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Lithic industry at Tell el-Farkha (Eastern Delta)

The paper presented here is a summarized view of lithic production at Pre-Dynastic and Early Dynastic site of Tell el-Farkha. The assemblage which is the subject of this report was recovered during the first 6 seasons of excavations (1996 to 2000) that were conducted at the site by the Polish Expedition to the Eastern Delta. It consists of almost 1400 artefacts of which 750 are retouched tools. The assemblage is analyzed within 6 chronological phases of the human settlement at Tell el-Farkha. They are contemporary to the Nagada culture and to the early stage of the Egyptian state.

Phase 1 (ca 3400-3250 BC - Nagada IIc – IId1).

The lithic production was basing mainly on the raw material of local origin. For production of knifes the light-beige chert was used, also of local origin. It must have been extracted from a specific location since it is quite different from chert used for ordinary lithic production. W ithin the assemblage a single tool made of obsidian was noted.

The chert was knapped on the site. This is proved by the presence of few cortex flakes. However, a small size of studied sample do not allow to evaluate the extension of this production. A very distinctive feature of the chert working is the presence of wide or very wide, massive blades, bent at the distal end. They were removed from single platform cores with the soft hammer technique and finally reworked into tools.

Following tool types are typical for this phase at Tell el-Farkha:

1. Massive perforators made on thick blades. Their sides are formed on edge by almost bifacial, semi - flat retouch (Fig. 1:1);
2. Large knifes made of wide and thick blades retouched on the edges. This group of tools includes mostly Hemamiya knifes - A and B variant (Fig. 1:3;

2:3) (for comparison see Schmidt 1992a and 1996). They were made in majority of a very characteristic light-beige chert;
3. Obsidian knife imported from the Nagada culture area (Nagada II; Fig. 1:5);
4. Local imitation of Nagadian, obsidian knives (Fig. 2:1);
5. Standardized, large "sickle blade knives", sometimes with Heluan retouch (Fig.1: 2, 4). Usually truncated edge - straight or slightly oblique - is located at a proximal part of the blade. Working edge, bended, is covered by denticulate retouch often accompanied by a very characteristic sickle gloss. The edge opposite to the working one is often backed;
6. Microlithic retouch of the Ouchtata type;
7. Single sickle inserts similar to rectangular, segmented blades. They reflect the same idea, however they do not keep the standard of this type of tool known from the later periods in Egypt.

Phase 2 (ca 3250-3200 BC - Nagada IId)

Local lithic production during this phase, which was also based on local raw material, is difficult to evaluate due to a small sample. Only few examples of debitage made of light-beige chert are recorded. Local on-site production served as subsidiary source of debitage, and most of the debitage and tools was certainly produced outside the site. At the site a limited production of wide blades removed from single platform cores was present.

Following main tool classes are typical for this phase:

1. Single, massive flake end-scrapers;
2. Single, massive perforators made on thick blades. Their sides are formed on edge by almost bifacial, semi - flat retouch (Fig. 2:4);
3. Knives - exclusively blade knives with edge retouch (Fig. 2:6). They have no handles and are either slightly convex or slightly concave. Two ways of elaboration of these knives were recorded. In the first one the working edge was formed by semi-flat or flat, alternating retouch while opposite edge was backed on dorsal or - less frequently - on ventral side. A second kind of these knives has both working edges and the back of the knife was made with alternating, usually semi-flat retouch;
4. Single sickle blade knives with working edge elaborated with a denticulate edge retouch - like in phase 1 (Fig. 2:2);
5. Wide microretouched blades of Ouchtata type;
6. Single, rectangular segmented blades with sickle gloss; however they are unstandardized;
7. Single example of heat-treatment being used as intentional technological procedure.

Fig. 1. Tell el-Farkha. Tool types of Phase 1.

