Profile: slightly convex to semi-globular

Base: all have a more or less projecting foot

Dimensions: height: 5.6/5.9 to 5.9/6.5 cm
    rim diameter: 10.8/11 to 14 cm
    base diameter: 4.3/4.5 to 5 cm
    wall thickness: 0.36/0.44 to 0.62 cm

Proportion height/rim diameter: 0.44 to 0.59

Weight: 140 to 145 g (only three complete or intact examples)

Fabric: all have a fine buff fabric

Surface treatment: dipped rim; 1 cup has a monochrome interior
    (C. 2592, context 16); unsmoothened but with a rather
    smooth feel

Examples drawn: C. 9037, 9342, 9035, 9164, 9040

This type shows a high degree of standardization. Their contents
differ widely, however (183 to 255 ml, dry content), so that it
is not likely that they were used as measuring cups. Cup C. 9040
bears an incised mark on its interior surface. Its meaning is
unknown. The type continues into LM IA but becomes much smaller.

(5) Large semi-globular cup with straight, rounded rim, unpainted

Rim: straight, rounded

Profile: semi-globular

Base: vertical, undercut base, projecting foot

Dimensions: height: 6.2/7 to 7.1/7.3 cm
    rim diameter: 9.8/10.4 to 11/11.8 cm
    base diameter: 4.3/4.5 to 5.4 cm
    wall thickness: c.0.5 to 0.49/0.56 cm

Proportion height/rim diameter: 0.63 to 0.65

Weight: 145 to c. 270 g

Fabric: 1 cup has a fine buff fabrics
    1 cup has a medium-coarse buff fabric

Surface treatment: unpainted, unsmoothened; fine cup feels rather
    smooth

Examples drawn: C. 9180,
This rare type has a close successor in earlier (?) LM IA (C. 9696, Tr.80A/66). This one is lighter and has been decorated with light-on-dark retorted spirals. The MM III type also may have been a predecessor to the other LM I semi-globular monochrome or decorated conical cups.

(6) Large, convex, monochrome-cup

Rim: straight, rounded
Profile: convex
Base: no foot

Dimensions: height: 5.7/5.9 cm
rim diameter: 13.8 cm
base diameter: 7.8 cm
wall thickness: 0.36/0.45 cm

Proportion height/rim diameter: 0.42
Weight: insufficiently preserved
Fabric: fine brown
Surface treatment: monochrome

Only 1 example: C. 2564 (context 16)

This type, together with the previous type, may have been the ancestor to the LM I monochrome and decorated semi-globular conical cups. The LM I cups have an undercut base, however.

LM IA

In general, one may say that in LM IA, truly everted rims are rare and are always dipped. Two major LM IA conical-cup types—low cups and semi-globular cups—can be divided into two typological groups. It is possible that this division corresponds to an earlier and a later phase of LM IA, the earlier phase being more similar to the MM III types, and the later phase closer to LM IB. However, more corroborating evidence is needed. A major problem is the fact that MM III low cups with rounded rim as well as steep, convex cups seem to have successors in the later (?) phase of LM IA, while they have no undisputed representatives in earlier (?) LM IA.
Earlier (?), LM IA

Basic deposits:
- Building T: floor deposit (Tr.53A/45) and destruction deposit (Tr.58A/40)
- Packing south of the House of the Snake, Tube (Tr.9A/27) published by L.V. Watrous (1992)

4 of 5 types:
- Low, flaring cup with flattened rim:
  5 in Tr.53A/45, 2 Tr.58A/40, 1 in Tr.9A/27, 4 in other deposits, 4 from 1992, Tr.80A/66A, C (X2), Tr.84A/16
- Low, steep cup with rounded rim:
  2 in various deposits, 1 from 1992, Tr.80A/66C
- Large, low cup with S-profile and everted rim:
  1 in Tr.58A/40
- Tall, steep cup with everted, dipped rim:
  2 in Tr.47B/8 and 12 (HT sounding); date suspect
- Large, semi-globular monochrome or decorated cup:
  1 in Tr.53A/45, 4 from 1992, Tr.80A/66, 84C/51-52

(1) Low, flaring cup with flattened rim

Rim: flattened; part of top surface may be slightly rounded; several ones with sharp interior edge; rim can project slightly on the interior and/or exterior.

Profile: straight, slightly convex, concave or S-curve; one cup with strong S-profile has a projecting rim (C. 7443, Tr.58A/40).

Base: nearly all have a more or less projecting foot.

