1987 Excavations on Bates's Island, Marsa Matruh: Second Preliminary Report*

DONALD WHITE

The University Museum of the University of Pennsylvania carried out a second season of investigation of Bates's Island and the surrounding area of Marsa Matruh during the summer of 1987.[1] Because the first season[2] appeared to have confirmed a fourteenth century B.C. foreign occupation of the island, the expedition's work concentrated on LBA problems, but, as in 1985, later aspects of the area's archaeology were also considered. While the location of Bates's Island within Matruh's lagoon system has been fully enough discussed to need no further rehearsal,[3] it may be recalled that the territory initially surveyed was divided into five "areas."[4] The island itself was designated Area I. The low

* For abbreviations used throughout the following text and notes, refer to *The American Journal of Archaeology* 90 (1986) 384-94 as well as the *Lexicon der Ägyptologie* IV (Wiesbaden, 1982) ix-xiii. *AJA* abbreviations are used where they differ from those of *LÄ*.

[1] The expedition ran from June 4 to July 17. A short account of its results was submitted to the Egyptian Antiquities Organization before leaving Egypt. Essentially the same report was later filed with the New York office of *ARCE*, which published it in *NARCE* 139 (1987), 8-12, without, however, informing us of their intention. The reader is therefore cautioned to use the sections on ceramics (ibid., pp. 11-12), and in particular the now obsolete remarks of the concluding addendum, *magno cum grano salis*, since our pottery analyst was still in the initial stages of her study of the BA wares when the report was prepared. The expedition staff consisted of the present writer, project director and photographer; David Conwell, assistant field director; James Thorn, architect and object draftsman; Linda Hulin, pottery analyst and cataloguer; Stephanie Tyiska, conservator and cook; Eric Gieringer, Roy Green, and Aala Shaheen, field supervisors. The architectural plans and sections executed by James Thorn and, in two instances, by D. Conwell in the field were put in their final form by Dr. Carl Beetz in Philadelphia. I wish to extend thanks to Dr. Ahmed Kadry, then Chairman of the Egyptian Antiquities Organization, for facilitating the renewal of our project for a second season. I also wish to thank Dr. Ibrahim el Mawawy, General Director of Antiquities, along with Dr. Kamal Fahmy, Director of Excavations for Lower Egypt, and Mr. Fouad Yakoub for their patience in getting the project underway once our group arrived in Egypt. Special thanks are owed Dr. Zahi Hawass for his timely assistance in Philadelphia. I also wish to acknowledge the services provided by Dr. Terence Walz, U. S. Director of ARCE, Dr. Robert Betts, its Cairo director, and Mrs. Amira Khattah, ARCE's Executive Secretary in Cairo. In Marsa Matruh Mr. Feisal Asmawy, Director of Antiquities for the Province of Matruh, once again assisted us in every possible way, as did our inspector, Mr. Tarek Mohamed Farid, who oversaw with special sensitivity and care the daily field operations. Finally, I am happy to record with special gratitude the hearteningly generous financial support provided our work by Mr. and Mrs. Woodruff Emlen, Mr. and Mrs. Willi Gorrissen, Mrs. Edward Lower, Mr. and Mrs. James Satterthwaite, Mr. George Vaux, and a pair of friends who wish to remain anonymous, as well as a major grant from The Institute For Aegean Prehistory.

[2] See D. White, "1985 Excavations on Bates's Island, Marsa Matruh," *JARCE* 23 (1986) 51-84, hereafter *1985 Report*. D. White, "Excavations at Mersa Matruh, 1985," *NARCE* 131 (1985) 3-17. D. White, "Seasonal Occupation of the Marsa Matruh Area by Late Bronze Age Libyans," awaiting publication in the papers of the 7/25/86 conference organized by the Centre of Near and Middle Eastern Studies, SOAS, and the Society for Libyan Studies on *Libyans in Egypt in the first Millennium B.C.*, henceforth *Seasonal Occupation*.

[3] In addition to the references to the region's historical background and geographical setting listed in the *1985 Report*, 51, nn. 1-3, see now D. Roques, *Synésios de Cyrène et la Cyrénaïque du Bas-Empire* (Paris, 1987), 109-12.

[4] *1985 Report*, 54, figs. 1, 2. Area IV, which does not appear on the East Lagoon plan, refers to the Department of Antiquities' excavations on the sandstone ridge west of the modern city and modern harbor. See ibid., 51, n. 3.

outcropping of weathered sandstone that rises directly east of the beach opposite the island was Area II. Area III marked flights of stairs and a partially collapsed rock-cut chamber on the southern edge of the East Lagoon. Area V was a section of the sandstone ridge north of the island marked by certain interesting walled remains. Two additional areas (VII, VIII) that were added this past summer appear east of Area II on fig. 1, which provides an updated version of the pre-Second World War 1:25,000 scale map of the Matruh region.

In the report that follows I shall first summarize the results of the activities off Bates's Island and then turn to the latter's excavation. This will then be followed by an analysis of the project's ceramics by Linda Hulin.[5]

Mainland Activities

Area IIA cisterns

A plan (fig. 2) was drawn of the unexcavated square and circular rock-cut features previously reported on top of the northern half of Area II.[6] Little can be added to the observations already made about these cuttings apart from the fact that they seem to have been part of a larger installation of probable Roman date that once occupied the top of the sandstone ridge separating the first East Lagoon from the second, more shallow lagoon directly to the east (fig. 1). Their purpose was almost certainly to collect water, and while no trace of building is visible amongst the broken rock debris strewn over the ridgetop, it seems likely that both tanks were filled by pipes connected with either the flat roofs or open courts of some otherwise missing ridgetop installation. The channels leading into each drain *away from* rather than *toward* the tanks. Their contents were evidently released by sluicegates no longer preserved. The fact that such relatively large drains were provided to empty water from the tanks may suggest that their function was more commercial than residential.

Area V church

The unexcavated remains of the ruined building occupying the rocky hillock (el. 14 m a.s.l.) on the south face of Matruh's coastal ridge[7] were also drawn, revealing the plan (figs. 3, 4) of a basilican church, facing east and displaying a number of apparently Coptic features.[8] Of small size (ca. 22 m east-west, not including the secondary flight of stairs east of the apse; 16.25 m north-south), its interior is arranged with a rectangular (ca. 5.60 by 4.00 m) *haikal*[9] preceding a plain, slightly off-axis apse (ca. 2.00 m wide) and altar. Traces of a bench (ca. 0.35 m high) covered with white plaster are visible against the north wall of the *haikal* whose floor was similarly plastered. What survives of the *higab*[10] or iconostasis separating *haikal* from nave is built from rubble stone and is pierced by a ca. 1.35 m wide door. Its upper level probably continued at one time in wood, with perhaps two windows set in screens to either side of the door.[11] There exists no visible evidence for doorways leading into the rooms that flank the north and south walls of the *haikal*,[12] but these

[5] Hereafter *Ceramic Report*.

[6] *1985 Report*, 54-55, fig. 3. Housing development is proceeding around the lagoon at a dizzying rate. In 1985 the eastern third of the southern edge of the lagoon was largely free of building. By the end of the 1987 season highrise multiple family dwellings and shore villas wrapped the entire beach area up to the edge of Area II. Thus far there are no signs of construction along the lagoon's north shore which may remain protected for some time as a military zone. On the other hand, Area II has been scheduled for immediate development, and it is unlikely that its IIa rock cuttings will survive.

[7] *1985 Report*, 56, figs. 1, 2.

[8] A. J. Butler, *The Ancient Coptic Churches of Egypt* (Oxford, 1970 reprint) I, 15-46. S. Clarke, *Christian Antiquities in the Nile Valley* (Oxford, 1912, 1970 reprint), 90-94, 109-11, 191-92. R. Habib,*The Ancient Coptic Churches of Cairo, A Short Account* (Cairo, 1967), 6-9. I have been unable to obtain A. Badawy, "Les premières églises d'Égypte jusqu'au siècle de Saint Cyrille," *Kirilliana (Spicilegia edita Sancti Cyrilli Alexandrini XV recurrente Saeculo)* (Cairo, 1947), 319ff.

[9] This nature of this key element is well described by Clarke (supra n. 8), 90, 110, 191-92.

[10] Butler (supra n. 8), 28-30: "thus the Coptic haikal-screen . . . answers very closely to the Greek iconostasis." Clarke (supra n. 8), 90-91, 110. Habib (supra n. 8), 7.

[11] Clarke (supra n. 8), 110.

[12] "In a number of cases—especially when the church is an example of the basilican plan, type A—there is a small door leading north and another south from the *haikal* to the adjoining chambers." Clarke (supra n. 8), 110.

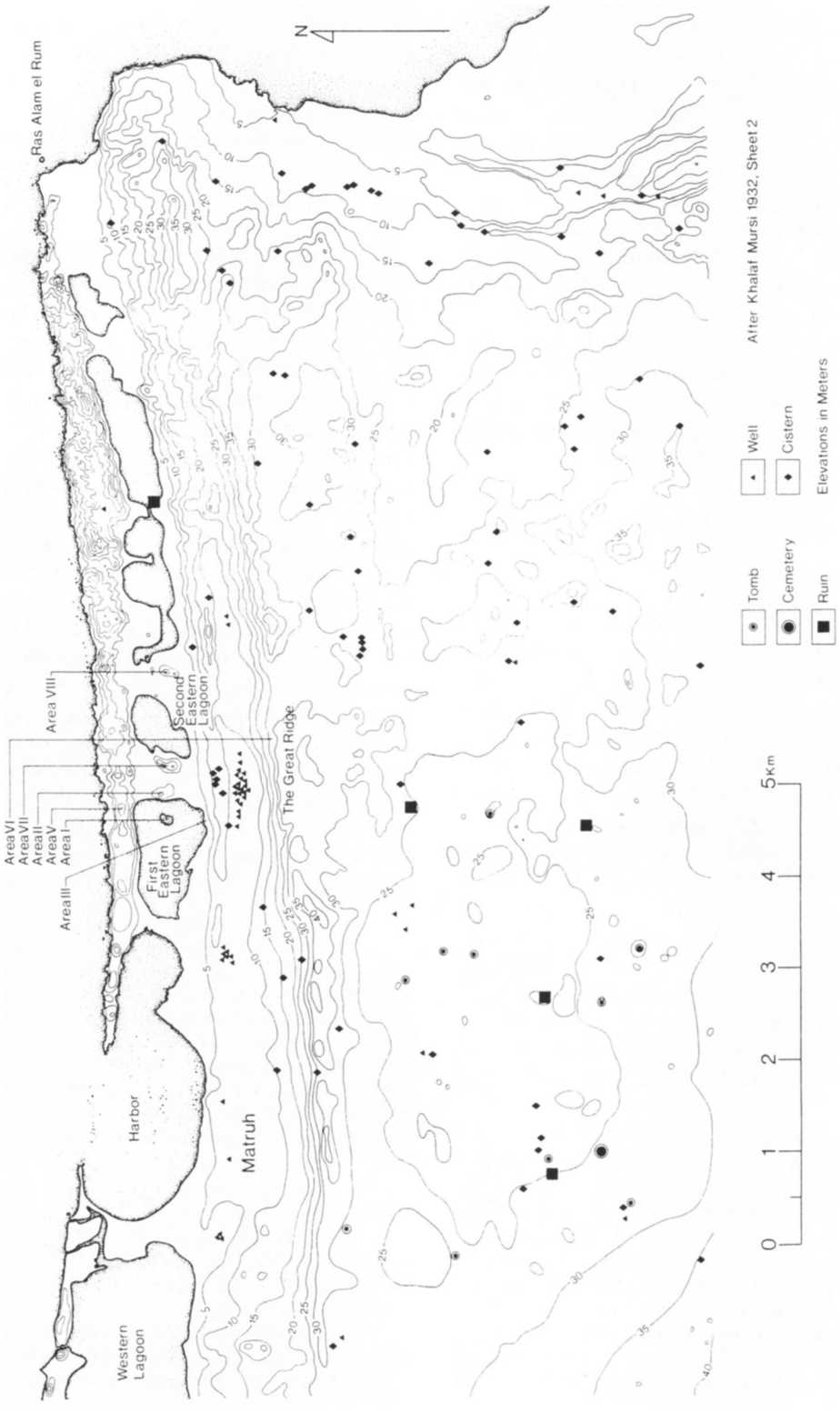

Fig. 1. Drawing by C. Beetz following J. Thorn of the 1932 1:25,000 scale plan (Dept. of Surveys and Mines, Sheet no. 2) of the harbor and lagoons from Marsa Matruh's west lagoon to Ras Alam el Rum. Many land features visible in 1932 and retained by this plan no longer survive, while a small number of new features have been added to the 1932 plan.

