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Sheikh/Bir El Obeiyid: Evidence of Sedentism in the Northern Farafra Depression (Western Desert, Egypt)

Introduction

The Western Desert experienced a long severe dry period in the upper Pleistocene, at the end of MIS 5 (>70,000 bp), which only ended with the return of humid conditions at the beginning of the Holocene, around 10,000 radiocarbon years bp. At that point the areas which had long been unpopulated once more saw the presence of hunter-gatherer groups. These groups were armed with microliths and they lay in wait near to the numerous water collection basins for those animals that had adapted to the arid climate and environment (gazelle, hares, *Ammotragus*).

In the Farafra Oasis this phase has been dated to the first half of the tenth millennium bp (uncalibrated 9650 ± 190 at Ain Raml) and extended to 8000 bp. There is also evidence both from Farafra, and other Western Desert locations as well, that after that date (during the Middle Holocene) a particularly stable occupation model was established, which was based on the exploitation of spontaneous grasses. For a long time it was thought that in a basically arid regime, the presence of water basins could be the factor that made these places particularly attractive. In addition, accepting the assumption that the region had a monsoon climate, it has been proposed that occupation took place particularly during the arid months of the year. Instead, the latest data show the area as subject to a double regime: as well as the tropical monsoon, from the beginning of the Holocene a flow of humid air came down from the Mediterranean and would

have also brought winter rains (Arz *et al.* 2003). This phenomenon was already noted by Neumann (1993). In this way the area would have benefited from a rather favourable climate, with a double rainy season and the subsequent raising of the water basin, thus favouring gathering of spontaneous plant species and herding domestic animals. Availability of water throughout the year would have also favoured the rise of semi-sedentary settlements.

In the Farafra depression this situation has been fully illustrated by settlement units found in the northern area of the oasis. From 7200 to 6000 radiocarbon years bp this region was subject to repeated occupations in close succession, causing settlement clusters to be formed around the temporary lakes (Bahr Playa, Hidden Valley Playa). There are clear structural elements such as limestone-lined huts, large hearths re-used by several groups and successive generations, pits and pot-holes. The economy was unquestionably based on plant exploitation: 30 taxa were identified by examining charred remains from hearths in the Hidden Valley, and showed a broad prevalence of *Sorghum* (Barich 2004a; Lucarini 2006a; Lucarini 2006b). Gathering was integrated with hunting and sheep/goat raising which, on the basis of C14 dating, can be considered among the earliest evidence for this in the Western Desert (and also across North Africa) (Barich and Lucarini 2005).

The model reconstructed for the Hidden Valley horizon can be compared with the Dakhla Oasis and with the more southern Nabta Playa region (McDonald 2002; Wendorf *et al.* 2001). In both cases the most recent research has shown that throughout the Middle Holocene there was a tendency to have a greater impact on the territory, with sites developing within the basins and reaching very large dimensions (see E-91-1 at Nabta, or Site 270 at Dakhla). This occupation model led to the formation of foragers-herders contexts (Nabta/Al Jerar; late Bashendi A at Dakhla) which were strongly rooted within the oases (Barich 2008a). This seems to be the beginning of a true process of Neolithisation.

It seems plausible that the architectural transformation which can be seen in the settlements also led to a social transformation (McDonald 2009). If it is true that the Early Holocene hunter-gatherers of the central Sahara showed early signs of a significant level of sedentism and economic complexity (Barich 2002, 2008b), the Egyptian oases region can illustrate a further development of this model. The presence of large sites with dwellings that used multiple rows of stone slabs, such as those found in the Farafra and Dakhla oases and the recent Kharga examples (McDonald 2009) indicate the presence of a well-settled population in the region for a good part of the Middle Holocene.

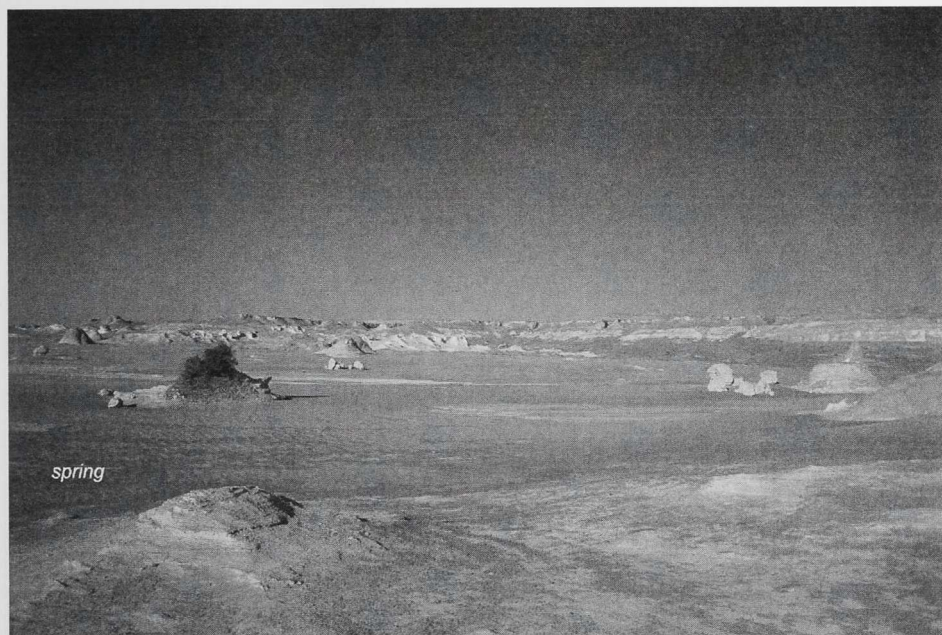


Fig. 1. Bir el Obeiyid Playa (Farafra Oasis). General view of the basin with the perennial spring on the left.

This situation was further confirmed during the recent extension of the survey work and excavations a little further to the north-west of the Hidden Valley area. Here a large occupation area was discovered containing the most elaborate dwellings known so far. This new area is found on the slopes of the Northern Farafra Plateau, about 20 km west of the Hidden Valley. Its landscape is dominated by a large playa (Bir el Obeiyid Playa) that was once fed by a spring (Fig. 1) which lay in the lowest point of the Wadi el Obeiyid, and also by erosion surfaces where the plateau progressively slopes down towards the wadi. Here one of the most characteristic formations is a conical-shaped hill, surmounted by a tower karst, which is locally known as Shakhs el Obeiyid.

The presence of the spring made this area an irresistible attraction in various periods, as seen in the Early Stone Age and Middle Stone Age artefacts collected from the top of the Pleistocene terraces, which were identified at the base of the plateau. This identification provides a precise stratigraphic context to the ESA and MSA materials for the first time, although they had already been noticed in several areas of the depression during previous excavation seasons. About 20 datings are currently available and reveal a long period of human presence and occupation throughout the area during the Holocene (Table 1).

