

THE WADI EL-YABIS SURVEY REPORT ON THE 1989 FIELD SEASON

by
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Between June 17 and August 5, 1989 an archaeological survey and test excavations were conducted in Wadi el-Yabis, northern Jordan (Fig. 1). This fieldwork continued the survey started in 1987 (Mabry and Palumbo 1988), which is a long range research project sponsored by the University of Rome, Italy, and by the University of Arizona, U.S.A., and affiliated with the American Schools of Oriental Research. Financial support of the 1989 fieldwork was provided by the Italian Ministry of Foreign Affairs. The field team included Barbara Clifford, Ian Kuijt, Jonathan Mabry, Gaetano Palumbo, and Glen Peterman.¹ The Jordan Department of Antiquities representative (and important addition to our crew) was Mr. Yacoub Oweis, from the Ajloun office.

The 1989 field season was divided into two phases: the first four weeks were devoted to intensive pedestrian survey of three sample transects 1 kilometer wide (east-west) by 6 or 7 kilometers long (north-south), for a total coverage of 20 km²; during the last three weeks test excavations were carried out at two prehistoric sites discovered during the season, and a large dolmen and tumulus field was surveyed and mapped. A tumulus and a cairn were also excavated during this phase, in the attempt to find evidence for their date of construction.

Methodology (G. Palumbo)

The climate, topography, soil patterns, and vegetation zones of the Wadi el-Yabis area were briefly described in our previous article.² In the 1989 season three

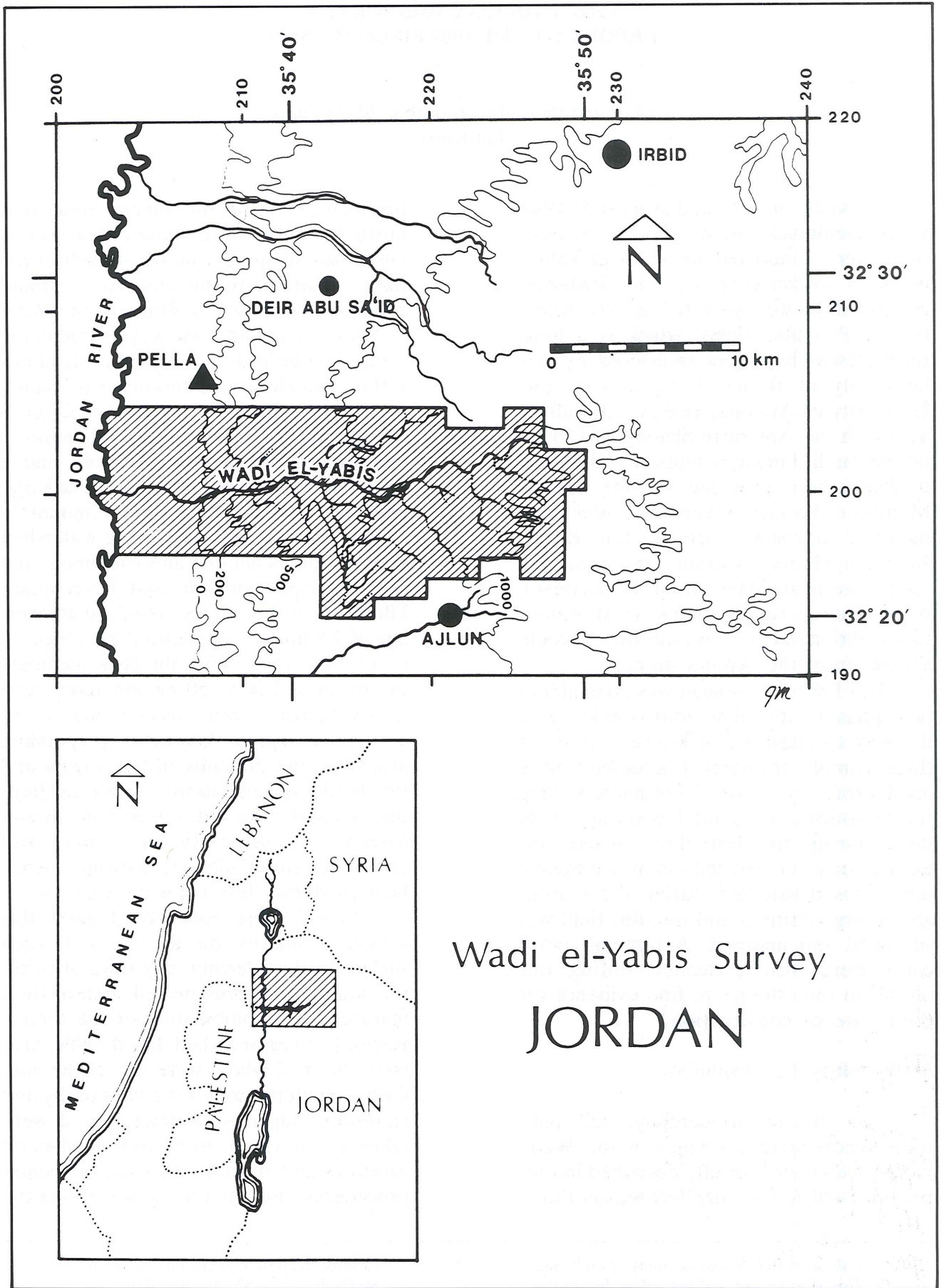
transects, crossing the survey area from north to south, were chosen in a way to ensure an adequate sample of each of the three main environmental zones found roughly according to altitude in the Wadi el-Yabis catchment. One was located in the steppic foothills above the *Ghor* at minus 150 meters elevation; another was located in the mid-altitude open oak and scrub *Mediterranean maquis* zone at approximately 400-500 meters elevation; and a third one was located in the dense oak and pine forest on the *Jebel Ajlun* mountain at 1100 meters elevation, on the watershed between the Wadi el-Yabis catchment and the steppic plateau to the east. Each square kilometer of the transect required an average of 7-8 hours to be entirely surveyed on foot by our crew. With the crew members evenly spaced 30 to 50 meters apart, four to six "passes" were usually needed to cover one square kilometer (depending also upon the difficulty of the terrain and the density of vegetation). As was desired, this method achieved a high rate of site discovery, especially the small and ephemeral sites which often escape identification during less intensive surveys.

"Sites" were formally defined this season, primarily on the basis of high surface artifact density, exposure of cultural deposits, or presence of architectural features (or a combination of the three). Each site was searched for datable artifacts, most of which were left at the site. Only a small portion of the temporally and culturally diagnostic artifacts found were taken to the camp, to be examined more carefully and illustrated. Total collection procedures, used in a few cases during the

1. We would also like to thank many friends and colleagues who visited and helped us during the survey, with particular appreciation to Sarah

Collins, William Dever, Susanne Kerner, Alison McQuitty, and Shahir Rababah.

2. Mabry and Palumbo 1988: 275.



Wadi el-Yabis Survey
JORDAN

Fig. 1. Location of Wadi el-Yabis Survey in Northern Jordan.

preliminary survey in 1987, were abandoned since they could potentially result in the disappearance of particularly ephemeral sites. Each site was also photographed and fully described on survey forms. Architectural features were measured and sketched when possible. Site locations were recorded according to both UTM and Palestine grids on 1:25,000 and 1:50,000 scale topographic maps. Only the latter coordinate system will be used here to refer to the locations of sites discussed in the following sections.

A new method for landscape description was also used, in order to provide an environmental context to both ancient and modern settlement patterns. In the field, each square kilometer of the surveyed transects was divided into several, arbitrary "survey units". Survey units were identified according to the relative homogeneity of a combination of characteristics, including topographic (a hill slope, a valley bottom, a ridge top, etc.), human (a village, a farm, etc.), and archaeological features. The landscape was thus fragmented into relatively small micro-environments or "components" which could be easily described. The two-fold purpose of this approach is 1) to obtain a thorough description of the characteristics of each component (e.g. type of vegetation cover, patterns of land use, geomorphological features), and 2) to aid mapping of the actual survey coverage through a color-coding system which records site visibility on a scale of excellent to bad, and delineates the boundaries between surveyed and unsurveyed areas (such as within modern villages or the steepest slopes and cliffs).

The advantages of such an approach are clear. On one hand, we were able to obtain a full and detailed picture of the micro-environmental mosaic of each survey area. On the other hand, it is extremely useful for our research (and for any future archaeological investigations in Wadi el-Yabis) to know precisely where the best coverage has been achieved, and where recovery of the archaeological record has been affected by poor ground

visibility, by erosion, or by colluvial/alluvial burial. This recording system can probably be improved, of course, to achieve greater accuracy and flexibility. We hope to develop it into a standardized procedure which is useful for other survey projects as well.

Fig. 2 shows three squares (5, 6 and 7) from transect 1 in the area of Kufr Abil. The color codes have been substituted here by shades of grey. As can be seen, each square has an internal progression of numbers which identifies the discrete survey units. Thus SQ7 SU3 (square 7, survey unit 3) is different from SQ6 SU3. A survey unit number is assigned to each archaeological site, in addition to its general Wadi el-Yabis Survey number (WY#). In this example, site WY120 (Helmet esh-Shariyeh) corresponds to the area marked as SQ5 SU4. While the map illustrated here provides a visual aid to identify actual survey coverage, several alternative maps are possible, of course, on the basis of other types of data recorded on each survey unit form.

The Transect Survey (G. Palumbo)

Forty seven new sites were discovered this year in the three intensively surveyed transects. 13 more sites were found during purposive visits. 24 sites known from previous surveys were also visited (12 of them located within the limits of the three transects), and at 19 of them we were able to identify previously unrecognized periods of occupation. In the 7 km² lower (west) transect (between UTM grid 440,840 and 450,910) 23 new sites were found in addition to the 4 previously known. As predicted, the majority of the sites found were prehistoric; until about 15,000-14,500 years ago, this area was just above the shoreline of the Late Pleistocene Lisan lake which filled the central Jordan Rift.

