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# NEO-LITHICS 1/06

The Newsletter of Southwest Asian Neolithic Research

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## Editorial

The temporal and geographic emphasis of *Neo-Lithics* has come to concentrate on the Early Neolithic of the Levant and Upper Mesopotamia, and while this focus has been informative, the editors always liked to see the scope of the newsletter to include all the Neolithic periods of all the Middle Eastern countries. Especially we would also like to stress more the importance of Pottery Neolithic trajectories, together with more information on new theses, lab reports and conferences. We appeal to all colleagues to help us to diversify *Neo-Lithics* by sending or encouraging such contributions to our newsletter.

With this issue *Neo-Lithics* introduces a new section: *Comments on Recent Publications*. It is aimed to pro-

vide the chance for discursive or critical comments on aspects or ideas brought up in recent publications. These contributions should not be traditional book reviews (as the first one in this issue may appear), but should provide an opportunity to enhance critical discussion among colleagues. Often the general and formal demands of an invited book review do not provide the framework for discursive comments to be published, for which we now would like to provide a forum.

Hans Georg K. Gebel and Gary O. Rollefson

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## **Ba'ja 2005: A Two-Storied Building and Collective Burials. Results of the 6th Season of Excavation**

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#### Aims of the Season

The aims of the 2006 season at Ba'ja included: 1) the excavation of two collective burials in the lower room stratigraphy of Area C; 2) the re-measurement of all architectural levels taken earlier in Areas B-North, B-South, C, D, and F; 3) the clearance of architectural features in Area B-North (B22/32) and Area B-South (B64); and 4) the excavation of a Test Unit (TU7) in Area A.

The goals were devoted to strengthen the basis for the planning of future strategies and questions of large-scale excavations at the site, and to check data needed to final-



Fig. 1 Ba'ja 2005, Area B-North, Sq. B22: "girder grillage" of Walls 16 and 19, Buttresses 33 and 55, stairwell Room 3, and cut Wall 34 with *in situ* ceiling Layer 41, from WSW (cf. Figs. 2-3). (photo: M. Kinzel, Ba'ja N.P.)

ize an interim monograph on Ba'ja 1997-2005. Without excavating the collective burials in Area C, a continuation of work in this area would have been difficult, and without clearing up the potential domestic character of Area A the understanding of the site would have been loaded with unsolved questions. Except for the latter aim, all aims were fully met.

#### A Two-Storied Building in Area B-North

Clear evidence of a two-storied building came up during the re-measurement of architectural levels after rains during the past winter exposed a buttress and parts of the eastern baulk of Sq. B22. With other it represents



Fig. 2 Ba'ja 2005, Area B-North: part of the eastern sections of B22/32, with the evidence of leveled wall heights (Wall 34) and in situ floor/ceiling remains (Layer 41). (drawing: C. Purschwitz, Ba'ja N.P.; for legend cf. Fig. 3)





"hard" evidence for two-storied housing in Ba'ja, which now assembles all parameters (Gebel 2006) for a true second story. Until now we had had many isolated indications from the steep-slope LPPNB settlements for two stories, but not all indications came together in one finding. Our subsequent clearance (Fig. 1) of the eastern baulks in B22 and B32 exposed twin buttresses (Fig. 3: Loci 33 and 55 in B22) as well as a leveled wall (Fig. 2: Loc. 34) with remains of a ceiling on top (Fig. 2: Loc. 41).

In the finding presented here, we deal with a story (ceiling) level at the height of about 1167.30 m a.s.l. (Figs. 2-3: Walls 19, 34, and 16 of B22). It is the approx. height of ceiling remains (Fig. 2: Layer Loc. 41) and of the aforementioned walls, which were bearing the second floor, forming a kind of "girder grillage" for the upper floor. Two supports for the upper floor's beams could be identified at 1167.20 m (Fig. 3: Loc. 8a, running

