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# Investigations into the archaeology of the Sitra-Hatiyet, Northwestern Egypt

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## Introduction

In order to complete the north-south transect through the Eastern Sahara (Kuper 1981; 1988) the University of Cologne project B.O.S. also investigated the Qattara-Siwa area in 1983 and 1985.

In 1975 and 1976 investigations had already been carried out by Fekri Hassan's Siwa Oasis Project (Hassan 1976) in the immediate surroundings of the Siwa Oasis, as well as in the neighboring oases of Gara, Ain Tibaghabagh and El Araq, southeast of Siwa (Fig. 1). The surface sites produced various stone artefacts, generally consisting of local chert and silicified limestone. Bone or plant remains were not preserved, but in three sites evident structures were present: two fire-places and a stone circle (Gross 1980; Hassan 1976). A series of radiocarbon dates from ostrich egg-shell fragments (Hassan and Gross 1987) made it possible to arrange the find inventories into two periods: the first one between 9,000 - 8,000 B.P., and second one around 6,800 - 5,000 B.P.

In 1983 B.O.S. archaeological survey set out from Siwa past El Araq along the lakes of Bahrein and Nuweimisa to Sitra (Fig. 1). Only a few eroded surface sites and no datable material were found (sites 83/1 - 8). The situation was only different in the immediate surroundings of the Sitra oasis and north of the Sitra-Lake, where intact and spatially differentiated sites were found. During a previous expedition in 1983 only two days were available to investigate two sites in this area (site 83/11 and site 83/12; Cziesla 1989). In spring 1985 this work was continued and in ten days, several new sites were surveyed intensively including geomorphological measurement and many large quantities of datable materials were found.

Preliminary investigations of the stone artefacts, and also a consideration of the 11 radiocarbon-dates so far available allow a first analysis of the successive occupations in the Sitra-Hatiyet area.