The oldest site located this year is WY154 (P.g. 206.9/201.5), where transported Lower Paleolithic flaked stone tools were found along a wadi bank beneath 6 meters of alluvial deposits. Together with a few retouched flint and limestone flakes, a

Wadi el-Yabis Survey, 1989 transect 1, squares 5-7

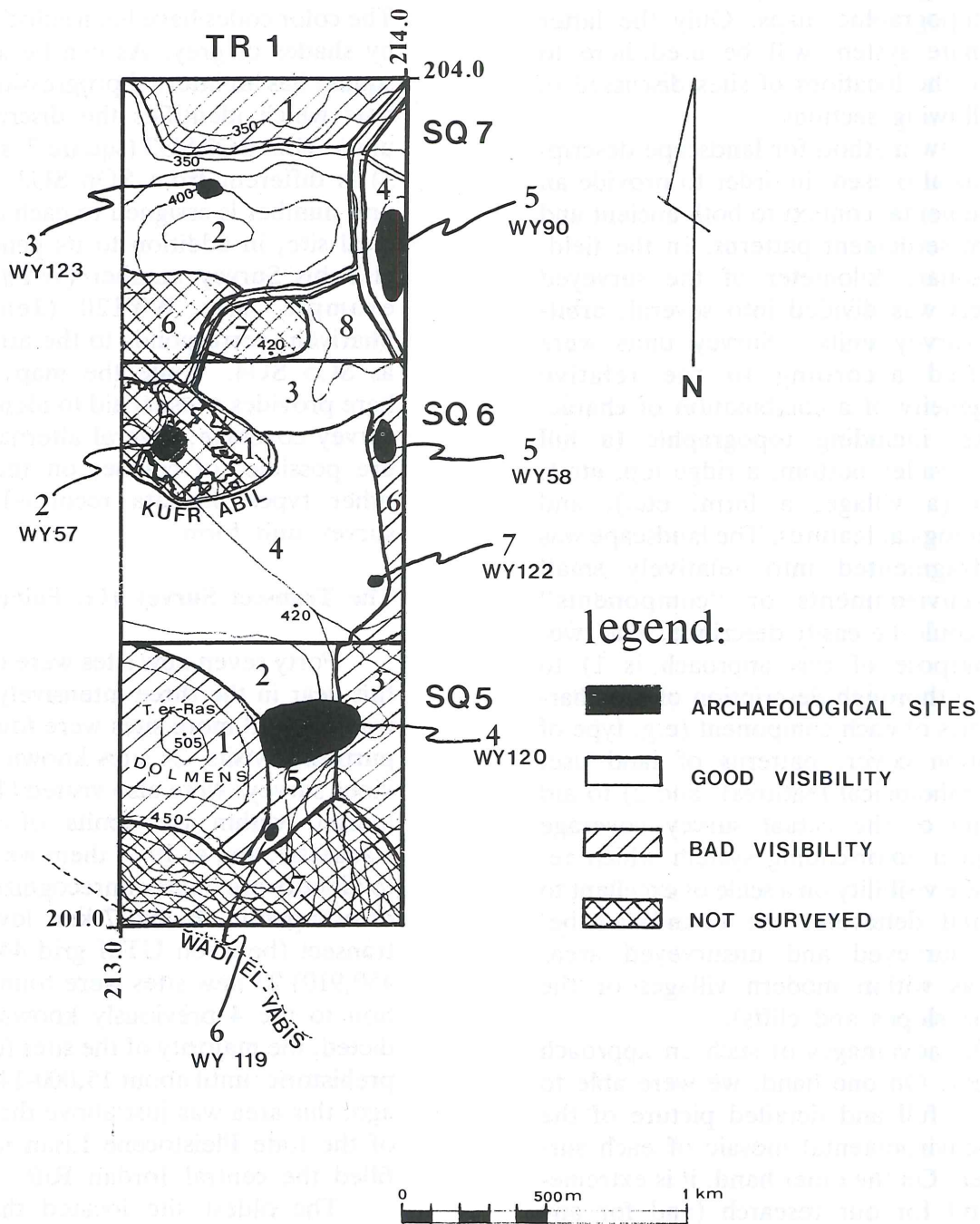


Fig. 2. Example of survey unit methodology.

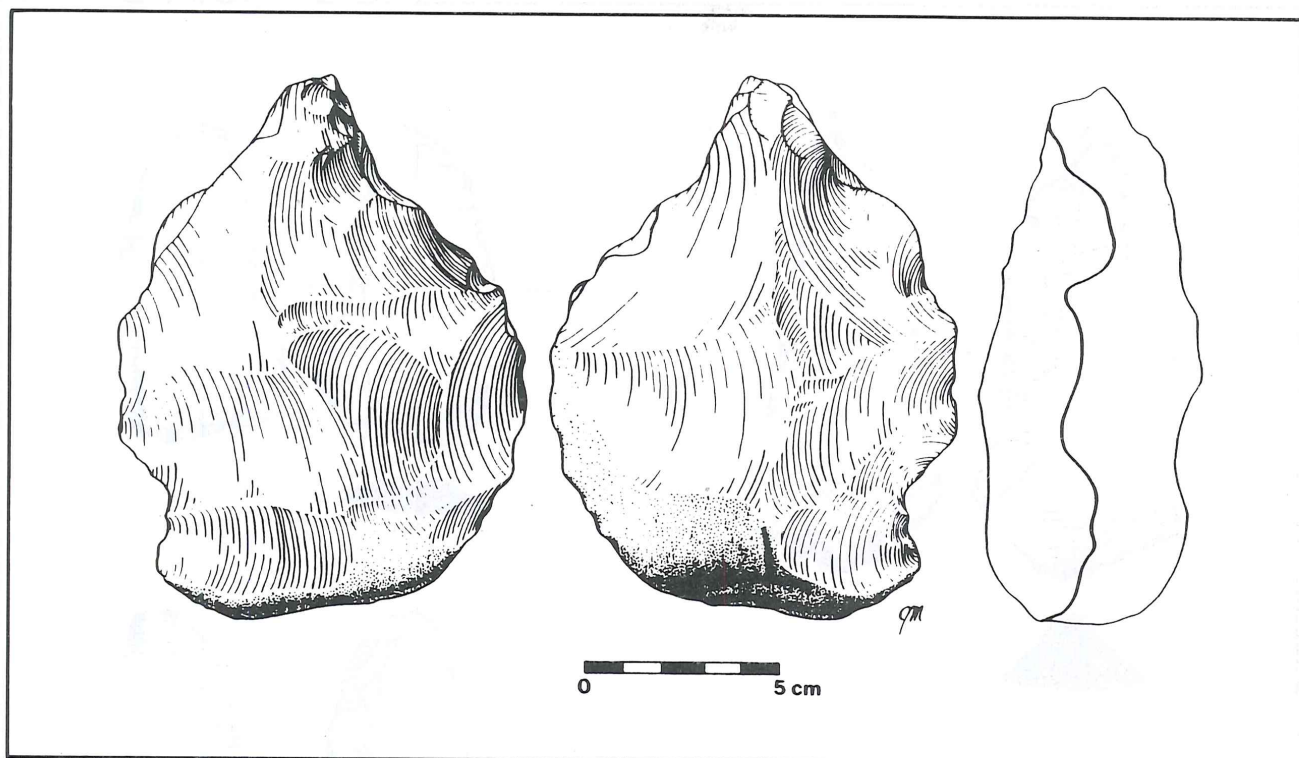


Fig. 3. Paleolithic biface from WY154. Stratified find.

heavily rolled limestone handaxe was found in a thick layer of reddish, sandy alluvial silt (Fig. 3). Surface scatters of Middle Paleolithic/Mousterian flaked stone tools are common in this area (WY150, 152, and 155). Several Paleolithic sites discovered earlier by Muheisen (1988: 515, 520; sites Y48, Y49) were visited, where Middle Paleolithic tools were identified for the first time (WY101, WY102).³ A relatively dense surface scatter of flint artifacts at WY150 (P.g. 206.5/199.3) is probably the result of quarrying and initial reduction of the flint nodules found in the exposed Late Pleistocene conglomerate bedrock. Many Levallois cores and flakes were also found on this site. An extensive scatter of Middle Paleolithic flaked stone tools (Fig. 4) found at WY101 (P.g. 206.4/201.9) is possibly derived from stratified cultural deposits, exposed after the collapse of a shelter or cave.

Another significant phase of settlement represented in this transect dates to the Iron Age. A small but interesting Iron Age II site was found on a low hill

southeast of Tell Abu el-Kharaz (WY151, P.g. 206.7/200.2), where a few building remains and a large cistern were found. Just outside of the transect boundary, an Iron Age I-II site was found at Abu el-Hilan (WY140, P.g. 207.2/197.4). Traces of a large rectangular building, measuring 10 x 14 meters and oriented east-west on its main axis, was visible there on the highest point of a low hill overlooking a small wadi. Other architectural traces suggest that this site was a fortified Iron Age village. A few Byzantine sites were also found in this transect; some ephemeral surface scatters of sherds are probably the only remaining traces of encampments (WY141, WY143, WY147), while the wall lines and cisterns visible at other sites may be the remains of isolated farms (WY142, WY149).

In the middle transect (between UTM coordinates 510,840 and 520,910) 13 new sites were found, where only 6 were previously known. The discovery of two large Late Chalcolithic sites at el-Khawarij (WY116, P.g. 213.9/199.8) and at Jelmet

3. Note that in Muheisen 1988: 520, site 47 must be read 48, and site 48 must be read 49. The site numbers on the maps (pp. 505-507) are correct.