out of Wall 8) and 1167.24 m (Fig. 3: Loc. 36, below Buttress 33). The fourth measure preparing the domestic structure to have an upper story was the erection (or modification, cf. below) of the stairwell between Walls 8 and 10 (Fig. 3: Room 3). Four steps were identified, crossing a height of some 80 cm. The uppermost Step 23 ends at 1166.71 m in front of Wall 19, at a spot, where a Threshold 56 (at 1167.32 m) exists in this wall. Staircases ending blindly in front of a wall are quite common in the terraced steep-slope architecture of the LPPNB, not only in Ba'ja. The evidence we have here suggests that the greater depth of the upper Step 23 helped to create a place for another small step or ladder to lead up to the Threshold 56, crossing the remaining height of some 60 cm. Thus, the stairwell, a supposed small step or ladder of perishable material on Step 23, and Threshold 56 allowed access to the floor of the upper new room, located between Walls 39, 10, 8, 7, and 54, or between



Fig. 4 Ba'ja 2005: isometric reconstruction of the central two-storied parts of a house in B22, from SW. (reconstruction: M. Kinzel)

the twin Buttresses 33 and 55 respectively (cf. Fig. 4).

Room 17 (*ca.*  $8-9 \text{ m}^2$ ) with its twin buttresses may well represent the remains of a yet unexcavated larger room of the last story existing in this domestic area, and most likely a "girder grillage" of leveled walls like the one mentioned above will show up in its lower stratigraphy. Like the upper room between buttresses Loci 33 and 55 that had a stairwell to its west (Room 3), Room 17 also had a stairwell (Room 14a) to west.

The reconsideration of the architecture in Area B-North proved the existence of three such twin buttresses in possibly three buildings (*cf.* Fig. 3, marked by arrows): The other example exists in Rooms 22/23, which have a system of altered twin buttresses (Loci 7 and 9, Loci 4/5 and the opposed one in B23).

Buttresses are a common feature in the LPPNB architecture of southern Jordan, as are walls extending in right angles into the interior of rooms (*e.g.* Wall 7 in B23). They do not necessarily have the function of being supports for a ceiling's beams (Kinzel 2004, 2006). They simply could represent wall strengthening for long walls or dividing the space of a room. Such added wall strengthening most likely was – especially if not executed with the original building plan ("retro-fitted buttresses" as named by Bill Finlayson, pers. comm.) – undertaken for walls that later had to carry the load of another story. Wherever they appear in pairs in opposed locations, however, we may expect that they were erected to carry the main or central beam of the beam network of a ceil-ing/floor.

Ceiling Layer 41 in Fig. 2 (*cf.* also Fig. 1) rests on the Wall 34, and is about 20-30 cm thick. The height of its base corresponds to the height of the beam supports Loc. 8a and 36, the height of a support gap (Loc. 40) in Wall 39, and the tops of Walls 16 and 19. It was not only the corresponding heights, but also the kind of incorporated material that let us interpret this Layer 41 as the in situ remains of a floor/ ceiling between the upper large room with the twin Buttresses 55 and 33 and Rooms 2, 4, 5, and 6 underneath. The clayey-silty material is a compact and dense mixture of finer sediment with a high content of lime, recycled plaster, and charcoal.

It is the interpretation of one of the authors (H.G.K.G.; cf. also Gebel, in: Gebel and Hermansen 2001: 19 and Gebel 2006) that this evidence is another example for how in Ba'ja larger, presumably central rooms of upper stories were established on top of leveled room walls (= cutting back wall heights) of earlier stories (e.g. Wall 34 in Figs. 2-3), which were before an upper story and became transformed by this action into a basement. Into these new basements walls could be inserted creating the small-room ground plans, or walls were modified including their wall openings. The story below this new basement (which was the basement of the previous building or room association) was intentionally filled during these actions of transforming upper floors into basements. In the present case, the new and partly eroded upper room must have rested over Rooms 2 and 4-6, and unexcavated areas in B21 (Fig. 3); the stairwell Room 3, probably giving access to a roof before, may have been modified now by a freshly inserted threshold (Loc. 56 in Wall 19) to give access to the new upper room. This story alteration stands for one of the building principles in Ba'ja; it not means that all building in Ba'ja followed this principle: We imagine that two-storied houses or room associations were also planned and build in one action. Gebel (2006) provides more information on the specifics of the southern Jordanian LPPNB architectural and sedimentary morphodynamics, as related to second stories, the local building history, and he suggests preliminary definitions for the discussion of second stories in the LPPNB. A summary generalizes the measures taking place when a new story or room association in the LPPNB steep-slope housing is established, considering evidence from all southern Jordanian LPPNB sites. Here, it must be briefly mentioned that the shallow-slope architecture of Basta is considered to be single-storied (Nissen 2006), without excluding an occasional (optional) use of second stories.