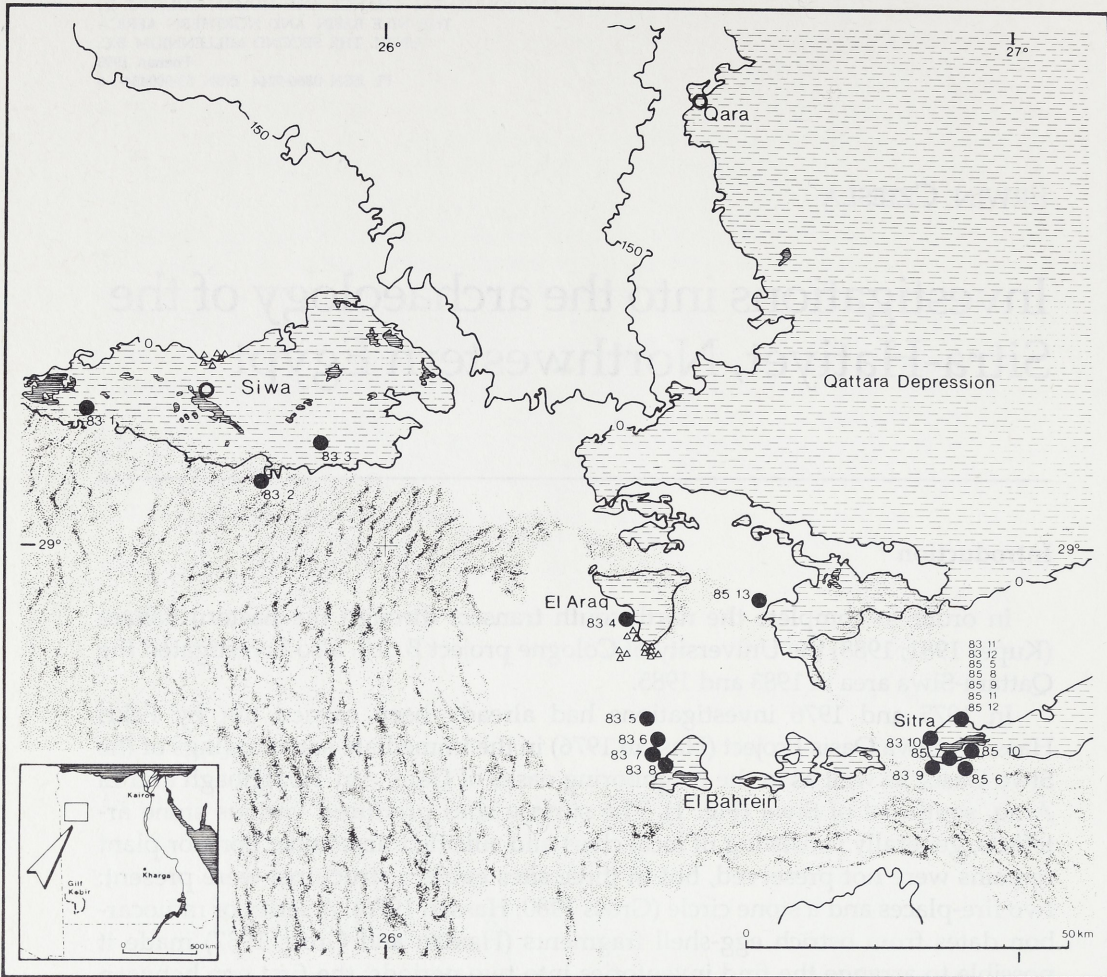


Fig. 1. Map of the Qattara/Siwa area with the geographical position of the sites of F.A. Hassan's Siwa Oasis Project (triangles) and those of the B.O.S.-sites (points with site-number).

### Archaeological sites north of Sitra-Lake

The oldest archaeological evidence comes from Site 85/08 in the Sitra-Hatiyet itself where several Middle Palaeolithic artefacts were washed into an area of a few square meters. Their tool characteristics are hardly recognizable. According to their form they are probably bifacially surface retouched thin artefacts, which were produced from a relatively soft raw material. One flint artefact was found, a Levallois flake with faceted butt, which was half-way between the depression and the present lake.

Not in the immediate surroundings of the depression, but on a small plateau west of it, some 50 microliths were found, which were washed into a shallow