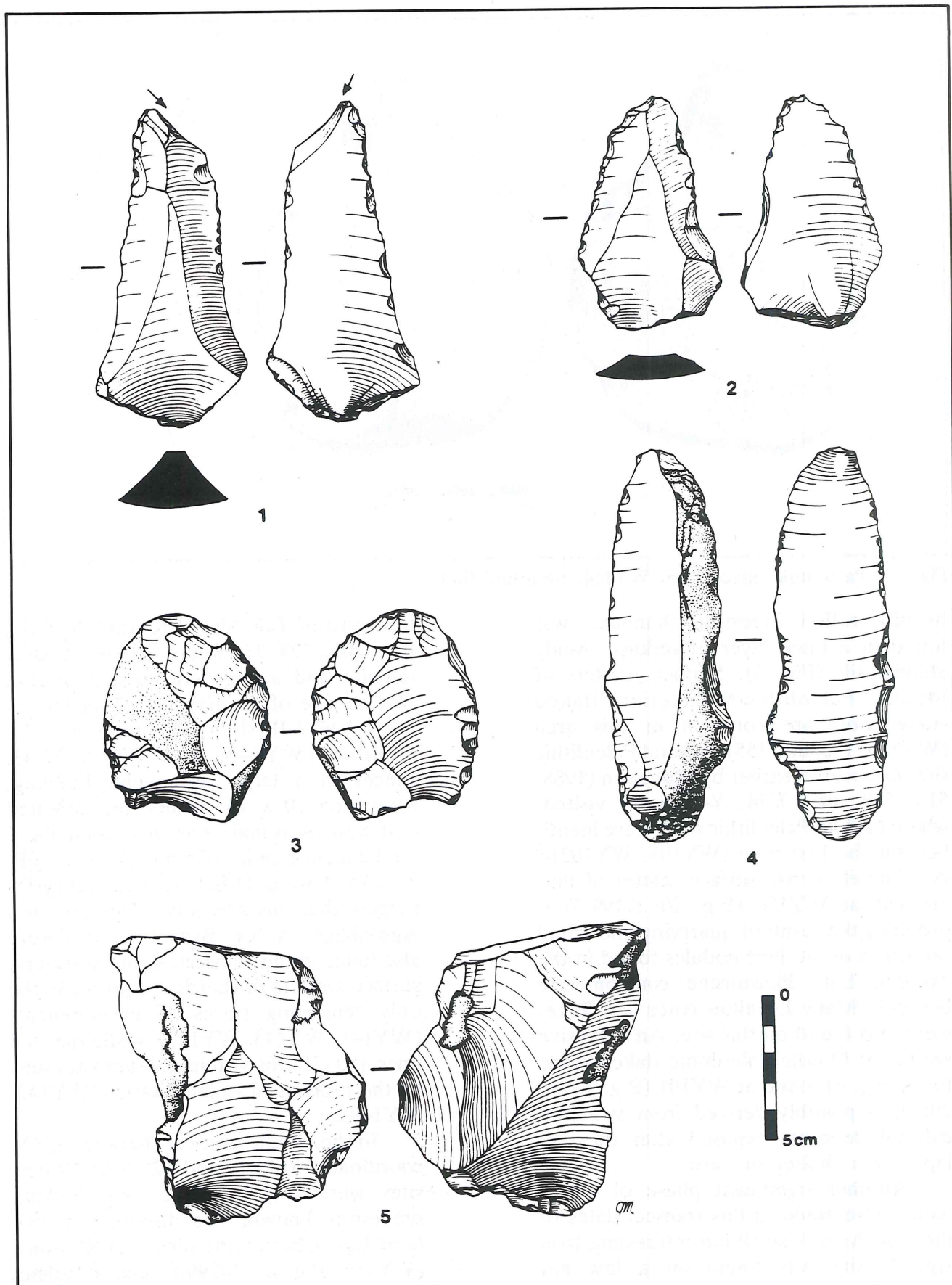


Fig. 4. Middle Paleolithic flaked stone tools from WY101. 1-2) Levallois points; 3) Levallois core; 4) naturally backed blade; 5) flake core.

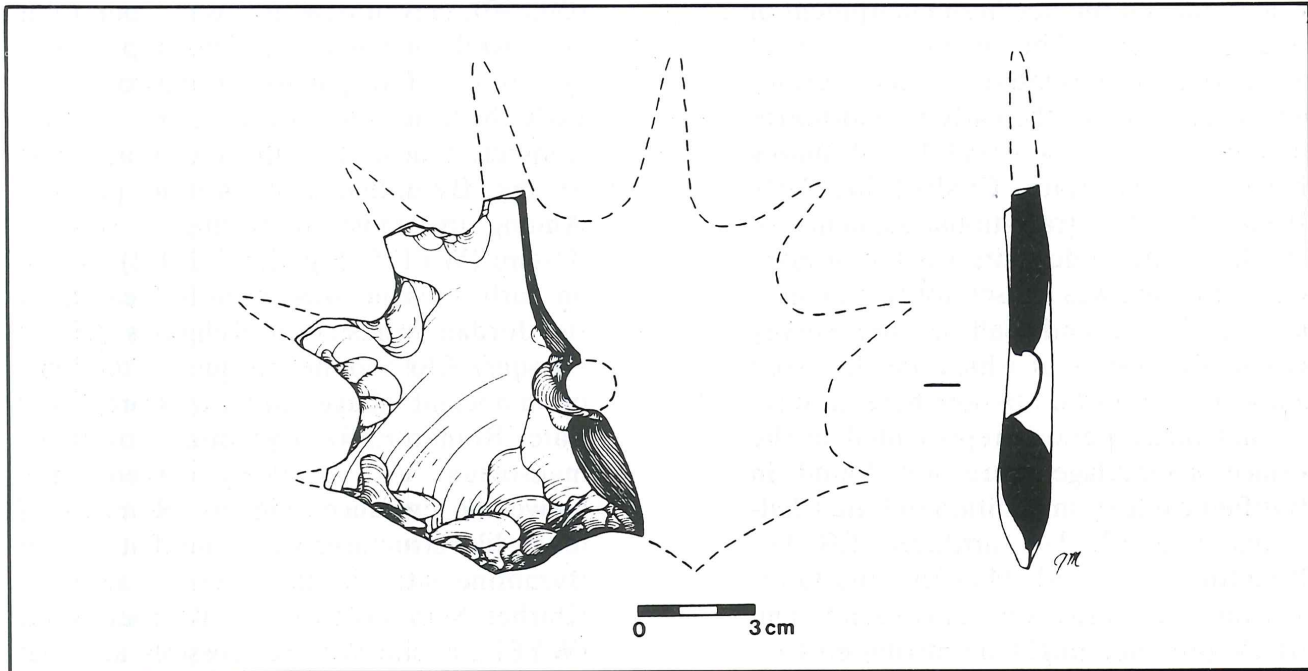


Fig. 5. Late Chalcolithic star-shaped pierced disk fragment from el-Khawarij (WY116).

esh-Shariyeh (WY120, P.g. 213.6/201.6) was unexpected, but they provide a possible explanation for the large fields of megalithic “dolmen” tombs found in their vicinity (see “The Dolmen Survey” below).

El-Khawarij (WY116) is a 15-20 hectare early fourth millennium B.C. settlement site on a kilometer-long terrace above Wadi en-Na‘um (P.g. 213.9/199.8). Many house walls can be traced on the surface of this site, perhaps indicating a continuous occupation from end to end. A remarkable number of typical Late Chalcolithic flint tools were found on the surface: chisels (in several sizes and shapes), tabular flint fan scrapers, backed blades, exhausted flake and blade cores, and even half of a rare star-shaped pierced disk (Fig. 5). This is an unusual flint tool form which has been found at only a few Chalcolithic sites in the Southern Levant, scattered between the Dead Sea and Damascus.⁴

The assemblage of groundstone artifacts included basalt hoes, querns, pestles, straight-sided bowls, and part of a fenestrated stand.⁵ Pottery was rare on the surface, but recent robbers’ trenches revealed a large number of pottery sherds in association with an exposed corner of a masonry building. The discarded piles of sherds belonged to at least four different vessels: a large, straight-sided bowl with red painted rim, a steep-sided holemouth jar, and two jars with large pierced lug handles. One of the jars has a very high, straight neck, a slightly flared rim decorated with a band of red paint, and a thumb-indented and painted band on the shoulder. This pottery has the closest parallels with Late Chalcolithic assemblages of the Jordan Valley and the Golan Plateau.

Jelmet esh-Shariyeh (WY120, P.g. 213.6/201.6) is another large settlement site, situated in sight of el-Khawarij, on a

4. Mallon *et al.* 1934: Plate 31.4 (Ghassul); Nasrallah 1948: Planche V: 1-4 (Dera‘a); Perrot *et al.* 1967: 208 fig. 5.1 (Neve Ur); Epstein 1977: 62 (Golan Plateau and northern Jordan). The perforated disks found at Abu Hamid (Dollfus *et al.* 1986: 371 Fig. 13) are not star-shaped, but are very similar to other disks found at Neve Ur (Perrot *et al.* 1967). They either belong to a

general tool type of which the star and the circular shape represent two variants, or the circular form may represent the result of complete retouch of broken star forms.

5. Cf. Mallon *et al.* 1934: Plate 33.2-3 (from Ghassul); Perrot 1957: Plate 1.1-2 (from Abu Ma‘tar); Perrot *et al.* 1967: 218 Fig. 13.1-2 (from Neve Ur).

wide saddle on the northern escarpment of Wadi el-Yabis. The main periods of occupation represented in the surface assemblage date to the early to mid-fourth millennium B.C. The possibility of finding there a clear Late Chalcolithic/Early Bronze Age I-A transitional sequence of stratified cultural deposits was the primary reason this site was chosen for test excavation in the second half of the survey season, the results of which are discussed below. It is important to note here, however, that many periods represented in the surface assemblage were not found in stratified context; in addition to Late Chalcolithic and EB I-A artifacts, EB IV, Byzantine, Umayyad, Mamluk, and Ottoman pottery sherds were also found. The EB IV presence might be attributed to a camp, since no structures belonging to this period were found in our test excavation. The other periods might just be traces of the agricultural use of this saddle, which is an extension of the wide plateau south of the modern village of Kufr Abil. This hypothesis is strengthened by a terrace wall found in association with Byzantine period sherds in our sounding, and by the ancient olive trees still growing in the area, called "the trees of the Romans" by local villagers.