Table 1. Sheikh/Bir el Obeiyid (Farafra Oasis). Complete list of 14C datings

Area	Feature	Material	Lab.	14C Age	Calibrated
				[bp]	[BC - AD]
Bir el Obeiyid Playa	Hearth 56	Charcoal	Gd-30181	9420±230	9380 - 8205 BC*
Sheikh el Obeiyid Valley 1	Surface western side	Ostrich egg shell	Gd-11648	7755±60	6639 - 6503 BC**
Sheikh el Obeiyid Valley 1	Hearth 3	Charcoal	Gd-19101	7530±120	6633 - 6204 BC*
Bir el Obeiyid Playa	Hearth 3	Charcoal	Gd-30185	7250±270	6650 - 5630 BC*
Bir el Obeiyid Playa		Ostrich egg shell	GdA-1192	7160±40	6091 - 5981 BC*
Sheikh el Obeiyid circular features	Feature 2	Charcoal	Gd-11990	7000±70	6005 - 5740 BC*
Sheikh el Obeiyid circular features	Feature 2	Charcoal	GdS-786	6895±40	5885 - 5710 BC*
Bir el Obeiyid Playa	Hearth 5	Charcoal	GdA-1403	6880±45	5850 - 5665 BC*
Sheikh el Obeiyid circular features	Feature 2	Charcoal	Gd-30172	6820±130	5985 - 5520 BC*
Bir el Obeiyid Playa	Hearth 7	Charcoal	Gd-11991	6760±40	5730 - 5620 BC*
Bir el Obeiyid Playa	Hearth 5	Charcoal	Gd-19209	6350±85	5485 - 5205 BC*
Bir el Obeiyid Playa	Hearth 1	Charcoal	Gd-19106	6330±110	5490 - 5020 BC*
Sheikh el Obeiyid Valley 1	Hearth 8	Charcoal	GdS-561	6320±60	5472 - 5206 BC*
Sheikh el Obeiyid Valley 1	Feature 1 - Hearth 2	Charcoal	GdA-1188	6300±40	5365 - 5212 BC*
Sheikh el Obeiyid Valley 1	Hearth 7	Charcoal	GdA-1189	6280±40	5360 - 5207 BC*
Sheikh el Obeiyid Valley 1	Hearth 24	Charcoal	GdA-1193	6260±40	5320 - 5205 BC*
Sheikh el Obeiyid Valley 1		Charcoal	GdA-375	6170±40	5280 - 4990 BC**
Bir el Obeiyid Playa	Test Pit 9	Charcoal	GdA-1191	6170±35	5218 - 5011 BC*
Sheikh el Obeiyid Valley 3	Hearth 133	Charcoal	GdS-559	5790±50	4778 - 4521 BC*
Sheikh el Obeiyid Valley 1	Hearth 9	Charcoal	Gd-19103	5600±90	4624 - 4322 BC*
Sheikh el Obeiyid Valley 1	Feature 1 - Hearth 1	Charcoal	GdS-560	5360±60	4332 - 4047 BC*
Sheikh el Obeiyid Valley 2		Charcoal	Gd-12622	4010±80	2900 - 2250 BC**
Sheikh el Obeiyid Cave	Areas 1-3-4	Rope	GdA-1190	1520±35	432 - 611 AD*
Sheikh el Obeiyid Cave	Area 5	Charcoal	Gd-19102	1220±60	668 - 900 AD*

* Calibration curve IntCAL04, (Reimer et al., 2004); Programme used for calculation: OxCal v4.0.5 Bronk Ramsey (2007)

** Atmospheric data from Stuiver et al. (1998); Programme used for calculation: OxCal v3.9 Bronk Ramsey (2003)

Geomorphological interpretation

The exposed bedrock at Sheikh el Obeiyid is made up of the Upper Cretaceous/Lower Eocene succession, which is widely found throughout the Farafra Oasis. It is clearly seen along the scarp faces and plateau surfaces. The succession is dominated by many lithologic varieties, including chalk, limestone, dolostone, shale, mudstone and sandstone with various micro- and macrofossil assemblages. It has an exposed thickness in the range of 250 m. This succession is marked by five well-defined formations: Khoman, Dakhla, Tarawan, Ain Dalla and Farafra, in that order from the bottom up.

Figure 2 is a north-south geological cross section showing the exposed bedrock, the main geomorphological units, and the distribution of different Pleistocene and Holocene sediments. The morphology of the Sheikh el Obeiyid area is mainly determined by several erosion surfaces, which were highly affected by karstic processes. This area can be subdivided into three main geomorphic units: the plateau, the main scarp and the depression.

The plateau area is characterized by the existence of several karstic landforms, such as mature and degraded conkarst, neiplain karst as well as several dolines of different sizes.

The main scarp of the Sheikh el Obeiyid area is about 80m high, and is 235 m asl at its highest point. It is mostly formed of Ain Dalla, Tarawan and Dakhla formations. The shape of the scarp face is mainly determined by the lithology of the exposed rocks and includes a cave in the limestone of Ain Dalla formation.

The part of the depression in the research area is the floor of the Wadi el Obeiyid which reaches an elevation of 70-90 m asl. It exhibits several karstic landforms such as interfluves, tower karsts, inselbergs, as well as playa lakes and phytogenic dunes; among these, the Bir el Obeiyid Playa is of great importance.

Field investigations at Sheikh el Obeiyid have revealed the existence of three generations of playa lake sediments, which are found at different elevations and date back to the Middle Stone Age and to the Early to Middle Holocene. An ancient playa was recorded that related to Middle Stone Age artefacts. An approximately 1.5 m thick section was recorded at an elevation of ca. 105 m asl. The playa sediments are composed of thin laminated calcareous playa sands, together with shore and near shore gravel of that playa, intercalated with massive grey silt indicating deep water conditions.

With regard to the two younger playas, the first sediments were exposed on the northern part of the basin at an elevation of up to 83 m asl, and correspond to the Early Holocene occupation. They can probably be associated with the 9000

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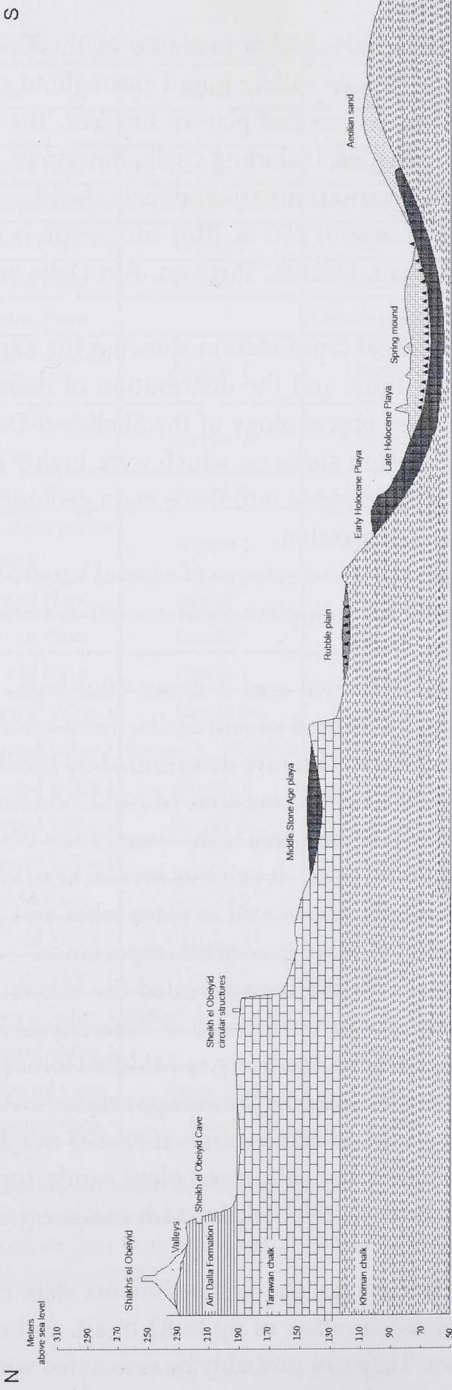