Dimensions:
- Height: 3.3/3.5 to 4.8/5 cm
- Rim diameter: 7.7/7.8 to 10 cm
- Base diameter: 3.1 to 4.2 cm
- Wall thickness: 0.32/0.38 to 0.62/0.7 cm

Proportion height/rim diameter: 0.42 to 0.55

Weight: 55 to c. 80 g

Fabric: 12 cups have fine fabrics, brown, pink, orange, buff, brown, greenish.
4 cups have medium-coarse fabrics, brown, reddish, buff.

Surface treatment: unpainted, except for 2 examples with dipped rims (C. 7631, Tr.58A/60; C. 9727, Tr.80A/66A); most are unsmoothened but feel rather smooth because of their fine fabric.
This type is a continuation of the MM III low flaring cups with flattened or everted rims. Cup C. 7443 with its S-profile and projecting rim clearly descends from the context 16 variants described above. In general, the earlier (?) LM IA cups are shorter, narrower, and thinner-walled than the MM III cups, but some overlap exists. Cups lower than 3.8/4.4 cm, with a rim narrower than 8.2/8.3 cm, a base wider than 4.2 cm, and walls thinner than 0.37/0.42 cm may be considered as earlier (?) LM IA. Earlier (?) LM IA cups are also in general lighter and better raised. Their proportions are more standardized than in MM III. The low, flaring cup with flattened rim does not continue into later (?) LM IA or LM IB.

(2) Low, steep cup with rounded rim

Rim: straight or incurving; 1 example has a flattish rim (C. 9690, Tr. 80A/66G).

Profile: straight to convex

Base: vertical, undercut

Dimensions: height: 4.7/5.1 to 4.9/5.1 cm
              rim diameter: 8.1/8.2 to 7.5/8.5 cm
              base diameter: 3.4 to 3.8 cm
              wall thickness: 0.42 to 0.56/0.6 cm

Proportion height/rim diameter: 0.61

Weight: 60 to 70 g

Fabric: all 3 cups have fine buff fabrics

Surface treatment: unpainted, unsmoothened, but with smooth feel.

Examples drawn: C. 9370

This type may be a continuation of the steep MM III cups, but the earlier (?) LM IA examples are much lower. Even though it is a rare type, it is so far unique for earlier (?) LM IA. It may continue into LM IB with one example (C. 9044), but the resemblance is not close.

(3) Large, low cup with S-profile and everted rim

Rim: flat, everted

Profile: S-curve.
Base: undercut, with slight foot

Dimensions: height: 4.1/4.4 cm
   rim diameter: 13 cm
   base diameter: c.4.5 cm
   wall thickness: 0.42/0.56 cm

Proportion height/rim diameter: 0.32

Weight: estimated 100 g

Fabric: fine buff.

Surface treatment: unpainted, unsmoothened; but with a smooth feel.

Only one example: C. 7446, Tr.58A/40

This type may have evolved out of the low, flaring cups with S-profile and everted rim of MM III. It does not continue later.

(4) Tall, steep cup with everted, dipped rim; date not sure

Rim: flat, everted

Profile: slightly convex

Base: slightly projecting foot

Dimensions: height: 5.4 to 5.9 cm
   rim diameter: 10 to 11.5 cm
   base diameter: 3.8 to 5 cm
   wall thickness: 0.3/0.4 to 0.4/0.46 cm

Proportion height/rim diameter: 0.48 to 0.58

Weight: estimated 120 to 160 g

Fabric: both cups have fine buff fabrics

Surface Treatment: dipped rim; unsmoothened, but smooth feel

Examples drawn: C. 6571, 6609

This type seems to have evolved out of the MM III large, flaring cups with everted and dipped rim. They are smaller and steeper than the MM III examples. On the other hand, their shape seems to be slightly earlier than that of the later (?) LM IA examples. The date of both earlier (?) LM IA examples is not certain, however, because they were found in a sounding (Tr.47B/8-12) containing mixed MM II-LM IA material. Their tentative dating to earlier (?)
LM IA is based on the fact that the sounding yielded several earlier (?) LM IA low, flaring cups with flattened rims, but none that look later (?) LM IA.