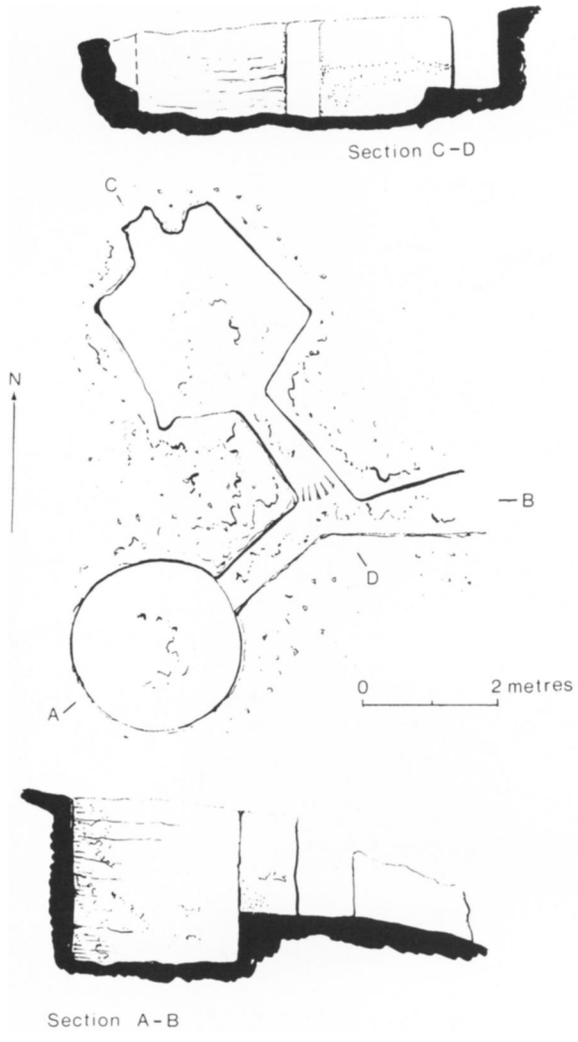

Fig. 2. Plan by Thorn of Area II cisterns.

may be still hidden by surface debris. A low rise in level separated the *haikal* from the nave to the west where the floor was also plastered. A general aura of plainness, generated by the lack of mosaic fragments,[13] marble fittings, and other forms of conventional furnishings,[14] is further increased by the fact that the long walls of the nave were apparently solid, i.e., not broken by either columns or piers, unless they were at one time pierced by windows set at a high level.[15] Apparently, individual rooms took the place of true side aisles,[16] at least on the north. There exists no trace in the surviving plan of the separate choir element set between *haikal* and nave.[17] The state of the west end is generally confused but seems to have consisted of a narthex[18] with plastered floor set at roughly the same level as the *haikal*.

No direct evidence survives for roofing; but it is probably safe to assume a half-dome for the apse, a dome for the narthex, domes or cross-vaults for the minor rooms flanking the narthex and apse, and barrel vaulting for the rest, including *haikal* and nave.[19]

The outer face of the apse is badly preserved and has mostly toppled down the steep slope to its east. Given its poor state of preservation, it is difficult to be certain whether the apse once projected clear of the end of the building or was incased in outer walls, which seems to be the more normal procedure for most Egyptian churches. The base for the altar table is coated with red plaster. Its upper surface (fig. 5), which preserves the outlines of four sockets to carry wooden legs, cannot have supported a solid altar but rather a flat table made of either wood or stone.[20] A rectangular tongue projects 0.25 m

[13] Butler (supra n. 8), 37–40.

[14] Butler (supra n. 8), 22–27. Habib (supra n. 8), 6. A. Badawy, *Guide d'Égypte Chrétienne* (Cairo, 1953), 12–19.

[15] Butler (supra n. 8), 15–16, 18–19. Clarke (supra n. 8), 90–92, pls. XXV–XXVI. Habib (supra n. 8), 6.

[16] Butler (supra n. 8), 19–22. Clarke (supra n. 8), 111.

[17] Unless the rise in floor level signals the presence of a choir. See Habib (supra n. 8), 6–7. According, however, to Butler (supra n. 8), 25, "It is doubtful whether, in the very earliest times, the choir was separated from the nave or had any distinct existence, as the first clear mention of it seems to be in the seventh century."

[18] Butler (supra n. 8), 17. Habib (supra n. 8), 6.

[19] Cf. Clarke (supra n. 8), pl. XXV, figs. 1–4, XXVI, fig. 1.

[20] Butler (supra n. 8), 3: "The Coptic altar is a four-sided mass of brickwork or stonework, sometimes hollow, sometimes nearly solid throughout, and covered with plaster." Clarke (supra n. 8), 110. Badawy, however, (supra n. 14), 17, fig. 6, illustrates a fourth century pine altar from Abou-Sarga; its table is supported by eight free-standing spirally fluted wooden colonettes and elaborately carved corner pilaster panels. Open altars with tops supported on four free-standing piers or colonettes seem to be the standard type for Cyrenaican churches, where preserved. See S. Stucchi, *L'Architettura Cirenaica* ("Monografie di archeologia libica" 9, Rome, 1975), 383, fig. 381, 385, fig. 383, 393, fig. 397.

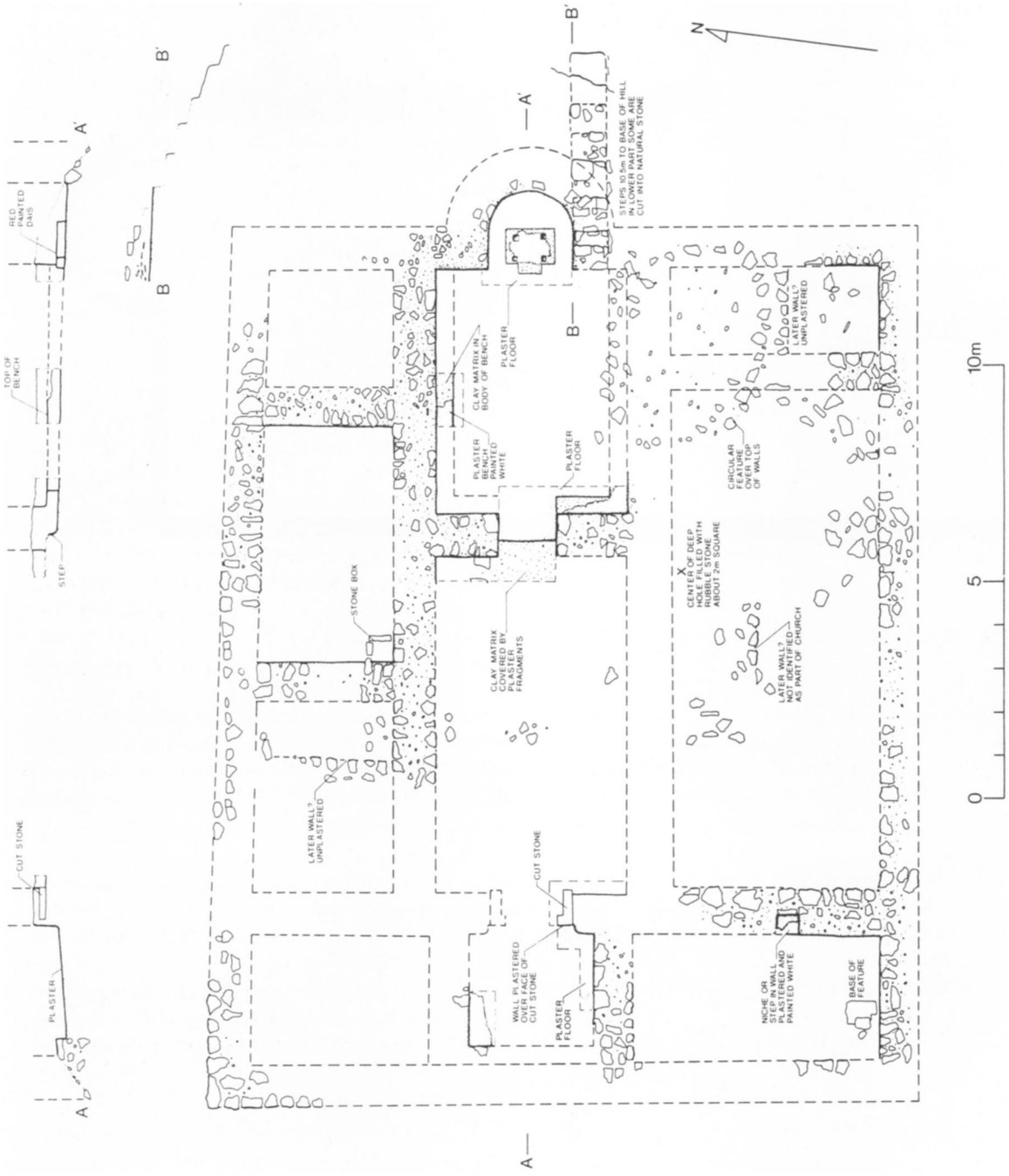

Fig. 3. Evidential plan and sections of Area V Church. By Thorn and Beetz.

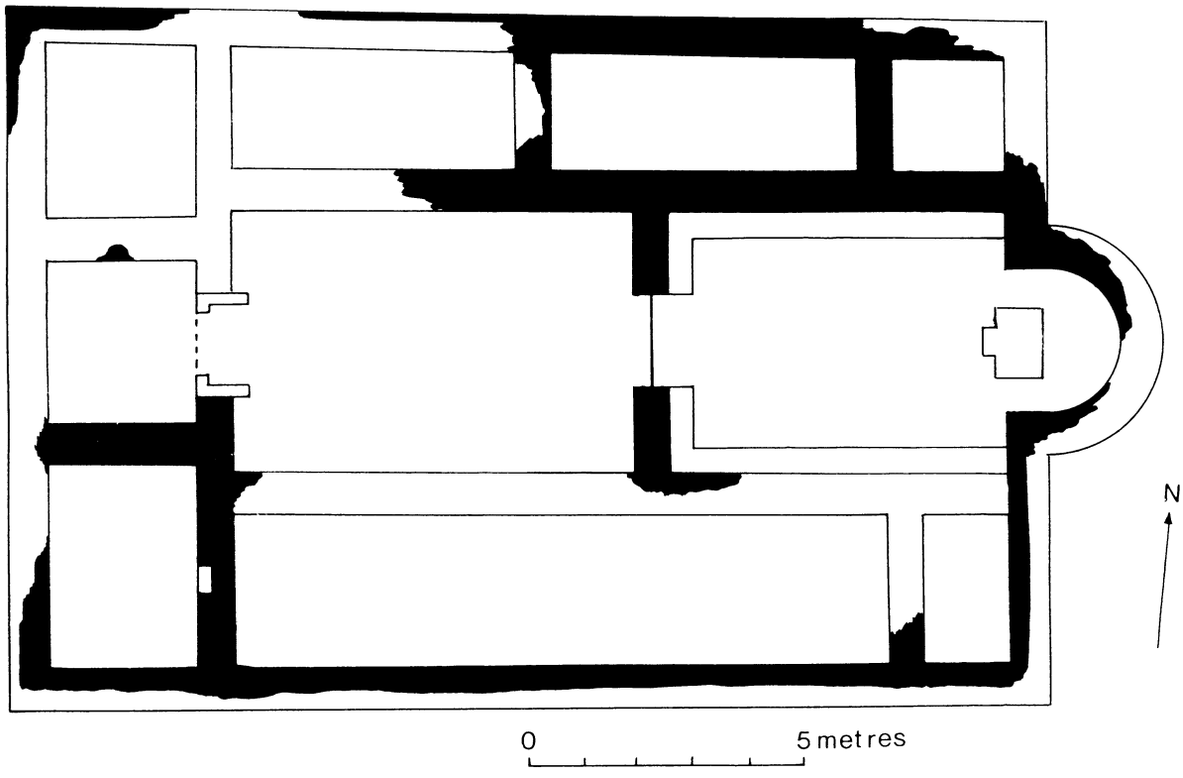

Fig. 4. Sketch plan by Thorn of Area V Church.

from the front of the base.[21] Badly eroded, this tongue now appears to slope forward but was originally constructed to the same height as the remainder of the base.[22] It may have been used as either a step or, as seems less likely, a kneeling platform.

Crudely laid steps that descend about 10 m to the base of the hill intersect the south face of the apse. Because a layer of debris separates the remains of the apse wall and the bottom of the steps, the latter are obviously secondary to the destruction of the church (fig. 3, cross-section B–B′). A roughly circular topple of rubble stones, ca. 5 m across, encumbers the *haikal's* largely demolished south wall, extending into the chambers to the south. Perhaps at one time the base of a late watch tower, the circle of rubble probably belongs to the same period as the stairs. How this secondary building phase relates to the burial chambers reported in 1985[23] on the north and south down-slopes is at this stage impossible to say.

Given the current lack of excavated evidence, it would be imprudent to suggest a specific date for the church's construction. None of the surface sherds littering its interior and the surrounding slopes seem later than the fifth century but do not necessarily have any direct association with the building. I am too inexperienced to speculate on the place of this monument within the development of early Coptic architecture[24] other than to observe that, given its single

[21] The same projection appears on the altar of the Cyrenaican basilica at Ras el Hilal where it faces toward the apse. Stucchi (supra n. 20), 385, fig. 383.

