

THE FIELD ACTIVITIES OF THE DAKHLEH OASIS PROJECT DURING THE 2002 – 2003 FIELD SEASON.

A. J. Mills

With C. S. Churcher, C. A. Hope, M. Kobbusewicz,
F. Leemhuis, M. M. A. McDonald, and J. R. Smith.

The 2002-2003 field season of the Dakhleh Oasis Project commenced field work on 1st February, 2003. Work went forward on several sites. A study season was held concerning 'Ain el-Gazzareen and materials collected and saved from there in previous years were analysed, including flints from two seasons and potsherds from the last five seasons. Two of our natural scientists, geologist and zoologist, as well as one of the prehistorians, were able to do important field work, and our program of excavation, restoration and study at el-Qasr el-Dakhil went forward. Brief notices of each of these activities will follow, written by each of the various co-investigators in turn. The DOP concluded its field activities for the season on 14th March, 2003.

Environmental Studies.

The geologist, Dr. Jennifer Smith, joined the project in Dakhleh during the 2003 season and writes that her fieldwork was directed towards three principal goals:

- 1) groundtruthing of remotely-sensed geologic mapping of Dakhleh Oasis,

- 2) describing and evaluating deposits of spring carbonate (tufa) along the Libyan Escarpment, and
- 3) describing in detail the sedimentological context of the mysterious material known as “splat”.
- 4) I also undertook with Prof. C. S. Churcher a brief reconnaissance of some Quaternary deposits east of Tineida. Dr. Churcher collaborated in much of the research described below.

1). Groundtruthing of remotely-sensed geologic mapping of Dakhleh Oasis.

Understanding the paleolandscape and paleoclimate of Dakhleh Oasis requires that we first locate sedimentary archives of past environments. Dakhleh Oasis Project (DOP) members have been identifying such deposits for years based on aerial photographs and foot/vehicle based survey. However, the areal extent of the Oasis as well as the often subtle external differences between Quaternary deposits and Mesozoic or Tertiary deposits ensure that there are as yet undiscovered Quaternary deposits within the oasis. If a distinctive spectral signature could be identified for certain kinds of Quaternary deposits (spring carbonates, spring iron oxides, etc.), it would be possible to map the distribution of such deposits from satellite (in this case, ASTER) imagery. Johanna Kieneiwicz, a graduate student at Washington University, developed a preliminary geologic map for the Dakhleh Oasis region based on published maps and ASTER images. She identified certain locations that appeared to have spectral signatures typical of a given geologic unit, as well as locations with noticeably different spectral signatures from their surroundings. I went to a number of these locations to describe and photograph the rock units present at the surface. The information I bring back to Johanna will help her to refine her mapping and hopefully to begin to identify currently unknown Quaternary deposits. Her preliminary map, however, has already proven useful, as one of the regions she identified as “anomalous” contained outcrops of spring carbonates which had not previously been described.

2). Investigation of tufa deposits.

Dr. Churcher and I spent one day attempting to relocate a series of *in situ* tufa deposits along the Libyan Escarpment east of Balat Point, which he and Dr. Maxine Kleindienst had discovered last year. Though we were unsuccessful at relocating the particular deposits Dr. Churcher had visited last year, we did find one small series of tufa outcrops near the top of a colluvial surface just below the crest of the escarpment. The elevation of the tufa deposit and its relationship to the surrounding colluvium suggest the tufa was deposited by spring waters issuing from the base of the escarpment's limestone cap, and flowing to the southeast. The deposits probably represent the remnants of the fill of a small gully incised into the colluvial surface. Based on morphology of the deposits alone, the tufa is probably >300 ka old; there is relatively little preservation of architectural detail within the tufa. Though we saw no additional tufa deposits near the crest of the escarpment, the wadis we walked through to ascend and descend the escarpment all contained tufa cobbles or boulders. This indicates that tufa deposits were once more extensive along this portion of the escarpment.