(5) Large, semi-globular, monochrome or decorated cup

Rim: straight to inturned, rounded

Profile: semi-globular

Base: vertical; nearly all have a more or less projecting foot

Dimensions: height: 6/6.2 to 7.4 cm
         rim diameter: 10.1 to 12.4 cm
         base diameter: 3.4/3.6 to 4.9/5.1 cm
         wall thickness: 0.27/0.33 to 0.4 cm

Proportion height/rim diameter: 0.55 to 0.62

Weight: estimated 100 to 200 g

Fabric: all 5 cups have fine fabrics, red-brown, orange, buff

Surface treatment: monochrome or decorated with light-on-dark spirals; both examples with thick retorted spirals show a curved line branching off vertically between spirals—a local feature? (C. 9646, Tr. 84C/52; C. 9696, Tr. 80A/66); unsmoothened, but rather smooth feel

Examples drawn: C. 6648

This type differs from the MM III monochrome convex cup by its vertical base, and from the MM III unpainted semi-globular cups by its decoration and thinner walls. C. 9696 is very close to the MM III unpainted semi-globular cup C. 9180, and must have evolved out of it. It is lighter and has a lower base. The decorated semi-globular cups continue into later LM IA and B.

Later (?) LM IA

Basic deposit: 11 conical cups, 2 bridge-spouted jars, and globular rhyton, all largely to completely intact, under the lowest excavated floor of X1 and partially under its north wall (K91A/73A/120, 122)

4 types: Low flaring cup with rounded rim:
   8 in Tr. 74A, 3 in other context, including 2 LM IB contexts; 7 from 1992, Tr. 80A/61, 66C, 67 (X2);
Tr. 84C/52
- Tall, steep cup with inturned rim:
  1 in Tr. 74A/122
- Tall, steep cup with everted, dipped rim:
  1 in Tr. 74A/122
- Large, semi-globular, monochrome cup:
  1 in Tr. 74A/122; 1 from 1992, Tr. 80A/65 (X2)

(1) Low, flaring cup with rounded rim

Rim: straight, mostly rounded, some partially flattened, usually as a result of bad throwing

Profile: straight, slightly convex, concave or S-curve

Base: some have a projecting foot

Dimensions: height: 3/3.7 to 4.6 cm
         rim diameter: 6.7/7.3 to 8.8/9.1 cm
         base diameter: 3.2 to 3.9/4.1 cm
         wall thickness: 0.35/0.39 to 0.5/0.64 cm

Proportion height/rim diameter: 0.42 to 0.59

Weight: 40 to 75 g

Fabric: all 15 cups have fine fabrics, brown, reddish, pink, orange, buff, greenish

Surface treatment: unpainted, unsmoothened; most cups feel rather smooth because of their fine fabric

Examples drawn: C. 9048, 9075, 9078, 9330

This type differs from the low, flaring cups of earlier (?) LM IA primarily in its rim shape. Its walls tend to be thinner on the average, but there is a large overlap. The type may have evolved out of the MM III low, flaring cups with rounded rim (cf. supra, p. 8). It continues into LM IB, when its rim diameter becomes smaller, its walls thinner, and its fabric finer and softer.

(2) Tall, steep cup with slightly inturned rim

Rim: rounded

Profile: straight to slight S-curve

Base: vertical, slightly projecting foot
Dimensions: height: 5.5/5.6 cm
    rim diameter: 8.5/8.7 cm
    base diameter: 3.6/3.8 cm
    wall thickness: 0.4/0.45 cm

Proportion height/rim diameter: 0.67

Weight: 70 g

Fabric: fine brown buff

Surface treatment: three small splashes of paint near rim; slightly wet-smoothed

Only example: C. 9076, Tr.73A/122

This rare type seems to have evolved out of the MM III steep, convex cup (cf. supra, p. 8). It is particularly close to the MM III fine cup C. 9030 (Tr.74A/52B), but it is much lighter and better raised. The tall steep cup with inturned rim becomes monochrome in LM IB.

(3) Tall, steep cup with everted, dipped rim

Rim: flattened; horizontally everted

Profile: slightly convex

Base: partially undercut

Dimensions: height: 5.5/5.9 cm
    rim diameter: 8.7 cm
    base diameter: 3.1 cm
    wall thickness: 0.47 cm

Proportion height/rim diameter: 0.65

Weight: 75 g

Fabric: fine orange

Surface treatment: dipped rim; slightly wet-smoothed

Only example: C. 9088, Tr.73A/122

This rare type may have evolved out of the insecurely dated tall, steep cups with everted, dipped rim of earlier (?) LM IA. The type does not continue into LM IB.
Large, semi-globular, monochrome cup

Rim: straight or slightly inturned; rounded.
Profile: convex
Base: partially undercut

Dimensions: height: 4.8/5.6 to 5.6/6 cm
rim diameter: 10.1/11 to 10.3/11.5 cm
base diameter: 3.5/3.6 to 4.3 cm
wall thickness: 0.34/0.38 cm

Proportion height/rim diameter: 0.49 to 0.53

Weight: 85 to 95 g

Fabric: both cups have fine buff fabrics
Surface treatment: monochrome; unsmoothened
Examples drawn: C. 9091

This type may have evolved out of the earlier (?) LM IA monochrome and decorated cups. It is shallower than its suspected predecessor. It continues into LM IB.