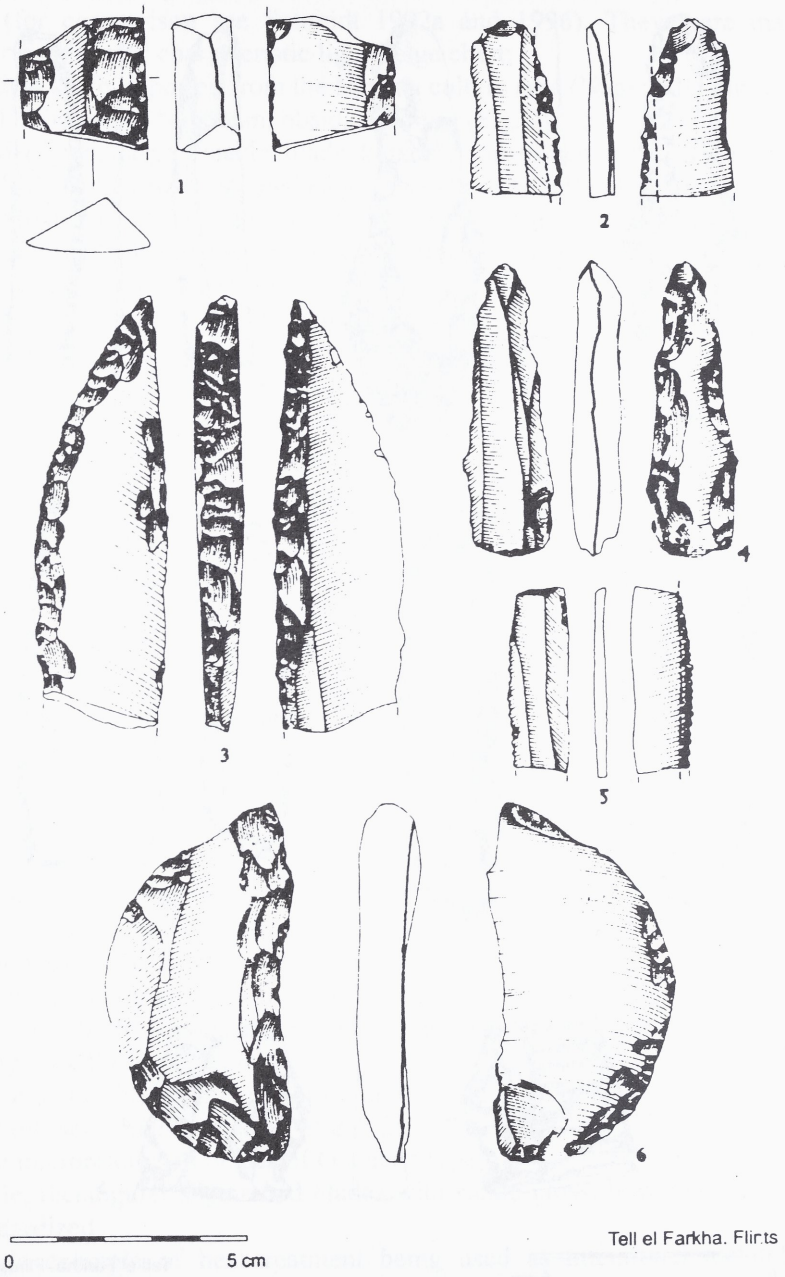

Fig. 2. Tell el-Farkha. Tool types of Phase 1 (1), 2 (2-4, 6) and 3 (5).