Fig. 2. Sheikh/Bir el Obeiyd (Farafra Oasis). Geological cross section of the area showing the main geomorphological units and the archaeological evidences.

bp dating obtained from one of the surface hearths. The sediments of the second playa are exposed in the central area of the basin, at an elevation of 70 m asl, and could be related to the Middle Holocene occupation. The contact area of the two playas shows evidence of an arid and probably cold period as indicated by the existence of thermoclastic rubbles and aeolian sand accumulation.

The Shakhs el Obeiyid settlement system

Around the Shakhs el Obeiyid hill, the erosion surface of the main plateau scarp contains several small communicating piedmont basins (that we have called “valleys”). It is likely that in the past these were filled by small pools or temporary water deposits when it rained, thereby attracting people and animals. After some initial explorations (in 1999 and 2001), the area became the subject of systematic investigation from the 2006 season onwards, during which five distinct “valleys” were identified. They proved to have in common plentiful anthropic remains, hearths and rich stone assemblages, apparently from different cultural horizons.

The 2006 fieldwork campaign focused on the plateau scarp’s second and third erosion surfaces, surveying the entire area with digital techniques and producing three-dimensional models of the valleys, into which all the archaeological data were entered. An intensive fieldwork was carried out in Valley 1, which is discussed in the following section. Valley 1 is located on the third erosion level, not far from the above-mentioned Shakhs el Obeiyid karstic hill. This must have been an important territorial marker for groups moving into the area, thanks to its particular form and its position, as it is clearly visible even from the bottom of the Wadi el Obeiyid. A preliminary survey also looked at the other nearby valleys – Valleys 2, 3, 4 and 5 – and these will be the subject of future research. Occupation traces were found everywhere: numerous hearths, often associated with stone tools, grinding stones, ostrich egg shell sherds and a small number of ceramic fragments. In some cases, various alabaster formations were noted along the outer edges of the valleys. These were possible quarries, as shown in the frequent association with large hammerstones, pointing at an intentional exploitation of this raw material probably during Pharaonic or Roman times.

The discovery of a complex of 29 structures on the outer edge of the plateau’s second erosion surface was particularly important; the structures were oval or circular in plan and had diameters ranging from 3-7 metres (Fig. 3). They were surrounded by large rings of limestone slabs, placed in an upright position within the deposit or standing directly on the bedrock, where the slabs had been quarried from. The outer ring was made up of several rows of overlapping slabs. The structures were located



Fig. 3. Sheikh el Obeiyid (Farafra Oasis), second erosion surface of the plateau. Aerial view of two circular features.

at short distances from each other, and generally speaking formed two broad clusters: one aligned along the edge of the terrace that gave onto the Wadi el Obeiyid and the other slightly behind to the north. In both cases they faced east.

The structures excavated so far contained sediments with ash and charcoal in it, which have confirmed their function as dwellings, despite their position on the edge of the terrace where they would have been strongly exposed to the south wind. Furthermore since the marshy environment of the playa located immediately below could not have been an encouraging settlement during the wet season, the area of the circular features could have offered a good living alternative. All datings obtained from Feature 2 are around 7000-6800 bp (Table 1).

Analysis of the material from within the structures, or concentrations associated with them, confirms their use as living domestic spaces. Most of the tools, such as foliate scrapers, denticulates and notched tools, were designed for scraping activities. In addition, borers, points, bifacial knives, gouges and other debitage materials were also found. Tools were manufactured from different raw materials; the most commonly used was chert. Chert is available as nodules and bands in the Eocene Farafra limestone that is exposed at the top of the plateau, or as boulders and gravels at the bottom of the basin. Artefacts manufactured in silcret and silicified mudstone are present as well even if in lower percentages. Grinding equipment and abundant ostrich egg shell sherds were also present, and an area for manufacturing ostrich eggshell beads was detected outside one of the stone

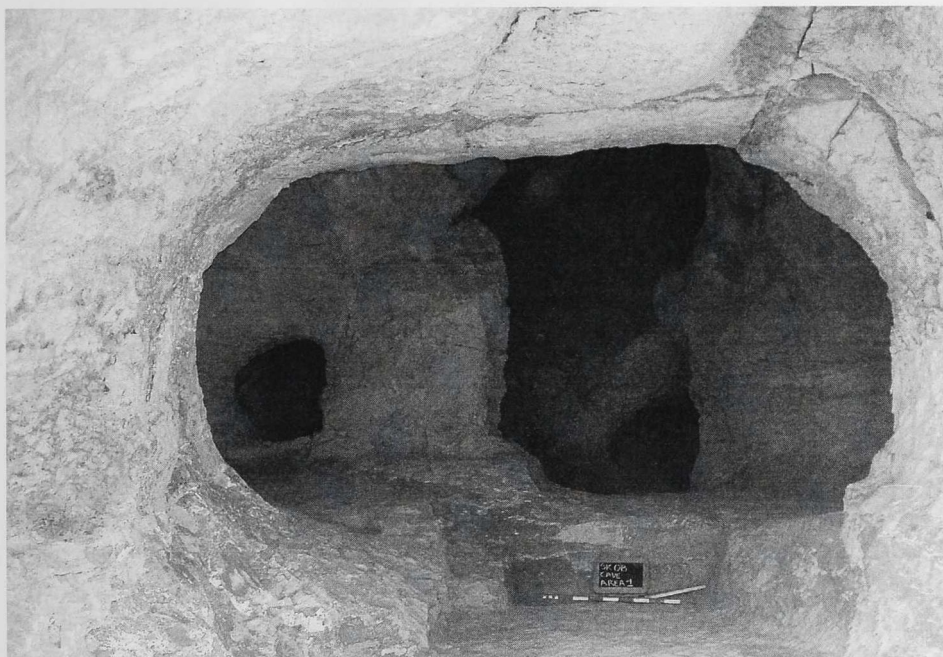


Fig. 4. Sheikh el Obeiyid Cave (Farafra Oasis). View of the entrance.

structures. A large hearth (4 m in diameter) at the edge of the terrace can be directly associated with the structures; it was in an extremely visible position, both from the top of the plateau as well as from the bottom of the wadi. Considering its position, it is likely that it was used as a night land marker.

Finally, a small karstic cave (Fig. 4), located on the slope between the second and the third erosion surfaces and looking onto the Bir el Obeiyid, was surveyed and completely exposed. The sub-oval entrance to the cave had been artificially widened, regularising the natural opening as can be deduced from the marks left by metal tools. The first room was irregular and sub-circular, and is the largest room of the whole complex; two narrow corridors leave it to the north and the west.

