

GENERAL CONCLUSIONS

by

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The LM IIIA:2 and LM IIIB:1 settlements on the Kastelli Hill in Khania are the middle two out of six well-stratified settlements, the one on top of the other, during the period LM II-LM IIIC. In LM IIIA:2 we have the remains of two buildings; the large Building 2 and the probably somewhat smaller Building 1. While Building 2 continued in use in LM IIIB:1 with new layers of floors, Building 1 was totally demolished to make way for a newly constructed and larger LM IIIB:1 Building 1, which was moved *c.* 2.3 westwards – probably to make more space between this building and the Courtyard of the LM IIIB:1 Building 2. The LM IIIB:1 settlement became larger than the previous one in that remains of a further two buildings are preserved. Southeast of Building 1, a street was constructed and on the other side of this lay the outer wall of Building 3. Northwest of Building 1 a now badly preserved “Building 4” was constructed. The prosperous LM IIIB:1 settlement – of which the four buildings in Agia Aikaterini Square only comprise *c.* 1% – was destroyed in a conflagration at the end of the period. The inhabitants, however, quickly rebuilt a new settlement over the ruins, which testifies, together with the finds from the LM IIIB:2 settlement, to continuous good living conditions and good prospects for trade in the later part of LM IIIB.

The preserved buildings, pits/dumps, the *c.* 3.3 tons of pottery including 3,370 inventoried sherds and vases – among them 26 complete or nearly so and several with full profile – and the 1,140 small finds (685 of which were obsidian), have all contributed to our knowledge about the buildings themselves and also the possible activities that took place both in- and outdoors. The settlements consisted of large, spacious buildings. The smallest and least known Building 1 in LM IIIA:2 covered an area of not less than 103.5 m² while the new Building 1 in LM IIIB:1 with its nine excavated rooms and an outdoor area had covered more than 154 m². Building 2, which was used in both periods, seems with present knowledge to have been the largest. While only its large, fenced Courtyard and part of two rooms are presented in this volume we can estimate from excavations in 1990 and 2005 that it had covered an inside area of more than 150 m². The buildings were one-storeyed, constructed of stones bound with earth mortar; the evidence for the use of mud-bricks and wattle and daub is very scarce. On the other hand there is plenty of evidence to show that the walls were provided with clay lining and plaster – although only preserved *in situ* at a few places. Gritted, unpainted plaster had for example covered

the walls in LM IIIB:1 Building 1 Rooms C, D and E and in Space G a similar plaster was noted together with pieces with blue or red pigments covered with yellow, irregular spots. Finer painted plaster was recorded in the LM IIIA:2 Building 2; in Room B1 it had traces of a reddish-brown paint, while the hard gritted plaster from Room A was covered with a white, yellowish wash. On other collected, painted plasters from the two settlements there are traces of blue, orange-red and brown pigments; a single one had a yellow wavy band.

Cooking facilities are not plentiful in the two settlements. In LM IIIA:2 there are only traces of one possible hearth in the form of a half circle of stones found in Space A-D in Building 1. In the LM IIIB:1 Building 1, however, a large well-constructed hearth was placed in the centre of the most spacious room of the building: Room E. The room had two floors, each with a central hearth and it continued in use in the LM IIIB:2 period with a third floor and hearth. This is probably the reason why cooking vessels were found on the latest floor only. Smaller fire areas probably used in connection with different industrial activities, were used in the courtyards and other outdoor areas. Storage facilities were recorded in five rooms of the same building. In the southwestern part of Room C a cupboard with wooden shelves was constructed which contained several restorable vases and many with a full profile. Another four areas contained deep shafts in the floors, which were probably used for the storage of foodstuffs. Two were made for large terracotta vessels. In Space G a pithos with a capacity of *c.* 150 litres was sunk into the original floor of the space. Presently it is the only substantial pithos recorded in the two settlements. As the LM IIIA:2 Building 1 was completely demolished no pithoi survived, but their absence in the LM IIIB:1 building does not necessarily mean that pithoi were not in use. They might have been standing in the cleared out Rooms/Spaces G, I, E and U which were reused in the LM IIIB:2 settlement and there is also the possibility that they might exist in the still unexcavated areas of the building which are lying under the modern streets. In a corner of the Corridor we found another shaft into which a tripod storage jar was sunk. Inside the jar, which had a capacity of *c.* 120 litres, was found some olive stones and a few slab stones (which may have functioned as a cover) were found. The Corridor also contained a second shaft with a volume of a little more than 300 litres. The last shaft was found in the north corner of Room A. None of the last two shafts were coated, but it is not impossible that containers of