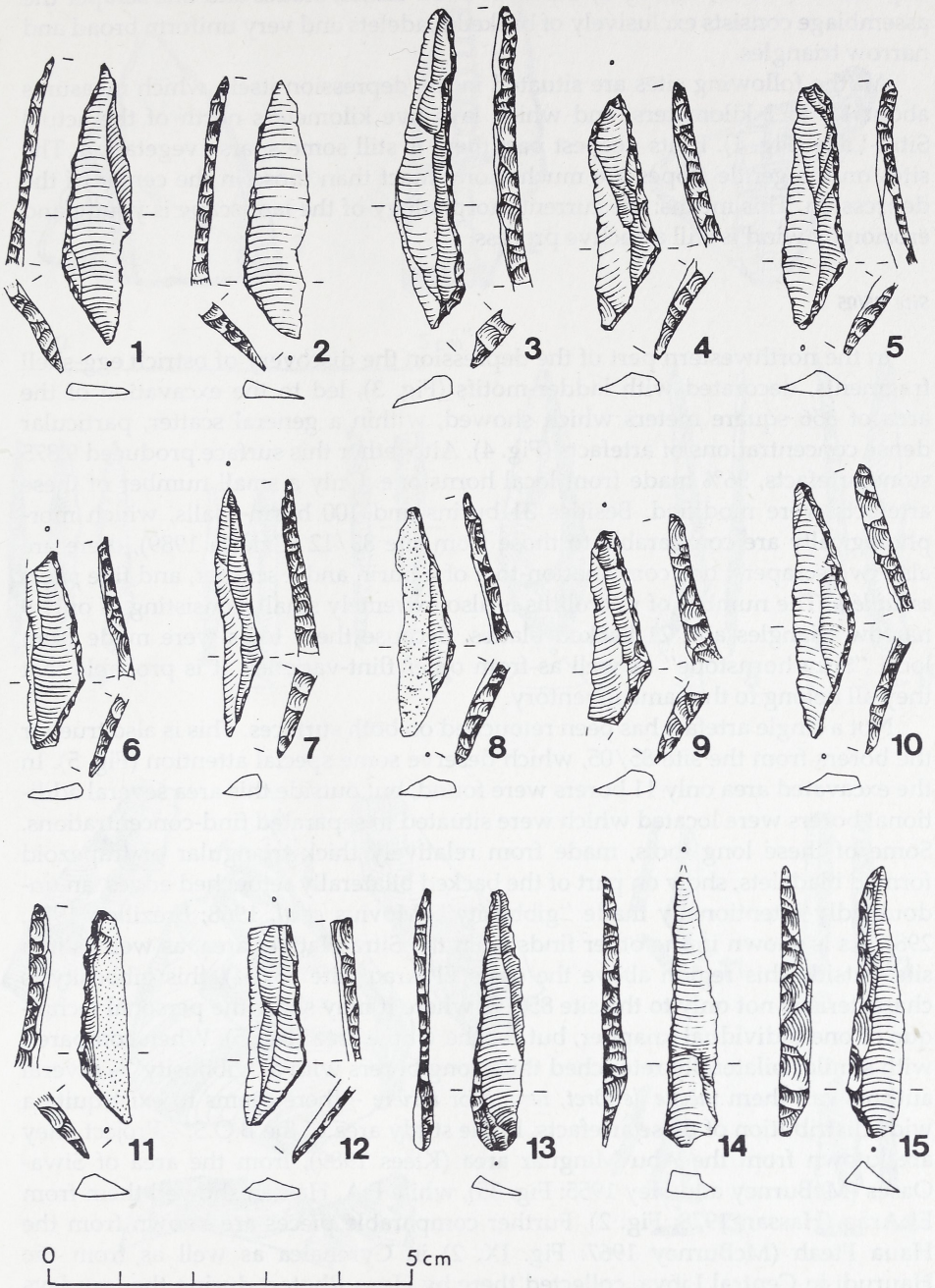


Fig. 2. Artefacts from site 85/11, west of Sitra-Hatyyet.

depression (site 85/11; Fig. 2). Apart of a few flakes, blades and one scraper the assemblage consists exclusively of backed bladelets and very uniform broad and narrow triangles.

All the following sites are situated in the depression itself, which measures about 1.5 to 2 kilometers, and which lays five kilometers north of the actual Sitra-Lake (Fig. 1). In its deepest part there is still some sparse vegetation. The sites on the gentle slopes are much more intact than those in the center of the depression. This means: the current morphology of the landscape is young and erosion by wind is still an active process.

#### Site 85/05

In the northwestern part of the depression the discovery of ostrich egg-shell fragments, decorated with ladder-motifs (Fig. 3), led to the excavation of the area of 356 square meters which showed, within a general scatter, particular dense concentrations of artefacts (Fig. 4). Altogether this surface produced 9,875 stone artefacts, 96% made from local hornstone. Only a small number of these artefacts were modified. Besides 31 burins and 100 burin-spalls, which morphologically are comparable to those from site 83/12 (Cziesla 1989), there are also two scrapers, one combination-tool of a burin and a scraper, and five *pièces esquillées*. The number of microliths is also extremely small, consisting of only 9 narrow triangles and 21 backed blades. Because these tools were made from local "Sitra-hornstone" as well as from other flint-varieties, it is probable that they all belong to the same inventory.

Not a single artefact has been retouched on both surfaces. This is also true for the borers from the site 85/05, which deserve some special attention (Fig. 5). In the excavated area only 11 borers were found, but outside this area several additional borers were located which were situated in separated find-concentrations. Some of these long tools, made from relatively thick triangular or trapezoid formed bladelets, show on part of the backed bilaterally retouched edges, an undoubtedly intentionally made "gibbosity" (Movius *et al.* 1968; Brézillon 1971: 298). As is shown in the other finds from the Sitra-Hatayet area, as well as in a site outside this region above the oasis El Araq (site 83/04), this gibbosity is characteristic not only to the site 85/05, where it may show the personal technique of one individual knapper, but for the whole area (Fig. 5). When compared with similar bilaterally retouched thick long borers with a "gibbosity" – several authors call them *mèche de forêt*, *taraud* or *tarière* – there seems to exist quite a wide distribution of these artefacts. In the study area of the B.O.S. – Project, they are known from the Abu Minguar area (Klees 1989), from the area of Siwa-Oases (McBurney and Hey 1955: Fig. 35), while F.A. Hassan showed them from El Araq (Hassan 1978: Fig. 2). Further comparable pieces are known from the Haua Fteah (McBurney 1967: Fig. IX, 2) in Cyrenaica as well as from the Haurudj in Central Libya, collected there by Hans Rhotert during the last days of World War II (Richter 1956). More to the west they are also known from sites in Tunisia (Redeyef; Vaufrey 1955: Fig. 72) and Algeria, especially from the