We also spent one day looking for the source of tufa boulders within wadi gravels along the western face of the Budkhulu Promontory, and found several narrow tufa sheets in place within pediment gravels and breccias. In places, tufa deposits are two meters thick. Reed casts are abundant within the tufas, recording the relatively dense vegetation present when springs along the escarpment were active. A tufa-cemented breccia is also present, which is a relatively rare tufa facies in Dakhleh and Kharga. Most likely the different tufa sheets record different phases of spring activity, though the tufa sheets are not particularly morphologically distinct from each other. An exposed two-meter thick section of tufa along a wadi wall displayed a series of thin (~10-15 cm) silty layers within the tufa, which likely accumulated within small ponds. No artifacts could be seen within these silts, though based on Caton-Thompson's work in Kharga¹, these small silty lenses have high potential for the preservation of lithic artifacts. Additional reconnaissance will be needed next season to determine the full extent of tufa deposits along the western face of the Budkhulu promontory.

¹ Caton-Thompson, G., *Kharga Oasis in Prehistory*, London, 1952.

3). The stratigraphic context of “splat”.

In order to better understand the process whereby the vesicular glass known as “splat” was formed, I spent two days examining in detail the stratigraphic section in which Drs. Kleindienst and Churcher found “splat” in place, south of the cultivation between Masara and Sheikh Muftah. Interestingly, the “splat” seems to occur in two layers; the first approximately 1.9 m above the contact between the top of the ferruginous spring/lake sediments and carbonate muds, and the second approximately one meter above the first “splat” layer. Below the lower “splat”, carbonate sediments are relatively homogeneous. Small bits of organic matter are frequently preserved within the carbonate muds, and occasionally there is a few cm thick salt-hardened resistant layer. Approximately 10 cm below the lower splat, the sediment appears to get coarser, changing from a mud to a fine sand. The sediment surrounding the individual pieces of “splat” within the lower layer were also fine sand, though immediately above the lower “splat” layer is a stratum of carbonate mud. Between the two “splat” layers the sediment is generally a fine, unconsolidated silt, though there are several levels where the sediment is salt-hardened. The silt ranges from white to rust-colored to brown to black, and seems to frequently contain either charcoal or manganese oxide. Above the upper splat is 15-20 cm of salt-hardened sediment, and an indurated carbonate cap.

Whatever event the deposition of “splat” represents, it was certainly associated with a major change in lacustrine sedimentation. As bedding could not be observed either above or below the “splat” layers, it is difficult to tell exactly what that change would have represented. If the black material above the lower “splat” is charcoal, it may record fires triggered by the same event which produced the “splat”. If the “splat” were indeed produced as the result of one impact event, the existence of two layers separated by one meter of sediment must be explained. One meter of lacustrine carbonate would generally take centuries to millennia to accumulate. It is possible that an impact event in or near a lake basin could trigger sub-lacustrine turbidity currents. Perhaps, then, the meter of sediment between the “splat” layers was emplaced rapidly, and the second “splat” layer formed relatively recently thereafter be a fragment of the same impactor which produced the first layer. A better sense of the bedding of the material between the “splat” layers is needed to understand the mechanism by which that sediment was

emplaced. Attempts to find additional stratigraphic sections containing “splat” failed, as other outcrops of lacustrine carbonates in the vicinity of the one examined have already been eroded down far enough that the “splat” layers are gone.

Many thanks are due to Dr. Churcher, whose collaboration throughout this field work was invaluable. Thanks are also due to the various DOP members who accompanied me on various off-road trips over the course of the field work.

Professor C. S. Churcher was involved in our field work for a month and reports as follows:

Field work in Dakhleh Oasis involved cooperative trips with Dr. Jennifer R. Smith to visit localities of interest to her work and to obtain samples for her further analysis. A visit to the section of the Libyan Escarpment to the north of Budkhulu Promontory with Dr. Smith on Feb. 7th located deposits of tufa still *in situ*, as well as blocks of tufa in the wadi bottoms. Examination of the Dakhleh Formation shales in that area revealed very few fossils, even of invertebrates, which is in striking contrast with their occurrence on the south face of the Escarpment. Some sharks' teeth and haematite algal concretions were present, but the *Overwegi* oyster bed was not visible. A second visit was made on Feb. 13th for Dr. Smith to take samples and carryout additional survey.