The anthropic deposit of the cave was mostly made up of aeolian sands and yielded a quite rich ethnographic complex of pottery sherds, wooden tools and containers in leather and pumpkin. Several stone tools were also found which testify to the use of the cave from at least the Middle Holocene. These findings suggest a connection to recent pastoral groups moving within the northern oases (Farafra, Bahariya, Siwa) in search of water supplies.

The dates obtained so far for the occupation of the plateau escarpment indicate that it was frequented for a long period in the Holocene (Table 1). Eight dates fall

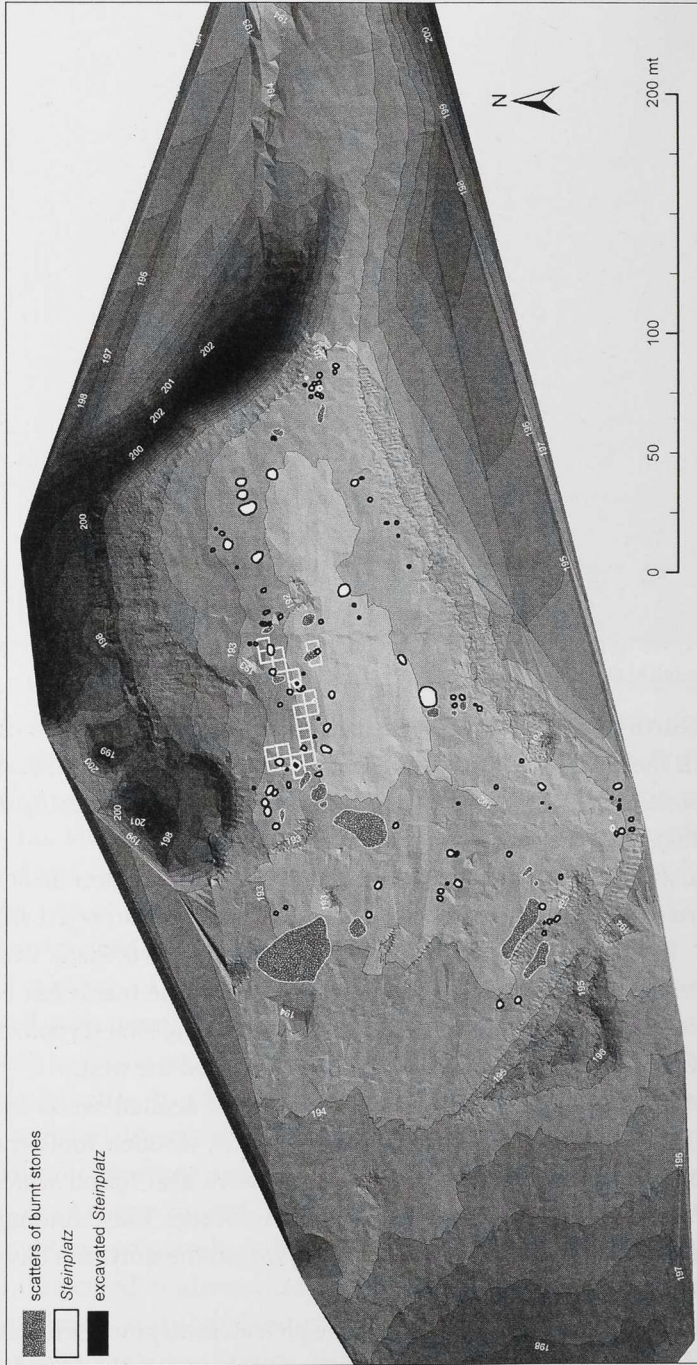


Fig. 5. Sheikh el Obeiyid Valley 1 (Farafra Oasis). Archaeological features and collection area (white grid) superimposed on DEM.

within the seventh millennium bp which is therefore the period of most intense occupation. The oldest evidence can be placed in the eighth millennium with two dates, while the cave's occupation can be placed in a historic period.

Valley 1 – The survey and the hearths

A systematic survey was carried out in Valley 1, on the third erosion level, at the foot of the imposing sand hill which gives the area its name. The valley is a shallow depression, covering an area of about 8 ha, delimited towards the north and north-east by a ridge 8 meters high. The surface was covered by a large number of finds: 120 identifiable hearths, 22 scatters of stones derived from eroded hearths and many clusters of lithic artefacts.

The entire area has been surveyed with digital survey techniques: all the hearths, stone scatters and grinding stones were mapped, while lithic artefacts and ostrich egg shell sherds were mapped and collected only in a roughly 700 m² sample area on the north side of the valley. Within this area over 1,000 lithic artefacts were collected. The 120 hearths identified and recorded throughout the valley are all of the *Steinplatz*-type (Gabriel 1977, 1984): they appear on the surface as scatters of pebbles or fragments of fire-cracked rocks partially covered by the aeolian sand, forming small mounds (Caton-Thompson (1952) named them *hearth-mounds*). Their shape depends on the degree of preservation: they range from small concentrations of stones, scarcely visible on the surface, to large mounds of stones mixed with charcoal, up to wider flat scatters of fire-cracked stones. Eight hearths were excavated and sampled in the sample area; two other hearths were excavated on the southern side. The hearths were intentionally chosen for excavation on the basis that they represented different states of conservation. The best preserved *Steinplätze* were stone-filled burning pits, possibly using stones to obtain longer lasting heat transmission; the pit sides were not easily identifiable and only a single layer could be linked to the combustion process. Only a few charcoal patches were recorded under the flat stone scatters, therefore confirming that these represent the final deflation stage of a *Steinplatz*.

Another test excavation targeted an oval-shaped structure (Feature 1) located at the eastern end of the valley, consisting in a heap of limestone slabs covering a sequence of two distinct hearths. All the data collected have been inserted in a GIS, and plotted on a DEM generated from the deliberately measured datum points (Fig. 5).

Radiocarbon dates (Table 1) point to the presence of at least three superimposed and intermingled occupation phases, which have been partially confirmed