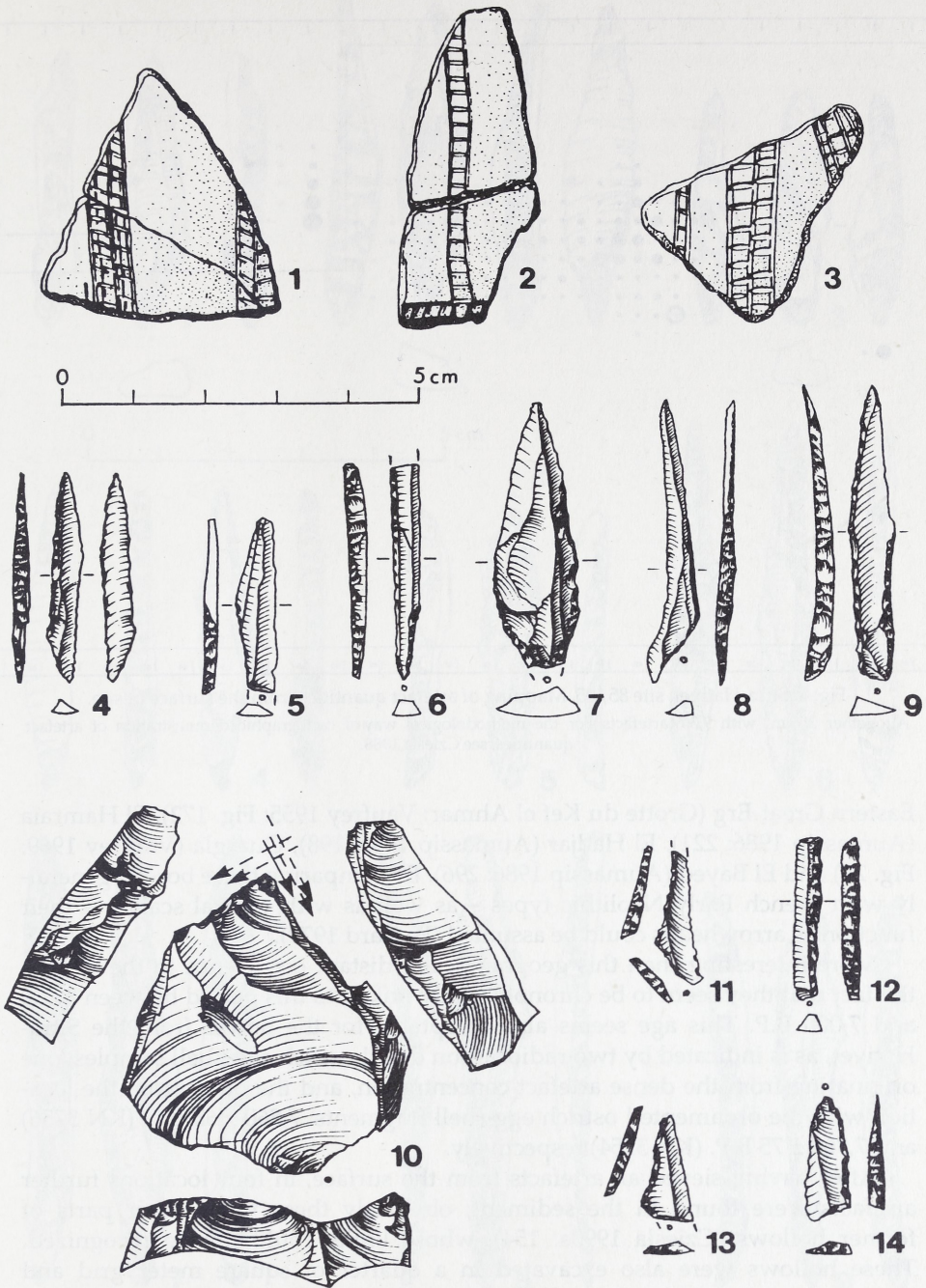


Fig. 3. Sitra-Hatiyet, site 85/05. Decorated ostrich-shells and stone-artefacts.