Dr. Smith was interested on Feb. 8th in examining the area south of Esbet Masara where some apparently super-heated molten rock landed in the lake bottom of Palaeolake Kellis among growing vegetation. On Feb. 11th I took Dr. Smith to Loc. 359 to show her the section that contained a bed of snail shells (*Lymnaea stagnalis*) and further east to the depression of Abu Ogul to examine the white fluviatile deposit in that hollow that almost reaches the Kharga-Dakhleh Road. We examined that deposit and found it to be composed mainly of gypsum crystals and slabs with some silts among the gypsum. The size of the gypsum crystals or slabs gets smaller as one moves downstream towards the main road. The gypsum appears to have come down in a watery mix and been deposited in units from each flood. Its source was not located. No fossils were observed.

An attempt to revisit the tufa deposit located in 2002 east of the prominent mount northwest of Balat failed as we went up the wrong wadi in approaching the site. However, Dr. Smith and I located another tufa deposit and thus managed to extend the known localities of tufa on the Dakhleh section of the Escarpment.

I extended the survey of the shores of Palaeolake Kellis by walking over the areas south and southwest of Esbet el-Gedida. The bedrock in the area is all Duwi Fm. phosphoritic limestones and shales that have been planed down by aeolian sand blasting to the pink limestone layers of the Duwi to form a series of benches and badland formations. The upper layers of the Duwi in this region contain deposits of chalk laid down in what appear to be gullies or depressions in the shales, which has not been noted in Duwi Fm. deposits elsewhere. In blow-outs or gully deflation corridors fragments of bones of turtles and teleosts, sharks' and bony fish teeth, and shells occur. These are usually too weathered to be worth collecting but, at a site once occupied by a survey party, I found fossils collected by the surveyors and left by their tents' anchoring stones. (I failed to locate the trig point or spot height nearby the camp.) I collected a few pieces of turtle carapace, a mosasaur caudal vertebra, some shark and ray teeth, and an unknown bone. The surface serir lag is rich in invertebrate fossils, particularly clam and oyster shells, and fossil wood, but lithic evidence is scarce, of both Holocene and Pleistocene ages. Identification of the lithics was kindly done by Dr. Mary McDonald. I had expected that lithic evidence would be scarce on the old lake bottoms, particularly of Early Middle Stone Age/Middle Pleistocene age, but was unprepared to find a similar lack of Holocene evidence. This scarcity is inexplicable at the moment.

In addition to these field activities, I spent time writing reports on the stratigraphic anomaly at Wadi el-Medauwara, which is reported under the KOPP section, drafting a report on and drawing a map of the palaeolakes of the Dakhleh Oasis basin, measuring and writing a report on the ass (*Equus asinus*) from Loc. 406, recovered in 2002, and a note on variations in the thoracic vertebrae of mosasaurs based on specimens recovered in previous years' field work.

Archaeological Studies.

Holocene Prehistory.

Dr. M. M. A. McDonald reports on her fieldwork season as follows:

Two people worked on the Holocene Prehistory in the 2002-2003 season, myself and Ashden Warfe of Monash University, who is studying the pottery. In Dakhleh Oasis, we spent one day on the plateau above western Dakhleh, where we recorded a Bashendi era site, Loc.407, with lithics and pottery. Another day we visited Loc.406, discovered last year by Kleindienst & Churcher, with a rich surface scatter of Sheikh Muftah pottery.

It is becoming clear that Kharga and Dakhleh Oases were closely related in Late Prehistory, with Kharga Medauwara Unit similar to the Dakhleh early Holocene Masara Unit, and the mid-Holocene Baris Unit like the Bashendi Unit in Dakhleh². Consequently, our work in Kharga Oasis helps us better to understand the late Prehistory of the Dakhleh Oasis.