[22] Having first assumed that the tongue was built with a sloping upper surface, I owe the observation that its incline was caused by erosion to C. L. Striker.

[23] *1985 Report*, 56.

[24] The beginnings of native Egyptian monophysitism, as opposed to the orthodoxy of the Menkite minority, may go back to the time of the Decian persecutions. A. Butler, "Copts," *Encyclopedia Britannica* VII (11th ed. 1910), 113. Today the Coptic Church reckons its era from A.D. 284, the

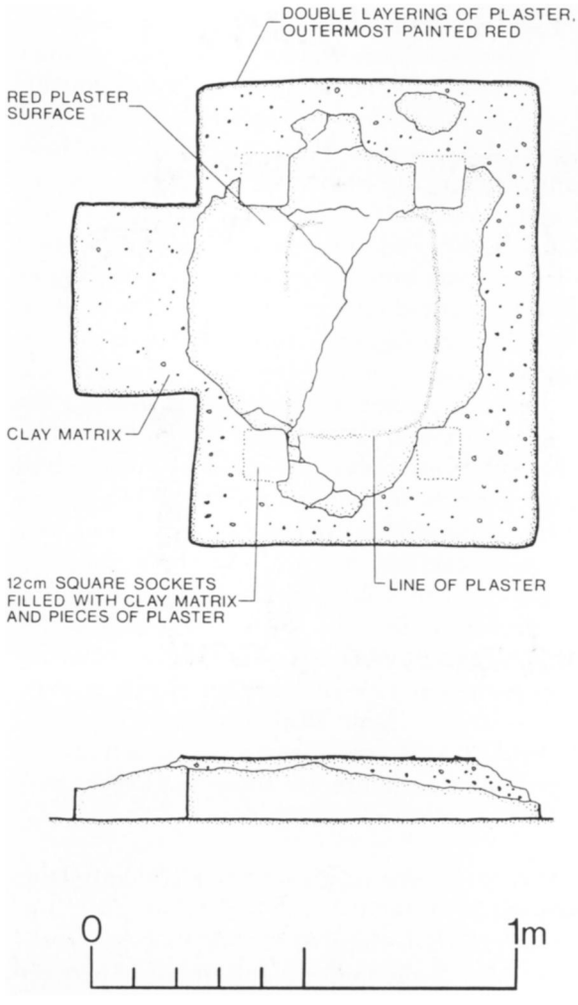

Fig. 5. Plan and section of the Area V Church's altar. By Thorn and Beetz.

apse and apparent lack of colonnaded nave, proper side aisles, and separate choir element, it appears to be both earlier as well as more primitive than the bulk of the better known monuments. It should therefore be worth investigating in greater detail at some future date.[25]

year of Diocletian's accession (*The Oxford Dictionary of the Christian Church*, ed. F. Cross and E. Livingston, [Oxford, 2nd. ed., 1984 reprint], 346).

[25] For more on the history of Christianized Paraitonion, see O. Bates "Excavations at Marsa Matruh," *HAS* 8 (1927), 135-36, henceforth *African Studies*. Roques (supra n. 3), 326-29. The article by E. Breccia, "Una statuetta del Buon Pastore da Marsa Matrouh," *BSAA* 26 (1931), 247-57, as yet unseen by me, may be relevant.

Bates's Libyan Cemetery on the Great Ridge (Area VI)

In 1914 Bates found a small cemetery atop the stony "Great Ridge" that overlooks the eastern outskirts of the modern city. It included two inhumation burials believed by their discoverer to contain the skeletons and grave furniture of native Libyans living between 2000 and 1500 B.C.[26] The stone vessels were subsequently linked by Flinders Petrie to a class of artifacts that dates in his words "to the first prehistoric age, and is probably of Libyan work."[27] We thought that we had relocated Bates's cemetery in 1985,[28] but an effort this past summer to clear what were taken to be the vestiges of Bates's five cists excavated from the shallow earth covering the rock pavement of the Great Ridge failed to produce any positive evidence for either the missing cemetery or any additional burials. A number of other potential sites were investigated along the ridge closer to the modern city with similarly negative results. While this reconnaissance was taking place, most of the land was being subdivided for development and will be obliterated by modern housing in the near future. Like the grave contents excavated by Bates and sent back to the United States, the "Libyan cemetery" seems to have been permanently lost. On the other hand, by way of at least partial compensation for these losses, the latest investigation of the Great Ridge area brought to light some fresh ceramic evidence whose potential significance will be discussed later in this report.

Lagoon basin reconnaissance

Given the limited size of Bates's Island's LBA settlement, one of the first objectives of the 1987

[26] A total of five cist burials were found by Bates. Three were empty; two contained stone vessels, terracotta pots, and shells. Because Harvard's Peabody Museum has no record of their whereabouts, the latter material may now be presumed to have been permanently lost. See *African Studies*, 137-40, Map, site A, pl. 4, 1-2. O. Bates, *Ancient Egypt* (London 1915), 158-65. *1985 Report*, 53. A summary of Bates's description of the grave furniture from tombs A.1 and A.2 accompanies *Seasonal Occupation*.

[27] W. Flinders Petrie, "Prehistoric Egypt," *BSAE* 31 (1920), 36.

[28] *1985 Report*, 56, fig. 1.

season was to begin investigating the chain of lagoon basins that extend nearly 6 km east of the Matruh's first east lagoon (fig. 1) in an attempt to expose traces of additional LBA occupation by either foreigners or the Marmaric Libyans. This effort rested on the fact that since 1985 our tentative view, based mainly on sherd distribution patterns over the island's surface and the nearby shore area, has been that the lagoon water level was higher in the second millennium B.C. than either today or in later antiquity.[29] A rise of just a meter would have flooded most of the sandy coastal plain between Matruh and Ras Alam el Rum that today surrounds five separate water-filled lagoons. Such a rise would in effect have created a single elongated lake punctuated by a string of small protected islands similar to Bates's Island and opening to the sea at the modern harbor mouth of Matruh. In this regard it is of interest to note that, according to the fig. 1 survey map, the third and fourth lagoons were apparently connected as recently as the early 1930's. Following the assumption that protection from storms and attack, along with ready access to the sea, must have formed the two most pressing requirements for our theoretical LBA settlers, the search for their occupation sites centered on the hill formations that today stand above the coastal plain separating the individual lagoons. At the outset the most promising area for investigation appeared to be the group of prominent hillocks between Area II and the west end of the third eastern lagoon (fig. 1, Areas VII, VIII).

Somewhat surprisingly, reconnaissance failed to recover a single imported BA sherd, Cypriot or otherwise, from any of the slopes and tops of the hills occupying this sector of the *sebha* plain. Such a total lack of evidence may mean that our original assumption about the LBA water level was simply wrong. In other words, it could argue that the water was as low, if not lower, in the BA as it is today, and that the lagoons never contained a series of water-protected insular units suitable for inhabitation. On the other hand, some additional evidence was gathered from the island this past summer which tends, admittedly somewhat inconclusively, to strengthen the theory of a localized higher LBA water level.[30] This could in turn indicate that the inability to recover LBA imported sherds east of Bates's Island only proves that whatever early foreign settlement took place locally (apart from, for obvious reasons, Bates's Island) occurred either along the south shore of Matruh's west lagoon, which is today covered by modern docks, or on the land opposite the harbor mouth, now entirely buried beneath the modern city and no longer available for study. The question cannot be conclusively resolved until scientific testing by a trained geologist has been conducted on the island and throughout the lagoon system.

The lack of LBA imports notwithstanding, the search of the hill features did lead to the recovery of a number of surface scatters of sherds of a distinctive type of local handmade pottery, categorized by Mrs. Hulin as Marmaric Shell Tempered A, B, and C ware.[31] The actual sites where one or more of these sub-types were collected are as follows (fig. 1):

1. The northern tip of Area II, designated Area IIB.
2. The south slope of the saddle between the two peaks of the large ridge formation between Area II and the western end of the second eastern lagoon, Area VIIA.
3. The east slope of the northern peak of the same ridge formation facing the second eastern lagoon, Area VIIB.
4. The western slope of the hill between the second and third eastern lagoons, Area VIII.

In addition to these lagoon sites, a handful of Shell Tempered Ware B sherds was found on the surface of Bates's Island itself[32] as well as Wares A and B sherds along the southern rim of Wadi Aghiba west of Ras Umm el Rakham ca. 25 km west of Matruh. Buff sandy deposits saturated

[29] *1987 Report*, 61-62, nn. 24-26. A. Knapp, "The Thera Frescoes and the Question of Aegean Contact with Libya during the Late Bronze Age," *Journal of Mediterranean Anthropology and Archaeology* 1/2 (1981), 263-67, reviews the standard arguments for a rise in Mediterranean water level since the LBA.

[30] See pp. 115-19.

[31] Infra *Pottery Report*, 116.

[32] From E4-II/E, 1.1; F4-III, 1.1; H5-I, 1.1; 16-I/II, 1.1

with crushed shell were also found near natural clay beds in the vicinity of the same wadi, suggesting a local source for the pottery type. Random scatters of A and B appeared over much of the crest of the Great Ridge, while exclusively Shell Tempered Ware C was excavated in association with modern glass and cloth in a surface hearth deposit in Area VIB on the Great Ridge ca. 200 m west of what we had initially taken to be the site of Bates's Libyan cemetery. Finally, a single Shell Tempered Ware A jar fragment was found by the expedition on the surface near the Temple of Amun at Siwa Oasis.

The Areas IIB, VIIA, VIIB and VIII surface scatters of sherds were uniformly associated with the sandy, protected slopes of hills or ridges. The impression they give is that they represent the remnants of old campsites deliberately established just below the exposed rocky crests of their respective hills but always maintained within eyesight of Bates's Island. No masonry-built features survive in their vicinity to suggest that the sites were linked with any form of permanently constructed housing. The locations of the sherd scatters along the Area VI Great Ridge also provided a commanding view of the island while remaining at the same time equally barren of architectural contexts.

As Hulin's comments will make clear, our understanding of these ceramics is just beginning to take shape. *How* early they are remains to be determined by a combination of excavation and thermoluminescence testing. The recently published hand-made "pre-Battiad (i.e., pre-ca. 630 B.C.) Libyan" wares excavated by Stucchi west of the agora at Cyrene[33] seem to provide interesting parallels, and the two sets of regional wares will require a closer mutual scrutiny before any definitive conclusions can be arrived at for their respective dates. In the meantime Ware B, the most commonly represented of the shell tempered series as well as the one type found on the surface of Bates's Island, may indeed be early.[34] On the other hand, Shell Tempered Ware C seems relatively modern, unless the hearth with which the sample was associated was sunk by the modern population into a surface scatter of old pottery. The mainland findspots of all three types of shell tempered wares are well suited for the kinds of seasonal encampments that have been mooted for the Libyan population trading with Bates's Island's LBA inhabitants.[35]

Island Excavation

Because of the overriding importance attached to the earliest island occupation, its post-BA phases[36] were deliberately given less attention in 1987 than in 1985. In practical terms this meant that a large part of the digging was concentrated on the longitudinal spine south of Bates's sponge-divers' house (S101) and the LBA period S102 chamber cleared in 1985 (figs. 6, 7), while at the same time the deep fill was avoided on the island's wind-protected eastern slope where 1985's trenches G6-I and I8-IIIS had led us to expect little if any evidence for BA activity.

In addition, however, a series of three trenches (H5-I/II, I6-I/II, J8-I/II)[37] were set out at descending elevations, starting just outside the sponge-divers' house and running toward the island's northeast corner. Their aim was to verify the existence or absence of stratified LBA artifacts at their respective lowest levels. In theory this information should assist in providing a preliminary indication of the lagoon's water level and, by extension, the island's size during the LBA period. The disturbed interior and surface immediately north of the sponge-divers' house had produced in 1985 the largest numbers of imported LBA fine wares but without the context of contemporary walls. This caused us to anticipate that the neighboring trench, H5-I/II, would contain both early walls and artifacts. It was less obvious what could be expected to emerge from the two lower trenches, I6-I/II and J8-I/II.

[33] I. Baldassare, "Tracce dell 'abitato prebattiaco ad ovest dell 'Agora di Cirene," *QAL* 12 (1987), 17-24, pl. I.

[34] See *Pottery Report*, 118.

[35] *Seasonal Occupation, passim.*

[36] These are its Archaic Greek through Hellenistic, its Roman imperial, its 17th-18th century Arab, and its modern phases. See *1985 Report*, 63-75.

[37] For an explanation of the island survey's grid system and nomenclature used for separate architectural features and strata, see *1985 Report*, 63.

Fig. 6. Contour plan of Bates's Island (Area I), showing excavated wall features and principal numbered structures. By Beetz after Schaar and Thorn.