The increasing use of the vertical space in the LPPNB of southern Jordan (if not to be traced back into the MPPNB; *cf.* Hermansen *et al.*, this issue and Gebel 2006: footnote 2) is one of the expressions of the many mate-

rial and immaterial agglomeration processes of the Near Eastern Early Neolithic. In the southern Jordanian LPPNB the use of real two-storied structures was widely introduced after 7500 BC cal. in the steep-slope domestic architecture, co-existing together with other forms of shared wall architecture founded on different levels (*e.g.*, split-level structures or rising-floor structures). Intra-site social and spatial pressure – especially in Ba'ja – may have forced the use of the vertical space, since domestic space became topographically more and more restricted through progressive community/family growth.

#### **Collective Burials in C10**

(with information provided by J. Gresky, A. Kozak, and N. Roumelis, Zentrum Anatomie of Göttingen University)

The two collective burials in Area C were already encountered in the 2003 season in the lowermost stratigraphy of two neighboring rooms between the buttresses of the major terrace wall in Area C (Gebel and Hermansen 2001: fig. 3; 2004: fig. 2); they were completely excavated, and all of their material was screened, by the participating anthropologists (graphic documentation: C. Purschwitz).

The rooms in which the two collective burials made up the lower stratigraphy were connected by a raised wall opening, appearing more as a passage than a "window". On or over its threshold an anthropomorphic figurine of the es-Sifiya type (Mahasneh and Bienert 1999) was found.

Both collective burials - like the one excavated in Area D (Gebel and Hermansen 2001: 17f, figs. 6-7) - most probably represent a real mortality profile of the social groups (extended families) inhabiting the houses at a certain period: The frequencies of infants in the collective burials of Ba'ja may indicate more the characteristic infant mortality for the LPPNB in southern Jordan than the data from sites like Basta (Berner and Schultz 2004: fig. 5) with their individual burials. Here again it has to be emphasized that the collective (family?) burials in the small rooms of the Ba'ja houses are unique: Squeezed into small burial pits of not more than 0.65 m<sup>2</sup>, they contain sequences of burials that were disturbed by the deposition of later corpses or corpse parts. Articulated parts do exist mostly for the later inhumations, and the use of red (liquid?) pigment is attested for the burial rituals. So far none of the normal individual intra- and extra-mural LPPNB burials were found in Ba'ja.

In Area C, Sq. C10, Burial Loc.152 was excavated in Stages A-H. This collective burial (Fig. 5) is located at the bottom of a small room between the buttresses of the major NNW-SSE terrace wall (Gebel *et al.* 1997: fig. 6) in C10-11. The burial was deepened into the virgin soil (playa-like sediments of the al-Mehmad Basin), and the burial pit has an extension of *ca.* 80 x 70 cm. The pit





Fig. 5 Ba'ja 2005, Sq. C10: collective burial Loc. 152: (top) excavation Stage G, (bottom) excavation Stage E. (drawing and photo: J. Gresky et al./C. Purschwitz, Ba'ja N.P.)

was dug through an earlier plaster floor founded directly on the virgin soil. At least on the northern side, the plaster floor extends below the room's wall, meaning that the wall is founded on the plaster floor (Fig. 7 bottom).