LM IB

Basic deposits: - Tr.74B/76B (LM I floor in X3), 74A/77 (LM IB floor in X2), 73A/115, 117 (X1), 58A/80
- LM IA-B floor accumulation in HT 1 (Tr.5B/32)

4 types: - Low, flaring cup with rounded rim:
1 in Tr.74B/76B, 2 in Tr.73A/115, 118, 3 in Tr.73A/117, 1 in Tr.74A/77, 1 in Tr.58A/50, 1 in Tr.5B/32, 4 from 1992, Tr.80A/29A, 50; 81A/15
- Low, steep cup with straight rim:
1 in Tr.74B/76B.
- Steep, monochrome cup with incurring rim:
1 in Tr.74B/76B, 3 from 1992, Tr.80A/44, 46
- Large, semi-globular, monochrome cup:
1 in Tr.74B/76B, 1 in Tr.73A/118

(1) Low, flaring cup with rounded rim

Rim: straight to inturned; sometimes sharp or slightly flattened
Profile: straight, slightly convex, concave or S-curve
Base: several have a slight foot; some have a very well-raised base presenting a typically square interior profile.

Dimensions: height: 2.8/3.2 to 4.1/4.5 cm  
   rim diameter: 7.0 to 8.7 cm  
   base diameter: 2.8/3 to 4.1/4.3 cm  
   wall thickness: 0.17/2 to 0.48/0.5 cm

Proportion height/rim diameter: 0.44 to 0.53

Weight: 40 to 47 g

Fabric: all 12 cups have fine, soft fabrics, brown, orange-brown, buff

Surface treatment: unpainted, unsmoothened; most cups feel smooth because of their fine, heavily worn fabric which has lost its original surface.

Examples drawn: C. 9085, 9082, 9043, 7485

This type evolved out of the later (?) LM IA low, flaring cups with rounded rim. They tend to be of similar height but have in general a narrower rim diameter and thinner walls, even though there is an overlap. The most secure criteria to distinguish LM IB from later (?). LM IA examples are the very soft, worn fabric and, in certain cases, the well-raised base with the square interior profile. LM IB cups often are lighter than LM IA examples.

(2) Low, steep cup with straight rim

Rim: rounded

Profile: straight

Base: partial slightly projecting foot

Dimensions: height: 4.5/4.9 cm  
   rim diameter: 7.3 cm  
   base diameter: 4.4 cm  
   wall thickness: 0.34/0.4 cm

Proportion height/rim diameter: 0.64

Weight: estimated 100 g

Fabric: fine pink buff

Surface treatment: unpainted, unsmoothened, rather smooth feel
Only example 4: C. 9044

This rare type may have evolved out of the earlier (?) LM IA low, steep cup C. 9370, even though they are not very similar (cf. supra, p. 10).

(3) Steep, monochrome cup with incurving rim

Rim: incurving, rounded
Profile: straight to convex
Base: slightly undercut

Dimensions: height: 5.1/5.7 to 5.9 cm
         rim diameter: 10.7 to 12 cm
         base diameter: 3.3 to 4.1 cm
         wall thickness: 0.3/0.35 to 0.36/0.4 cm

Proportion height/rim diameter: 0.45 to 0.51
Weight: estimated 80 to 200 g
Fabric: 3 cups have fine fabrics, brown, greenish buff
     1 cup has a reddish-brown medium-coarse fabric
Surface treatment: monochrome painted; unsmoothened, some worn, soft
Examples drawn: C. 9284, 9537

This type evolved out of the tall, steep later (?) LM IA cup. It is amazingly uniform in dimensions, and rather thin-walled. Unfortunately, none is sufficiently preserved to have its contents measured.

(4) Large, semi-globular, monochrome cup

Rim: slightly inverted or everted; rounded
Profile: convex
Base: undercut

Dimensions: height: 5.2/5.5 to 5.7/6.1 cm
         rim diameter: 10.2/10.3 to 10.3/10.5 cm
         base diameter: 3.5/3.7 to 4.4/4.5 cm
         wall thickness: 0.24/0.3 to 0.4/0.45 cm
Proportion height/rim diameter: 0.52 to 0.57

Weight: 85 to 98 g

Fabric: both cups have fine fabrics, buff, greenish buff

Surface treatment: monochrome, unsmoothened

Examples drawn: C. 9042

This type evolved out of the later (?) LM IA monochrome semi-globular cups with little change, except that the LM IB shape looks tauter because of its undercut base.