Locality **387** is a Bashendi A sites that seems contemporary with and closely related to the important site **270** with its 200 hut circles. Site 270, although extensively surveyed and excavated, has not yielded many chipped stone tools. The collection from 387 is much richer, and so sheds additional light on adaptations at that period and relations with other groups. In the 387 collection there are 107 tools, including 40 arrowheads, as well as knives, drills, denticulates and a scraper on a side-blow flake.

As far as ceramics, Warfe was able to go through all the major collections of prehistoric pottery from Dakhleh. He analyses vessel fabric, shape, size and surface treatment. He determines the number of vessels present on a site, and tries to define use patterns. Several major ceramic traditions have been defined, including early and late Bashendi, Sheikh Muftah, and (perhaps) Masara. Bashendi pottery, never plentiful, tends to be thin-walled, with surfaces smoothed but undecorated, and made in both open and closed forms. In addition, a few impressed sherds have been found, but the fabric and surface treatment suggests they are imports, probably from the south.

² I refer the reader to the report on the "Kharga Oasis Prehistory Project" elsewhere in this volume.

Sheikh Muftah pottery is generally far more plentiful than Bashendi pottery, and we have large collections from several sites, including Loc.136 (with 8000 sherds), loc.105 and Loc.404. This is a long-lived tradition (about 1500 years) surviving until Old Kingdom times, and C. A. Hope has already divided it into two units. There is a transition corpus that still resembles Bashendi ware in some ways, and a later unit featuring larger vessels with coarser fabric and thicker walls. Colour ranges from red to grey, often with firing clouds, walls often bear oblique striations, and the most common shape is a slightly restricted bowl with convex walls and rounded or painted base.

Now Warfe suggests, on the basis of material from 404 and 406, that a third or late division might be necessary. Shapes continue as before, but walls are thicker, fabrics finer, and vessels seem more highly fired than before. Surface rilling is gone, surfaces are lumpy but smoother, and often covered with a thick coat (not a slip) that can be clack or cream in colour.

As for the Kharga mid-Holocene material, it is surprisingly similar to the Bashendi or Sh. Muftah ceramics from Dakhleh. Pottery from Md -18 and MD-24, for instance, closed vessel forms. In addition, these sites yielded a few impressed sherds that seem to be imports. Sites MD-22 and MD-36 yielded pottery resembling Sheikh Muftah ware. Both also had a few sherds of what might be Badarian ripple ware, suggesting ties with the Nile Valley.

A few days of field time were aimed at helping to date and contextualize rock art. For years Prof. L. Krzyzaniak has been studying the rock art – mostly animals, women with elaborate skirts, and stick men, inscribed in the sandstone hills in southeastern Dakhleh. In SE Dakhleh, the rock art seemed associated with Bashendi and Old Kingdom sites.

Krzyzaniak had identified 15 rock art sites in an area of 5km x 2km. Ten of those sites were visited. Loc. **409** is at the base of a hill with good depictions of women with long skirts, and giraffes and other wild animals. On 409 I recovered some mid-Holocene lithics including knife fragments, and some prehistoric pottery which will have to be identified by Warfe. Loc. **420**, near a hill with depictions of men holding giraffes by ropes, is the closest thing to a campsite in that area. In an area c. 300 x 75 m is a scatter

of a few hearth mounds covered by sandstone fragments, with a bit of mid-Holocene lithics, pottery and ostrich eggshell around them. The lithics and pottery look Bashendi B in age, but the pottery is yet to be examined by Warfe. Elsewhere though, no such cultural associations could be found. Around three separate hills with what appears to be mid-Holocene and Old Kingdom art, for instance, only Roman and late materials were seen.

‘Ain el-Gazzareen (**33/390-K2-2**)

No excavation was made at this Old Kingdom site during the 2002-2003 field season; however, studies of two major aspects of our finds collections - ceramics and flints - were made and drawings of a large number of the small broken artefacts were also completed for our records.