While these two late prehistoric sites are important discoveries, most of the sites found in this middle transect date to the Byzantine period. Some of them are village sites (WY58, WY90, WY123),⁶ but there are also smaller farm sites (WY122, P.g. 213.9/202.2), and ruins of forts (WY105, P.g. 213.9/196.8). Very few sherds were found on the surface of this last site, but substantial remains of fortifications and towers indicated a military function.

In the upper (east) 6 km² transect (between UTM coordinates 640,830 and

650,890), eleven new sites were found this year, while only five were known previously. Only a few possibly prehistoric and early historic sites were found in this transect; almost all of the sites found date to the Byzantine and Islamic periods. Among the most interesting is Khirbet 'Uşeim (WY125, P.g. 226.3/201.4), where an early mosque was recently cleared by the Jordan Ministry of Religious Affairs (*Awqaf*). Close to the mosque are the ruins of an ancient village, and a well preserved Late Roman/Early Byzantine tower or mausoleum with a nicely carved lintel above the entrance (Fig. 6). Remains of tower-like structures were found at several Byzantine sites in the transect area: at Khirbet Shin (WY79), at Khirbet Sittat (WY81), at site WY132, possibly at Saba' Buab (WY135), and at Tor Suleiman (WY139).⁷ At Khirbet Sittat were found remains of a large fortress, and on the southern edge of the site recent clandestine excavations looted some Byzantine tombs. A stone sarcophagus in a good state of preservation was found in one of them.

Unfortunately, tomb robbers and treasure hunters are currently very active between the modern villages of 'Afana and 'Ibbin. More recently robbed tombs were found 1 km east of 'Afana, and also at Saba' Buab (WY135). But the worst damage of historical remains was evident at Khirbet el-Maqata (WY82, P.g. 225.8/197.8), where a Byzantine mosaic dated to the year 482 A.D. was found on the floor of a ruined church in 1970.⁸ At the time of Piccirillo's visit in 1980, the mosaic had already disappeared, and the church area was heavily pitted (Piccirillo 1981:23). Currently, the entire site is being systematically destroyed by treasure hunters.

A few sites outside of the transects were visited purposively in order to check

6. WY58, P.g. 213.9/202.7; WY90, P.g. 214.1/203.4; WY123, P.g. 213.3/203.6. For Kh. en-Nasar (WY58) and en-Nwedrat (WY90) see also Mittmann 1970: 53-55.

7. WY79, P.g. 226.0/199.7; WY81, P.g. 225.9/198.5; WY132, P.g. 226.2/199.2; WY135, P.g. 226.6/197.0; WY139, P.g. 225.9/195.6. For Kh.

Shin (WY79) and Kh. Sittat (WY81) see also Mittmann 1970: 71-72.

8. In the inscription the date is 545 of the Pompeian era: this calendar was used in the cities of the Decapolis (Piccirillo 1981: 23-25). The mosaic is published by Van Elderen 1972. See also Mittmann 1970: 72.

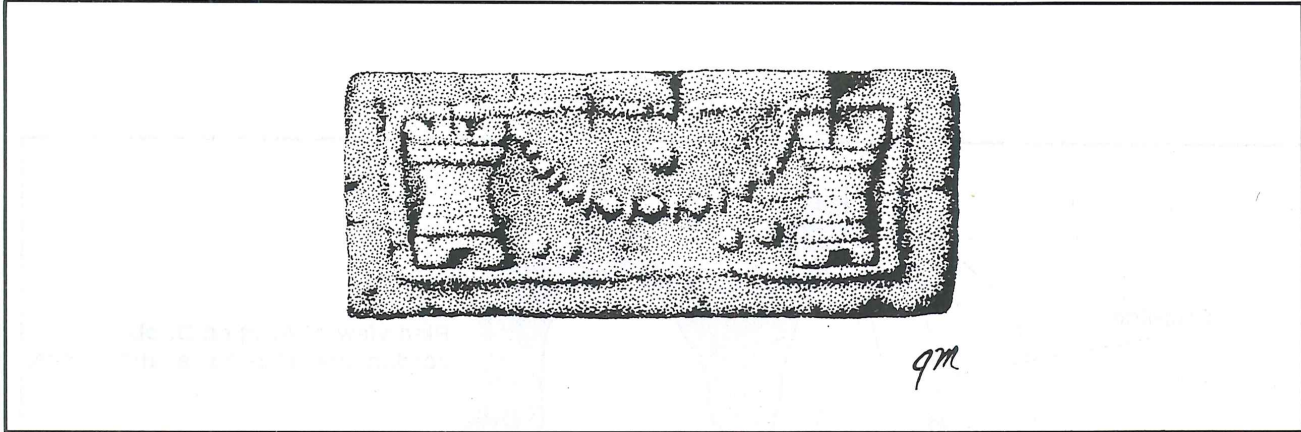


Fig. 6. Lintel relief at Khirbet 'Uṣeim (WY125).

reports on the presence of antiquities, and to complete the survey of the sites known from previous explorations. Previously unrecorded periods of occupation were found in most of the sites visited by our team. The new periods of occupation which have been recorded are mainly the Umayyad and other Early Islamic periods, filling an improbable gap which was more a gap in archaeological knowledge of the area than in the real sequence of settlement. Some sites revealed formerly unrecognized, earlier occupations as well, such as the EB I period at Khirbet el-Hedamus (WY70, P.g. 220.3/196.7), the EB II occupation at Kufr Abil (WY57, P.g. 213.2/202.7), and the EBII/III presence at Khirbet Deir Ḥalawa (WY95, P.g. 213.1/200.3).⁹

Several caves, visible high above the middle gorge of Wadi el-Yabis between 'Irjan and Tell Maqlub, were also visited. One of them (WY113), called 'Iraq er-Ruhban ("the Cave of the Monks") by local villagers, was probably a Byzantine hermitage. This cave was adapted to form several rooms and floors, and it is still used by local shepherds. Byzantine pottery sherds (and thousands of fleas) were also found inside. Another large cave (WY130) on the opposite (south) side of Wadi el-Yabis from 'Iraq er-Ruhban was explored. There, together with Byzantine and Islamic pottery sherds, a few micro-lithic flint tools were found on the surface. The possibility of finding undisturbed pre-

historic deposits led to the decision to put a sounding in the cave, called 'Iraq ed-Dubb ("the Cave of the Bear") by local villagers. The soundings there revealed a thick and undisturbed sequence of transitional Late Natufian/Pre-Pottery Neolithic A cultural deposits; the results of these test excavations are described below.

Test Excavations at 'Iraq ed-Dubb, WY130 (I. Kuijt)

The cave of 'Iraq ed-Dubb (WY130, P.g. 216.9/199.6), situated some seven kilometers northwest of Ajlun, is one of many caves in the high limestone cliffs which overlook a heavily vegetated section of the middle Wadi el-Yabis 150 meters below. Encompassing an area of approximately 150 square meters within the cave, and as much as 300 square meters of the terrace at the cave mouth, the site has no structures visible on the surface and only limited evidence of recent disturbance (Fig. 7).

After an intensive surface collection of artifacts, two 1 x 1 meter areas behind the drip-line were selected for test excavation. These units were excavated according to 1/4 meter square quadrants and five centimeter levels, and all sediments were screened through 2 millimeter mesh screens. Samples for soil, botanical and radiocarbon analyses were collected regularly during excavation. In both test units