Conclusion

By dividing the conical cups per period into various types, I was able to characterize each period into detail and follow the evolution of several types through MM III and LM IA-B. In general, one can say that MM III cup types are larger and coarser than later cups, while in LM IB most types have reached their smallest size, their fabrics being fine to very fine and soft. From our discussions with Professors La Rosa and Carinci, it appears that similar types and a similar broad evolution can be traced in Phaistos and H. Triada.

There is a slightly larger range of types in MM III, but this may be due to its better recovery. It is in my view an oversimplification to state that in LM I, there are significantly less conical cup types than in MM III. At least 5 basic types seem to persist in the various phases. Most popular is the low cup with everted, flattened or rounded, rim. Flattened rims in this type go out of fashion after (earlier? LM IA. It is now quite well known and an excellent dating tool. Less popular, but also eminently suitable for dating is the large cup with everted, dipped rim, which disappears after LM IB. In MM III it is large and has a flaring profile, while in LM IA it becomes smaller and steeper. The only later (?) LM IA example has a rather narrow rim. The truly everted, dipped rim is very diagnostic of LM IA.

Also useful for dating, but only within MM III and LM IB, is the rather tall, steep cup with a straight or inverted, rounded rim. We do not yet have a representative in earlier (?) LM IA, and only one in later (?) LM IA. In LM IB, it becomes monochrome. Large semi-globular cups are found in the four subphases. In MM III they are either tall and unpainted or low and monochrome. In LM I, all semi-globular cups are monochrome. The evolution of their shape through the IA and IB phases is not clear because of their conservative nature and the scarcity of examples. The fifth type, a low, steep cup is rare and has not been securely attested in all phases.

A study of the range of variations within the various types
suggests that some types become more standardized in LM IA (low, flaring cup with flat rim) and LM IB (steep, monochrome cup). But in MM III, the tall, flaring cups with everted, dipped rims are also quite uniform, so that we cannot make the blanket statement that standardization increased in LM I. It is better to await the results of a statistical analysis of the closeness of fit around the mean for each of the types, which will be carried out in the near future. Such analysis is less influenced by outlying values than is a study of value ranges.

A real improvement through time can be detected with regard to the manufacturing of conical cups. Cups are progressively better raised, which is reflected in the decrease of the wall and base thickness from MM III through LM IB. The quality of the shape (symmetry, stability) and finish (surface treatment) remains low, however, especially when compared to the LM IIIA1 conical cups.

It is plausible that conical cups, being simple, plain utilitarian wares, were made locally. The cups thus offer a good opportunity to study local workshops. Criteria for identifying workshops may be shape, style, and choice of fabric. This study will also be carried out in the course of the coming year.

A difficult question remains the use of the conical cups. It seems likely that the various types served different uses. So may those with dipped rims have been used as drinking vessels. The capacity of the relatively few well-preserved cups has been measured, but the results so far are unsatisfactory, and do not allow us to say whether conical cups have been used as measuring cups. The lack of paint on most cups suggests they were used to hold dry goods. However, from LM IA on, the low cups become so small that it is hard to believe they could have been used as eating vessels, and they rather may have been drinking cups. The reason for the decrease in size is not clear yet, either. Some progress on the use of conical cups could be made if the cup walls would be analyzed with gas chromatography. This would at least indicate whether the cups ever have been used for liquids. Since it is likely that the same cups have served many uses, it may be difficult to establish which liquids were used, however. The presently available conical cups at Kommos have all been washed in an acid solution, and are thus unusable for such analysis. It is hoped that in the future such tests can be carried out.

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Aleydis Van de Moortel
August 24, 1992

Niki Holmes
Debbie Ruscillo
APOTHEKE REPORT

The additional week and a half spent in Pitsidia before the opening of the excavation season allowed us to resolve some of the work of regularizing the ceramics collection which was proposed last year. The special collections of Professors Betancourt and Watrous, stored separately for their personal use during the preparations of publications now completed, were reintegrated into the excavation's main cataloguing system, and cards for items accessioned by them but never fully catalogued were prepared, to correlate our entries with the published catalogues. This was an effort involving the contents of more than 60 trench boxes. During the process of transfer, artifacts were rebagged in a better grade of plastic, unlabelled sherds were labelled, identification tags were included in each, and the bags were sealed. The compaction of storage which this permitted resulted in freeing about a dozen trench boxes, so that it will no longer be necessary to invest in additional boxes to house the ceramic collection. This process of rebagging should definitely be extended to all ceramic artifacts, many of which are in danger of being lost or damaged; this should be completed by the end of projected study seasons, before objects are sent to Iraklio for permanent storage.