The burial contained three to four adults, among which is one juvenile (18-20 years, male), and three or four infants, among which is a possible newborn. No animal bones were found. The juvenile appeared to be articulated and complete except for the cranium, and the other (male?) adult was articulated for the spine and legs. One adult also had articulated legs including the feet we. The child remains and other parts of the adults were mixed throughout the burial pit. The depth of the bone deposits is approx. 30-40 cm, and they rested nest-like in the pit. The bone preservation was bad, but increasingly better in the lower parts of the deposits; the bone concentration increased towards the pit's bottom.

Compared with the collective burial in Area D, the

Tab. 1 Inventory and samples of Burial C10, Loc. 152.

Excavation		Excavation	
Stage	Finds/Samples	Stage	Finds/Samples
A	red plaster fragment	F	4 beads
А	red pigment	F	2 arrowheads (1 frag.)
В	1 flint dagger	F	charcoal
B/C	1 flint arrowhead	F	red pigment
Н	greenish sediment	F	yellow pigment
С	2 beads	F/G/H	1 hair slide
			(bone, 2 parts)
C/D	3 beads	G	1 bone bead,
			3 mineral/shell beads
D/E	1 sandstone ring fragment	G	strong silty material
D/E	red pigment	G	"green sediment"
E	3 (4) beads	Н	3 (4) bone beads
E	plaster, moulded material	Н	black pigment/charcoal
E	1 arrowhead	Н	"greenish pigment"

variety of grave goods was more limited: a few isolated beads and arrowheads, as well as one flint dagger (Stage B, Fig. 6), and one bone hair slide inside a child's skull were found together with red pigments: many of the human bones, especially in the upper layers of the deposits showed a red pigmentation, and these pigments also occurred as smaller and larger lumps (up to 10 mm) in the deposits. Charcoal fragments as well as yellowish pigments were attested, too, while for the lowermost part of the burial a strange green/olive colored soil can



Fig. 6 Ba'ja, 2005: flint dagger found in a collective burial (Area C). (photo: H.G.K. Gebel, Ba'ja N.P.)

be recorded. In 2003, the fragment of a stone plate or bowl was found on top of the burial; its depression still contained red pigment from the last use for the burial.

The complete flint dagger (Fig. 6) found in the burial represents one of the rare pieces known from the LPPNB. Another complete one (Gebel and Hermansen 2001: fig. 8) – intentionally broken into 3 pieces – had been found in the previously excavated collective burial in Area D. This pressure-flaked artifact type deserves a thorough comparative study of its meaning in terms of contextual evidence and its geographic and chronological distribution.

Adjacent to the north of Loc. 152 in C10, another multiple burial (Loc. 170) was excavated in four Stages (A, B, D, C/D, and E) (Fig. 7). The bone preservation was extremely crumbly; many stones (up to fist-size) in the grave and the hard soil into which the bones were "baked" made it difficult to excavate the deposits. The human remains rested together with animal bones above a typical and well-preserved LPPNB plaster bed having no final fine plaster finishing coat (Loc. 170F). It appeared that the lower burials were in close contact or located atop the aforementioned plaster bed, while the animal bone concentrations were in contact with the other human bone layers. The animal bones were concentrated within a circular stone alignment set into the SW corner of the room. In the upper grave stratigraphy mixed animal/human remains prevailed, while in the lower stratigraphy the human remains were dominant. The contextual relation between the animal and human remains is unclear, and they might not be ritually associated. In the eastern part of the room ashy layers of some 10 cm existed, which were not present in the middle part of the room. The burial appears to be older than the neighboring buttress (Loc. 64), since parts of it go underneath this eastern buttress. The most probable stratigraphy in which the collective burial rests is as follows.

Excavation Stage	Finds	Excavation Stage	Finds
Slaye	Fillus	Slaye	Fillus
A	1 arrowhead	С	3 arrowheads
A1	3 arrowheads	Е	2 arrowheads
В	3 arrowheads		

• foundation of a floor, possibly on earlier cultural sediments or on the virgin soil (unexcavated).

• building of the first terrace Wall 3 (in C11, *cf.* Gebel *et al.* 1997: fig. 6) and its continuation Loc. 16 towards NNW (partly resting on top of the floor?)