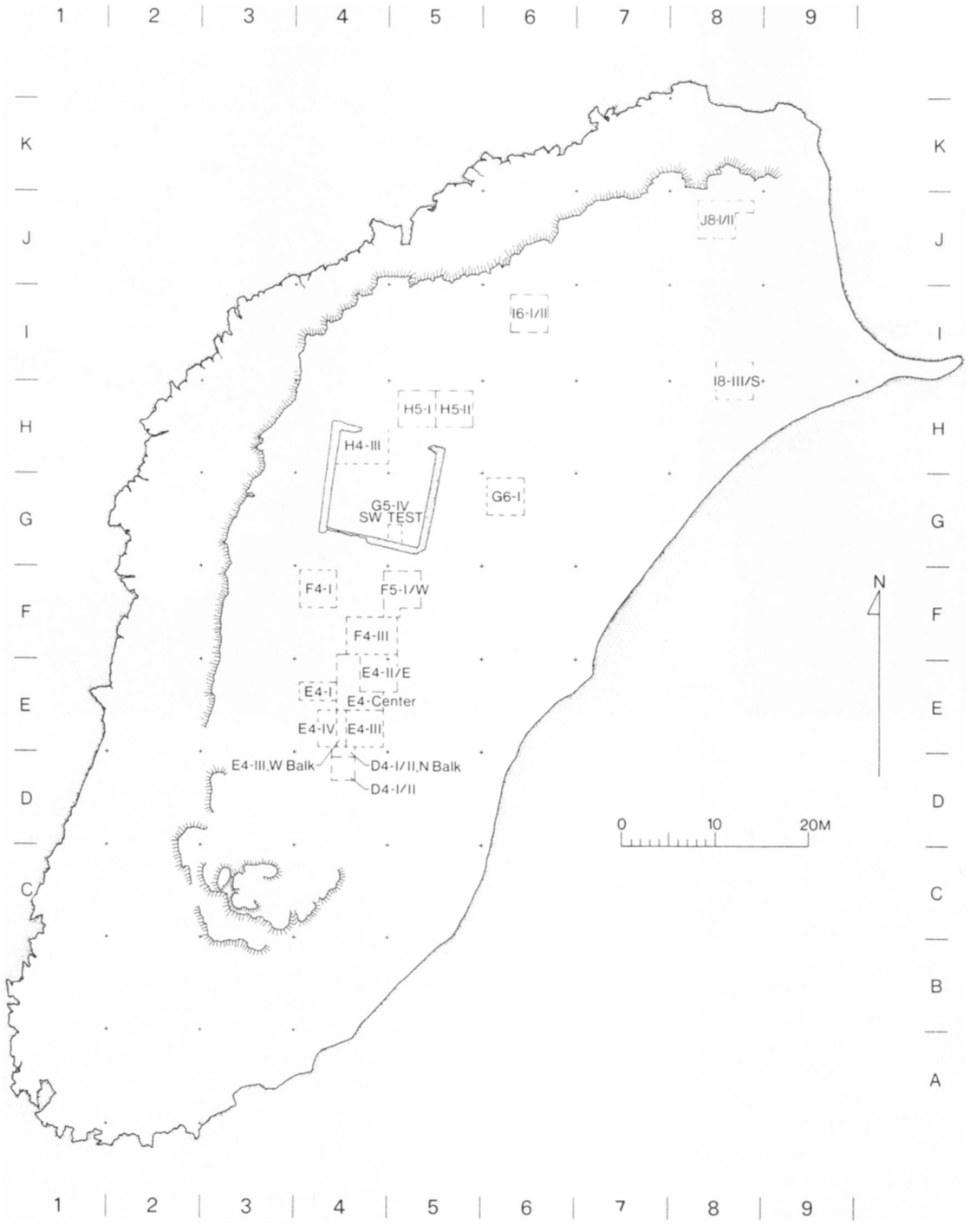

Fig. 7. Plan of Bates's Island, illustrating 10 m grid, excavated trenches, and outline of island's exposed rock features. By Beetz after Schaar and Thorn.

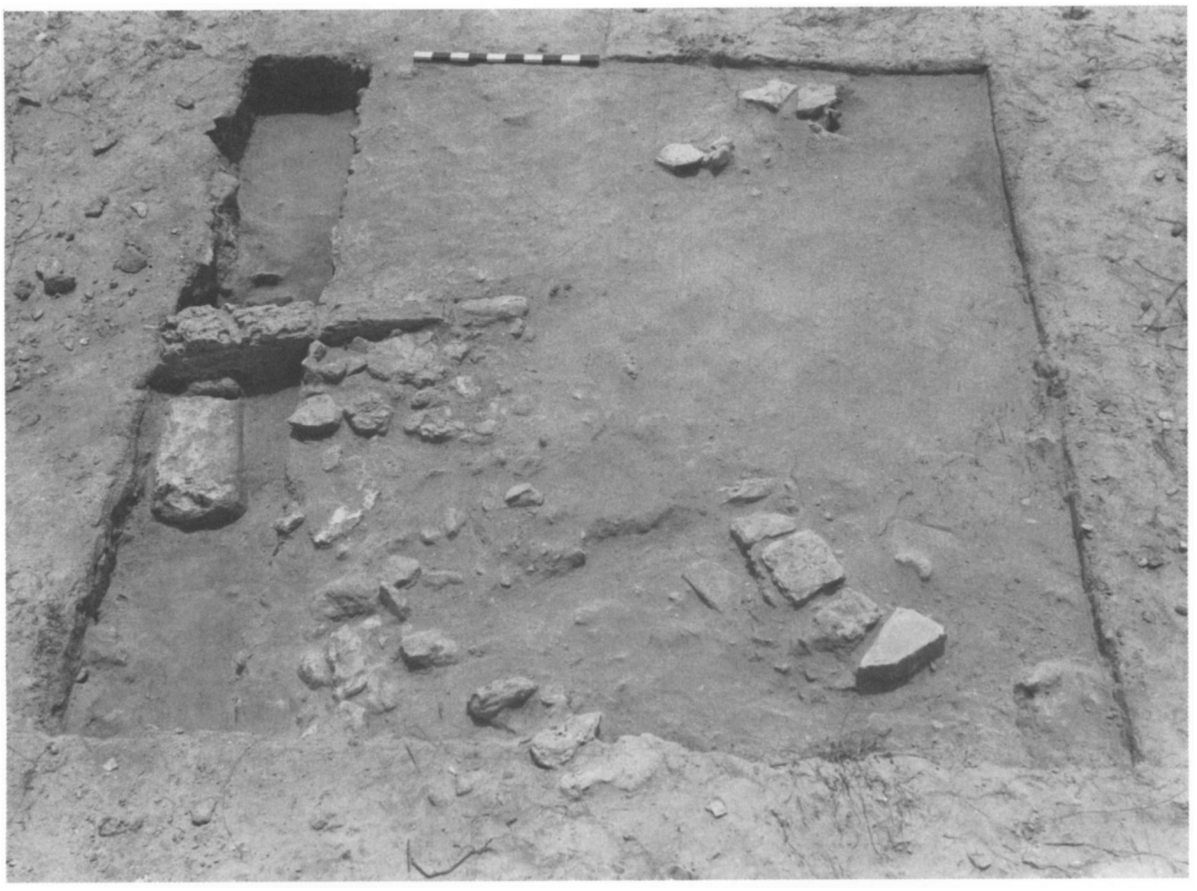

Fig. 8. View of Trench J8-I/II from west.

J8-I/II (figs. 8-10)

Trench J8-I/II, the lowest of the series, was laid out ca. 10 m from the northeast corner of the island on more or less level ground where two parallel strips of rough, unpainted wall plaster were previously observed above the surface of the sand.[38] In its final form, J8-I/II was a 4 m square dug to a minimum a.s.l. el. of 1.30 m, with a 2.0 × 1.25 m ell added to its northeast corner.

The parallel lines of stucco turned out to be the vertical surfaces of a narrow (ca. 0.28 m wide) Roman period ashlar wall (S109a) that runs from the north edge of the trench ca. 1.75 m to the south-southeast before petering out. Only three badly weathered rough-cut blocks have been exposed of its original length; the northernmost and best preserved stone, ca. 0.40 m high and 0.70 m long, rests on ca. 0.20 m high flat foundation that spreads east of the wall's line (fig. 10, block 1). A potential second walled feature in the shape of a curved line of five rubble stones that lack any obvious relationship with the S109a wall came to light in surface fill at the southwest corner of the trench. Because they may simply represent a random topple, the five blocks have not been assigned a feature ("S") number.

Since otherwise apparently sterile, the trench's southern three-quarters were stripped of only their top 0.10 m of surface fill. The northern meter across J8-I/II's north face was then dug to a depth of ca. 0.40 m, sufficient to exposed S109a's foundation.

[38] *1985 Report*, 73.

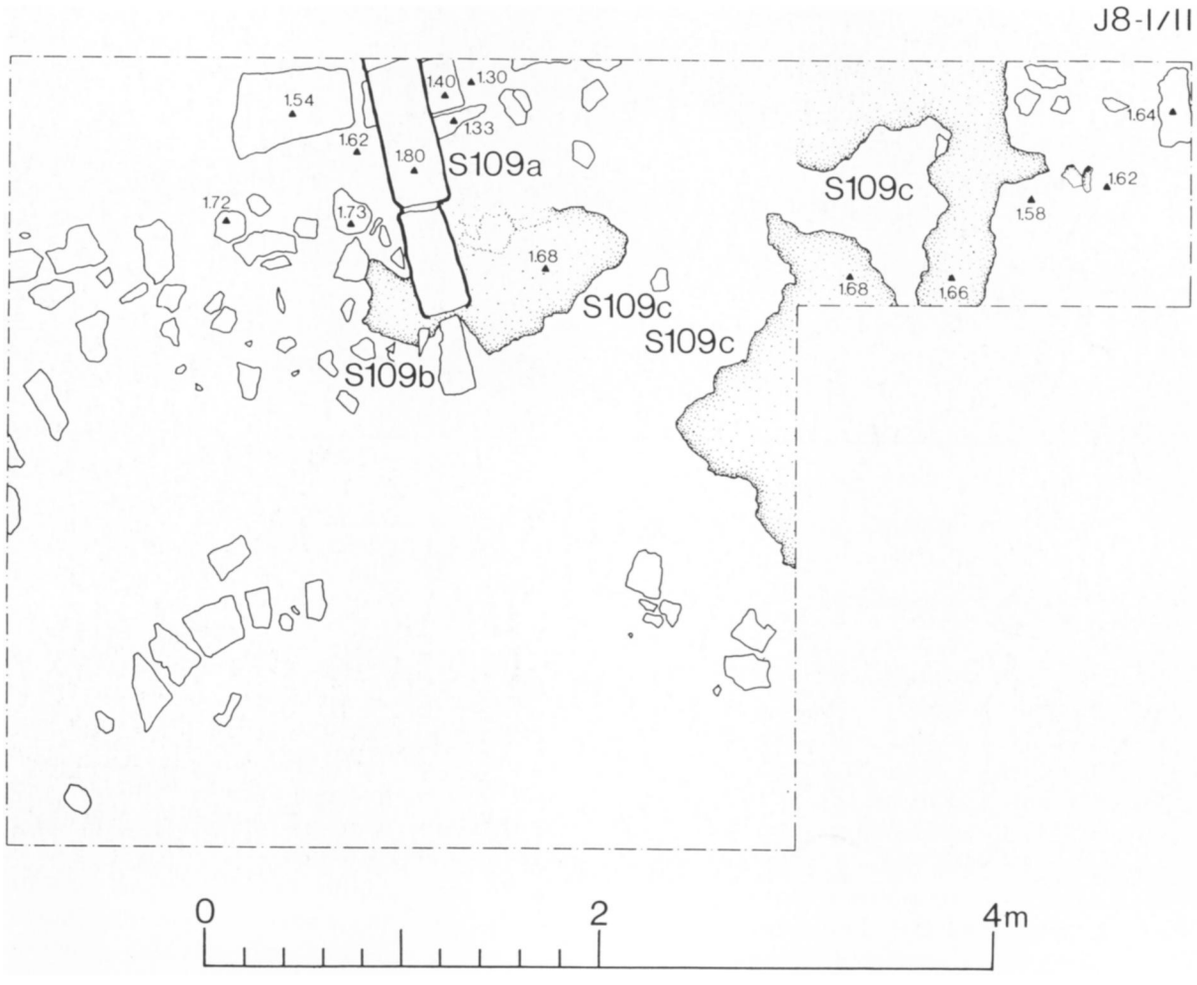

Fig. 9. Plan of Trench J8-I/II. By Thorn and Beetz.