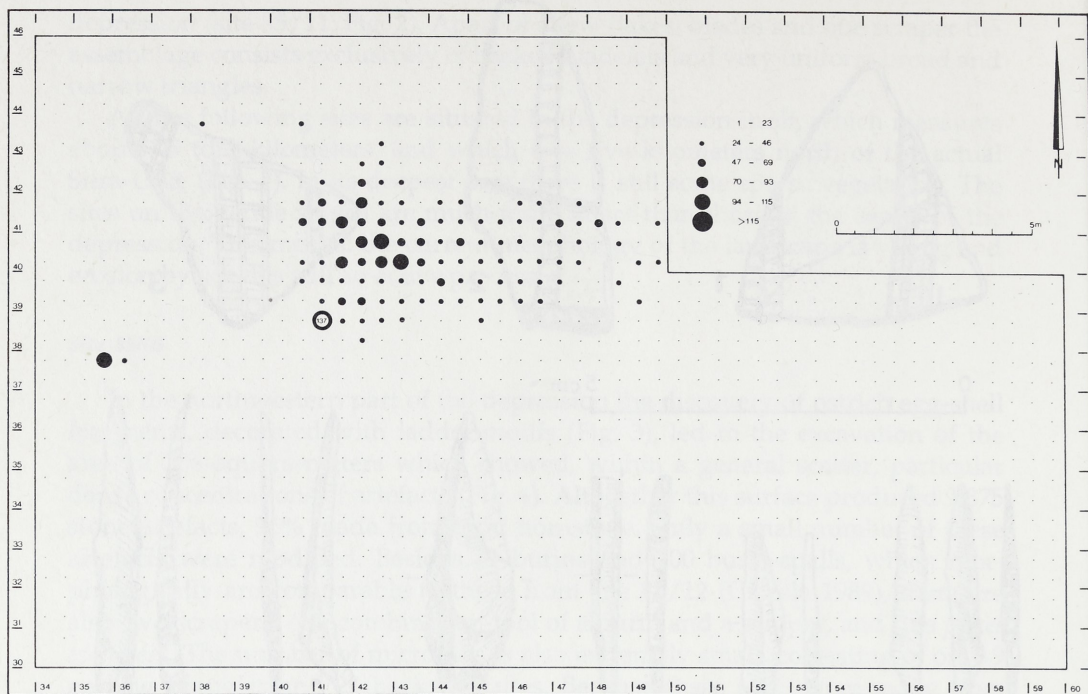


Fig. 4. Sitra-Hatijet, site 85/05. Mapping of artefact quantities from the surface of site.

Altogether 356 m<sup>2</sup> with 9,309 artefacts. For the methodological way of cartographic demonstration of artefact quantities, see Cziesla 1988.

Eastern Great-Erg (Grotte du Kef el Ahmar; Vaufrey 1955: Fig. 172), El Hamraia (Aumassip 1986: 221), El Hadjar (Aumassip 1986: 198), Ouargla (Vaufrey 1969: Fig. 22) and El Bayed (Aumassip 1986: 296). By comparing these borers, generally with French Early Neolithic types – as well as with ventral scaling – their function as arrowheads could be assumed (Paccard 1979).

More interesting than this geographically distant occurrence to the west is the fact that they seem to be chronologically linked to this period between 8,000 and 7,000 B.P. This age seems also acceptable for the borers from the Sitra-Hatijet, as is indicated by two radiocarbon dated ostrich egg-shell samples, one originating from the dense artefact concentration, and the other from the location with the ornamented ostrich egg-shell fragments: 7,860 ± 65 B.P. (KN 3756) and 7,760 ± 75 B.P. (KN 3754) respectively.

After having sieved all artefacts from the surface, in four locations further artefacts were found in the sediment; obviously these were lower parts of former hollows (Cziesla 1990a: 154), whose limits could not be recognized. These hollows were also excavated in a quarter of square meter grid and produced maximally 2,368 artefacts per quarter square, vertically distributed in the sediment up to 15 cm below the present surface. Due to post-depositional processes the artefacts in the hollows have lowered their original position so



Fig. 5. Sitra-Hatyyet. 1 - 3, 7: borers from site 85/05; 6: borer from site 83/11.  
Comparable tools. 4: El Araq, site 83/04; 5: Abu Minquar-area, site 81/55 - 5; 8 - 9: Haurudj in Libya.

that an elliptical distribution on the present surface was noted (Fig. 4). From an area of twelve square meters a total number of 13,593 artefacts were collected, which were exclusively made from greyish-blue Sitra-hornstone. This collection of artefacts has an unusual type composition: except for one burin and two burin-spalls only *débitage* was found, which includes 88 core tablets, 21 crested blades and only 5 residual cores. Undoubtedly in this location there has been a systematic and large primary artefact-production. Negative evidence suggests that this production was for blades with a length up to sixteen centimeters.