• building of the reinforcement Wall 32 in front of the earliest terrace Wall 3/16 (partly resting on top of the floor?)

• a series of inhumations in the collective burial Loc. 170 in front of the reinforcement Wall 32

• building of buttress Loc. 64, partly founded on the burial Loc. 170. (The parts of the collective burial underneath Buttress 64 appear undisturbed).

• (multiple?) disturbance events (deposition of animal remains and ashy layers, Layers A-B) affected those parts





Fig. 7 Ba'ja 2005, Sq. C10: collective burial Loc. 170: (top) excavation Stage A, (bottom) excavation Stage D. (drawing and photo: J. Gresky et al./C. Purschwitz, Ba'ja N.P.)

of the collective burial that were not located under Buttress 64. The ashy remains covered all of the room.

However, there is a small likelihood that the collective burial rests against the buttress, which has a "reduced" ground plan at this spot. To the extent the locus could be excavated, the chest area of one individual appears resting beneath the buttress where it could not be reached by excavation.

In the NE part of the collective burial, many non-articulated human remains were embedded in a yellowishbrown sediment; only one upper and one lower arm were found in anatomical order. Among the bones, one skull was placed directly in the NE corner and looking towards the east; the related thorax – most probably articulated – rests underneath Buttress 64. (The cervical vertebra and a right clavicle could be seen, indicating that the corpse was placed on its back). The chin must have rested on the chest. The other non-articulated post-cranial remains seem to belong to the 6 skulls found, and they



Fig. 8 Ba'ja 2005, Sq. C10: arrowhead types of the collective burial Loc. 170 (drawings: M. Bshesh/H.G.K Gebel)

may represent two children (6-14 years), one woman, and three men. The only grave goods, 12 arrowheads (Fig. 8), were concentrated in one part of the collective burial, and three were placed along a femur. The general arrangement of the human remains created the impression that they were moved from the southern part to the northern part of the burial space. All grave disturbances happened in the LPPNB, or during occupation respectively. The burial sediment itself was free of ash and contained almost no charcoal; one piece of red pigment was found.

The animal bones – also preserved in a crumbly condition – in the SW corner of the room may represent kitchen waste, and they seem to have been intentionally separated from the collective burial by a single-row "wallet" preserved in two courses. In the upper part of this bone layer, long bones – probably goat – prevail. A few human remains (ribs) were found among the animal bones, which become more frequent towards the base of the deposit where the sediment is ashier.

#### Test Unit 7

This probe was an exercise to understand the potential domestic and communal units in this area giving access to the site from the Siq al-Ba'ja (Gebel *et al.* 1997: fig. 4, table 1 "the Towel"). The various inclinations of the slope let us expect erosional activity, which at least destroyed structures in the central parts of Area A. The only occupational evidence hitherto known from Area A consisted of garbage deposits in the lowermost parts of the slope (Sounding I in 1984: Gebel 1988: 85ff), which had already provided most of the information on the material culture of LPPNB Ba'ja.

Test Unit 7 was placed in the central part of Area A, with a slight shift towards south, in order to reach the rocky fringes of this area bordered by vertical sandstone formations. The extension of the sounding was  $6 \times 2 \text{ m}$ , oriented South-North. The depth reached in the NE corner is about 2 m; the depth reached in the NW corner is about 1.3 m, and in the SW corner *ca.* 0.9 m. The eastern section and the evidence from the excavations give evidence of the following stratigraphy:

The surface is densely covered with eroded stone (building) material, grinders, and artifacts, providing an instable (slope, erosion) stone pavement. A top soil seems not to exist due to erosion activity. The uppermost layer is *ca.* 40-50 cm thick and shows the downslope transportation of LPPNB wall stones deriving from Neolithic architecture further up. Both erosional activity and agricultural use of the slope are responsible for this transport. Except for the re-deposited Neolithic material, this layer contains sherds from the Nabatean and Roman periods. The share of stones in this layer (by volume) is 5 to 10 %, indicating that field clearing from stones took place in the area. Transverse walls are characteristic for



Fig. 9 Ba'ja 2005, Test Unit 7: burial Loc. 5, excavation Stage C, from W. (photo: C. Purschwitz, Ba'ja N.P.)