organic material were once placed in them. While no finds indicated what the first shaft could have contained, we found many pins of sea-urchins in the shaft in Room A which had a volume of a little more than 350 litres. Except for the olive stones found in the tripod storage jar in the shaft of the Corridor, impressions of organic remains have been found in mud-bricks, wattle and daubs and clay linings; for example wine and bean leaves, fava, figs, *hordeum* and glume. The presence of fishing hooks, an anchor stone, fish-net sinkers and long bone implements, which may have been used for the manufacture of fish-nets, together with several types of sea-shells indicate that seafood may have been part of the diet of the inhabitants. As indicated by the preserved bones, diet was further supplied with domesticated and wild animals like *Sus*, *Ovis*, *Capra*, caprid, *Bos*, *Cervus*, *Dama*, *Lepus* as well as the Cretan wild goat (the kri-kri). One *ulna* from a supposedly *Bos primigenius* and a worked boar's tusk were also recorded and other bones from animals like donkeys, horses, dogs and birds.

Quite unexpectedly we also found remains of *Homo*. The bones were lying below a burnt LM IIIA:2 floor in Building 1, Space H and consisted of the cranium and long bones of an older woman. As it is unlikely that a grown-up person was buried inside the settlement and as no destruction debris was recorded in connection with this building it is most likely that the bones were secondarily deposited. As the earth where she was found also contained LM I sherds from the store-room (Room E) of the LM I House I, it is not impossible that she originally could have been a victim in the violent LM IB fire destruction.

Textile production within the settlements is evidenced by spindle whorls and loom weights of different sizes and weights. Used in different combinations they reflect a flexible and practical system in this home industry. Bronze-melting activity is presently somewhat better recorded in the LM IIIB:1 settlement, where we found pieces of slag, a mould, a possible crucible and several small sheets, straps, rods and wires which for the most part may have been scrap-bronzes intended to be remelted. Several categories of bronze artefacts have also been identified: needle, pin, bead, pendant, tweezers, maybe spatula and chisel, knife/dagger, razor, arrowhead, hook/fish-hook, nail and sheet, the latter including one with a repoussé decoration (which may have adorned wooden furniture and equipment, alternatively bronze weapons, shields or maybe metal vessels). The stone tools are rather evenly spread in both settlements. The percussion stones, axe-like stones, polishers, whetstones, pumice stones, grinders and a quern – are all evidence for the wide range of different industrial activities that took place within the settlements. All the obsidian originated from Melian quarries. The raw material was not worked inside the settlement area; pre-shaped cores were probably made in a remote area of the settlement or they may have been imported. The knappers at Kastelli produced a very low percentage of waste by-products which demonstrates a rather careful flaking process with a low error rate and they did their best to exhaust the cores entirely before discarding them. Multipurpose obsidian products were made by part-time specialists for use by farmers or craftsmen, or even for various mundane tasks; a considerable

amount of sharp unretouched pieces were probably intended for special tasks, such as cutting or scraping soft materials, preparing food, treating leather, for use as razors, etc. There is little direct evidence for carpentry or woodcarving. That such activities must have taken place is obvious, and the fragments of bronze chisels would be one of the carpenter's tools; and if, indeed, 78-AR 005 is of LM IIIA date we have a fine example of how the tool was used to make a mortise. Impressions of basketry are best studied on the undersides of the cooking dishes. Of personal adornments lost in the settlements we have noted beads, pendants and amulets fabricated in different materials like bronze, faience, terracotta, steatite and bone. Rock crystals, which occur rather frequently, may also have been used as ornaments or inlays, while gaming markers and a knuckle-bone, perhaps used as a die, show that there were also gambling and leisure activities.