Table 1

Site 85/05. All artefacts from surface and from hollows.

Artefacts	Cores	Core tablets	Crested blades	Chips	Total
Artefacts from surface	43	176	99	148	9,875
Artefacts from hollows	5	88	21	9,309	13,593
Total	48	264	120	9,457	23,468

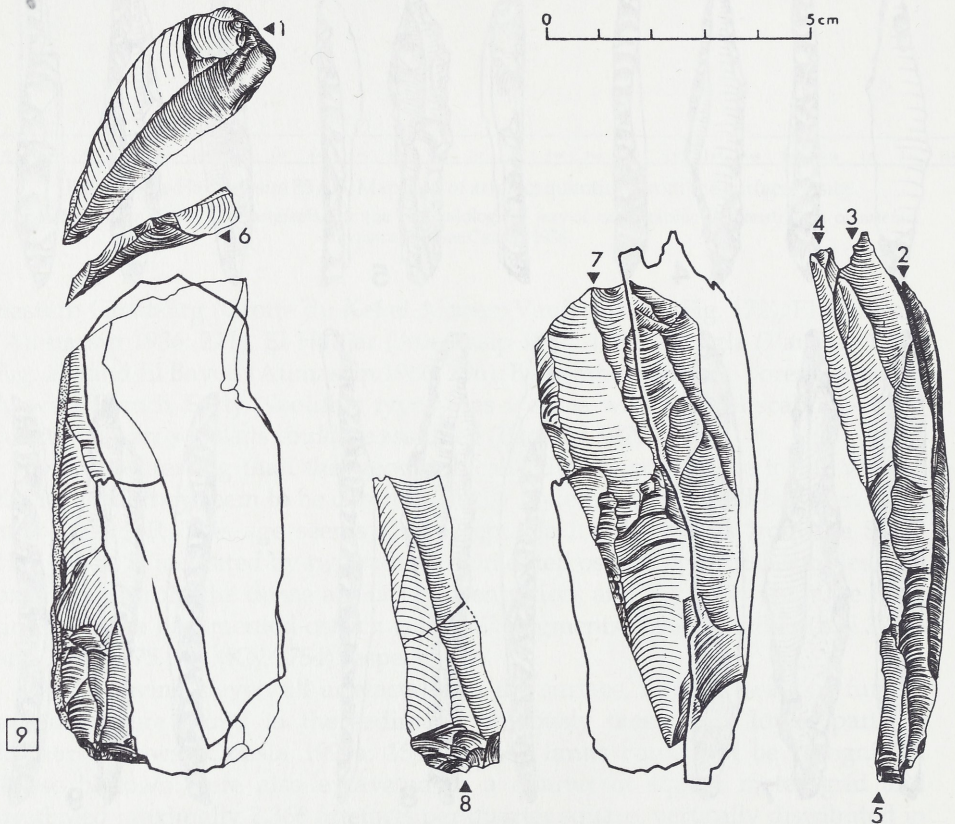


Fig. 6. Sitra-Hatyyet, site 85/05. Refitted core showing the high skilled technique of blade-production with platform preparation by using core-tablets.