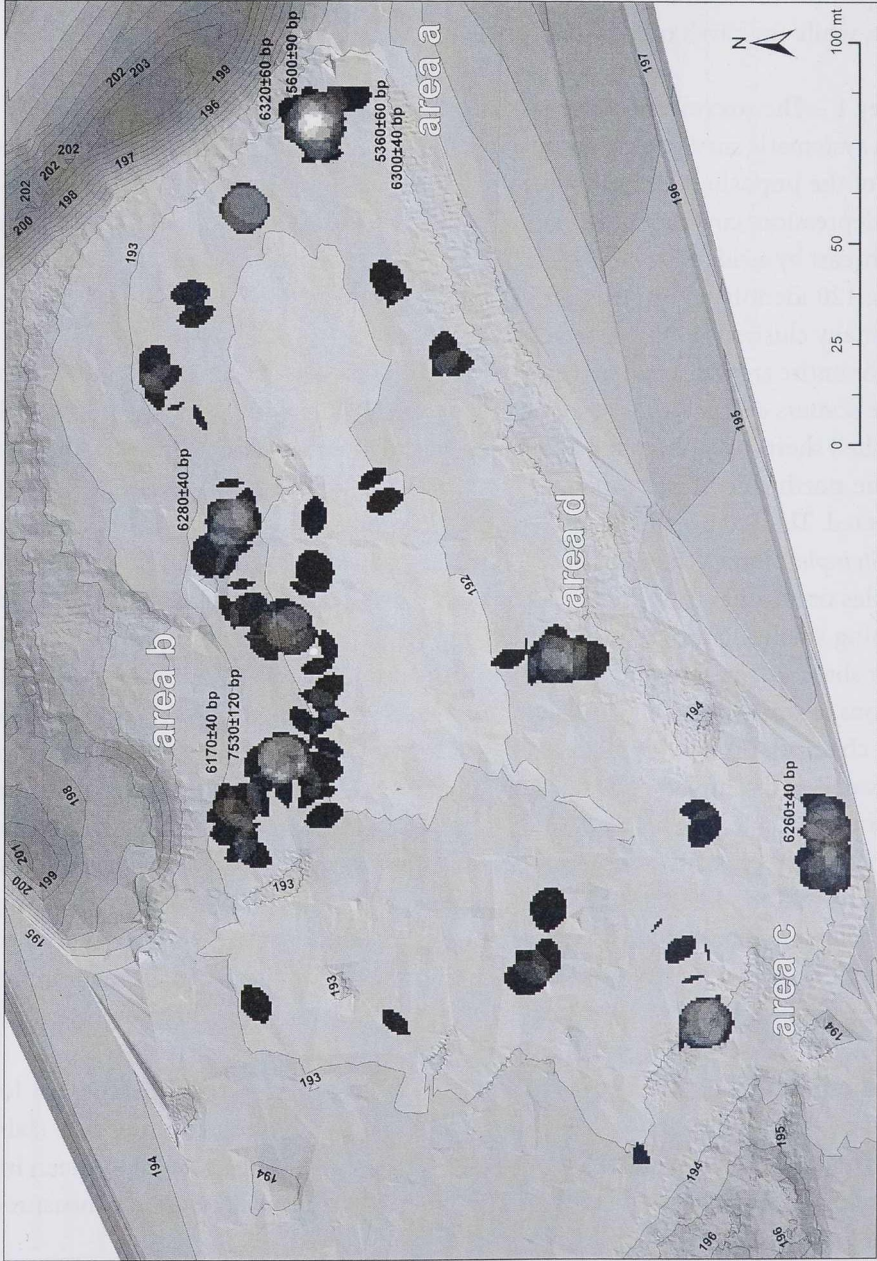


Fig. 6. Sheikh el Obeyid Valley 1 (Farafra Oasis). Density of Steimplätze and localisation of 14C samples.

by the lithic artefacts¹: an Early Holocene cultural horizon (fairly high blade and microlith index with backed tools) and two Middle Holocene horizons (bifacial knives, gouges, discoidal sidescrapers, tools with foliated retouch, and *Ounan-Arif* type arrowheads). A few ceramic sherds, characterized by a rather rough paste with vegetal temper and thin walls (black inside and red outside) could be associated with this phase.

Several spatial analyses have been carried out in order to determine: 1) if the surface scatters preserved some patterned evidence derived from their original associations; 2) which tools and items can be associated and account for the patterned evidence; 3) which interpretive model of occupation strategies best fits the evidence².

The features are located all around the playa basin, mainly on its northern side and only partially extending into the lowest part of the basin. This fact points to the existence of an active playa basin during the occupation phases. The clustering of the *Steinplätze* has been defined by calculating their density; four main clusters can be identified (Fig. 6):

- *area a*: on the eastern side, with well-defined *Steinplätze* near the stones labelled Feature 1;
- *area b*: on the northern side, characterized by two main clusters connected by a continuous row of *Steinplätze* with variable diameters (1-5 m) and different levels of erosion;
- *area c*: on the south-western side, composed of two clusters of small-sized *Steinplätze* (maximum diameter 2.5 m). The westernmost cluster is associated with several large scatters of burnt stones;
- *area d*: in the middle of the southern side, it consists of few well-defined *Steinplätze* associated with two big scatters of burnt stones.

Radiocarbon dates from different areas overlap; in five cases they are statistically compatible (e.g. GdA-375, GdA-1188, GdA-1189, GdA-1193, Gds-561). Therefore we can assume that different areas were repeatedly used during the same phases.

The central part of area b was selected for more detailed analysis: the artefacts collected included 924 debitage elements, 50 cores, 80 tools and 407 ostrich egg shell fragments. There was a wide range of tool types, including pieces with continuous retouch, scrapers, notched tools and denticulates most frequently occurring. Spatial analysis of the tabulated artefacts using Point Pattern Analysis (Hodder and Orton 1976: 30-52) has shown that most of the items have a non-

1 The analysis of the lithic artefacts and ostrich egg-shell sherds were carried out by Giulio Lucarini and Giuseppina Mutri.

2 The survey and analysis of Valley 1 at Sheikh el Obeiyid are part of the PhD project resulting in Gallinaro 2008, Gallinaro 2009.