9. WY57: Mittmann 1970: 53; WY70: Mittman 1970: 68; WY95: Glueck 1951: 223-224.10.

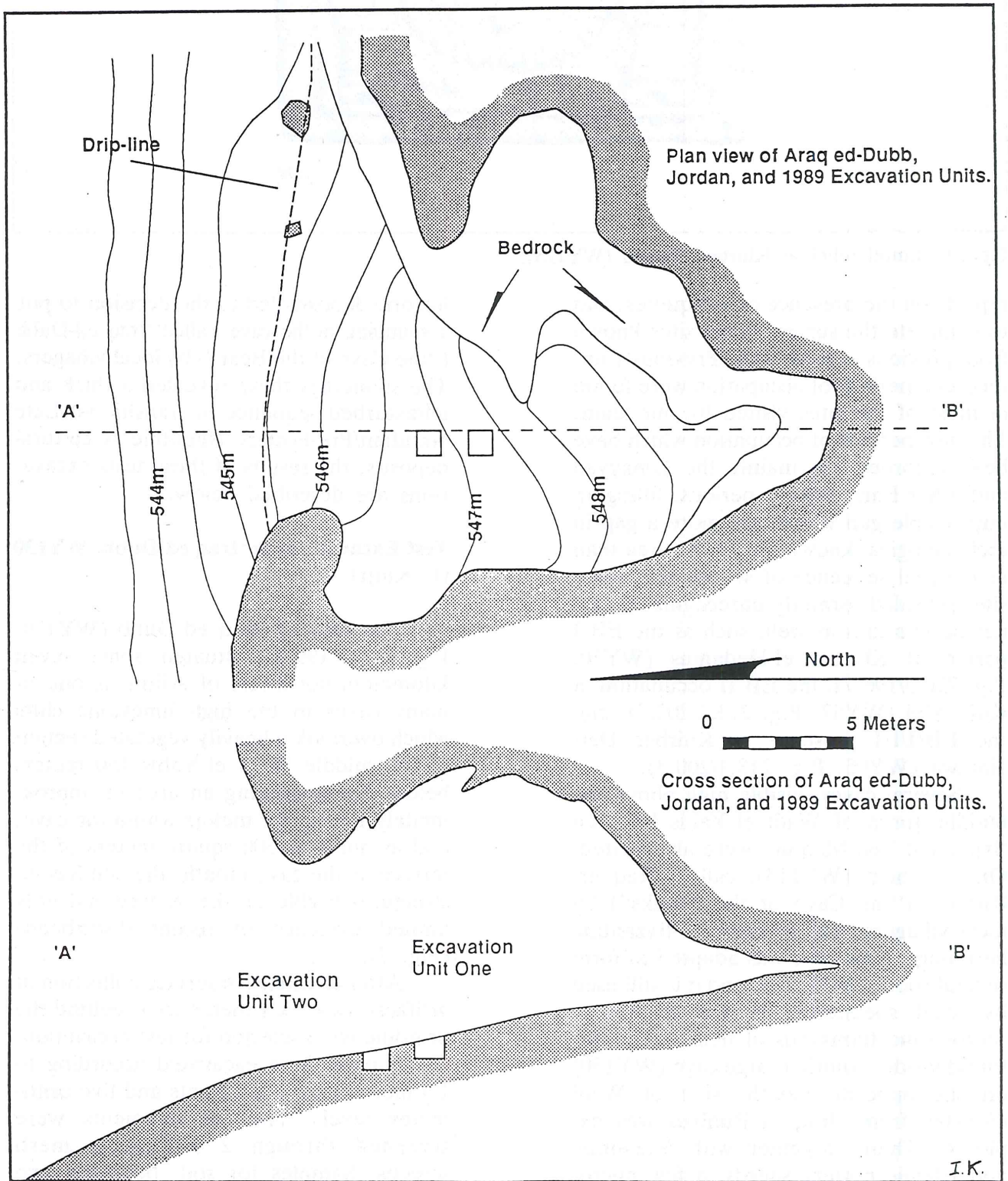


Fig. 7. Plan and cross-section of 'Iraq ed-Dubb cave (WY130).

a high density of lithic tools and debitage (mean of 210 flint artifacts per 5 cm level), faunal remains, and portions of stone and mudbrick walls were discerned within 60 cm of stratified cultural deposits above bedrock.

Parts of at least two structures were exposed in the excavated units under some 10-30 cm of loosely packed rubble, probably an accumulation of cave roof collapse (Fig. 8). The uppermost wall in excavation unit one was constructed of two courses of large stones up to 50 cm in size, aligned perpendicular to the cave mouth. An earlier architectural phase, comprised of walls constructed of mudbricks and smaller stones 15-25 cm in size and preserved to a height of approximately 25 cm, was identified in both excavation units. Deep pits carved into the limestone bedrock were encountered in both units. The sequence of deposits thus provides evidence of more than one phase of construction, and multiple occupation floors and fills. In general, the deposits associated with the walls were composed of rubble fill/collapse, grey ash lenses, mudbrick fragments, lithic artifacts and discarded animal bones.

While the 1989 test excavations were restricted in scale, the fragmentary architectural evidence is at least suggestive of oval or circular semi-subterranean habitation structures similar to the architecture found at PPNA Netiv Hagdud (Bar-Yosef *et al.* 1980), Gilgal I (Noy *et al.* 1980), and Jericho (Kenyon 1960) in the Jordan Valley. The arrangement of these structures on the sloping bedrock of the cave resembles the oval houses on multiple terraces at Nahal Oren (Stekelis and Yizraeli 1963). The similarity in architecture is paralleled by the presence of intra- and extramural pits at other Pre-Pottery Neolithic A sites, including Netiv Hagdud and Nahal Oren.

The 1989 test excavations recovered approximately 4,500 lithic artifacts and nearly 2600 bone fragments. The excavated flaked stone assemblage includes 13 el-Khiam points and point fragments, 13 small lunates, 10 Hagdud truncations, several microburins, awls, sickle knives,

truncated blades, denticulates and a single triangle microlithic (Figs. 9 and 10). The ground stone assemblage consists of two 20 cm long fragments of basalt grinding stones and an 11 cm fragment of a basalt pestle. In addition to the basalt artifacts, other exotic items include two marine shell beads and a piece of coral. On the surface was found a fragment of an etched and polished bone, with a design resembling one etched on an ostrich egg shell from the Late Natufian site at Rosh Zin, in the northern highlands of the Negeb desert (Henry 1976).

The results of radiocarbon analyses are not available yet, but based on typological evidence alone, it is clear that 'Iraq ed-Dubb dates to the Khiamian period — a transitional phase between the final Natufian and Sultanian periods previously identified in the Jordan Valley (Bar-Yosef 1981). Beyond the presence of lunates, the recovery of only el-Khiam type points and point fragments, the Hagdud truncations, the emphasis on bladelet production, and the lack of bifacial debitage or bifacial tranchet axes characteristic of the Sultanian (Bar-Yosef *et al.* 1980; Crowfoot-Payne 1976), all support the dating of this site to the Late Natufian/early Pre-Pottery Neolithic A transition. Such a date increases the importance of 'Iraq ed-Dubb; this is currently the only site known in Jordan which dates to this important transition (Henry 1986), and it is the first early Neolithic site excavated in northern Jordan.

Preliminary analysis of the faunal remains from the test excavations (see Appendix 1) has identified fowl, rabbit, gazelle, boar, possibly auroch, and wild sheep and goat as significant components of the recovered assemblage. These animals are native to forests and/or grasslands, while the presence of crab and aquatic fowl remains may reflect greater surface flow of the wadi during the early Holocene. Though analysis of the botanical samples is incomplete, the remains of a wide variety of seeds, nuts and fruits are recognizable (Sue Coledge, personal communication).

The preliminary inferences based on the test excavations are thus several. As at

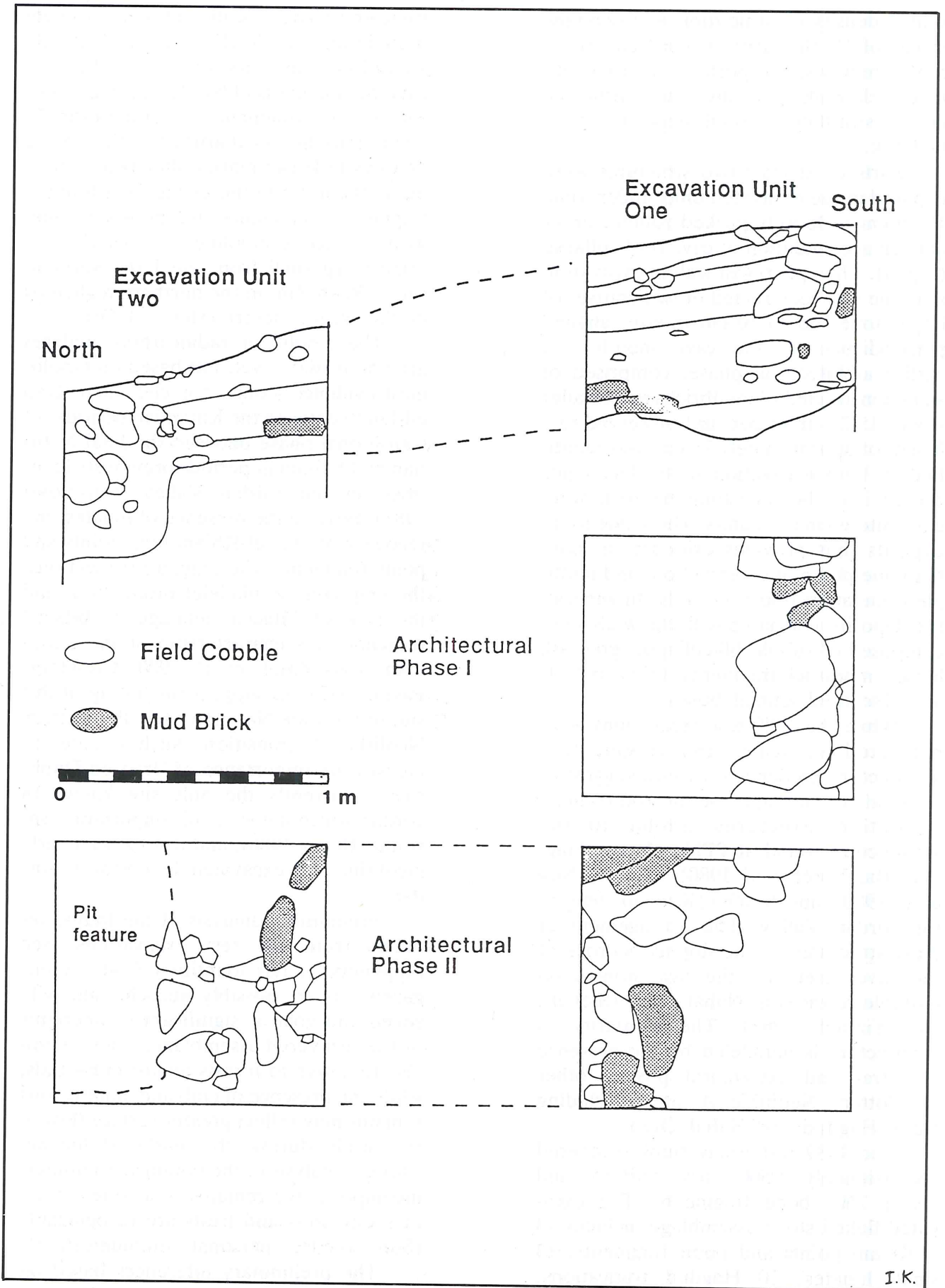


Fig. 8. Stratigraphy and architectural phases at 'Iraq ed-Dubb (WY130).