Apart from the wall, the trench's only noteworthy elements were the moth-eaten remains of at least two floors (fig. 9, S109b-c) preserved across its northern sector to either side of S109a at an a.s.l. el. of ca. 1.65/1.68 m. The flooring material consisted mainly of sand, mixed with hard plaster and small stones. In addition to patches of flooring adhering to the wall's east and west faces (thus indicating the existence of two separate floors and, by extension, two rooms), additional broken-up "islands" of flooring appeared down the trench's eastern side as well as across its ell-extension.

West of the wall under floor S109b a large flat ashlar (block 2) was found lying parallel to the edge of trench, covered by a thin (2.1) layer of fairly hard-packed orange-tan colored sand (fig. 10). This produced a small number of Roman period cooking and storage vessel sherds. The 3.1 layer below the top of block 2 appears to be a continuation of the same fill as 2.1, suggesting that the two were packed around and over block 2 after the latter reached its present position. Apart from Roman coarse wares, of which the best preserved is a nearly complete spouted juglet with horizontal corrugations,[39]

[39] For the general lateness of corrugated pottery see J. Riley, *Excavations at Sidi Khrebish, Benghazi (Berenice)* II (Tripoli/Malta 1983): *Coarse Pottery* 263-64.

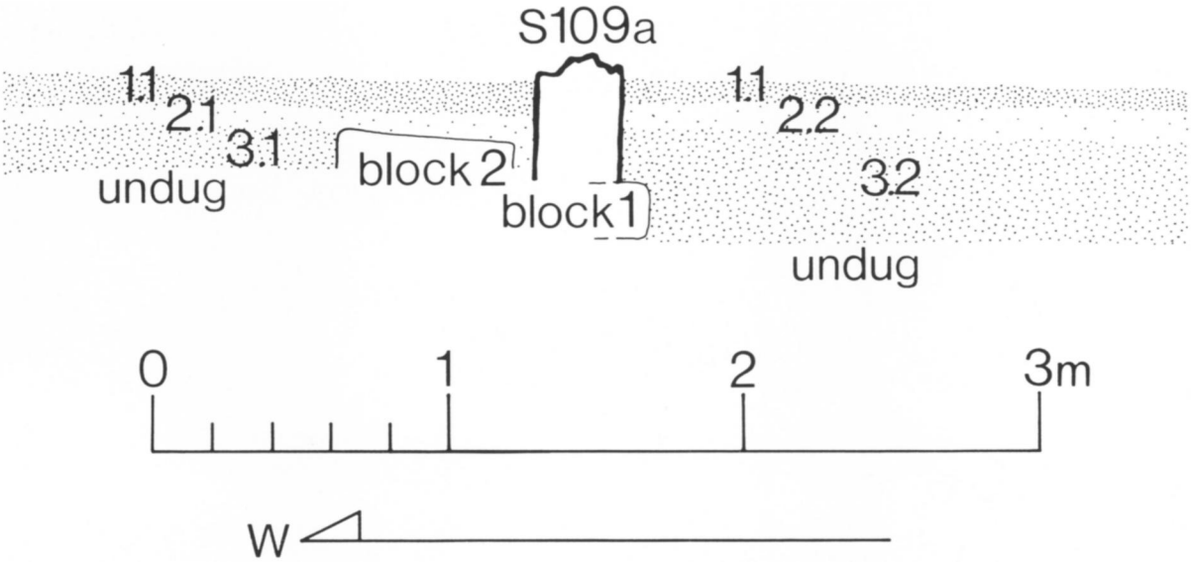

Fig. 10. East-west cross-section of J8-I/II's north balk. By Beetz.

deposit 3.1 also produced two LBA Cypriot Plain White ware sherds.

Beneath its 1.1 surface, which contained another LBA Cypriot White Slip sherd, the east face of the wall and its projecting foundations were backfilled by an orange-tan sand layer (2.2) supporting the S109c floor. Its ceramic finds were Roman with the addition of a single LBA cooking ware sherd; the dark-grey sand layer (3.2) underlying it contained, however, exclusively Roman material.

Neither the 3.1 layer west of the S109a wall nor its 3.2 equivalent to the east were fully dug to bedrock, and more work would have to be undertaken in the future to ascertain the date of J8-I/II's lowest fill. As matters presently stand, however, the trench's north-south plastered wall, the fill associated with the wall's foundations, and the badly preserved sand and plaster floors are all purely Roman in date. The four LBA sherds appear in each case to be intrusions from higher BA levels further south, creating the strong presumption that the water level during the second millennium B.C. was at least 1.70 m above its present level.

I6-I/II (figs. 11-12)

The second test trench was a 4 m square ca. 17 m to the southwest of J8-I/II on the slope beneath the sponge-divers' house. Its a.s.l. el. before excavation varied between 3.46 m (southwest corner) and 2.75 m (northwest corner), while its lowest a.s.l. el. after excavation was 2.47 in the northeast corner. Thus in general terms the I6 trench stands about a meter higher than the J8 trench.

The trench supplies little in the way of built features unless the scatter of stones distributed across much of its area represents what is left of a thoroughly demolished wall(s). Apart from the small finds, ancient occupation was here signaled (fig. 11) by a couple of small rubble "bins" (1 and 2),[40] a rough stone hearth associated with a mixture (2.4) of ash, burnt bones, and charred fragments of Roman storage vessels, and a nearby spill of rubbish (2.5). Underlying these and surviving in patches over much of the trench was a south to north sloping white (3.1) walk surface (fig. 12) compounded from clay and black ash mixed with considerable amounts of burnt osseous matter. To judge from the sherds directly on or embedded in it, the white (3.1) layer also belongs to the Roman period. A second small hearth, marked by three or four upright stones containing ash debris

[40] Although less well preserved, both resemble the so-called "Pi-shaped" constructions reported in 1985 from G6-I's later Roman level (*1985 Report*, 68-70, figs. 17, 18).

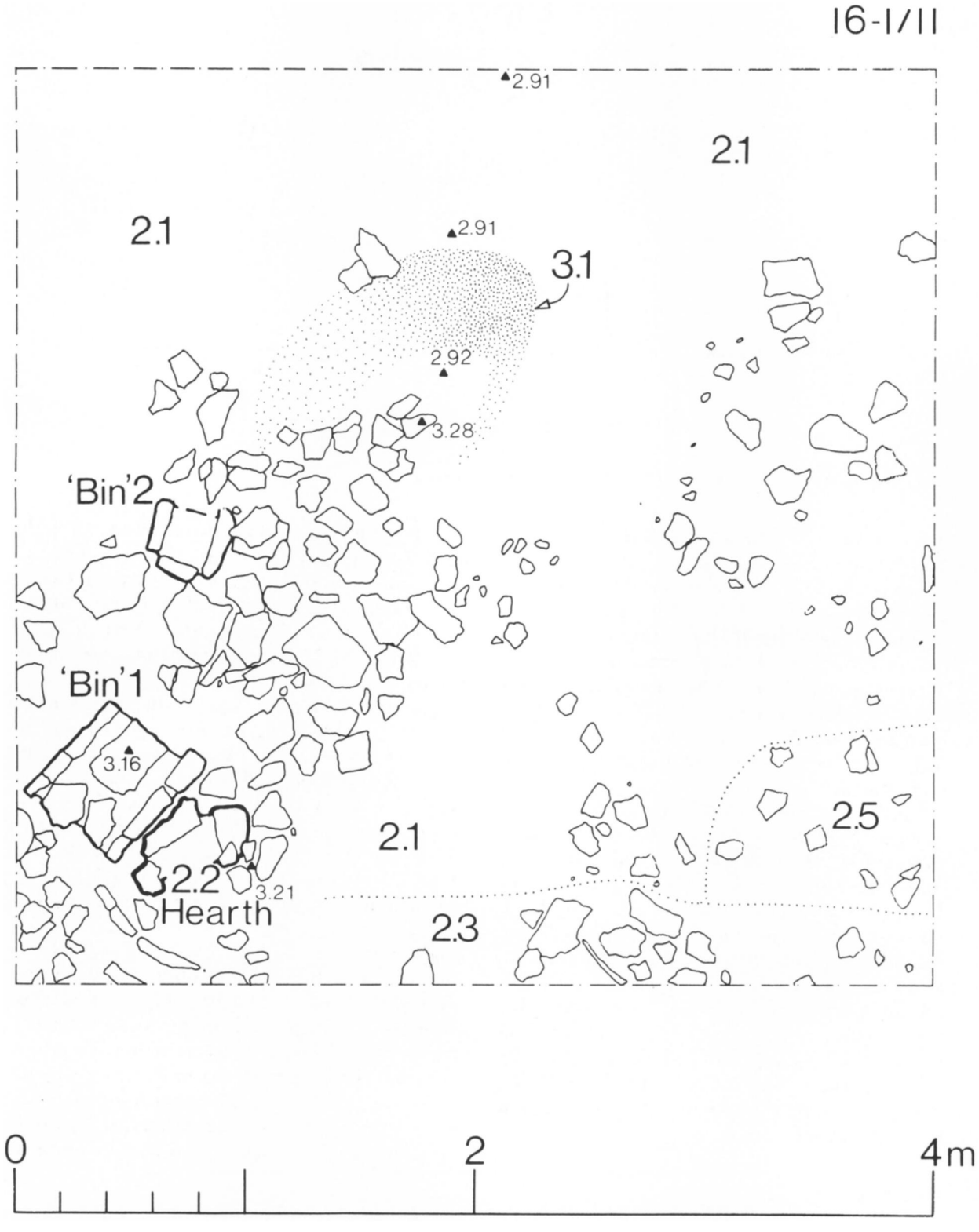

Fig. 11. Plan of I6–I/II, excavated to its 2.1 level. By Thorn and Beetz.

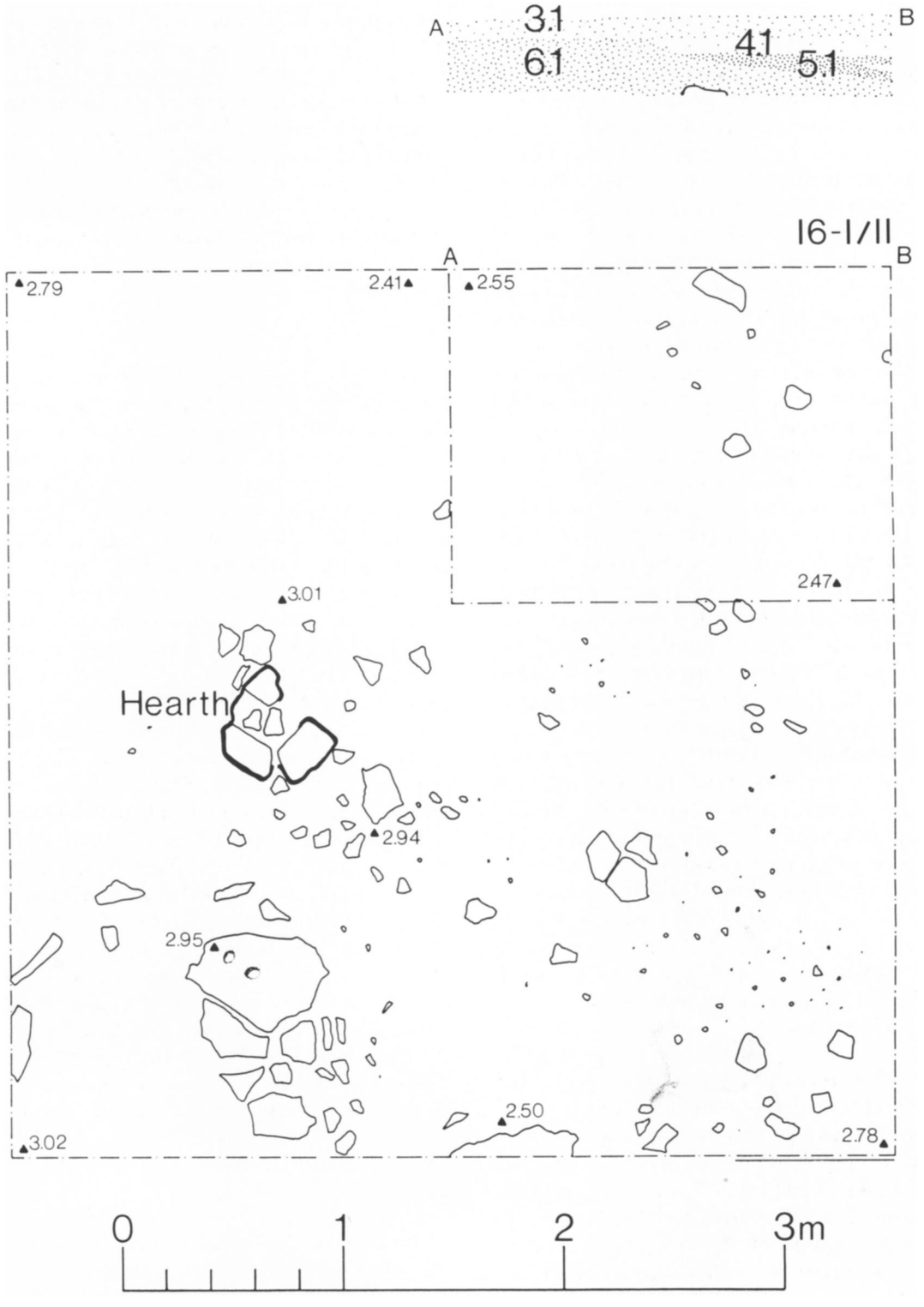

Fig. 12. Plan of I6–I/II, excavated to its 3.1 level, with test sondage in northeast corner. A–B cross-section of sondage. By Thorn and Beetz.