Area A, proving the existence of former agricultural terraces for which the field clearing of stones was carried out. Below this fine-grained layer a light greenish layer of some 80 cm thickness is attested, containing many Neolithic wall stones with an increasing number of Neolithic artifacts. The upper end of this deposit (Loc. 4) has the same height as the preserved LPPNB wall tops in the southern part of the Test Unit. Loc. 4 represents most likely the earlier erosional and colluvial sediments depositing here from the ruins of the LPPNB settlement above.

Below the Loc. 4 layer is Loc. 9, consisting of ashy patches and yellowish-brown lenses, leading us to expect that here the deposits more or less *in situ*, probably deriving from midden activities (deposits of building material, settlement garbage). The lenses do not give the impression that their material was transported far downslope; the ashy midden area of Test Unit 1 excavated in 1984 is more certainly a garbage area for organic and nonorganic matter.

A burial (Loc. 5, cf. Fig. 9) was found within the layers of Loc. 9, meaning that here an extramural inhumation had taken place in an LPPNB midden area. It appears that the corpse was not placed in a proper burial pit, *i.e.*, lined and covered by set stones, but rather was buried in the stone rubble. This rubble not only characterized the burial's fringes; the area in which the contracted corpse rested was also full of densely packed stones (2-20 cm, in average 5-10 cm). The corpse appears to have been protected by stones, and nothing indicates a later disturbance of the burial. This means that at least Loc. 9 remained as a stable deposit in the slope of Area A. The thorax of the body rested on its back with the skull being placed slightly higher (north of the thorax, facing south). The right arm rested below the lower part of the spine, while the lower left arm stretched towards ESE. The lower extremities were contracted, but not really representing a "hocker" position. All parts of the body appear to be represented (the right foot is still embedded in the

eastern section of the Test Unit, as well as the left femur, tibia, fibula, and the left hand). The remains are of a gracile adult female aged 25-50 years. The individual suffered from dental diseases such as abscesses. Two leaf-shaped arrowheads seem to be linked with the burial, while some sandstone ring fragments seem to represent intrusive settlement debris. Stratigraphically, the burial might belong to a post-occupational early Neolithic phase of the site, a final PPNB/PPNC.

The architectural remains in the southernmost third of the test unit represent an extremely solid part of an LPNNB building, using large boulders at this spot. It "announces" the architectural occupation to be expected in Area A. It is not clear if the remains represent a massive wall corner reaching a thickness of about 80 cm (height 105 cm), or if they belong to a buttress. Nothing can be said about the ground plan. However, it might be stated that the preservation of the burial and various lenses in Loc. 9 indicate that no erosion or later agricultural activity had disturbed this part of the central slope. However, we may not have reached the necessary depths yet to identify LPPNB wall tops in the central part of the slope.

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The short 6th season of excavation at Ba'ja was carried out between the 5th and 19th of Sept., 2005 in cooperation with the Department of Antiquities of Jordan, and under the auspices of ex oriente e.V. at Free University of Berlin. The Ba'ja Neolithic Project is directed by Hans Georg K. Gebel, with Bo Dahl Hermansen as deputy director. The representative of the Jordanian Government was Hussein Asqer al-Serhan, Mafraq, who shared the supervision of the works in Test Unit 7. Moritz Kinzel as the new assistant director of the Ba'ja Neolithic Project shared the main responsibility for directing the season. Many and warm thanks go to Dr. Fawwaz al-Khreisheh (Director-General, Department of Antiquities, Amman), Dr. Muhammad Najjar (Director of Excavations, Department of Antiquities, Amman), Muhammad Marahleh B.A. (Petra Archaeological Park, Petra), Eid Shteijan (mukhtar of Beidha), Talal al-Amareen (Petra Archaeological Park, Petra), and our workmen from Bir Dabaghat for helping the success of the season.

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