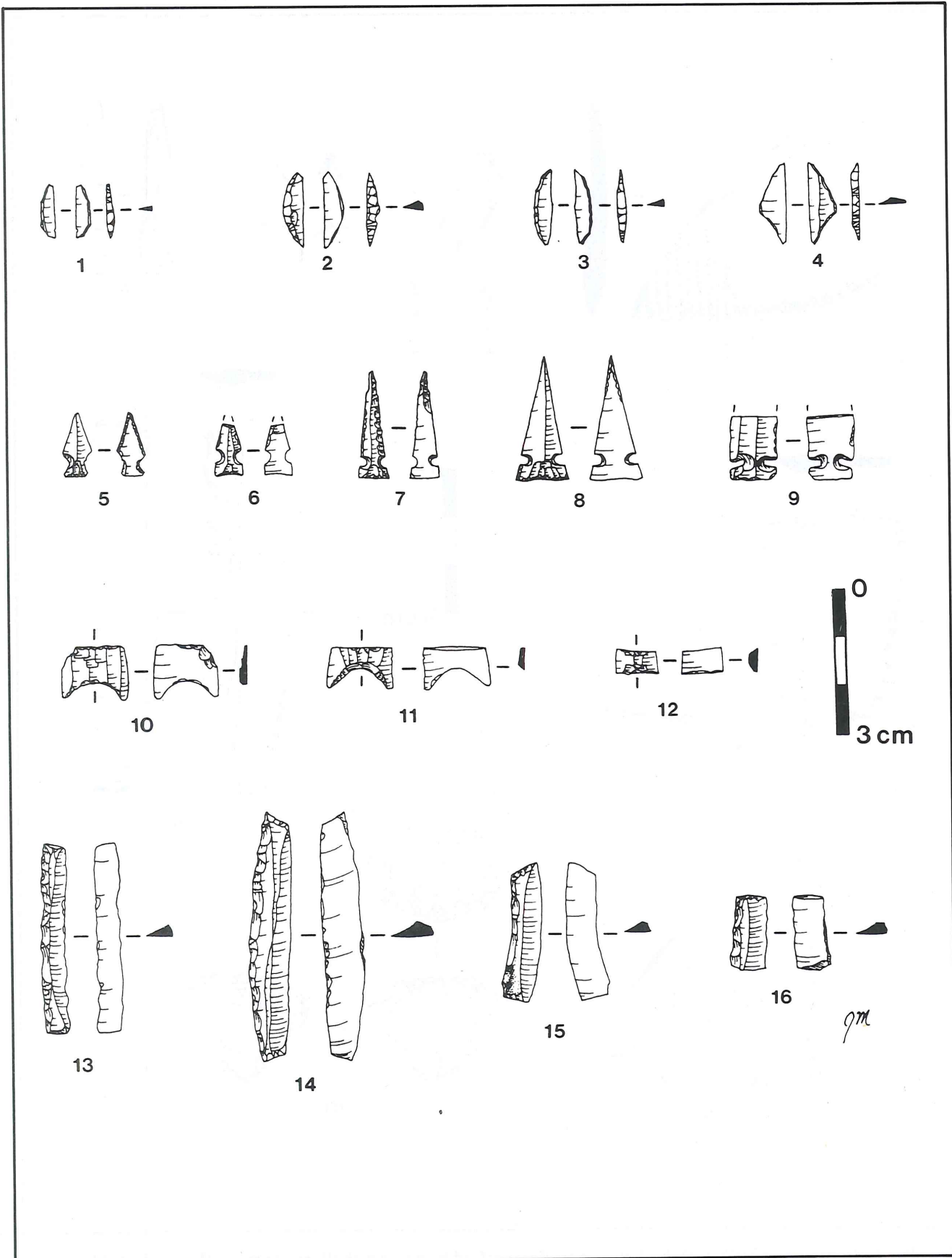


Fig. 9. Late Natufian/PPNA flaked stone tools from 'Iraq ed-Dubb (WY130). 1-3) Lunates; 4) triangle; 5-9) Khiamian points; 10-12) Hagdud truncations; 13) backed blade; 14-16) backed and truncated blades.

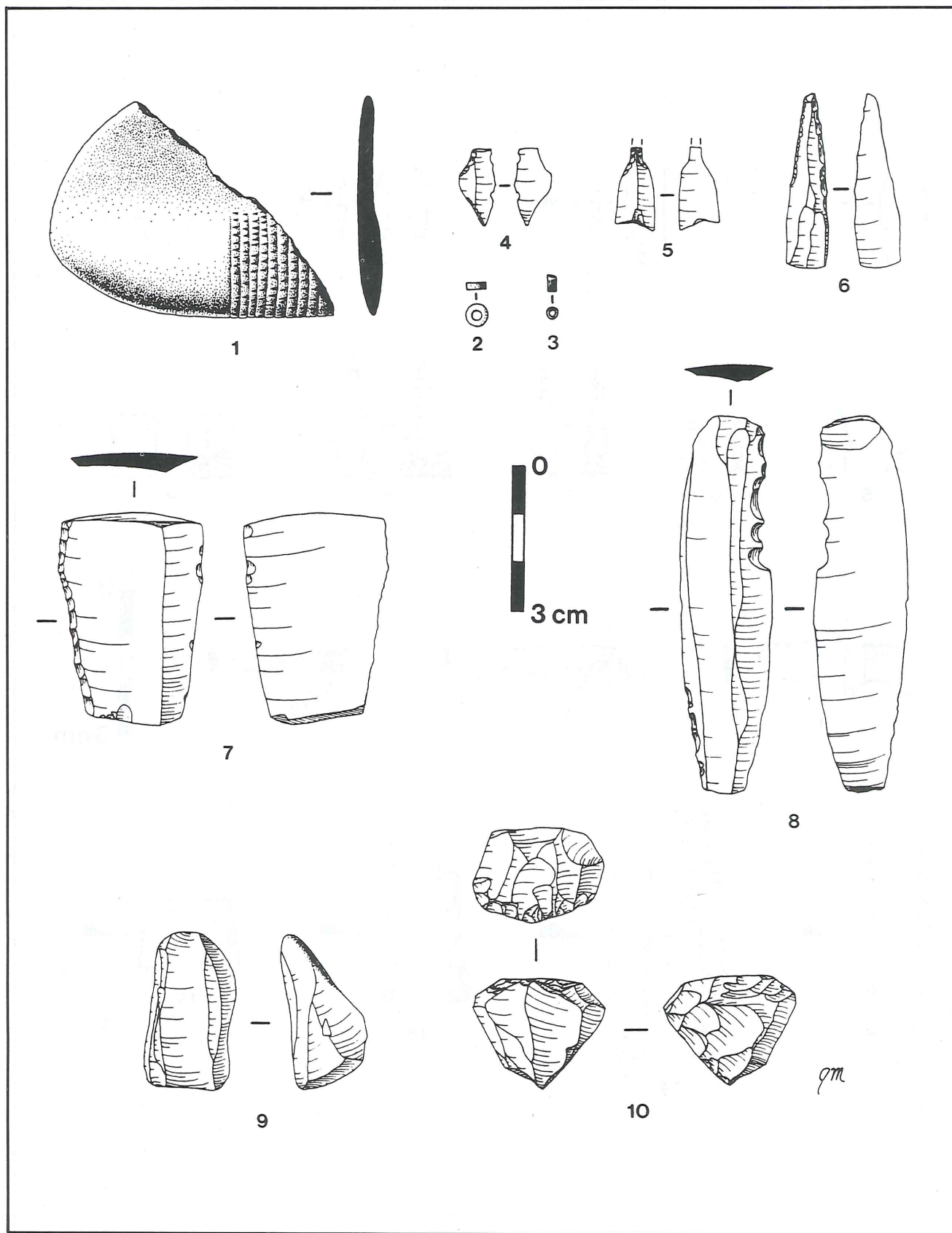


Fig. 10. Late Natufian/PPNA flaked stones tools, worked bone and shell beads from 'Iraq ed-Dubb (WY130). 1) Polished and etched bone fragment; 2-3) shell beads; 4) microburin; 5-6) perforators; 7) backed blade segment; 8) denticulated blade; 9-10) multidirectional bladelet cores.

the Jordan Valley sites, groups occupying the highland cave of 'Iraq ed-Dubb were oriented towards a microlithic blade industry including el-Khiam points, small lunates and Hagdud truncations; but the total assemblage most closely resembles the Khiamian phase industry of the early Pre-Pottery Neolithic A period. The depth of cultural deposits, the variety of animal and plant remains, and the multiple phases of structures indicate more than occasional use of the cave by prehistoric groups. As the only known stratified cave site dating to the Late Natufian/Khiamian transition in the highlands of northern Jordan, 'Iraq ed-Dubb is important for our understanding of the variability between highland and lowland patterns of technology, settlement and subsistence during the earliest stages of the Neolithic period. The planned future excavations at this site will undoubtedly provide a clearer understanding of the nature and processes behind this critical turning point in the development of human civilization.

Test Excavations at Jelmet esh-Shariyeh, WY120 (J. Mabry)

West of the small, irrigated valley below Tell Maqlub (WY33), the middle course of Wadi el-Yabis flows through a narrow, steep-sided gorge. In a wide saddle on the northern escarpment, called Jelmet esh-Shariyeh (WY120, P.g. 213.6/201.6) by local villagers, grey culturally-derived sediments extend over an area of 7-8 hectares beneath ancient olive trees. Shallow plowing in this grove has churned up a rich assemblage of prehistoric flint tools and pottery sherds dating mainly to the early to mid-fourth millennium B.C. — the end of the Chalcolithic period and the initial phase of the Early Bronze Age. A smaller number of sherds dating to the end of the Early Bronze Age and several historic periods (EB IV, E-L. Byzantine, Umayyad, Mamluk, Ottoman) probably do not represent occupations, but only agricultural use (see discussion above).

A 2.5 x 5 meter test trench oriented from northwest to southeast was opened

across a visible stone wall, which was retaining an agricultural terrace on the southern slope. A 25% sample of all excavated sediments was sifted through 0.5 centimeter mesh screen and several samples for flotation of organic material and radiocarbon analyses were taken. After the 1.5 meter width of the wall was exposed, the trench was confined to half its original width. Primarily Byzantine sherds were found in the terra rossa colluvium retained behind the several courses of the wall, preserved to a height of 1.25 meters from its founding level. After the function and founding level of the wall was determined, excavation was concentrated in the down-slope part of the trench, below the Byzantine terrace wall. There, below 0.75 meters of plowed colluvium and stone rubble (Strata 1-2), *in situ* prehistoric cultural deposits were found preserved more than 1.5 meters above the limestone bedrock.