I. *Ceramics*: are reported below by Dr. C. A. Hope:

The detailed recording of the ceramics from ‘Ain el-Gazzareen was commenced during the 2002/3 season. The focus of the study was upon the establishment of fabric and form typologies based upon the material recovered from the area of the bakeries, and upon the complete recording of material from the bakeries. The study was then extended to material from the formal building in Area C of the site. A first assessment of material from the site was undertaken during the 2001/2 season that focused upon the recording of the more complete examples from the main excavated areas of the site. A comparison of the ceramic assemblages from the functionally-different structures will aim to determine the extent to which the activities in such areas determined the range of pottery forms that was used, beyond the obvious greater frequency of bread moulds within the bakery area.

The study of the fabrics has shown that the range is what has been found at other Old Kingdom sites in the oasis, including the capital at ‘Ain Aseel: they are dominated by local materials that include only a small percentage of calcareous fabrics (marl-like clays). The main groups are:

1. iron-rich clays with quartz and limestone inclusions, that were either uncoated, red coating, or red coated and compacted; rarely a cream coating was employed.

2. iron-rich clays with straw temper; three sub-groups have been identified based upon the quantity of straw. These fabrics are mostly uncoated and employed in the manufacture of bread moulds and rough jars, but sometimes for other forms.
3. iron-rich clays with quantities of shale inclusions, regularly red coated and employed form large bowls.
4. Marl-like clays; there are probably two main sub-types based upon the fineness of the clay and firing characteristics. Further work on these is necessary to define the characteristics; a larger sample is necessary for study.

The occurrence of Nile silt fabrics attests the import of manufactures from the Nile Valley, possibly via Ain Aseel; they are mostly bowls though a few jars may be included. Amongst the bowls are examples of the so-called Meydum bowl made in fine Marl A2; most of these possess relatively tall, distinctly-concave sides.

Because of their large number, the study aimed at the complete recording of all examples of the standard Old Kingdom bread moulds. The procedure adopted in dealing with this material commences with the weighing of all examples according to context, sorting out and discarding of body sherds and then the recording in terms of fabric, form and extent of preservation of all pieces with rims and bases. This will enable an estimation of the minimum number of moulds used at the site to be made. Some 330 marks were noted incised before firing into the exterior wall of examples of the moulds, and many of the marks occur several times. Some moulds preserve up to three different marks; others have received stamps impressed into the wall using a seal. The detailed recording of this corpus of material will enable the currently-accepted theory that such marks relate to the supply of bread rations by the administration to its employees to be tested. Amongst the bread moulds are examples of double moulds that were used to make small round loaves. These have been suggested to characterize the Second Intermediate Period, but this suggestion is likely to be disproved by the finds in good Old Kingdom contexts at 'Ain el-Gazzareen.

The range of forms documented at the site is extensive and its accords with an industry dominated by the traditions of pottery manufacture developed within the Nile Valley during the Old Kingdom. There is little, other than the use of shale-tempered fabrics, to indicate any influence upon pottery production by the Sheikh Muftah potters.

The majority of the material can certainly be ascribed to the late Vth and VIth Dynasties on the basis of material from Ain Aseel and other well-defined contexts within the Nile Valley. The discovery of fragments from Meydum bowls with tall concave sides in both imported Marl A2 fabric and local iron-rich, quartz- and limestone-tempered fabrics, may indicate that there was activity at the site in the earlier Vth Dynasty and before. A detailed analysis of the occurrence of such forms within the stratigraphic sequence of the site is necessary before this can be confirmed, however.

Finally, forms and fabrics later in date than the Old Kingdom have been recovered mainly from surface collections. They include shapes that may be ascribed to the Second Intermediate Period and the mid-XVIIIth Dynasty, examples of a distinct oasis fabric that is known from the New Kingdom and also sherds in what is possibly Marl A3 imported from the Nile Valley. The number of such finds is small and it is possible that they represent casual dropping by passers-by, maybe coming from nearby Amheida where finds of such date may indicate a settlement there certainly from the New Kingdom onwards.

II. *Flints*: Professor Michał Kobusewicz continued his study of the Old Kingdom flint assemblage from 'Ain el-Gazzareen. He reports:

Study of the Old Kingdom flint assemblage from 'Ain El-Gazzareen, 32/390-K2-2, Mushiya, Dakhleh Oasis, Egypt.