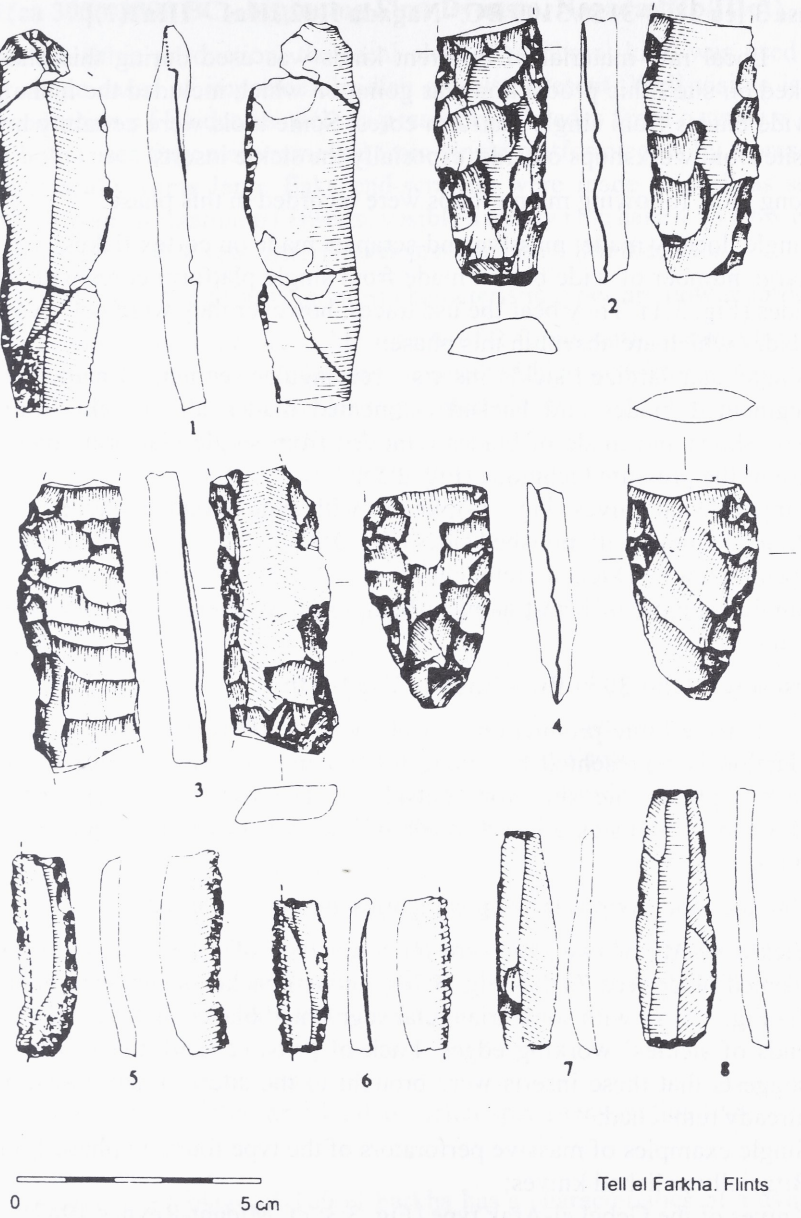

Fig. 3. Tell el-Farkha. Tool types of Phase 3 (1, 4) and 4 (5-8).

Phase 3 [ca 3200-3150/3100 BC - Nagada IId2/IIIa1 – IIIa2(?)]

Local raw material of different kinds was used during this phase. Well marked on-site lithic production was going on which included the manufacturing of wide blades from single platform cores. Some tools were certainly brought to the site from workshops outside, especially the sickle inserts.

Among tools following main groups were recorded in this phase:

1. Single, locally made, massive end-scrapers made on cortex flakes;
2. Large number of wide blades made from single platform cores with retouched sides (Fig. 3:1). They bear the use traces, however they were not used as sickle blades which are absent in this phase;
3. Single, standardized sickle inserts - rectangular segmented blades, triangular segmented blades and backed segmented blades all brought from outside workshops and made of blades removed from single platform cores with the use of the pressure technique (Fig. 2:5);
4. Large bifacial knives (Fig. 3:4); knives with edge retouch are rare;
5. Bifacial knives with polished sides (Fig. 3:2);
6. Specimen with Ouchtata retouch;
7. Single example of heat-treatment being used as intentional technological procedure.

Phase 4 (ca 3150-3050 BC - Nagada IIIa2-IIIb)

For the lithic production a local chert of different kind was used. On-site production is represented by single blade cores. However, most of specimens were brought to the site from outside workshops. These were mainly good quality knives and sickle inserts made of blades removed from cores by pressure technique.