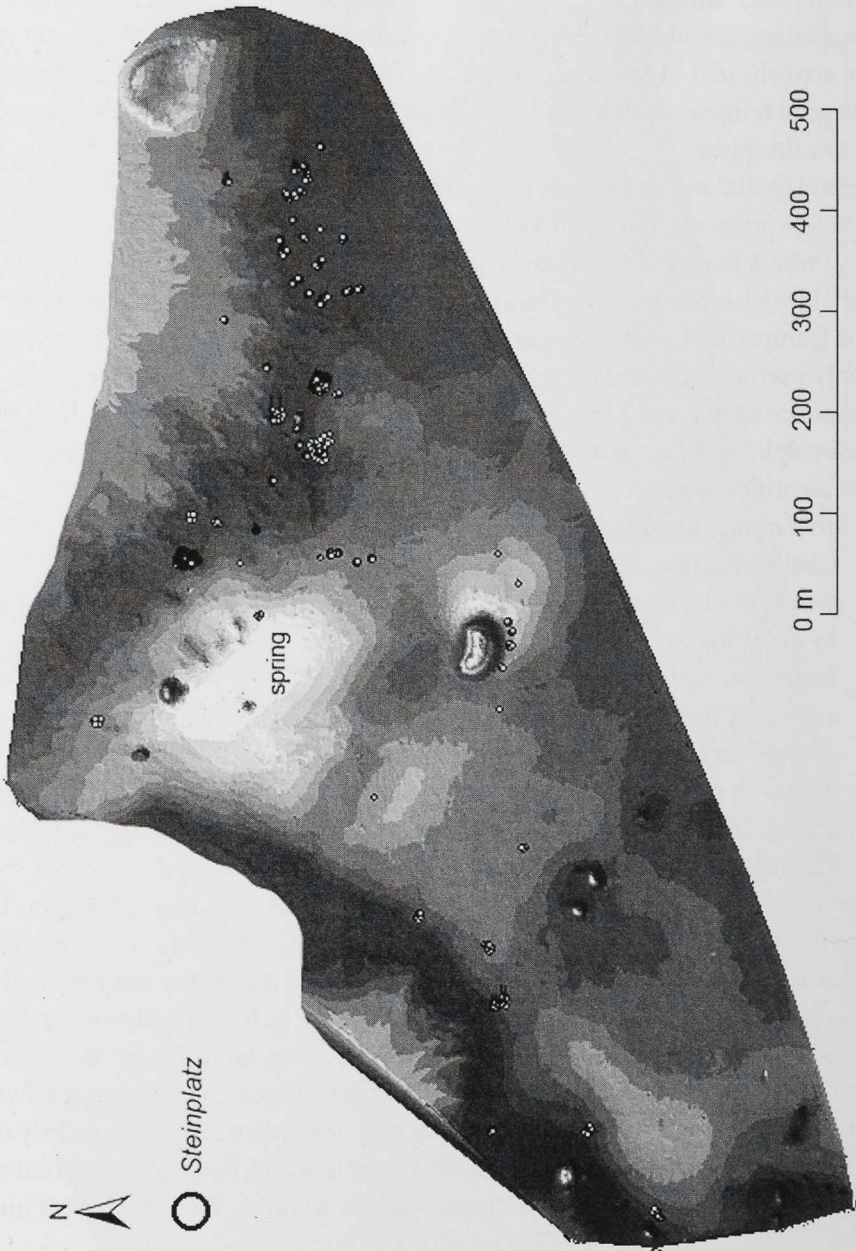


Fig. 7. Bir el Obeiyid Playa (Farafra Oasis). Digital Elevation Model of the playa basin with the position of the spring and Steinplätze.

random, clustered distribution; moreover, different debitage elements have a correlated distribution, somehow connected to the scrapers. Cluster analysis of the non-random distributed items results in a spatial pattern of alternating zones, highly influenced by the general abundance of items and by the opposing concentrations of egg shell fragments and flakes. The higher frequencies of items are located close to the *Steinplätze*, which therefore seem to have been the focus of ancient activities that produced the artefacts scatters, only partially disturbed by post-depositional effects.

The overall distribution of the *Steinplätze*, the C14 dates and the spatial analysis of the artefacts suggest a pattern of mobile and periodic exploitation of the valley by small groups. Such groups seem not to have performed highly specialised activities, as they employed a complete range of tools, including grinding stones. Even if no faunal or botanical remains have been found, a broad range of subsistence activities can be imagined: hunting, gathering and mainly herding.

Bir el Obeiyid playa

The Bir el Obeiyid playa lies at the lowest point of the Wadi el Obeiyid, at about 80-70 m asl. It has an elongated shape that is 3 km long and about 1 km wide, and is characterized by moderate to small yardang formations. Our interest in the region was motivated by the numerous archaeological features which are mainly clustered along the beach of the playa lake. They suggest repeated occupation of the region and represent temporary campsites, with hearths and rich stone assemblages dating to the Holocene. The presence of lacustrine sediments and a nearby perennial spring may have encouraged this area to be continuously occupied. This would explain the high frequency of hearths, stone tools, ostrich egg shell sherd concentrations, grinding stones accompanied by a few pottery sherds.

The playa was systematically investigated from 2006 to 2008 at points where human activity was most evident. A preliminary DGPS topographic survey was carried out with the aim of producing a Digital Elevation Model of the area, so that all the archaeological evidence could be mapped and georeferenced (Fig. 7).

In total, 60 *Steinplätze*, 7 broad clusters of lithic artefacts and 1 cluster of ostrich egg shell sherds were mapped. The highest density of archaeological evidence was observed on the eastern edge of the Bir el Obeiyid basin where the sand covering was minimal and the archaeological remains were more easily identifiable. Other remains of hearths and stone tool clusters were noted on the south-western playa edges. In total, out of the 60 hearths detected across the basin, eight were excavated on the northern and eastern edges of the basin and one in the south-western one.

All the hearths were characterized by burnt stones scattered on the surface aeolian sand, forming a small sub-circular or oval mound with a diameter of 0.5-4.0 m. They showed different degrees of erosion. Under the superficial sandy layer, some of them had a rich ashy deposit mixed with playa sediments, while the structure of others was completely collapsed, and had been refilled only by aeolian sediment, which did not yield any ashy deposit or charcoal.

So far five datings have been obtained from the excavated and sampled hearths which can be grouped into two distinct clusters (Table 1). The first has been identified by a single date in the tenth millennium bp, and can be placed in the Early Holocene. The second includes the other four dates which all lie within the seventh millennium bp, which is in the Middle Holocene. This information is supported by the geological data and the recognition of two distinct playa basins. The earliest Early Holocene date appeared on the northern and south-western margins of the basin at an elevation of 80 m asl, while the most recent one, in the Middle Holocene, was at an altitude of 70 m asl (Fig. 2). The lack of archaeological evidence in the period between 8500 and 7500 uncal. bp indicates a severe arid phase also recognized in the El Bahr playa area. This phase is demonstrated at Bir el Obeiyid by thermoclastic rubbles and aeolian sand accumulation.

The lithic techno-complex of the Bir el Obeiyid playa - In a small number of cases, hearths could be directly associated with artefacts, although a large quantity of other lithic implements, grinding stones and ostrich egg shell sherds were abundantly scattered across the playa basin. However, hearths 2 and 5 yielded very rich lithic assemblages which were directly analyzed, studied, drawn and photographed in the field. Areas with a greater number of artefacts were divided into transects and artefacts were collected within them and their scatter pattern recorded.

Analysis of these materials confirmed the presence of the two above-mentioned horizons. The date of 9420 ± 230 (Gd-30181) refers to the Early Holocene, and was obtained from the only hearth excavated on the south-western edge of the playa, it also dates the few backed tools (but these were not found in direct association with the hearth). The other horizon lasting for the entire seventh millennium includes the high quality bifacial production along with types that have parallels in other Middle Holocene contexts, both in the Western Desert oases, as well as in the Nile Valley. These artefacts are almost always surface finds, mainly concentrated in the central and deeper area of the basin, near the perennial spring. These products include bifacial knives, tranchet axes, gouges, tools from side-blow flakes, lens-shaped arrowheads/drills. These elements can be directly compared with the stone tools from the Djara B phase of the Abu Muhariq plateau

(Gehlen *et al.* 2002; Kindermann 2004), with those of Bashendi B in the Dakhla Oasis (McDonald 1998) and with the Fayum A artefacts in the Fayum depression (Caton-Thompson and Gardner 1934).

With regard to the raw material used, although chert is prevalent, a few quartzite artefacts were also found. The chert's colour ranges from reddish to dark brown. Almost all the pieces have a very thick white patina which does not make identification of the original colours very easy. The few pottery sherds, scattered on the surface and characterized by a rather rough paste with plant temper and thin walls (black inside and red outside), can also be linked to the more recent cultural horizon.

The lithic assemblage associated with hearth 2 (Fig. 8) suggests it was a workshop, intended for the production of lens-shaped bipointed arrowhead/drills. In fact, the debitage elements (1986) make up 96,1% of the entire lithic assemblage and, among these, chips and chunks are present in a very high number. On the other hand, retouched tools (55) and cores (21) show a notably lower percentage (2.7% and 1% respectively). The remaining 0.2 % is represented by 3 hammerstones and an anvil stone which further reveal the nature of the site.