In the first architectural phase of LM IIIB:1 Building 1 we found a large limestone with a cone-shaped groove placed in the floor of Room E. As the distance from the centre of the cone-shaped groove to the wall was *c.* 0.70 it is not impossible that this stone had functioned as a pivot base for a potter's wheel. In the later phase of LM IIIB:1, the stone was covered by a new floor and pottery production must have been moved to another part of the settlement. A potter's rubbing tool was also found in both the LM IIIA:2 and LM IIIB:1 strata but as yet no kiln has been identified in the Greek-Swedish Excavations. Perhaps the best evidence of a local pottery production is provided by the products of the Kydonian Workshop although we know that there must have been other local workshops, as evidenced by the study of the pottery. With present knowledge the Kydonian Workshop started to "export" its products in LM IIIA:2, but the very high peak came first in LM IIIB:1. By this time its products are found not only all over Crete, but also on the mainland, Sardinia, the Cyclades, Kos, Rhodes and Cyprus.

Contrary to what was the case in the LM IIIB:2 settlement, none of the figurines of human shape or quadrupeds found in the LM IIIA:2 and LM IIIB:1 settlements were made on the mainland and none were found *in situ* on the floors. Two unusual items, however, were recorded from the LM IIIB:1 pits in the Rubbish Area Southeast. The first is an unusual closed vessel of which only the upper part is preserved: it has a false neck and disc like a large stirrup jar, but no scars of handles are visible. At one edge of the disc there are horns of consecration. As plastic horns of consecration are relatively unknown in the western part of Crete it is an important find, which may have derived from a shrine. A decorated body and part of a leg of a large animal figure appeared in another pit. It was made in the Kydonian Workshop and seems with present knowledge to be the earliest large wheel-made figure in the Late Bronze Age III period. As these figures are connected to shrines we may have yet another piece of indirect evidence for a nearby shrine. A third piece of evidence of a yet unlocated shrine was found on one of the Linear B tablets from Khania which speaks about offerings of jars of honey to Zeus and Dionysos to the shrine of Zeus. Waste depositions from a shrine were located in the Rubbish Area North in the LM IIIB:2 and LM IIIC periods, in the LM IIIB:1 strata, however, the only clear "religious" item from this area north

of the buildings was a door to a hut model, which belongs to the popular cult rather than to a public shrine.

From the LM IIIB:1 period we have clear evidence of a central administration on the site in the form of Linear B tablets, seal stones and the use of seal stones for administrative purposes. In the part of the settlement published here we found three seal stones; one of them was unfinished which indicates that seals were also locally produced. A *nodulus* or stopper with seal impressions found in LM IIIA:2 strata belongs to one of the very few that can be dated that late. Another five stoppers, with or without seal impressions, were also found; three of them may, however, be of LM IB date. Linear B signs were also inscribed (or incised) on some of the large transport stirrup jars. The seven inscribed stirrup jars recorded all emanate from the LM IIIB:1 strata; so far none have been found in an earlier context. By far the majority of the inscriptions represent personal names and the only complete inscription in this material, found on a stirrup jar from the cupboard in Room C, reads *u-so*, which is a new name in the Linear B vocabulary. Another new name appeared on an almost complete stirrup found in a LM IIIB:1 pit in 2005. It reads *ze-ta-ro* and also has an additional sign: *wa*. An incised *wa* was also found on top of the disc of another stirrup jar. Being an abbreviation of *wa-na-ka-te-ro*, royal, it is perhaps the most important isolated element of the inscriptions seen in a historical perspective, as there now is a general consensus that a *wanax* existed in LM IIIB Crete. Several of the West Cretan stirrup jars – inscribed or not – were “exported” to mainland sites like Orchomenos, Thebes, Tiryns and Mycenae.

While in the LM IIIB:2 settlement we identified in the material remains many indications for the presence of Mycenaean in Khania, they are less obvious in the LM IIIB:1 and LM IIIA:2 settlements. The presence of Mycenaean in the LM IIIB:1 settlement can, however, hardly be doubted. It is from this period that we have the first administrative documents in Linear B, the script of the Mycenaean, and the evidence of the inscribed stirrup jars likewise seems to indicate that Mycenaean administrators were involved in the production or at least the registration of the content of those stirrup jars. Concerning the material culture we may refer to the centrally built hearth of Room E. The construction of this hearth was exactly as found on the contemporary mainland, while it differs in all respects to the ones from the Minoan Proto- and Neopalatial settlements at Khania. No doubt there was close contact between the mainland and Khania both in LM IIIA:2 and in LM IIIB:1 when the mainland imports of vessels culminated. A similar picture is seen all over the island, but presently the number of registered Mycenaean imports at Khania is by far the largest in Crete. Only few Mycenaean influences, however, could be traced in the local pottery production and it can be seen that this influence was not stronger in west Crete than in other Minoan workshops. Workshops all over the island adopted the Mycenaean form of kylix in LM IIIA:2 and in LM IIIB:1 small globular and squat stirrup jars became very common, whereas they were already very popular on the mainland in LM IIIA:2.