(3.2), was set into the 3.1 layer approximately 1.5 m north of the first. Its few sherds were also Roman. The scattered traces of storage bin 2, whose fill (2.2) contained pieces of Roman cooking and storage jars, partially overrides the 3.2 hearth fill, indicating a conceivably prolonged occupation during the zone's later phase of development. When tested in the trench's northeast quarter (fig. 12), the 3.1 walk surface was found to rest in part on a 4.1 deposit of grey/black ash that may reflect the vestiges of yet another, earlier hearth or dump. This in turn lies over at least two additional layers (fig. 13: 5.1, 6.1) whose chronological periods need further exploration but which thus far have yielded no datable material.

While more work must be undertaken to clarify the trench's lower levels, the significance of the zone thus far lies in the mixed chronological character of its various deposits. The loose light tan sand fill (1.1) encountered across its surface contained a predictable potpourri of modern, seventeenth/eighteenth century Arab, and Roman material, mainly pottery, interspersed with a few LBA sherds that may have washed down the slope from the region of the sponge divers' house. The scatter of stones (left over from a demolished structure?) lying in a roughly southwest-to-northeast line athwart the trench was associated with light sandy soil deposits (2.1 throughout much of the trench and 2.3 against its southern edge) that contained mainly Roman ceramics, again interspersed with a fair number of LBA sherds. The latter must represent outcasts from earlier deposits, since the same mixed Roman/LBA pattern applies to the 2.2 bin fill, the 2.4 hearth fill, the 2.5 rubbish layer, and the 3.1 sloping walk layer. The 3.2 hearth deposit linked with the 3.1 "pavement" appears to be exclusively Roman. On the other hand, the 4.1 "hearth" that underlay the 3.1 pavement in the northeast corner of the trench contained sixteen sherds, twelve of which remain unidentifiable while four belonged to the LBA. This raises the possibility that an undisturbed BA level exists beneath the tangle of Roman period cooking and storage installations that otherwise characterize the zone. If this latter proposition is eventually borne out by future testing, we will have moved a step closer toward pinpointing the lagoon's LBA water level between 1.70 and 2.5 m above the present lagoon level. It should, however, be emphasized that all the LBA material recovered in the trench's higher deposits could have simply drifted down the slope to the south, and the layers under the 3.1 floor, including the 4.1 hearth, may still turn out to be late. With so few 4.1 sherds currently identifiable, it is probably worth recalling that one swallow doth not make a spring.

H5-I/II (figs. 13-15)

The final north slope test trench was excavated a short distance off the northeast corner of the sponge-divers' house at an a.s.l. el. that varied between ca. 4.20 and 3.40 m. It initially consisted of two 4 m test squares (western half H5-I, eastern half H5-II) that were joined into a single 8 m long east-west trench. The zone straddles the north end of the island's longitudinal sandstone ridge on which the core of the island's LBA occupation appears to be concentrated. Its most conspicuous feature before excavation was the quality of snail-shells strewn over its surface.

BA architectural remains quickly materialized across the zone's eastern two-thirds where three sets of walls (S118, S121, S126a and b) cut across the long axis of the trench. Their stratigraphical contexts, beginning with the H5-I eastern half (fig. 15), were as follows. The shells on H5-I's 1.1 surface must have worked their way up from the ca. 0.20 m thick (2.1) concentrated layer of shells mixed with dark brown (fig. 16); most belong to an edible variety of land snail.[41] Since 2.1 also contained Islamic period glazed sgraffito sherds similar to what was found in 1985 inside the sponge-divers' house,[42] the strong presumption is that the shell layer represents refuse from sponge-divers' meals, a conclusion that is further strengthened by the fact that snail shells also littered the cratered interior of the nearby house.[43]

[41] For a preliminary description of the island's shells see *1985 Report*, 75, fig. 25.

[42] *1985 Report*, 66, n. 34, fig. 15.

[43] The house may have been struck by a WW2 bomb or artillery shell. For this and other information relating to the island's most recent occupations, see *1985 Report*, 63, 66-67.

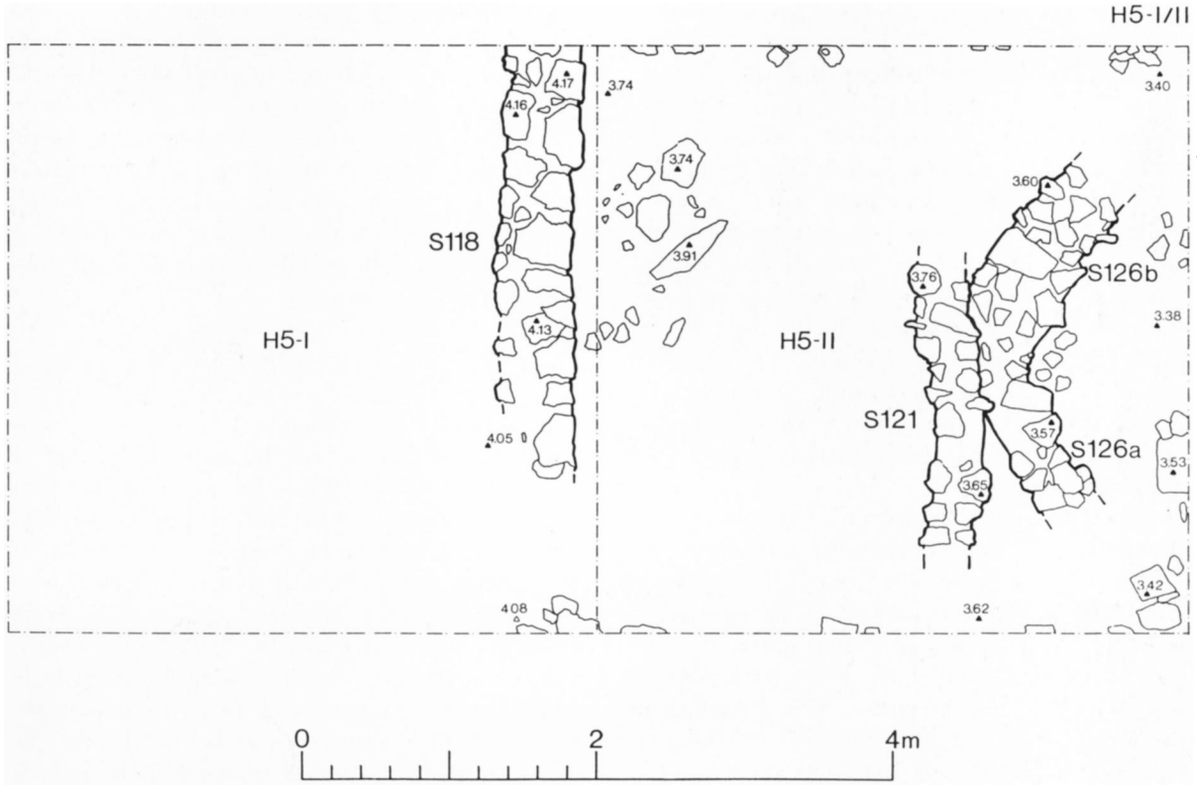

Fig. 13. Plan of H5-I/II. By Thorn and Beetz.

There may be, however, another explanation. The lowest levels (3, 4, 5) of the neighboring H5-II trench, which reflect uncontaminated LBA deposits, again have significant concentrations of shells, including snail. It is known that the late seventeenth century and later island occupants dug through similar LBA levels when constructing their house.[44] It is thus theoretically possible that they transferred BA period shells to make a crushed shell pavement north of their house. To complicate matters further, a concretion of snail and marine shells mixed with some kind of binding agent[45] covers the top of the collapsed west wall at the northwest corner of the sponge divers' house. This appears to be part of a limited, late repair that used shells as an ingredient for its "cement." What presently cannot be answered with any certainty is when any of these shell deposits were initially introduced to the island.

Below deposit 2.1 and a similar shell deposit (2.3)[46] limited to H5-I's northwest corner, a largely sterile (3.1) fill appeared, composed of medium-fine red/orange sandy soil blown or deposited against the west face of the S118 wall. With the exception of a single intrusive Roman pithos fragment, all of the 3.1 ceramic remains were either unidentifiable wares or LBA imports. This level then blended into a (4.1) sand deposit with similar physical properties in the 1.40 m of space west of S118, only here consisting of hard-packed orange sand permeated with white flecks, built up directly over the island's decomposing, sterile bedrock surface. 4.1 pro-

The activities of Greek sponge divers at Matruh about 60 years ago are described at some length by G. Simpson, *The Heart of Libya, the Siwa Oasis, Its Peoples, Customs and Sport* (London 1925), 49–53; I owe the reference to J. Thorn.

[44] This was determined by Bates in 1914 and confirmed by our 1985 investigations (*1985 Report*, 53, 66).

[45] Its actual constituency must still be analyzed.

[46] Six sherds were recovered from the 2.3 deposit; four were unidentifiable, while two were Cypriot LBA.

Fig. 14. View of H5-I/II from south. Wall S118 (left); walls S121, S126a and S126b (right).

duced two Cypriot LBA Plain White sherds as well as two unidentifiable sherds. Thus, as far as its western face is concerned, the S118 wall appears to be associated nearly exclusively with LBA material.

The deposit sequence east of S118 in H5-II was not the equivalent of the H5-I sequence west of S118. Its two upper levels, 1.1 and 2.1, were basically surface levels mixed with some fallen rubble wall debris. The snails that made up the bulk of the 2.1 deposit west of S118 did not continue into H5-II. Deposit 3.1 represented a mixed Roman/LBA layer (upper level mixed, lower purely LBA), while 3.3, the remnants of a hearth, contained exclusively LBA sherds. There then occurred a series of sand deposits and levels (4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4), associated with the wall's eastern face but not all necessarily appearing in the fig. 16 cross-section. Each contained exclusively LBA sherds, mostly from pots but including a lamp nozzle,[47] along with shells, bones, and a scattering of rubble wall stones. They also held a small assortment of bronze artifacts that included a nail or pin and a small weapon point (fig. 17) similar to the point found in 1985 in E4-III, 2.3.[48] The same levels also produced some limited evidence for heating and pouring metal: miscellaneous bronze lumps, slag fragments, and three broken

[47] 87I-P-68. Fragmentary open lamp nozzle, 5.6 × 4.8 × 1.1 cm. Coarse beige clay with numerous black inclusions. Traces of burning on exterior and interior of nozzle's end. Similar to the Levantine example reported from 1985's E4-III, 2.5 (*1985 Report*, 77, 78, fig. 32).

[48] 87I-M-9. H5-II, 5.3. 6.7 × 1.4 × 0.4 cm. Elongated oval blade that runs into nearly circular tang, preserved as short stub. Point slightly rounded and thus perhaps better suited to serve as lance-head than arrow-tip. Cf. *1985 Report*, 79, n. 70, fig. 36.

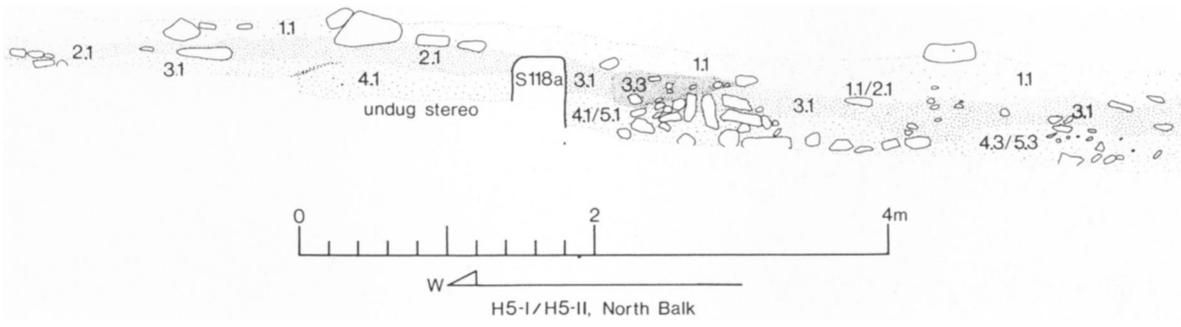

Fig. 15. East-west cross-section of H5-I/II's north balk. By Beetz after Conwell.