Three major prehistoric cultural strata (3-5) were discerned, comprised of floors associated with upper and lower architectural phases, separated by multiple surface accumulations. Below a surface with a 10-20 cm thick accumulation, a 40 cm wide stone wall foundation constructed of three rows of small stones crossed the trench from southwest to northeast in the uppermost Stratum 3. Several pottery jars with applied and impressed bands of decoration below the rims were found smashed on an associated floor southeast of this wall and sherds in the 20 cm accumulation above this floor could be refitted to them. Beneath this floor, at least three surfaces with thick accumulations were discerned in the 75 cm of cultural deposits comprising the middle Stratum 4. These layers cover Stratum 5, which includes a north-south oriented, 75 cm wide, stone wall foundation founded on bedrock and constructed of two to three rows of large stones. Painted coarse ware sherds, flaked flint tools and a fragment of a basalt grinding slab were found lying on an associated floor west of the wall. This floor was founded upon more than 25 cm of rubble fill levelling the deeply pitted limestone bedrock.

The total number of artifacts recovered in this small sounding is small, but it is an adequate sample to observe at least some patterns; several distinct ceramic types were represented among more than 1000 sherds recovered from the stratified sequence of prehistoric cultural deposits discerned in the sounding (see Appendix 3). While some types were common throughout the sequence, others appeared in only some of the three major prehistoric strata (3-5). A pink, coarse grit tempered, low-fired ware decorated with bands and trickles of red paint was found in every stratum. Thick red slips and closely-spaced vertical stripes of red or brown paint also decorated coarse wares in the middle and upper strata. A distinctive dark burnished ware, fired in an oxygen-reduced atmosphere, appeared in only the middle stratum (4). The forms represented by this dark ware include everted rim bowls and steep-sided holemouth jars. While applied bands of decoration are common throughout the sequence, impressed bands appear only in the upper stratum (3).

Painted coarse wares are part of a long ceramic tradition dating to the Late Neolithic in the Jordan Valley. But the variety of forms in the lowest stratum (5) clearly resemble the "typical" assemblage of Late Chalcolithic forms, best known from the excavations at the early fourth millennium B.C. sites of Tell Abu Habil North (WY18; de Contenson 1960), and Tell Abu Hamid (Dollfus *et al.* 1986) in the east-central valley. Red slipped and dark burnished wares with coarse temper are both known from the Late Neolithic, but they occur only rarely in Pottery Neolithic B/Early Chalcolithic period strata at Tell esh-Shuna North (Gustavson-Gaube 1985, 1986) in the northeastern Jordan Valley.

At that site and at En Shadud in the Jezreel Plain (Braun 1985), the distinctive forms of grey-burnished "Esdraelon ware" mark the transitional strata between Chalcolithic and Early Bronze Age layers. This brief pottery phase is a useful chronological marker in the northern lowlands of the Southern Levant, but it is now unclear whether it represents the introduction of a nonlocal pottery tradition, or the reemergence and elaboration of a long local tradition (i.e. Late Neolithic Dark-Faced Burnished Ware). At the very least, the restricted occurrence of dark burnished ware in the middle of this highland sequence (Stratum 4) represents a transitional, mid-fourth millennium B.C. phase between the Late Chalcolithic and Early Bronze Age I-A periods, while the local pottery types which persist through the sequence reflect previously unproven continuity in highland settlement between these periods.¹⁰

Vertical painted stripes are a common pottery decoration in late EB I and EB II strata at Tell esh-Shuna North and Tell el-Handaqq (Mabry 1989); the distinctive "line-group" or "Proto-Urban B" painted decoration that marks the EB I-B phase in southern Palestine and Jordan may simply be an elaboration of this longer, local tradition. Bands of impressions are common in Early Bronze Age I-A assemblages from the Jordan Valley (Umm Hammad: Helms 1984, 1986), the northern Jordan highlands and plateau (Hanbury-Tenison 1987), and the eastern Desert (Jawa: Helms 1981). The sequence of ceramic types in the sounding at Jelmet esh-Shariyeh indicates that this is the first excavated early to mid-fourth millennium B.C. stratified sequence in the northern highlands of Jordan, comparable in several

10. In addition to Tell esh-Shuna North and Tell el-Handaqq (Mabry 1989) in the Jordan Valley, both Late Chalcolithic and Early Bronze Age I-A sherds have been found on the surface at several other sites on the Jordan Plateau southeast of Wadi el-Yabis (Hanbury-Tenison 1986). The uninterrupted stratified sequence at Jelmet esh-Shariyeh may record a process dur-

ing which the lowland centered "Late Chalcolithic" patterns of settlement, subsistence and material culture were gradually replaced by highland centered "Early Bronze Age I" patterns during the mid-fourth millennium B.C., with a considerable temporal overlap of several centuries.

aspects to the middle part of the long lowland sequence at Tell esh-Shuna North.

Continuities as well as changes in flaked stone tool traditions are also apparent from the small sample of 46 flaked stone artifacts recovered in the sounding. Unretouched flakes and blades were found throughout the sequence, but a few tool types appear only in certain strata. A typical assemblage of Late Chalcolithic stone tool forms were recovered from the lowest stratum (5), including a notched trapezoidal blade segment, a broken tabular flint fan scraper and two exhausted flake cores. Two backed blade segments, typical in Late Chalcolithic assemblages and a fragment of a small ground celt were found in the middle stratum (4). Several trapezoidal blade segments, typical in Early Bronze Age lithic assemblages and a convex side scraper/core were found in the uppermost prehistoric stratum (3). Blade cores, chisels/core tools and various kinds of retouched flake and blade tools also appear on the site's surface.

Like the ceramic and lithic assemblages, the sample size of faunal remains recovered from the sounding is small, but informative (see Table of Identified Faunal Remains in Appendix 2). Well-preserved bone fragments of domesticated animals were found in every stratum and remains of wild animals were also found in the middle (4), and upper (5) strata of prehistoric deposits. These patterns show that hunting of gazelle and boar supplemented livestock herding as a basic subsistence activity, while the remains of domesticated cattle, sheep and goats and their consistently young age of death altogether suggest systematic, sedentary animal husbandry. Plant remains recovered through flotation of organic-rich sediment samples have not been completely analysed, but the sickle blades found throughout the sequence and the basalt grindling slab fragment found on the floor of the lowest stratum (5) are crucial tools for harvesting and processing of cereal crops.

In summary, the 1989 test excavation of Jelmet esh-Shariyeh confirmed the sequence of occupation indicated by the surface assemblage of artifacts. The site was first settled permanently in the early fourth millennium (Late Chalcolithic), and was abandoned sometime during the mid-fourth millennium B.C. (EB I-A). Several centuries of apparently continuous occupation between these events formed a meter and a half of uninterrupted cultural deposits on this part of the site, with overlapping and successive phases of pottery styles and stone tool forms. Though no architecture was found in the middle stratum (4), this may be due to the small area of the sounding. It is evident, at least, that both the founding and final occupants of this village built permanent, rectilinear houses with stone foundations. The subsistence economy of this late prehistoric highland village was based upon a mixture of farming, herding and hunting. Isolated sherds show that Jelmet esh-Shariyeh was at least visited occasionally during the late third millennium B.C. (EB IV). The slope was terraced near the beginning of the Byzantine period and judging by the size of some tree trunks and the scatter of Islamic pottery sherds on the surface, the hillside has continuously supported an olive grove since that time. The planned future excavations will increase the area of excavation for greater exposure of contemporaneous phases of architecture and for larger samples of artifactual assemblages.

The Dolmen Survey (G. Palumbo)

One of this year's priorities was the excavation of one or more dolmens in the attempt to find evidence for their date of construction, which is still debated among scholars.¹¹ During the survey of the middle transect, however, we noted that the capstones and uprights of several dolmens have been reused in the recent construction of boundary and terrace walls. The rapid pace of destruction of these monu-

11. The Golan dolmens are dated by Epstein to the EB IV (Epstein 1985: 20). The Transjordanian

dolmens are usually dated to the Early Bronze Age I (Yassine 1985: 66).

