

Fig. 2. Selection of PPNB flint artifacts

Among the tool groups it is worth mentioning the high frequencies of burnt and damaged arrowheads and sickle blades. This trend is more apparent when one considers the low frequency of

burnt tools among the other tool classes. This phenomenon is well known from other Middle-Late PPNB sites (Khalaily, Marder and Bankirer n.d.). This fact can be explain either as result of heating flint during the process of hafting in order to insert the tools in side of the handle or that hafting activities took place near the hearth, and after discard the tools were accidentally burned.

It is worth mentioning that a sickle fragment comprised of a bone haft and a flint blade (Fig. 3) was found in level C 4 (L38). The haft was made of a rib shaft fragment of *Bos primigenius*. The exterior part of the haft was finely polished, with a probable heat treatment on one of its sides. The blade was found stuck in the main segment of the haft, in the groove of the bone where remains of a dark colored adhesive were found.

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## The 2000 Season at Late PPNB Ba'ja

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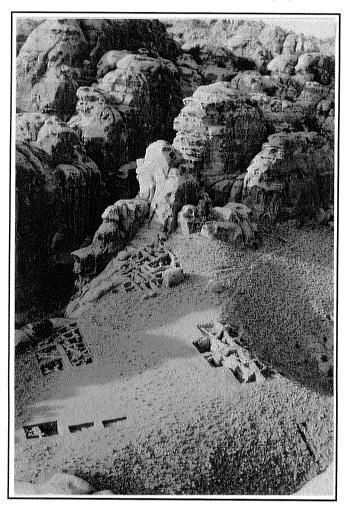
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The third season of excavations at the early Neolithic mountain village of Ba'ja, Petra-Region, was carried out in collaboration with the Department of Antiquities, Amman, under the auspices of *ex oriente* at the Free University of Berlin. It lasted from 5 April -15 May, 2000. Director of the Ba'ja Neolithic Project is Hans Georg K. Gebel, the deputy director is Bo Dahl Hermansen (Note 1). A team of 24-27 members from 8 countries supported the success of the 2000 excavations. Up to 25 workmen from local tribes joined the efforts with dedicated cooperation. In the 2000 season, wall conservation was started with the support of the German Foreign Ministry, Berlin; the work of the Swiss conservator Ueli Bellwald, working at Petra, was essential for the preservation and removal of an unexpected fresco. Important reports so far include Gebel *et al.* 1997; Gebel and Hermansen 1999; Hermansen and Gebel 2000; and Gebel *et al.* n.d.

Ba'ja gained more importance in both academic and non-academic consideration of Near Eastern neolithisation, especially because of its unique and dramatic setting (Fig. 1) as well as the extraordinary finds of the spring season in 2000. Enclosed by vertical gorges and rock formations, the site covers ca. 1.2-1.5 ha on a steeply sloped intramontane basin at 1140-1175 m a.s.l. The basin is completely covered by a *pueblo*-like architecture, extending out onto flat bedrock areas at the site's fringes. The 2000 season

showed that all the space on the steep-sloped terrain was densely built by early Neolithic man. The settlement has only one "comfortable" access, through a gorge incised as deep as 70 m into the sandstone mountains and today filled with huge fallen rocks that require ropes or ladders to pass through. The conditions of excavations are severe and more dangerous than usual, and this requires a special consideration for project logistics. To maintain two camps (base camp and dig camp) is a logistic necessity, requiring a special person (logistics director: Jürgen Baumgarten).

Here we only can present a brief summary of the major results of 2000. Even after the third season we obtained more spectacular and unexpected results, from which we can generate essential and new research strategies, proving a hitherto inexhaustible potential for early Neolithic insights at Ba'ja in the southern Levant. In general, we did not reach the stage in the fieldwork in which we reproduced results already obtained in previous campaigns.