In the LM IIIB:1 period we find the first evidence of locally produced Handmade Burnished Ware typical of the

Subapennine culture. Considering the quality and amount of wheel-made Minoan pottery produced at the site we consider it most unlikely that Handmade Burnished Pottery was a necessary addition to the local repertoire. The most obvious solution to this phenomenon is therefore that they were produced by immigrants from the Italian peninsula, as was probably also the case at several other sites on the Greek mainland and in Cyprus. Trading connections can furthermore also be traced to Sardinia. Pottery from the Kydonian Workshop has been found on two localities on the island and one of our analysed bronzes revealed that the copper emanated from an ore on this island. Contact with the Cyclades is not only attested to by the many pieces of obsidian found in the settlements, but also by a bronze strip, which contained copper from Siphnos, Kydonian pottery found on Melos and sherds in Khania from a yet unlocated site in the Cyclades. Connections with the nearby island Kythera are evidenced by the many different kinds of Kytheran vessels found both in the LM IIIA:2 and the LM IIIB:1 settlement. As mentioned above, trading connections between the mainland and Western Crete were especially strong; besides the many Mycenaean sherds in Khania and the recorded Kydonian vessels and storage stirrup jars on the mainland we have also registered several bronzes which contained copper from Laurion on Attica, Kos, Rhodes and settlements on the south and east coast of Cyprus received Kydonian vessels; it is highly likely that Cypriot copper was also involved in this trading, but so far no Cypriot copper has been found in the analysed artefacts from the LM IIIA:2 and LM IIIB:1 settlements in Khania. This may, however, be a coincidence as Cypriot copper, probably originating from more than one mine, has been recorded both in the previous LM IIIA:1 and in the later LM IIIB:2 strata. A single, small piece of gold-foil found in the LM IIIB:1 strata may also derive from somewhere outside the island.

The finds in the two settlements in Khania are also indicative of lively connections – direct and/or indirect – with other parts of the island. They were particularly strong with Knossos. LM IIIA:2 Knossian pottery is presently more abundant in Khania than its LM IIIB:1 products, but by studying the Kydonian pottery at Knossos we may conclude that while there are some Kydonian vessels present in LM IIIA:2, by far the majority are of LM IIIB date. Vessels from the Palaikastro Workshop were also identified in Khania, and Kydonian vessels have been recorded at Palaikastro. As a matter of fact, the Kydonian Workshop is presently one of the two most important Late Bronze Age III workshops in the study of the island’s interconnections. The Knossian Workshop and its impact on the locally produced pottery can be traced islandwide in the LM IIIA period. In the LM IIIB period the products of the Kydonian Workshop are presently recorded at more than 40 sites spread all over island and thus they are also of vital importance for the synchronisms between the excavated settlements and tombs in Crete.

As the LM IIIA:2 and LM IIIB:1 pottery recorded in Khania is strikingly similar – both concerning shapes and motifs – to the pottery recorded in most parts of Crete we may also conclude that the interconnections were intense and that new ideas in the many ceramic workshops were quickly

spread. In connection with this, the Greek-Swedish Excavations at Khania has – due to its well-stratified and superimposed settlements – been able to throw some light on the so far somewhat elusive criteria for dividing the end of LM IIIA from the beginning of LM IIIB:1. The excavations may also contribute to the even less well-defined criteria for the beginning of LM IIIA:2 (see above p. 377-378).

Considering Crete as such, it may be concluded that LM IIIA:2 and LM IIIB:1 are the two most extensively recorded periods in the LM III period and there seems to be little doubt that favourable conditions of subsistence and growth led to a population increase which only seems to have been

surpassed in the Neopalatial period. Presently it is also the foremost period in LM III during which there were vivid interconnections not only between the large centres, but also with minor settlements far out and all over the countryside. During this period Khania belonged to one of the large centres. Khania was a prosperous settlement with lively connections not only with several other parts of the island but also – culminating in the LM IIIB:1 period – with several sites in the Mediterranean world. In LM IIIB:1 it also became an important administrative centre – the full extent of which we have yet to see, so far we have probably only seen the tip of the iceberg.