Within the tool group following categories are now recorded:

1. Sickle inserts of two types are the main type of a tool: (a) rectangular segmented blades (ca 70 % - Fig. 3:7-8) and (b) backed segmented blades (ca 30 %- Fig. 3:5-6), with some triangular segmented blades that were inserted at the ends of sickles' working edges. Lack of proximal and distal parts of blades suggests that these inserts were brought to the site in ready-to-use form, i.e. already retouched;
2. Single examples of massive perforators of the type found in phase 1 and 2;
3. Bifacially polished knives;
4. Knives of the Gebel el-Arak type (Fig. 3:3; cf. Midant-Reynes 1987);
5. Bifacial knives - remarkable is an absolute lack of knives made with edge retouch - with narrow or wide tips (Fig. 4:1);
6. Heat-treatment.

Phase 5 (ca 3050-3000 BC - beginning First Dynasty, Nagada IIIb/IIIc1)

For the lithic production, the local chert of different kind was used but probably single cases of imported obsidian are also present. Well visible is the on-site production of blades as well as presence of blades from outside workshops; in both cases they were removed from single platform cores by a pressure technique. Locally some large flake end-scrapers were made as well as some knives. High standardization of inserts, visible already in phase 4 is now continued. Heat-treatment of raw material was practised on a limited scale.

Within the tool group the following, most characteristic types are now recorded:

1. The main type of tool are the sickle inserts of 2 forms with rectangular, segmented blades prevailing over backed, segmented blades (Fig. 4:2, 4-9), with only a limited presence of triangular segmented blades;
2. Single bracelets made of chert (Fig. 4:3);
3. Single massive perforators and end-scrapers;
4. Wide and narrow bifacial knives (Fig. 4:10; 5: 1-2, 4);
5. Single of knives made with edge retouch;
6. Imported obsidian bifacial knives (Fig. 5:3).

Phase 6 (ca 3000-2700 BC – second half of the 1st and 2nd Dynasty)

Artefacts are now made exclusively of a local raw material. This took place also on the site but was mainly done in workshops situated outside the site. Single examples of heat-treatment are observed. Production of wide blades removed from a single or opposite platform cores by the soft hammer technique is visible. However, the main way of debitage production become now the exploitation of single platform blade cores with the help of the pressure technique.

The main classes of tools typical for this phase are:

1. Sickle inserts of one type - rectangular segmented blades (Fig. 5:9), with some triangular segmented blades and a lack of backed segmented blades;
2. Numerous "razor blades", present at Tell el-Farkha only in this phase (Fig. 5:5; 6:1-2; for comparison see Schmidt 1992b);
3. Bifacial knives - mainly narrow ones (Fig. 6:3);
4. Small knives with edge retouch;
5. Massive perforators of the same kind as earlier specimens on this site.

Discussion

The lithic assemblage of Tell el-Farkha has a characteristics of a dynamic phenomenon. Some of the changes in the lithic production were quite rapid whereas other seem to had been more gradual. To the first group we certainly can include the disappearance of large "sickle blade knives". They were in use at Tell el-Farkha during the phase 1 and 2 only. Similar "sickle blade knives" were also

Fig. 4. Tell el-Farkha. Tool types of Phase 4 (1) and 5 (2-10).