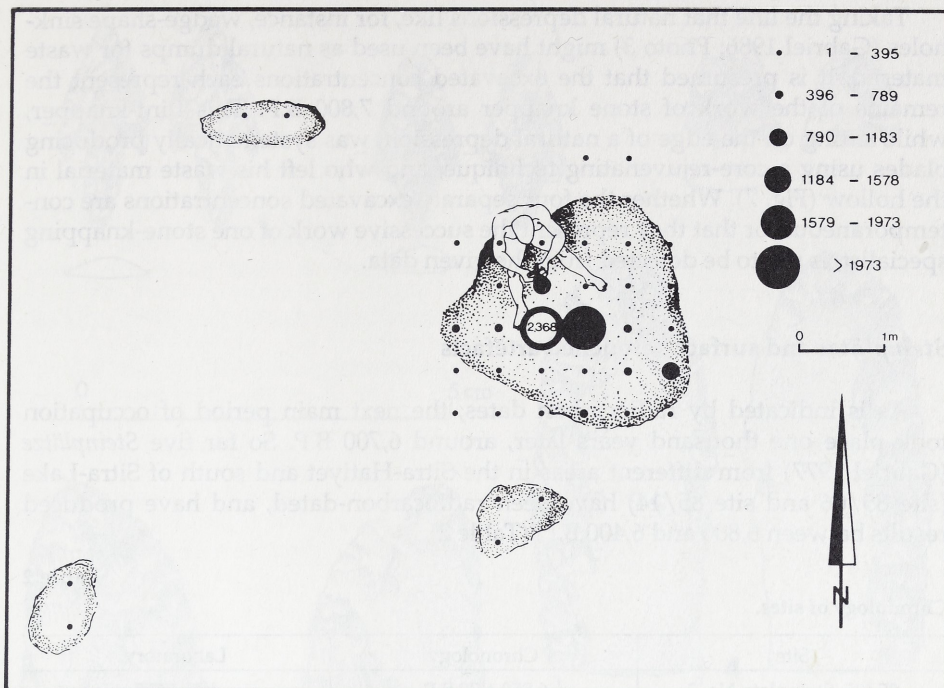


Fig. 7. Mapping of artefact quantities from the pits, combined with interpretation of a sitting flint-knapper at the edge of a proposed former sink-hole.

The figure of the sitting flint-knapper is taken from Weiner (1990).

A small sample of the artefacts allowed core reconstruction, which has made possible to analyse stone working technology as well as to test the state of various interpretations (Cziesla 1990c: 279 - 333).

The number of core rejuvenating flakes is considered high as compared to the number of crested-blades (Table 1). This suggests a highly skilled preparation-technique, which is supported by the occurrence of series of fitting core tablets. The sequence which was obtained by refitting demonstrates that after the production of each half a dozen blades the core platform was rejuvenated by removing a flake (Fig. 6). *Fractures en nacelle* indicate that the punch-technique was performed to remove blades from a core (Eloy 1975; Weiner 1990), this is also shown by the platform preparation by removing flakes. As such a preparation is extremely wasteful of the raw material, and as each preparation will cause the next series to be approximately half a centimeter shorter blades (Ophoven 1943), the raw material must have been readily available, and the length of blades not an important criterion, as can be seen by the dimensions of the smaller residual-cores.

It was also established by refitting artefacts from the hollows that each series of artefacts originated from the same concentration, and thus that the four excavated concentrations in hollows each represent a separate activity area.

Taking the line that natural depressions like, for instance, wedge-shape sink-holes (Gabriel 1986: Photo 3) might have been used as natural dumps for waste material, it is presumed that the excavated concentrations each represent the remains of the work of stone knapper around 7,800 B.P. This flint-knapper, while sitting on the edge of a natural depression, was systematically producing blades using a core-rejuvenating technique, and who left his waste material in the hollow (Fig. 7). Whether the four separate excavated concentrations are contemporaneous, or that they represent the successive work of one stone-knapping specialist, is not to be detected from the given data.

### *Steinplätze* and surface-retouched artefacts

As is indicated by radiocarbon dates, the next main period of occupation took place one thousand years later, around 6,700 B.P. So far five *Steinplätze* (Gabriel 1977) from different areas in the Sitra-Hatijet and south of Sitra-Lake (site 85/06 and site 85/14) have been radiocarbon-dated, and have produced results between 6,800 and 6,400 B.P. (Table 2).

Table 2

#### Chronology of sites.

Site	Chronology	Laboratory
85/05 Steinplatz No. 2	6,850 ± 70 B.P.	KN 3555
83/12 Steinplatz No. 2	6,840 ± 65 B.P.	KN 3223
85/05 Steinplatz No. 3	6,760 ± 70 B.P.	KN 3727
85/06 Steinplatz No. 1	6,760 ± 65 B.P.	KN 3857
85/14 Steinplatz No. 1	6,670 ± 65 B.P.	KN 3785

Table 3

#### Chronology of the youngest sites.

Site	Chronology	Laboratory
85/12 Steinplatz No. 1	6,420 ± 65 B.P.	KN 3799
83/11 Steinplatz No. 2	6,290 ± 65 B.P.	KN 3222
83/11 Steinplatz No. 3	5,940 ± 60 B.P.	KN 3589

With these *Steinplätze* a few generally rarely occurring surface-retouched artefacts were found (Fig. 7). A definite association is not sure, as all *Steinplätze* were completely lacking in archaeological finds. It is probable that those who created these sites, were not primarily concerned with the production of stone tools, like their predecessors: the surface-retouched tools are not made from the previously frequently used Sitra-hornstone, and there are no known sites with a débitage which suggests a local production of surface-retouched tools from tabular flint.