I have undertaken studies of flint materials collected and excavated by members of the Dakhleh Oasis Project at the 'Ain El Gazzareen Old Kingdom site situated in the western part of Dakhleh Oasis in the western Desert of Egypt. They yielded a very rich assemblage of cores, tools and debitage almost 100 per cent made of chert. The detailed analysis of this material was carried out according to the division into excavation units.

To recognize and define the knapping technology the materials from 50 square meters of the special 100 square meters collection from square 0-16 was meticulously analyzed. These artefacts were very precisely collected from the surface. The assemblage contained all stone materials including even very small chips. Materials from other

squares and excavated units were analyzed mainly from the typological point of view concerning cores and retouched tools as well as raw materials used at the site.

Based on the assemblage of 573 selected retouched pieces a special type list of retouched tools was composed, currently consisting of 25 types. After two seasons of studies carried out in November/December 2001 and in March, 2003 the conclusions are as follows:

The most common type of tool used at 'Ain El Gazzareen are retouched flakes - 30.10%, sickle blades (Fig. I:1-2), including half products of sickle blades - 21.19%, followed by a group of scrapers - 20.66% composed of the most common, massive heavy duty scrapers (Fig. I:3-4) - 10.12%, end-scrapers (Fig. I:5-6) - 3,49%, flat scrapers (Fig. II:1) - 3.31% and nosed scrapers (Fig. II:2) 3.14%. Then a group of knives (10.12%) of which 3.31% are crescent knives (Fig. II:3), 2.96% are triangular knives (Fig. II:5), 2.44% are oval knives and 1.29% are bifacially retouched knives (Fig. II:4). According to the number the next are: rectangles (Fig. II:6) - 2.96%, denticulated tools (Fig. III:1), double backed perforators (Fig. III:2), scalled pieces - 2.44% each, notches (Fig. III:4) and chisels (Fig. II:7) - 1.91% each. Very rare types are such tools like retouched blades (0.92%), projectile points (Fig. III:6) and groovers (Fig. III:3) - 0,69% each, double notches (Fig. III:7), crescents (Fig. III:8) and stone axes (Fig. III:9) - 0.52% each and finally perforators (Fig. III:5) and varia - 0,34% each.

Two kinds of chert were used at the site: gray nodular chert which, according to Munsell Soil Color Chart, appears in three following hues: 10YR-6/3 (pale brown), 10YR-5/3 (brown) and 10YR-4/1 (dark gray) and yellowish brown tabular chert : 5YR-6/6 (reddish yellow), 7.5YR-4/6 (strong brown) and relatively rare 2.5YR-3/4 (dark reddish brown) and two different knapping techniques were respectively applied. Generally the knapping technology is rather a very simple and "primitive" one. The nodules of gray nodular chert were simply knapped from all possible directions, practically without any core preparation. This resulted mainly in multiplatform-unpatterned cores and a large number of initially struck cores and core fragments. Sometime the cores were struck from so many directions that they become spheroid. Almost the only products of this kind of knapping were thick wide flakes and chunks. Blades are extremely rare, purely accidental. Hardly visible bulbs on flakes prove that the

cores were knapped by a soft hammer, which is confirmed by the absence of hammer stones.