Ras Kufr Abil West - WY 133

Dolmen 1

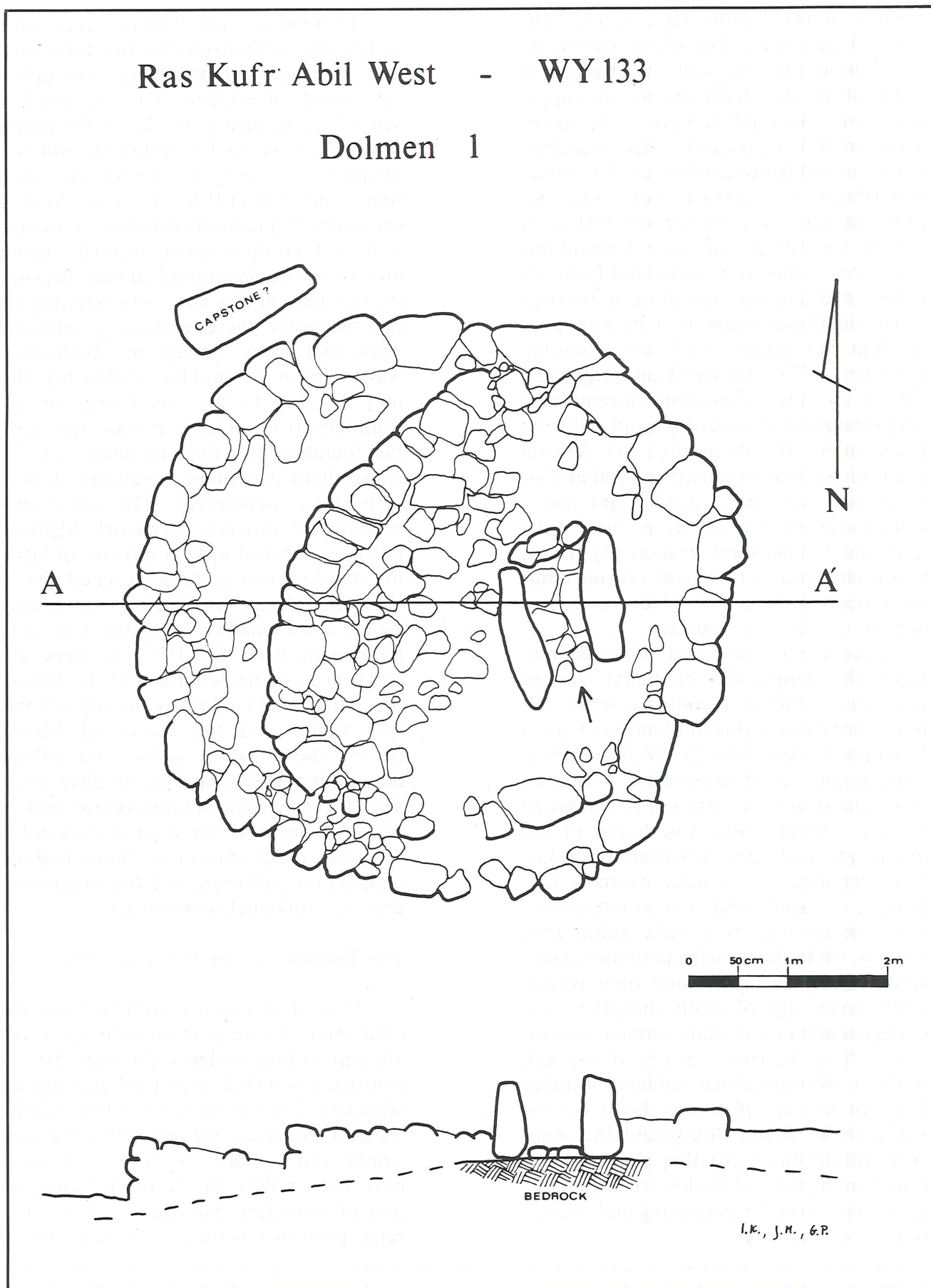


Fig. 11. Plan and cross-section of Dolmen 1 at Ras Kufr Abil West (WY133).

ments was also confirmed when we were able to locate on the ground only half of a perfect circle formed by several tumuli, recognizable on 1978 aerial photographs. Thus, the priority was to record all of the dolmens which are still visible, ranging from well preserved to badly damaged. In every dolmen field the dolmens were counted and photographed. Tumulus field WY133 and dolmen field WY121, on the south and west slopes of Tell er-Ras near Kufr Abil, were also mapped at a scale of 1:500. The best preserved part of dolmen field WY121 was also mapped at a scale of 1:50. In this entire field, extending over 7 hectares, a total of 60 dolmens were marked and photographed. The orientations of their entrances were also recorded, in order to test various hypotheses on dolmen construction (Palumbo, n.d.; Mabry and Palumbo, n.d.).

Tumulus field WY133 was identified first on aerial photographs, as already mentioned. On the ground, however, identification proved to be somewhat difficult, since recent terracing and agricultural activity has destroyed part of the circle. Another circle was found in the same field, 100 metres west of the first one. There was found a large tumulus, surrounded by several small stone cairns, evenly spaced at a distance of approximately 30 meters from the central tumulus. One of the cairns was cleared from the tumbled rocks and excavated. Two courses of the stone ring which originally surrounded the cairn are preserved, though only in the southern and western sections. This stone ring was founded directly on bedrock. Unfortunately, no datable artifacts or bones were found in the cairn.

In this same field, a small tumulus with two visible dolmen uprights without a capstone, was also cleared and excavated (Fig. 11). Clearance of the tumulus revealed that it is constructed of two stone circles, one within the second, well preserved especially in their western section. The larger circle, having a diameter of approximately 6 meters, is more regular than the second one, with an oval shape and a diameter of 4.5 meters. The small

dolmen contained in it is in an atypical position, especially if the larger circle is considered. A few large stones block the space between the uprights at their northern end. The entrance to the dolmen is on the opposite side and is oriented towards the south-southwest. Excavations of the space between the two uprights brought to light a floor, formed by flat stones resting on a thin layer of clayey sediment laid on bedrock. The two uprights were set directly on bedrock. Only a few undiagnostic sherds and a snake vertebra were found in the excavated material, all of which was sifted through two millimeter mesh screens. A possible Late Chalcolithic sherd and several Late Roman sherds were found between the tumbled rocks during the clearance of the tumulus area.

Although this year's excavations were unsuccessful in finding evidence for the date of construction of these dolmens, the discovery of large Chalcolithic and EB I settlements in the vicinities of large dolmen fields is an interesting addition to our data; the possibility that they are formal cemeteries related to those sites is probably more than a remote chance. The mapping of two dolmen fields and the study of dolmen construction techniques are two more steps towards a better comprehension of these — still — "mysterious monuments."

A third season of fieldwork, supported by various sources in Italy and the United States, is planned for the Summer of 1990. Additional transects will be intensively surveyed, and excavations will be resumed at 'Iraq ed-Dubb (WY130) and Helmet esh-Shariyeh (WY120). Other sites may also be selected for test excavation, including el-Khawarij (WY116) and perhaps some important ones still awaiting discovery.

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Appendix 1: Preliminary Analysis of Faunal Remains from 'Iraq ed-Dubb, WY130

(by Grant Mullen and Kathy Gruspier)

The following brief report summarizes the preliminary findings of the analysis of faunal remains recovered during the 1989 test excavations at 'Iraq ed-Dubb, carried out during the Wadi el-Yabis survey season. All of the excavated sediments were dry sieved through 2 mm mesh screen, resulting in excellent recovery of even the smallest faunal remains. In general, the bone preservation is good, although the material is highly fragmented. The condition of the bone fragments ranges from charred and calcined to partially fossilized with mineral salt accretions. All of the faunal remains discussed in this report are from sub-surface strata, dated by artifactual association to the transitional Late Natufian/Pre-Pottery Neolithic A period.

Several taxa are hypothesized to be intrusive into the cultural layers, thus post-dating the prehistoric occupations. The most represented of these and, indeed, the most frequently occurring in the entire sample are Rodentia, including the families Sciuridae (squirrels), and Cricetidae and Muridae (voles, mice and rats). Other intrusive taxa belong to the order Gastropoda, specifically *Bulliminus labrosus* and *Helix* spp, both species of land snails. Squamata (snakes) and Testudinae (turtles) are also represented. These taxa will be considered as intrusive until evidence of cultural modification to their remains indicates otherwise.

A limited number of identified taxa

probably represent the remains of human activities. The most frequently occurring elements are crab claws. Representatives of the order Artiodactyla are, in order of decreasing elemental frequency, *Gazella gazella* (gazelle), *Sus scrofa* (boar), *Ovis/Capra* (wild sheep/goat), *Capra* spp (wild goat), and probable *Bos primigenus* (auroch). Carnivores represented in the sample include *Vulpes vulpes* (fox), and *Felis* cf. *silvestris* (wildcat). The family Leporidae (rabbits and hares) is also represented. Members of the class Aves include the families Columbidae (doves), Phasianidae (grouse, pheasants), Accipitridae (hawks), and Anatidae (ducks, geese, and swans). Osteichthyes are represented by only two identifiable elements.

This report is preliminary, and a more complete analysis will be undertaken when the sample size is increased by further excavations in the cave of 'Iraq ed-Dubb.

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Appendix 2: Preliminary Analysis of Faunal Remains from Jelmet esh-Shariyeh, WY120
(by Kathy Gruspier and Grant Mullen)

Table of Identified Faunal Remains

<i>Stratum</i>	<i>Locus</i>	<i>Taxon</i>	<i>Age</i>	<i>MNI</i>	
2	005E	<i>Artiodactyla</i>	—	1	
		<i>Capra sps</i>	imm+	1	
3	007E	<i>Gazella gazella</i>	imm+	1	
		<i>Ovis sps</i>	<2.5-3 yrs	1	
		<i>Capra/Ovis</i>	juv	1	
		<i>Helix sps</i>	—	1	
		<i>Levantina sps</i>	—	1	
4	009E	<i>Gazella gazella</i>	imm+	1	
		<i>Capra/Ovis</i>	—	1	
		<i>Bos taurus</i>	juv	1	
		<i>Sus scrofa</i>	—	1	
		Rodentia	—	1	
		010E	<i>Ovis sps</i>	10 mos-3.5 yrs	1
	<i>Capra/Ovis</i>		—	1	
	<i>Sus scrofa</i>		—	2	
	010E.2	<i>Capra/Ovis</i>	imm+	1	
		<i>Sus scrofa</i>	imm+	1	
	5	012E	<i>Capra/Ovis</i>	juv	1
			012E.2	<i>Artiodactyla</i>	juv
<i>Capra sps</i>		—		1	
<i>Capra/Ovis</i>		imm+		1	
<i>Bos taurus</i>		imm+	1		

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Appendix 3: Sequence of Ceramic Types in Jelmet esh-Shariyeh Sounding (WY120)

<i>Stratum</i>	<i>Locus</i>	<i>Description</i>	<i>Pottery Types</i>			
			<i>coarse painted</i>	<i>red slipped</i>	<i>stripe painted</i>	<i>dark burnished impressed</i>
1	001W, 001E	topsoil/plowzone	(L. Chalco, EBIA, EBIV, E-L.Byz, Umay, Mam, Mod)			
2	002W, 002E 004W	colluvium/tumble terrace wall	(L. Chalco, EBIA, EBIV, E-L.Byz)			
3	006E	accumulation	X	X	X	X
	007E	accumulation	X	X	X	X
	007.2E	floor	X	X	X	X
	008E	wall foundation				
4	009E	accumulation	X	X	X	X
	010E	accumulation	X	X	X	X
	010.2E	accumulation	X	X		X
5	012E	floor/accumulation	X			
	012.2E	rubble fill	X			
	011E	bedrock				

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