There is still a question whether the arrow-heads (Fig. 8) are to be seen as part of these assemblages or not. Additional dates from two more *Steinplätze*, around 6,000 B.P. (Table 3), perhaps may also date the arrow-heads.

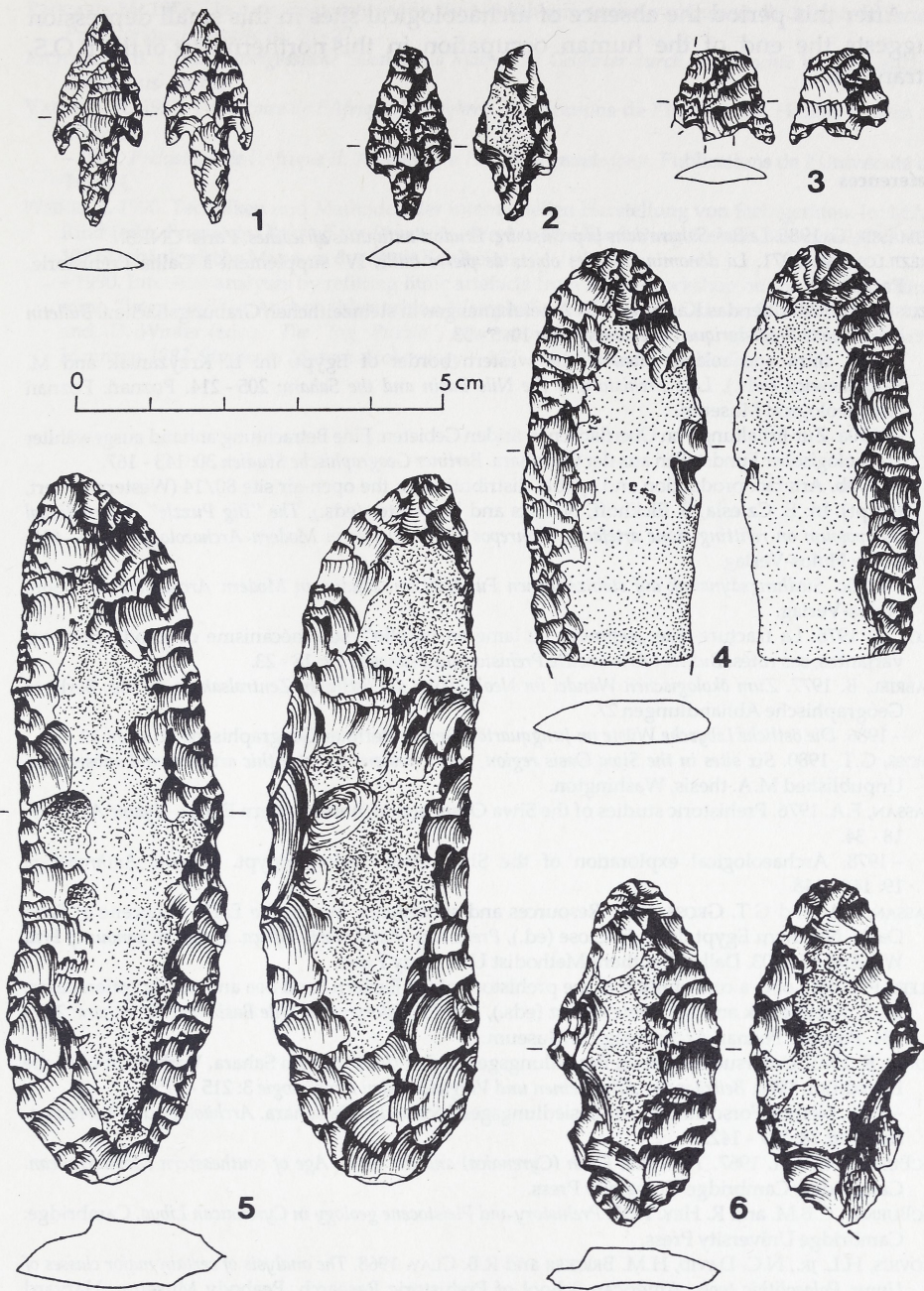


Fig. 8. Sitra-Hatyyet, north of Sitra Lake. Surface retouched artefacts and arrow-heads.

After this period the absence of archaeological sites in this small depression suggests the end of the human occupation in this northern part of the B.O.S. – transect.

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