Along the same line, non-catalogued sherds from former years were culled, and all but important contextual groups such as floor deposits were returned to the site to be buried. Plastic
"torpedo" bags for trench-by-trench storage of sherds were partially replaced by sturdy crates, which will provide more protective, more portable permanent containers. The rest of the sherds will also be transferred to crates in the course of the coming season. Outdated lists of "pails thrown" were revised accordingly. The two processes of compaction have opened up additional storage areas and permitted rearrangement of space in the various apotheces. "Maps" will need to be revised to reflect this; there seemed to be no point, however, in revising them at this stage, since the shifting of storage will continue next year, with the throwing of further material.

After consultation with conservator Barbara Hamann, all bronze and iron artifacts were transferred to air-impermeable glass containers. Additional silica gel in perforated packets was enclosed, and all plastic bags enclosing artifacts were perforated. This was particularly important as an effort to halt the decomposition of bronze objects, which in some cases is advanced.

The collection of iron artifacts and ironworking-related finds was examined by J.E. Rehder, a professional metallurgist with an interest in ancient ironworking techniques. He confirmed identification of several mysterious objects and a number were segregated out to be catalogued. He will submit a report from his field notes:

Some 650 objects accessioned by Vance Watrous and 63 by Phil Betancourt but never catalogued, had cards completed and filed.
Those which appear in their publications were cross-referenced rather than fully catalogued here. About 100 of these remain to be done. The same process was carried out for about 500 stone tools accessioned by Harriet Blitzer. Artifacts which were accessioned but do not appear in her published catalogue were integrated into our system only when they seemed worthy of the effort. Many of them have already been discarded by her, apparently. Perhaps 500 cards remain to be examined, and the collection of accessioned cobbles should be evaluated, and many thrown.

A shipment of 40 whole objects was packed and sent for safekeeping to the Iraklio Museum, the first such load since 1969. Since only artifacts which had been completely studied, photographed and drawn were released, many of the ceramic items from 1991 and from this year were excluded, but stone seals and various small bronzes were sent. Catalogue cards and trench boxes were marked accordingly, so that the whereabouts of items would be apparent. This needs to be done also for objects sent in former years, a total of 600+ items, since updating has been carried out only sporadically in the past and this has occasioned considerable frustration and loss of time in searches for artifacts no longer here.

Towards the end of the excavation season an informative exhibition was held for the people of Pitsidia. Artifacts were displayed, books and pictures were set out, and signs and the live commentary of excavation staff explained the dates and uses
of a variety of objects which had been recovered from Kommos over
the past few years. The event was well attended by over a hundred
people, who seemed enthusiastically interested in these relicts
of their own heritage. Director Joseph Shaw and the mayor of
Pitsidia both addressed the gathering briefly. It served to
highlight the cordial relationship between the excavation and
the people of the village.

Another task accomplished this year by apotheke staff was
the editing and final typing of the manuscript of Alan
Johnston/Peter Callahan’s Greek pottery text. This was only one
of the many uses to which the computers were put this season.
They were also employed to draw up more than 20 specialized lists
at the request of various parties, as well as trench-by-trench
lists of catalogued objects for the trenchmasters. Likewise,
catalogue cards were all printed directly from the computer,
assuring that every object accessioned went directly into the
Data-base as well. There was one disadvantage to this: namely,
that since it was necessary to wait until there was a stack of
cards ready to print at once, objects could not be tracked
through the stages of photography, etc., by the whereabouts of
their cards. Likewise, a backlog was created of cards needing
sketches on the back. Still, computerization has been enormously
time-saving. A separate but mergeable D-base containing
specialized information about the status of objects drawn and
photographed was begun by Julia Pfaff to supplement the limited
information on our main file. While it would probably be
prohibitively time-consuming to back-track and include all the artifacts in the collection, this will at least permit more careful tracking of objects in the present and future seasons. My thanks to our untiring computer expert, Debbie Ruscillo, who, in addition to her own work, patiently piloted everyone else through the word-processing of their respective reports during the busy final days of the season.