The lens-shaped projectile point is a bipointed arrowhead which may have been worked by invasive or covering retouch (Holmes, 1989: 416). This tool is well documented in numerous Egyptian contexts from the Middle Holocene onwards. The first examples found in the Farafra Oasis are, in fact, those from occupation horizon B of the Hidden Valley Village, which has been placed in the middle of the seventh millennium bp (Barich 2004b; Barich and Lucarini 2005). Other direct parallels are available for the Djara B phase (Gehlen *et al.* 2002; Kindermann, 2004). The same type of artefact is also characteristic of more recent lithic complexes, related to the Predynastic and the Old Kingdom periods. Holmes (1989: 416) refers to an example found at Badari in Area 5500 and to various lenticular points found by Brunton and Caton-Thompson (1928: 7, plate XXIX) in burial 5116 again at Badari from the Badari period. Kobusiewicz (2006: 455) reports the presence of bifacial projectile points in the Ain el Gazzareen context (Dakhla Oasis) dated to the Old Kingdom. Even though these were largely standardised in terms of shape, size and retouching, observation of the edges has allowed examples to be identified that undoubtedly have not been used as projectile points, but as drills. Near to the distal end, in fact, some of these tools are concave on the edges thus giving the artefact the shape of a micro-perforator. The discovery of these items, both on the Bir el Obeiyid playa as well as in the Hidden Valley Village, in close association with numerous

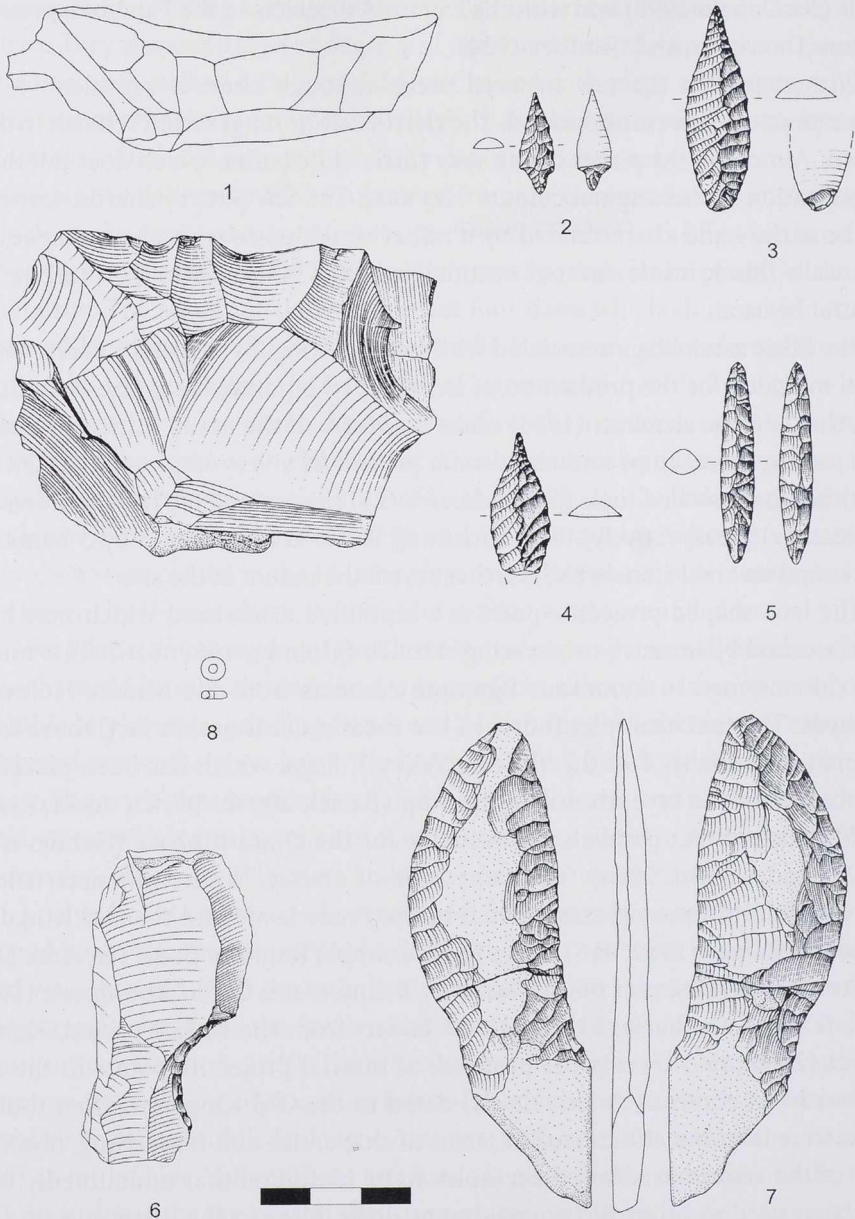


Fig. 8. Bir el Obeiyid Playa (Farafra Oasis), Hearth 2. Lithic artefacts (1: multiple platform core; 2: tanged arrowhead; 3-4: lens-shaped arrowheads/drills; 5: bifacial drill; 6: notch; 7: bifacial knife; 8: ostrich egg-shell bead – Drawings by Massimo Pennacchioni).

fragments and ostrich egg shell beads, provides a clear indication of what material was worked using this tool. Use-wear analysis, still underway, will provide more precise information about this. Other elements of the lithic context are represented by notched tools, scrapers, bifacial drills and bifacial knives.

Hearth 5, near the north-east edge of the playa, was also associated with a substantial lithic assemblage (139 elements collected). During the excavation of the hearth, along with two cores and 123 debitage elements (equivalent to 88.5% of the total) a small number of retouched tools were collected (Fig. 9), including 5 bifacial knives, 3 sidescrapers, a lens-shaped arrowhead, 1 a piece with continuous retouch and 1 unidentified bifacial tool.

Among the retouched tools, it is worth noting four carbonised bifacial knives that were found within the playa deposit that formed the hearth base. A charcoal sample gave a date of 6350 ± 85 bp (Gd-19209) (Table 1). This is a very important identification that for the first time provides a precise stratigraphic context to the bifacial materials which had already been noted in several areas of the depression in previous field seasons. This date can be directly compared with the final occupation horizon in the Hidden Valley Village which was characterised by a similar lithic production (Barich 2004b; Barich and Lucarini 2005).

Almost all the bifacial knives found in the Bir el Obeiyid playa were not produced on blade blanks but were made by simply retouching already naturally flat chert tablets. The presence of cortex on both surfaces of some examples confirms an almost exclusive use of this type of tabular raw material.

While some examples could have been used for specific tasks (possibly for wood-working or cutting of bushes, shrubs or spontaneous grasses that grew around the numerous basins along the course of the Wadi el Obeiyid, and which has also been confirmed by the macro-traces, fractures and traces of resharpening that can often be noted on the use edge) (Lucarini 2008), some examples could have circulated as status symbols and could be interpreted as cultural objects or offerings.

As argued by Kindermann (2004) for the knives from Djara the examples characterised by large and irregular detachments could have been used for cutting a range of materials, while other knives which were instead characterized by a fine pressure retouch, gained an exclusive symbolic value.