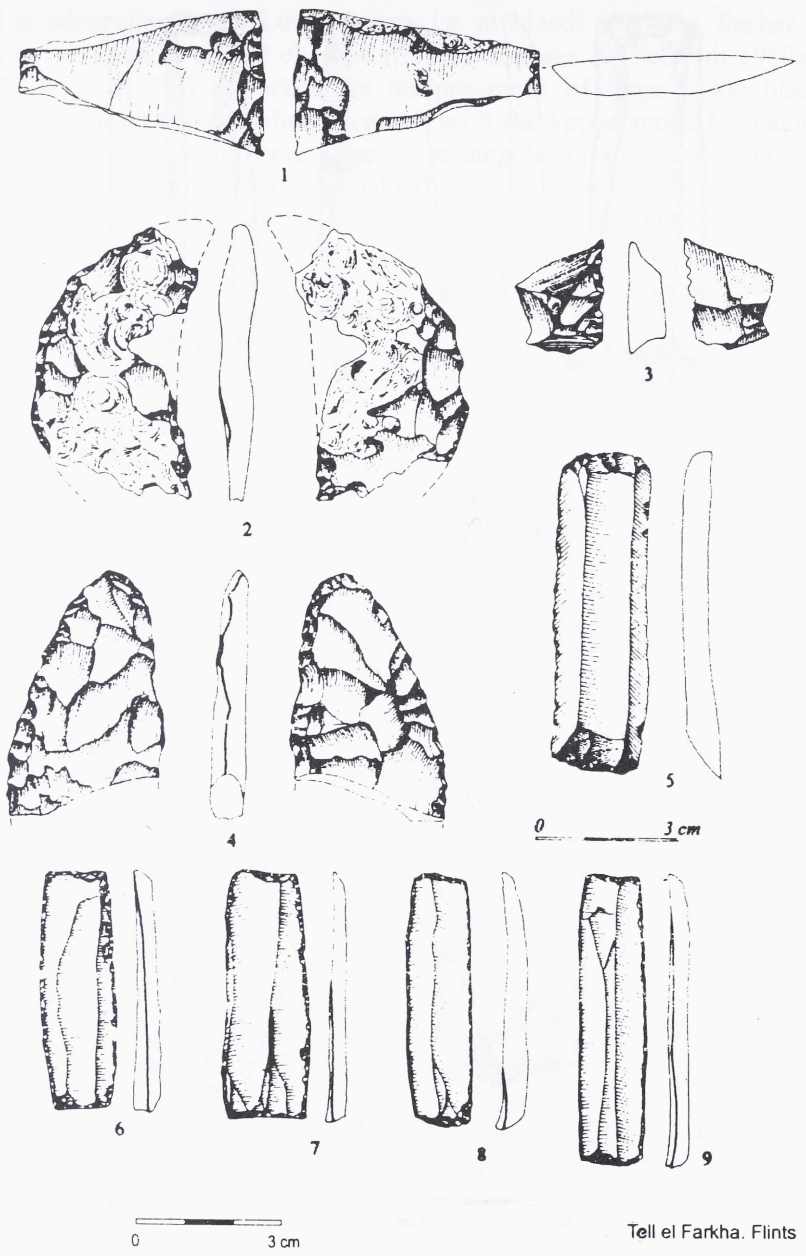

Fig. 5. Tell el-Farkha. Tool types of Phase 5 (3) and 6 (1-2, 4-9).