I am particularly grateful for the receptive hearing with which my suggestions from last year were received, specifically the employment of a conservator, unfortunately not full-time due to her own job pressure. Her training of Debbie to continue at least all but the more complex mending jobs prevented the problem of amateur mending which was so counterproductive last year, and obviated the enormous backlog which greeted us in 1991. There still exists enough of a backlog, however, for me to recommend for the coming season that a conservator be employed full-time, or that Barbara be encouraged to bring an assistant, perhaps an intern from the Institute.

A backlog of another kind was created by the absence of a faunal analyst this year. Ten boxes of shell and bone, plus a carton of water-sieved samples, remain to be examined and create some storage problem.

Several improvements in our in-house system need to be implemented. The old file cabinet, which is chiefly a storage depot for miscellany and dead files, should be organized in a more businesslike way, and genuinely important, documentary
material moved into notebooks. The tracking of objects in the process of cataloguing by means of separate card-boxes has proved to be unnecessarily complicated and can be streamlined. Also, a more accessible system of filing ceramic drawings than the present trench-by-trench packets could be implemented, preferably one which makes a distinction between historical and prehistoric material.

The assignment of ceramic field-cataloguing numbers to the trenchmasters which was discussed last year seemed to me this year to have proved its superfluity. Twenty to thirty such numbers were allotted to each trenchmaster (120 total), of which 2 were actually used, despite the unearthing of a large number of whole pots which might well have been accessioned in the field. The result was a 118-number gap in our sequence, of which the pottery people were able to absorb only a small fragment at the last minute. I would again propose omitting these allotments.

As a whole I think the season of 1992 has been a fairly effective and problem-free one in the apothecary. Since we are learning by experience, many improvements remain to be made, but we are definitely pointing in the direction of better preservation of data for future generations. It has, as always, been a pleasure to work here.
COMPUTER STATISTICS AND
CATALOGUE RECORD MAINTENANCE IN DBASE

At the beginning of the 1992 excavation season, the dbase file for all the Kommos inventoried items (KOMMO.DBF), ceramic and non-ceramic, contained some 11,620 records. At the end of the season, in late August, dbase records in the KOMMO.DBF totalled 11,985 records, signifying that 375 new records had been inventoried and added to the dbase during the summer (the "new record" count was calculated by subtracting the updated KOMMO.DBF records from those of the previous year, plus 10 other old records which were deleted this year (due to repetition) creating 10 new record spaces in the dbase). As well as the addition of newly catalogued items, the updating of old catalogue information continued in the attempt to create a database that was efficient and more helpful to more users. Examples of this, from the 1992 season, were the entering of catalogued items which were overlooked in past years due to the mismanagement and neglect of the dbase. This created a more accurate and complete file of all catalogued items since 1976. The "cleaning" of the database also continued this summer by making corrections to records, and deleting extra records entered more than once. Updating fields was and is desperately needed to improve the accuracy of the status of each record. The difficulty in this task is time consumption associated with the organization of manual records kept for the past sixteen seasons, and the input time required for updating close to 12,000 records. This year's field update
project was the input of all objects sent to the Herakleion Museum (noted by the 'T' in the MUSEUM field). This involved many hours of cross-checking and comparison with unorganized manual museum files kept from each year of transfer. The updated field resulted in a handy cumulative list from all years, including items sent in 1992. Other fields which require such attention are the PHOTO and DRAWING fields which have also been neglected in the past.

Other lists were drawn from the dbase during the season, particularly for pottery specialists who occasionally require information of inventoried items of particular relevance to a specialized study. Approximately twenty such lists were drawn this year according to object types, fabrics and provenience. A suggestion for dbase list improvement was given by J.B. Rutter who found it difficult to summon a list of a specific vessel type due to the variation of the OBJECT names that have been assigned over the years. While homogenization of terms would improve the completeness of lists, such a process would, in some cases, involve the inspection of catalogued items again for identification, and the complete renovation of the database. Another suggestion towards the completeness of all lists would be a "lexicon" of terms for each appropriate field so that the user of the dbase may know from which terms he/she may search upon to draw up a list of relevant pieces in the Kommos catalogue. This function, unfortunately, cannot be done with Dbase 3 Plus (the excavation database program), but may be done
with the more recent Dbase 4 with the UNIQUE command, which would
pull out all unique terms in any given field.

At the close of the season this summer, the mother Dbase
file KOMMO.DBF was again sorted according to INV (Inventory
number) putting all 11,985 records in alphabetical and numerical
order (numerical order within material type categories, i.e.
bronzes (B numbers) in numerical order, Clay (C) in numerical
order, and so on). This sort allows the file some organization in
which individual records may be easily found rather than
searching through 12,000 records.