Conclusions: The significance of occupation at Sheikh el Obeiyid

From what has emerged so far from the Sheikh el Obeiyid area we can reconstruct a palimpsest of human occupation in the northern Farafra depression for considerable periods of the Holocene, going back as far as the Pleistocene. This

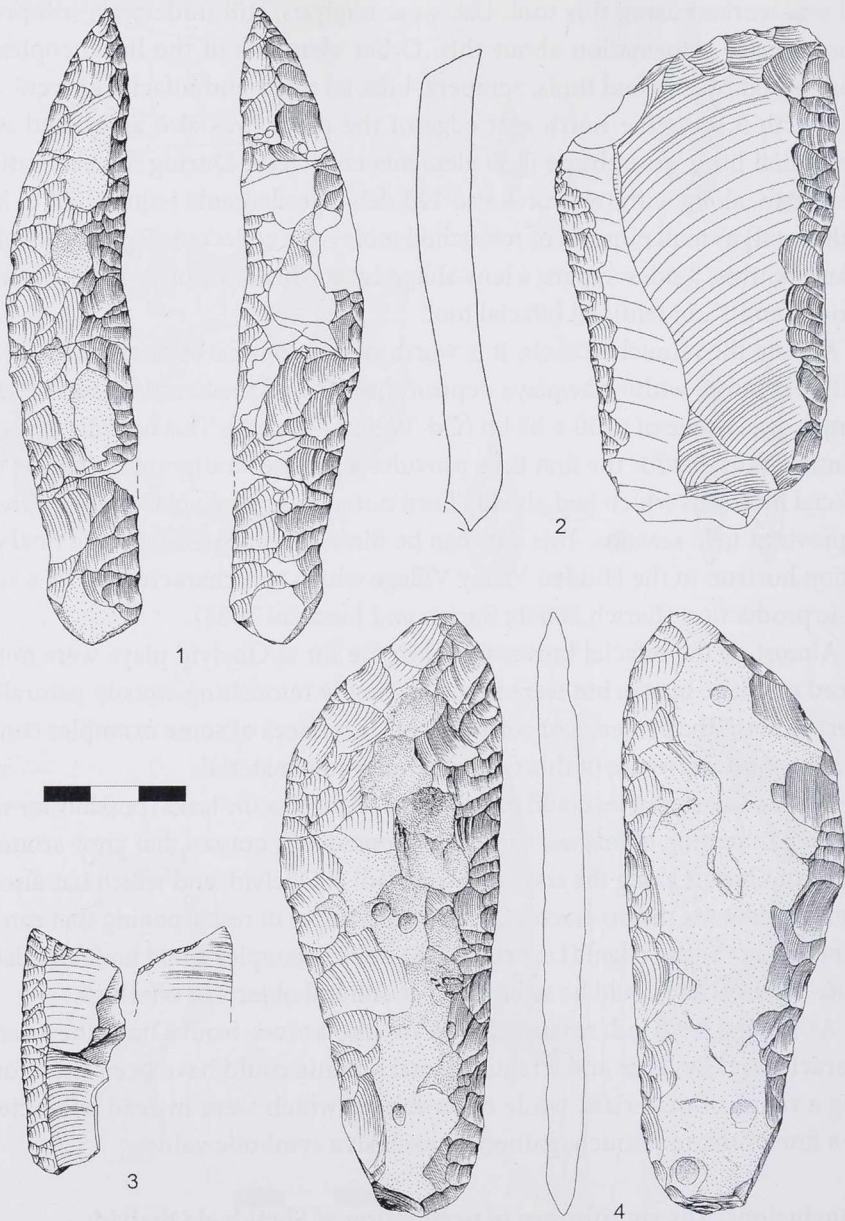


Fig. 9. Bir el Obeiyid Playa (Farafra Oasis), Hearth 5. Lithic artefacts (1, 4: bifacial knives; 2: sidescraper; 3: sidescraper/drill – Drawings by Massimo Pennacchioni).

shows the region's favourable environmental conditions and its strategic position in the general oasis topography.

The only date in the tenth millennium bp, the oldest - after Ain Raml - that we know so far in the whole depression, confirms the sporadic and ephemeral presence of hunters in the oasis area in the Early Holocene. Visits by groups must have been sporadic until the first half of the eighth millennium bp (uncalibrated). During the seventh millennium instead a notable intensification of occupation can be seen, with the appearance of the largest settlement clusters. On the other hand the contemporary presence of more movable structures (hearths, concentrated surface scatters of artefacts) gathered in Valley 1 and in the Bir el Obeiyid playa shows that along with the more stable component was a more mobile element, probably pastoral. This phase saw the appearance of high-quality stone tools which implies the existence of expert craftspeople and an exchange network with the centres further towards the Nile Valley. Typologically similar tools with comparable dates have in fact been found in the Fayum A context (6500 bp uncalibrated); the same tools appear later in the Badari centres and then Naqada (Barich and Lucarini 2008).

The presence of sophisticated technology, the use of ceramics, the production and working of ostrich egg, together with tangible signs of quite complex architecture, go well with a settled stable situation in the area, probably also with a significant demographic. It is a situation similar to that which appears in the nearby Hidden Valley basin, the development and flourishing of which also appears to be centred within the seventh millennium bp (uncalibrated). However, the final phase of the Hidden Valley sequence has shown a growing arid trend; from 6000 bp the permanent structures were abandoned and the lake basin was filled by aeolian dunes.

However, this did not end the occupation in the region since a new wet period, recognizable in the geostratigraphic tests and dating to c. 5500 bp (uncalibrated), led to the reoccupation of the Hidden Valley basin as well as the other areas of the Farafra depression. This later occupation phase particularly affected the depression's peripheral areas and the plateaus that surrounded it, these then became crucial points of contact with the Nile Valley, as the artefacts lead us to think that they could be considered prototypes for later Predynastic items.

The role of introducing these new ideas and technologies to the valley could be attributed to nomadic groups who continued to cross the desert, even when water availability was reduced. Evidence of such movements, which are now identifiable at Sheikh el Obeiyid, has already been seen on the eastern edge of the depression.

Here at Rajih/Bir Murr, concentrations of hearths and artefacts with the same technological/typological characteristics were dated to 5670 ± 50 bp (Gd-11647) and 5380 ± 110 bp (R-2006).

Even in the historic period the oasis may have acted as a crossroads for routes from the Siwa Oasis to the Nile. Farafra was reached through the smaller oases of Bahrein and Ain Dalla. From there the route would have continued east across the eastern plateau in the direction of Assyut and also to the north in the direction of the Bahariya Oasis, as the numerous Roman-period wells found in the White Desert show. The karstic cave located on the second erosion surface of the plateau scarp, overlooking the Bir el Obeiyid, could have been one of the rest stops along these routes. Materials recorded there – wheel-made pottery, wooden tools and rope fragments – reveal its late, historical exploitation, probably encouraged by the presence of the Bir el Obeiyid spring. This evidence sheds light both on the ongoing traditions in more recent periods and on relations among the pastoral groups moving within the northern oases in search of water sources.

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