From the material culture it is becoming increasingly clear that we should expect at Early Neolithic Ba'ja a society of lineages most likely headed by a chief (possibly a "flat-hierarchical" chiefdom with village life regulated by a consensus of the heads of leading lineages). Clear evidence exists for magic practices and ritual, mostly related to "caching" of items and humans. An economic wealth of the site might have been related to the manufacture and distribution of one of the luxury goods of the period: sandstone rings, produced in a sophisticated chaîne opératoire, and providing information about the dawn of social hierarchies. In addition to common domestic and hunted animals for the area and period (the herding of ovicaprines was the dominant source of animal protein), we have some evidence of fur production (leopard, fox, hyrax). Buildings, with walls preserved up to 4.20 m (!), show structural pre-planning of terraced central room/ courtyard houses of the Basta- type, executed with at lease two superimposed storeys. We now might have evidence for also three true storeys.

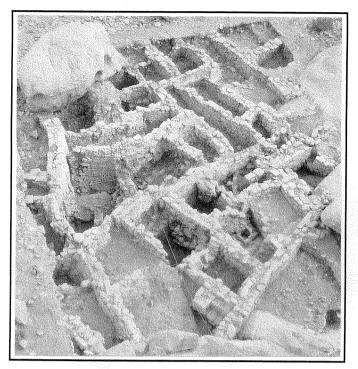


Fig. 2. LPPNB house in the summit area of Ba'ja. photo: H.G.K. Gebel>

The major results of the 2000 excavations included:

1) Topographic conditions in the *siq* were studied, and there may have been excellent possibilities for water storage using simple dams. Just below the site, two spots of the gorge's course are right-angled and have vertical steep sides that immediately stop the water from flushing down from the drainage catchment. After these natural right-angled barriers, the course goes through extremely narrow passages (1-2m), easy to block by a dam. One of the situations allows for easy storage of a larger qunatity of water (180 m³, provided there was a similar topography as today). Our considerations have reached a point where we do not exclude Neolithic water dams below Ba'ja, adding a new aspect to our understanding of why this "extreme" site setting was chosen. However, Ba'ja is also a protected setting, and we continue to search for evidence for arguments related to territorial stress as a reason to choose the location.

2) An additional  $300 \text{ m}^2$  of the 1.2-1.5 ha settlement were investigated in 2000. Excavations revealed clearly that all the space of the site's setting was densely occupied by structures, including even extremely sloping terrain ( $ca.45^\circ$ ) with walls preserved up to 3.70 m (Test Unit 5 in 2000). Area D shows that ground plans extended onto flat rock surfaces immediately above the vertical walls of gorges.

3) Workshops for the production of sandstone rings are now known from all the domestic areas, indicating that each household contributed to this source of wealth for the settlement. They seem to have flourished in the basements, as indicated by the waste and extremely thin layers of sandstone dust deposited during grinding the rings' surfaces. The waste material witnesses to a more complex *chaîne opératoire* than thought before, including "individualized" features and failure management.

4) More evidence for the practice of caching objects such as celts and small stone bowls in and between walls and floors was found, as well as a case of arranged human bones sealed off by a basement's floor plaster, and animal remains arranged between two walls. The meaning of the "magic caching" remains unclear and needs additional evidence to be considered on a broader basis.

5) In the 1999 opened Area D on the site's summit more of the basement of the large building (Fig. 2) - covering some 75-80 m<sup>2</sup>- was exposed. The central room/ courtyard of the two-storeyed house built on two different terraces/levels contained small rooms in its earlier phase. If climate was tolerable, daily life would be expected to have mainly used the upper story and roof; the lower rooms have evidence of sandstone ring workshops and animal bone disposal. The house contains, like others, remains of indoor staircases, and along its western side a narrow lane leading to the

edge of the gorge to the north (here, and down in the clefts of the gorge, we found huge LPPNB garbage layers; Test Unit 2).