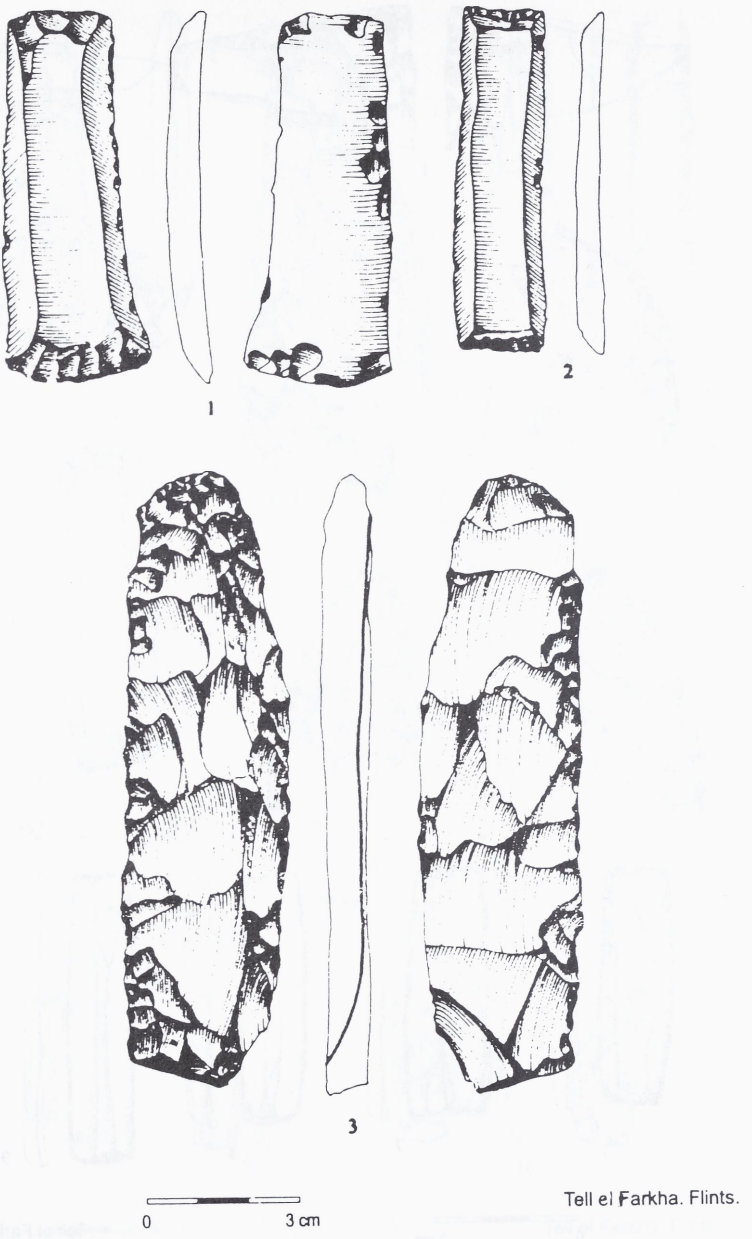

Fig. 6. Tell el-Farkha. Tool types of Phase 6.

found at other sites in the Lower Egypt, i.e. at Maadi (Rizkana, Seeher 1985: 249, Fig. 9:5) and at el-Tell el-Iswid (South) in phase A (Schmidt 1989a, Fig. 19:1-2, 4-5). At Tell el-Farkha the disappearance of large sickle blades is synchronized with another phenomenon – with the appearance of standardized sickle inserts in phase 3. These inserts – rectangular or sometimes triangular – were made of regular blades removed off the core by a pressure technique. A mass production of these inserts, visible from phase 3 took place in specialized workshops situated outside the site. It seems that the appearance of such workshops may reflect a basic change in the social and economic organization of the Tell el-Farkha social group correlated with the emergence of the Egyptian State. Similar phenomena and approximately in the same time period are recorded at different settlements in the Nile Delta, like Buto, from phase III (Schmidt 1993: 272f.; 1989b: 301f.), el-Tell el-Iswid (South), from the early Phase B (Schmidt 1992a: 34f.; 1992b: 82f.).

A gradual phenomenon was certainly the evolution of bifacial knives from phase 3 throughout the rest of the existence of the Tell el- Farkha settlement.

A special kind of finds represent are 2 fragments of obsidian knives, recorded in phase 1 and 5. Single artefacts made of obsidian are known from other Lower Egyptian sites, e.g. from el-Tell el-Iswid (South), phase A (Schmidt 1989a) or from a much later site of Kom El Hisn (Kobusiewicz 1997; Wenke et al. 1988). There is quite a number of potential places from which the obsidian could be imported to Egypt: few Eastern Mediterranean islands, different localities in Turkey, southern part of the Arabian Peninsula, Eritrea and Ethiopia, and Central Sahara (Tibesti Massif) (Bavay et al. 2000). To identify the source of obsidian a comparative geochemical studies need to be performed as it was done recently for Upper Egyptian specimens (Bavay et al. 2000). Results of this project point to Ethiopian, Eritrean or south Arabian Peninsula as a source of obsidian found in the Upper Egypt. Fragment of an obsidian knife from el-Tell el-Iswid (South) was analysed by E.Pernicka (1996): the place of origin of this find is suggested in Southern Anatolia. Fragment of the knive from phase 1 at Tell el-Farkha typologically reminds Nagadian knives from Upper Egypt (Nagada II). The Upper Egyptian origin of the Tell el-Farkha specimens of exchange seems to be the most obvious for the existence of well visible traces would be in line with Nagadian influences recorded in the Delta in this time period. However, only future geochemical analysis could shed light on the place of origin of our obsidian raw material.

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