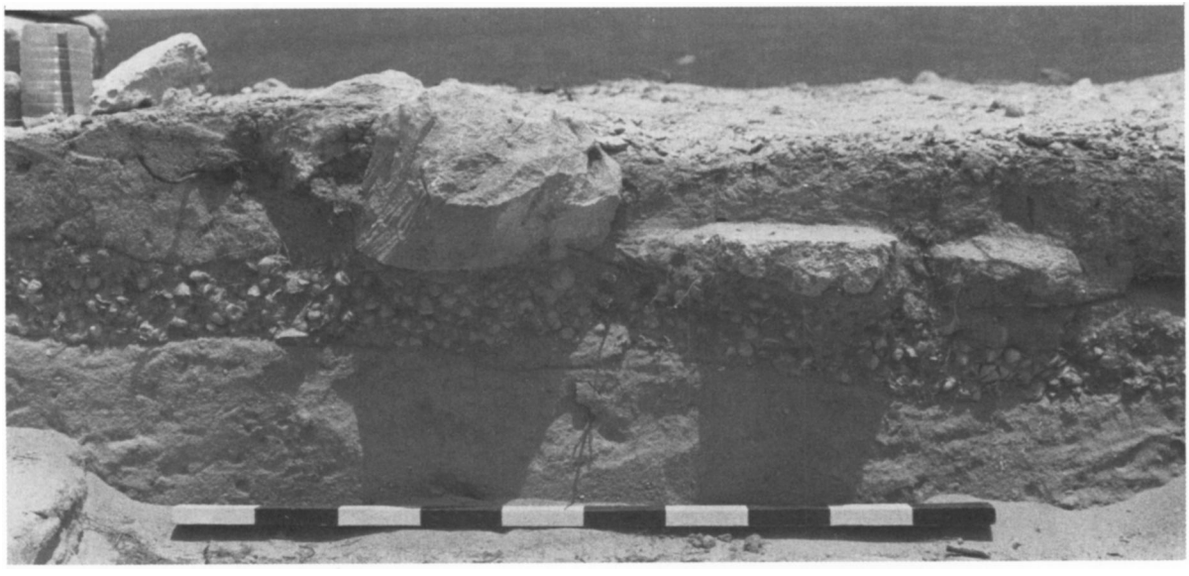

Fig. 16. Detail of H5-I's 2.1 shell deposit.

crucibles.[49] The lowest level, 5, rested on the island's bedrock, a decomposing natural sandstone crust marked by white flecks, that carries the S118 wall.

The bedrock then dipped across the eastern half of H5-II to where a 6.1 deposit was cleared in association with three additional walls (S121, S126a and 126b); these again rested on the natural orange-to-grey bedrock, mixed with the usual white flecks. The 6.1 sherds were exclusively LBA imports.

As the pottery statistics make clear,[50] H5-II and to a lesser degree H5-I (i.e., the northern tip of the ridge) represent in terms of pottery the island's principal LBA storage area, since together they have yielded by far the largest number of sherds of all classes of early pottery with the exception of Egyptian bowls. Particularly

[49] In addition to 87I-P-63, 87I-P-65 and 87I-P-66 from level 5.4, two additional pieces of crucibles, 87I-P-57 and 87I-P-69, were removed from H5-II's 3.1 deposit whose lower portions are interpreted by their excavator, D. Conwell, to be purely BA in period, although the upper centimeters contained some possibly intrusive Roman material. 3.1 also produced a small bronze fishhook, 87I-M-11, that may also be early.

[50] See *Pottery Report*. Tables I and II, p. 125.

Fig. 17. Bronze weapon point, Inv. 87I-M-9, from H5-II, 5.3.

interesting are the numbers of large pithos fragments: over half those excavated to date come from this single locus. In addition, the quantities of animal bones and shell attest to the actual consumption as well as storage and preparation of food in the same general area.

The H5-I/II walls were laid out in the following manner. In its presently preserved condition, the westernmost of the series, S118, is ca. 0.60 m wide and stands to a height of ca. half a meter. Its north end continues into the north balk of H5-I; the south end fades away after a distance of just under 3 m. Its stones consist of four or five rough courses of medium-sized undressed, flattish rocks, set out in two parallel rows. Fist-sized stones were used to chink up the larger stones as well as to fill the interior, bound together with muddy sand. Although hard to judge with complete certainty, its line appears to curve slightly to the east. S118's concave east face today exhibits a more finished, careful appearance than its convex western counterpart, but this may be simply an accident of time. The H5-II 4.1, 5.1, and 5.2 deposits against its east face contained lumps of plaster that imply that S118, like the inner walls of the LBA S107 room in trench F4-III, were coated with coarse plaster.[51] No traces of a finished flooring were recovered to either side of S118.

An ca. 2 m long stretch of S121 wall lies roughly parallel to S118 at a distance of 2.4 m to the east. More poorly preserved, it today retains only a single course of stones that rest directly on the soft, crumbling orange, white-flecked stereo. Noticeably thinner than S118, S121 (0.40 m wide) fails to make a very convincing combination with its companion to the west despite their parallel alignments. This putative lack of contemporaneity was further borne out by the fact H5-II's various five levels lay against the east face of S118 but covered S121. Perhaps S118 started out as an enclosure for S121, built as a protective barrier against the strong prevailing northwest winds, and then was converted to some other purpose after the latter fell into disuse.

The east face of S126 abuts what appears to be the obtuse-angled junction of two walls (S126a, S126b) that came clumsily together to form part of an irregular room or enclosure. Badly knocked about, S126a is at present about 0.40 m wide while S126b is closer to 0.60 m. Originally the two may have shared more nearly the same width.[52] No traces of plaster or man-made flooring were found in their vicinity.

Either S121 sheered off the outer corner of the S126 structure when it was built (and thus postdates the latter) or S126 was simply laid up against a preexistent S121. The former proposition seems more likely since the 6.1 fill covered parts of S126a and yet merely abutted S121. In either case, some degree of periodization appears to be reflected in all three sets of walls, of which the latest must be S118. Unfortunately, with each founded on the same level (i.e., bedrock), and in the absence of man-made flooring, the stratigraphy fails to sort out by how great an interval of time each may have been separated.

The Central and Southern Ridge Area

F5-I/W

The trench was laid out between the southeast corner of the sponge-divers' house and trench F4-III where a small LBA walled compartment

[51] *1985 Report*, 80.

[52] This has to be said because the collapse and later redistribution of the island's LBA walls can create problems in fixing with complete accuracy their original outlines. Obviously the main difficulty here lies in separating the two walls where they physically converge.

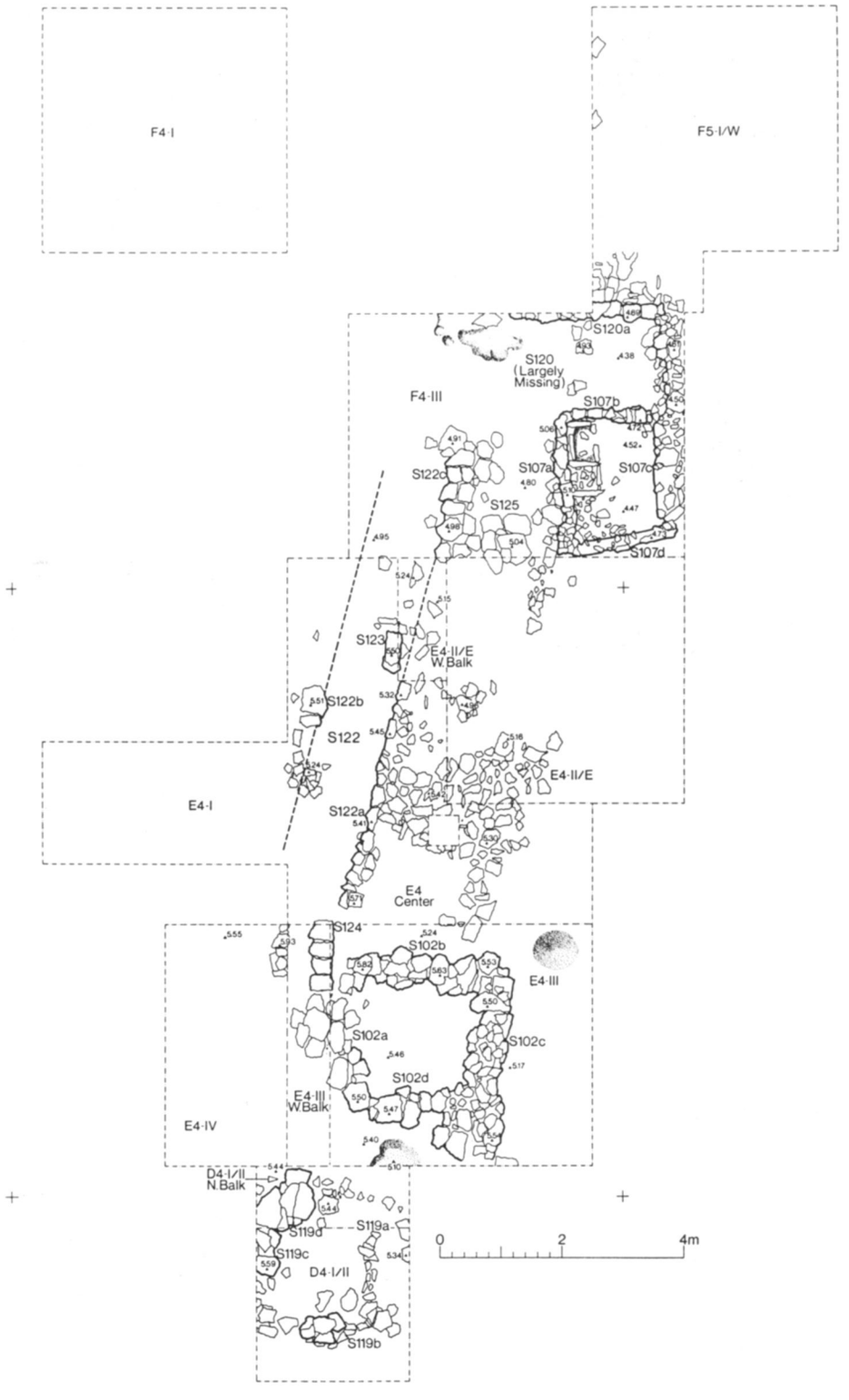

Fig. 18. Plan of the island's central and southern ridge area. By Beetz.

Fig. 19. View of the island's central and southern ridge area from north.

(S107) equipped with an oven had previously come to light.[53] Despite the nearby presence of early material, F5-I/W proved architecturally sterile until extended south to connect with F4-III where a topple of stones was discovered in association with wall S120a. Although the stratigraphy associated with the topple failed to reveal any definite conclusions about the latter's date, the results of the test indicated that wall S120's interior lay south, in other words in F4-III rather than in the still unexcavated F4-II square and in F5-I.

[53] *1985 Report*, 80–81, figs. 41, 42.

E4-Center, E4-II/E, and E4-II/E, W. Balk (figs. 18, 19)

The space between the two LBA rooms cleared in 1985 (S102 and S107) was excavated as three separate trenches but can be best described now as a single operation. Its principal contribution lay in exposing the negative imprint of a largely robbed-out sloping ramp (S122) that connected the ground west of S107 (av. floor level 4.50 m a.s.l.) with S102 (av. floor level 5.45 m a.s.l.) ca. 6.50 m to the south.

The bottom of the ramp was linked with the cluster of stones marked S122c lying a meter or so west of wall S107a. In other words, the ramp

began to rise in front of the S120 "construction" that originally occupied the northwest quarter of F4-III. According to this view, the bulk of S120 was largely obliterated by later building, and all that survives of its fabric was the inner face of the S120a wall.

The western edge of the S122c cluster of stones is tentatively understood to belong to the east curb of the S122 ramp, but this is frankly as much an intuitive guess as anything else. The remaining accumulation of large stones between the ramp curb and the west wall of the S107 compartment is then to be associated with the open-air (?) LBA paved area reported earlier[54] and now designated as S125. Much of this part of the island, including a large part of our S122 ramp, was drastically modified by the demolition of early structures and the post-BA reuse of their stones. Most of whatever once occupied the E4-II/E square has disappeared, except for the shapeless pile of rocks across its southwest corner that extended south into the E4-Center trench. Indeed, most of the stones east of the S122 curb and north of the S102 chamber were probably left over from structures whose plans are today beyond recovery.

The ramp's east curb reappeared in the E4-Center trench where it was labeled S122a (fig. 18). The short line of stones (S122b) running parallel to it ca. 1.10 m to the west is interpreted as what is left of the ramp's west curb. If the ramp's core was ever paved, virtually nothing survives of its original flagging unless it be the small spread of stones that fan out eastward at the south end of S122b; perhaps the core originally consisted of simply trampled sand. The pair of large stones (S123), carefully set one on the other in the southwest corner of the E4-II/E, W. Balk, slightly intrude into the ramp's path. Despite the fact that their east faces were masked by E4-II/E, W. Balk LBA 2.1 fill, their period is ambiguous; at the very least they appear to post-date the ramp they partially block. At the ramp's upper end in trench E4-III, W. Balk, four large plug-shaped blocks formed a precisely constructed, 1.20 m long stretch of north-south wall (S124). While S124 may represent a continuation of the eastern curb of the S122 ramp, its masonry style is closer to what I associate with Archaic Greek work.[55] Such a historical connection cannot, however, be corroborated by the E4-III, W. Balk 2.1 deposit's pottery, which consisted of a high percentage of LBA wares, mixed with a small number of apparently Roman intrusions.