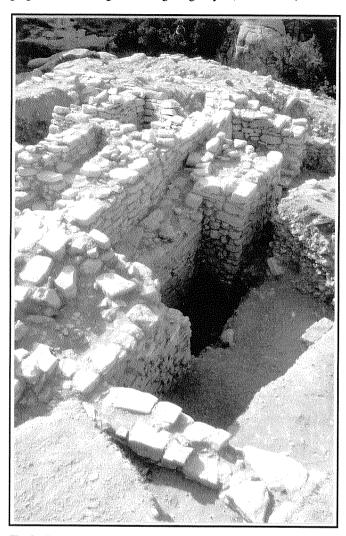


Fig. 3. Buttressed LPPNB house wall bordering the Ba'ja communal space. <photo: H.G.K. Gebel>

6) The admixtures of plaster is much more diversified and specialized to purposes than expected (analysis by the Wilhelm Dyckerhoff Institut für Baustofftechnologie, Wiesbaden).

7) In the flat central part of the otherwise steeply sloped settlement evidence of a *plaza* was found. It is bordered in the east by at least one regularly buttressed house front (Fig. 3), and it was accessible through a gate-like structure in a topographically "strategic" position in the west. The deep sounding in Area C exposed what now clearly is a stairwell attached to the outside of the (buttressed) house, leading from/to the plaza in the later phases of the building (Fig. 3). Here there is likely red-stained plaster evidence on the exterior house walls, too. The access to the plaza in the west is some 1.5m wide with the (broken) lintels still *in situ*. The distance between both spots (NE-SW- axis of the supposed *plaza*) is ca. 35 m.

8) A true burial chamber was encountered in one of the houses. It is very small  $(ca.\ 0.6\ m^2)$  and contained in its upper layer the remains of at least 7 skulls, together with post-cranial bones that partly still rested in the anatomic order of the burial position. Bones (or the bodies) were partly strewn with red pigments. Arrowheads stained in red, parts of necklaces, and a beautiful mother-of-pearl paillette (below the head of a newborn) were found in the grave. The position of the chamber makes clear that repetitive burying inside the house's basement must have taken place during its inhabitation.

9) One of the burial chamber walls was intentionally set in front of a figurative wall painting in fresco technique (red pigments from crushed/ soaked sandstone painted in the wet suface of the wall plaster), which depicts fragments of abstract motifs with radiating rays (coming out of a human figure?) and a ladder-like image (Fig. 4).

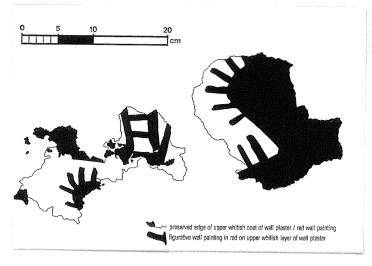


Fig. 4. LPPNB wall fresco from Ba'ja (detail from upper layer of painted plaster). <drawing: H.G.K. Gebel>

The prestigious character of the architectural layout, the burial chamber hiding a fresco with mysterious symbols, and other features, lead us now to think that Ba'ja is more than just a rural settlement involved in long-distance exchange of sandstone rings. This last season of excavations has opened exciting insights into the world of beliefs and rituals of these early herders and farmers. The most pressing question now puzzling us is whether the wall painting connected with the multiple burial contains information on mortuary beliefs some 9000 years ago in Ba'ja, and: Do we really not have settlement systems with various levels in the LPPNB of the area? Plans for our next season have started.

Note 1. The first campaign of large-scale excavations in 1997 was carried out under the auspices of the German Protestant Institute of Archaeology at Amman and ex oriente, in collaboration with the German Archaeological Institute Berlin, Orient- Abteilung.

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## Notes and News

Short Note on the Mini-Symposium: Magic Practices in the Near Eastern Neolithic (Copenhagen, May 2000)

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In May 2000 the 2nd International Congress on the Archaeology on the Ancient Near East was held in Copenhagen. During the congress a number of workshops on specific topics were organized. One afternoon was scheduled to host the mini-symposium entitled "Magic Practices in the Near Eastern Neolithic",