Computer Card Production

Catalogue cards were generated by the computer using
WORD5.1. The card information was written out and then given to
the computer person for input. The information was inputted on the
MACRO named KOMMOS. The macro used for card production at Kommos
can be called up by first pressing the BOLD key (F6), which
emboldens the headings on the macro, and then by pressing the
MACRO key (Alt, F10). The machine will ask the macro name and
'kommos' should be entered. A copy of the macro will then appear,
and the cursor will be positioned at the bottom line of the page.
Scroll up with the arrow keys to the top of the page and enter
information under appropriate headings. Be sure that the bold key
is pressed every time after a new heading so that the information
in regular print will distinguish itself from the heading in
bold. Also be sure that the arrow keys are used when moving to
and around headings, and not the ENTER key. After the first macro (or card) has been entered, go to the first line of the next page and call up the KOMMOS macro again. Be sure that the bold function is on before retrieving another macro. When all cards have been entered at a given time, the cards should be saved under 'CARDS1', for the first batch. After printing all cards saved in CARDS1, the next batch should be saved under CARDS2, and so on, to avoid repetitive printing of cards.

Suggestions

The maintenance of the database means the continued input of new records and the update of old records when changes are made, photographs taken, items sent to museum, items drawn or published etc. Fields that still require updating from the past are the PHOTO, DRAWING and PUBLISHED fields. If these are not updated, the purpose of the database to provide quick, simple and reliable information of catalogue records to all members of the excavation will have been defeated. Because of time consumption, it will be difficult to achieve total accuracy of Database record stats in one season. If as much is updated as possible during a given season, within a couple of summers, the Database will be helpful to all members of the excavation staff.

The "Lexicon" of the various terms applied within a field has already been suggested above, but needs to be mentioned again as reminder of how the Database could serve its purpose better. An aid in this direction would be to install the new and improved
version of the DBase program (DBase 4) for excavation purposes.

It has also been suggested by M.C. Shaw that a more condensed DBase file according to LOCATION or SPACE would make the study of particular aspects of the excavation easier. In Pitsidia, subsidiary DBase files have been created by using the COPY command and searching for the desired condition. For example, the SOUTH.DBF was created by COPYing the LOCATION field for items marked 's' with a search condition. The HOUSEX.DBF was also created in the same way with the COPY command and the search condition for items marked 'x' in the SPACE field. These DBase files could not be sent to Toronto due to the shortage of space on a single High Density diskette, but can be made in Toronto within minutes using the mother file KOMMO.DBF (copied and sent from Pitsidia) and the instructions stated above.

Computer Stats from Pitsidia

Two computers were used by the general excavation staff for writing reports and maintaining catalogue records. These are the T1600 and the T1200. At the close of the excavation, both computers were 'cleaned' using the CHKDSK/F command in DOS, and unneeded files were deleted to spare memory. The T1200, which only accommodates Double Density diskettes, has a total of 21,204,992 bytes of disk space, of which 9,080,832 has been used leaving 12,023,808 bytes free.
It's main directory contains the following:

WORD       <DIR>
DOS3.2     <DIR>
DOS3.3     <DIR>
KOMM.PLAT  <DIR>
MCS        <DIR>
DBASE      <DIR>
WORD5.1    <DIR>
LL.EXE     <DIR>

The T1600, used for all excavation purposes, has a total of 21,309,440 bytes, of which 19,269,632 are used leaving 1,937,408 available. It's main directory contains:

DOS        <DIR>
JWS        <DIR>
SCAN       <DIR>
KOMMOS     <DIR>
WORD       <DIR>
WORD5.1    <DIR>
KOMMOSI.1  <DIR>
KOMMOSIV   <DIR>
LL.EXE     <DIR>
MCSDBASE   <DIR>
PERSONAL   <DIR>
KOMMOSIV.CH5<DIR>
CH5        <DIR>

All diskettes used by general excavation staff have been formatted and stored. The computers will be stored away for next year as well.
Work Accomplished

Total number of objects catalogued: 375
  Non-ceramic: 99
  Ceramic: 276

Number of items photographed: 420

Number of items drawn: 309
  Non-ceramic: 5
  Ceramic: 304, including pencil only and pencil/ink.

Work Remaining for Next Year

Objects ready to be mended: 66
  From this year: 13
  From former years: 53

Requests for profiles: no specific number, but JBR is very anxious to increase the pace of illustration for his impending volume.

Objects to be photographed: 63 (plus those needing mending)

Cards needing sketched on the back: 60

Objects in the process of cataloguing:
  Stone tools accessioned by HBW: 500
  Ceramics accessioned by LW: 100