The stratigraphy of this section of the island's ridge was typified by the cross-section of fill across the west edge of E4-II/E (fig. 20) before the removal of its small extension, the so-called E4-II/E, W. balk. The 1.1 top-soil was a loose, gritty grey-white sand, containing Roman and LBA ceramics. The 2.1 fill was a medium coarse deposit of grey-brown sand, mixed with LBA pottery as well as perhaps stones fallen from the superstructure of the S107 compartment to its north. In the eastern half of the trench a 2.2 deposit, apparently divorced from the development of the trench's western half (unless somehow connected with the late removal of the S125 pavement), contained late material including a Roman Imperial bronze coin and an Islamic sherd. Level 3.1, a loose coarse orange sand, contained purely LBA material over the 5.1 layer of crusty orange sand with white flecks that frequently signals bedrock. A BA date for the ramp seems beyond dispute, although much remains to be worked out about the chronological details of the surrounding zone.

Although sherds make up the bulk of the diagnostic finds from the combined E4-Center, E4-II/E, and E4-II/E, W. Balk trenches, the relatively large number of ostrich eggshell fragments from the ridge area south of the S107 Compartment is also noteworthy in light of the relationship between the island's occupants and their Libyan neighbors proposed for the LBA period.[56] Thirty-three undecorated shell frag-

[54] *1985 Report*, 81. The paving said to lie north of the S107 compartment would be part of the largely missing S120 structure but seems less convincing as a true floor level than it did in 1985.

[55] A small sample of Archaic Greek pottery was found on the island in 1985, along with a single possibly Archaic period wall, S112 in I8-III/S (*1985 Report*, 74-75, fig. 21).

[56] Supra. *1985 Report*, 79, n. 71, 81-84, fig. 37. Also *Seasonal Occupation, passim* and D. Conwell, "On Ostrich Eggs and Libyans," *Expedition* 29, no. 3 (1987), 25-34. See also D. O'Connor, "Egyptians and Libyans in the New Kingdom, an Interpretation," *Expedition* 29, no. 3 (1987), 35-37.

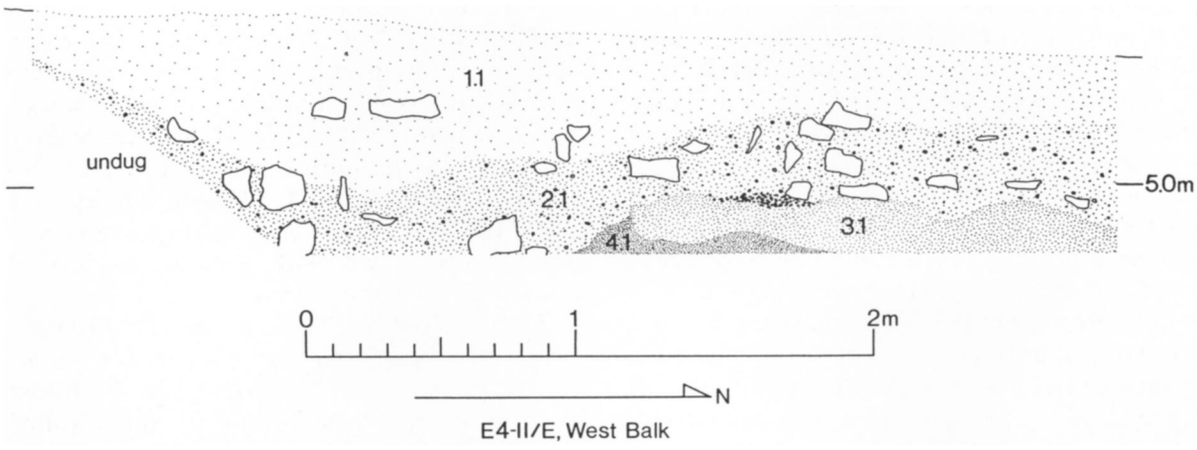

Fig. 20. North-*south cross-section of E4-II/E's western balk, drawn from east. By Beetz after Conwell.*

ments were found in 1987, joining the 15 already found in 1985. Four came from H5-I/II, five from 16-I/II; of the remainder 14 came from D4-I/II, 9 from E4-II/E, and one from E4-Center. This means that more than two-thirds of the total number of the 1987 shell fragments came from either purely LBA or mixed Roman/LBA deposits in this zone.

D4-I/II: D4-I/II N. Balk (figs. 18, 21)

The final area selected for excavation led to opening what the island's first investigator had called the "grave of the Jew,"[57] a small mound-like outcropping of bedrock and sand at the southern tip of the island's longitudinal spine. Its uncleared surface, particularly across the southern half, was studded with fallen stones and LBA sherds. The 3.20 m by 2.20 m trench was dug in two parts, the "north balk" here referring to a meter wide cut between the E4-III square to its north and the D4-I/II trench-proper to the south.

While no vestiges of Bates's "foreign" burial(s) came to light,[58] the area did reveal the badly knocked-about remains of a small room (S119), measuring externally ca. 2.60 m north-south and 2.00 m east-west, whose modest dimensions were in keeping with the two small LBA chambers, S102 and S107, that lie to its north. The best preserved elements were its S119c west and S119b south walls; but all four have been too pulled apart to say more than they were laid up with randomly-shaped natural stones and have left behind no traces of mud cement, attached wall plaster, or permanent flooring. It is also not clear how the room was entered, although the likelihood is that it had a door through its north wall to communicate with the nearby S102 chamber. In terms of overall alignment and layout S119 would seem to be part of an echelon formation of small rooms, distributed down the north-south axis of the island's longitudinal ridge and, in the case of the northern two elements, S102 and S107, bordered by a ramped avenue of access (S122) along their western flanks. S119 and S102 occupied roughly the same elevations, which approached the island's maximum a.s.l. el. of 6.10 m.

Like its companion chambers, S102 and S107, the S119 room belonged to the LBA period, a

[57] *African Studies*, 187. O. Bates, "Ethnographical Notes from Marsa Matruh," *JRAS* (1915), 736-39. *1985 Report*, 53, nn. 8, 12. Neither Bates nor the 1985 expedition had the opportunity to excavate this curious feature.

[58] According to one version of the local story, "in old times" two Jewish goldsmiths, Ishak and Hugah (?), worked on the island, and after their deaths both were buried in the D4 mound. See Bates (supra n. 57), 737. According to a second version there was only one Jew. See O. Bates, "Semitic Traces in the Marmarica," *PSBA* 37 (1915), 201-2 as well as *African Studies*, 187. The name *Gezirah-t el Yahudi* ascribed locally to the island in Bates's day obviously had its basis in these stories.

Fig. 21. View of the S119 chamber, D4-I/II, from south.

fact made abundantly clear by the accumulation of deposits from its interior whose contents can be summarized as follows:

1.1: mixed LBA and Roman pottery, with the former composing the bulk of the layer's objects.
1.2: mixed LBA and Roman layer, again largely LBA.
2.1: pure LBA layer.
2.2: LBA hearth.
2.3: LBA spill of wall (?) plaster.
3.1: LBA layer, with two intrusive Roman sherds.
3.2: LBA hearth.
4.1: LBA layer, with single intrusive Roman sherd.

If one is able to "forgive" the three Roman intrusions in the 3.1 and 4.1 deposits, the S119 chamber appears to have been associated with three distinct LBA occupation layers (e.g., 2.1, 3.1, 4.1). What these reflect in terms of the structure's internal development is difficult to say, since they remain at present chronologically inseparable. Nevertheless, when taken along with the evidence for three separate building phases brought to light in the H5-I/II test at the opposite end of the island's ridge, a picture now emerges of a continuous and more protracted LBA island occupation than could be envisioned in 1985.

S119's contribution to the island's early history stems more from its stratified LBA finds than its architectural design, which is exceedingly humble. Its mixed 2.1 layer produced four tiny blue grass or frit beads.[59] The 3.1 deposit

[59] 87I-G-5; 87I-MO-21; 87I-MO-22.

supplied 13 of the season's 33 ostrich eggshell fragments, while a fourteenth came from the 3.2 hearth.[60] The same layer produced a fifth blue frit bead that suggests an LBA date for the four discovered in the deposit above.[61] The 3.1 deposit also contained a long bronze needle (fig. 22),[62] while a bronze fishhook[63] came to light in deposit 4.1. These modest metal-working products were supplemented by the discovery of bronze scraps scattered through the 4.1 level (fig. 23) that look suspiciously like leftovers from bronze melting, pouring, and finishing operations. As such, the D4-I/II artifacts mirror the kind of activity already attested by the bronze lumps, slag fragments, and five crucible fragments in H5-II.[64]

D4-I/II's biggest surprises, however, came from its LBA pottery. Prior to the 1987 season virtually no Pharaonic artifacts had been identified on the island, an omission I sought to explain on grounds of the traditional enmity between the Egyptians and the LBA Libyans, considered to be the island foreign occupants' only regional trading partners.[65] We now know that the island did in fact possess Egyptian material. Quite apart from such marginal items as the above-mentioned blue frit beads which may be Egyptian in origin, a major class of pottery has now been reclassified as Pharaonic.[66] The type indeed constitutes the island's largest individual class of BA ceramic. This is a reversal of the situation in 1985, when the same pottery type was only meagerly represented, and results directly from the clearance of D4-I/II where 28.7% of all of the wares found were Egyptian open bowls. Somewhat unexpectedly, fifty percent of the total number of Egyptian sherds discovered on the island came from D4-I/II alone.[67]

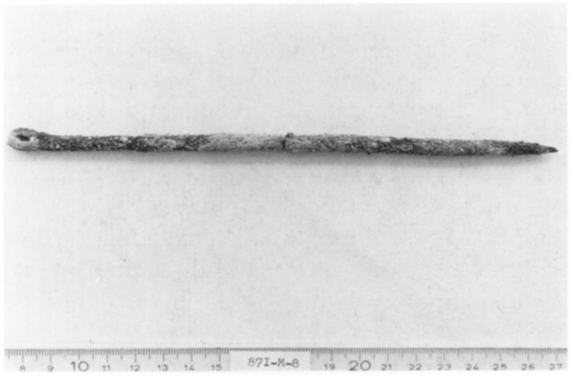

Fig. 22. LBA Bronze needle, 87I-M-8, from D4-I/II, 3.1.

Fig. 23. LBA Bronze scraps from D4-I/II, 4.1.

A second surprise was that, after the Egyptian and combined plain and fine Cypriot wares (19.9%), the trench's third most common type of pottery was its Canaanite storage jars (10.5%), which, when combined with the finds of H5-II (29.2%), constituted nearly as important a category as the Cypriot storage jars.

In 1985 a tentative fourteenth century B.C. chronology was worked out for the island's LBA

[60] 87I-MO-17; 87I-MO-20; 87I-MO-26.

[61] 87I-MO-18.

[62] 887I-M-8. 19.4 × 1.0 cm. Broken in three pieces but completely preserved and mended.

[63] 87I-M-10. 2.1 × 0.5 cm.

[64] Supra, n. 44, n. 49. For similar evidence from 1985 see *1985 Report*, 79.

[65] *1985 Report*, 82-83, nn. 73-78. Add Knapp (supra, n. 28), 258-60. Also *Seasonal Occupation*, awaiting publication.

[66] The so-called *White Grit Ware* reported in *1985 Report*, 77-79, and in *Seasonal Occupation*, forthcoming.

[67] *Pottery Report*, 126.

occupation that was based on the imported fine wares excavated during that season as well as previously by Bates.[68] These wares, when recovered from Cypriot, Cretan, and Mainland Greek contexts, are conventionally dated within the fourteenth century. On the other hand, archaeologists reporting the same wares in either Palestinian or Egyptian contexts report these same wares both in fourteenth and thirteenth century contexts, which is the period to which belong the island's Egyptian wares,[69] while its Canaanite material would seem better placed in the thirteenth. Taken together, the Egyptian and Canaanite pottery constitutes just over twenty percent of the total number of LBA sherds thus far recovered. Our understanding of the island's chronology, length of occupation and role within the history of the region is thus clearly in its infancy and therefore must await the results of future fieldwork before any definitive conclusions are available. For some additional preliminary observations in this vein, the reader should, however, refer to the conclusion of the second half of this report that deals in greater depth with our ceramics.

[68] *1985 Report*, 76–77, 81.
[69] *Pottery Report*, pp. 125–26.

University Museum
University of Pennsylvania