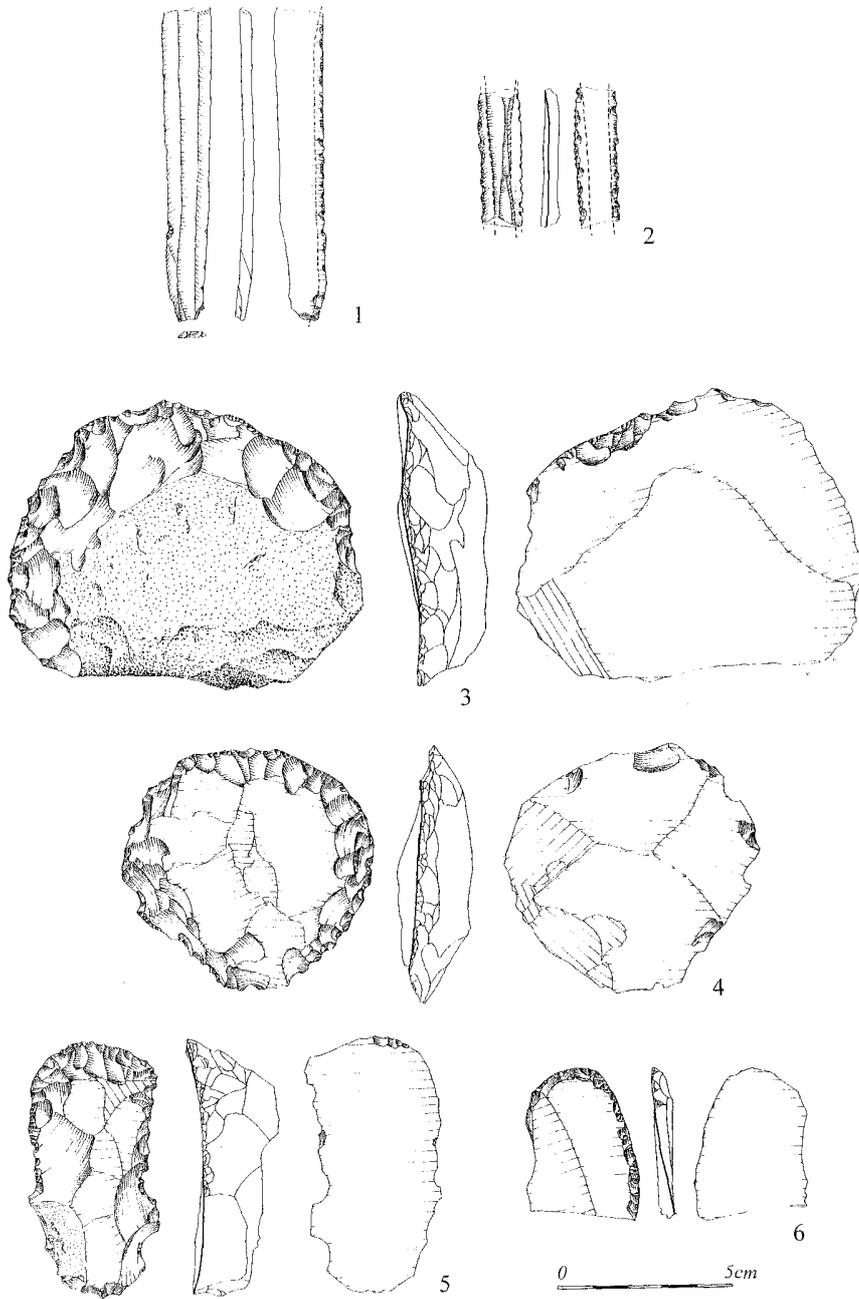
Tabular chert was worked differently. Most of the retouched tools are made of this raw material, especially different types of knives, chisels, and rectangles. There are no cores made of tabular chert. Tools were shaped from tablets of this raw material by retouch. The study of the debitage from the site shows that the number of debitage, especially of chips of tabular chert exceeds the number of debitage of gray nodular chert almost three times. The proportions of chips to the rest of debitage of nodular chert are almost 1:1 whereas by tabular chert the same proportion is ca. 2.7:1. In the case of retouched tools the number of pieces of nodular chert is only slightly larger than of tabular chert and amounts respectively to 52.66% and 46.84%. It means that shaping a tool from tabular chert required quite a lot of retouching. Among the debitage the biface trimming flakes frequently appear as a result of the production of bifacially retouched tools. They remind one of biface trimming flakes typical of archaic cultures of the New World.

Other raw materials like quartz and chalcedony represent less than 0,5% of the assemblage. Rare flakes of sand stone and quartzitic sand stone derive from the shaping of grinding stones. A single core of quartzitic sandstone indicates that some flakes of this material were also produced.

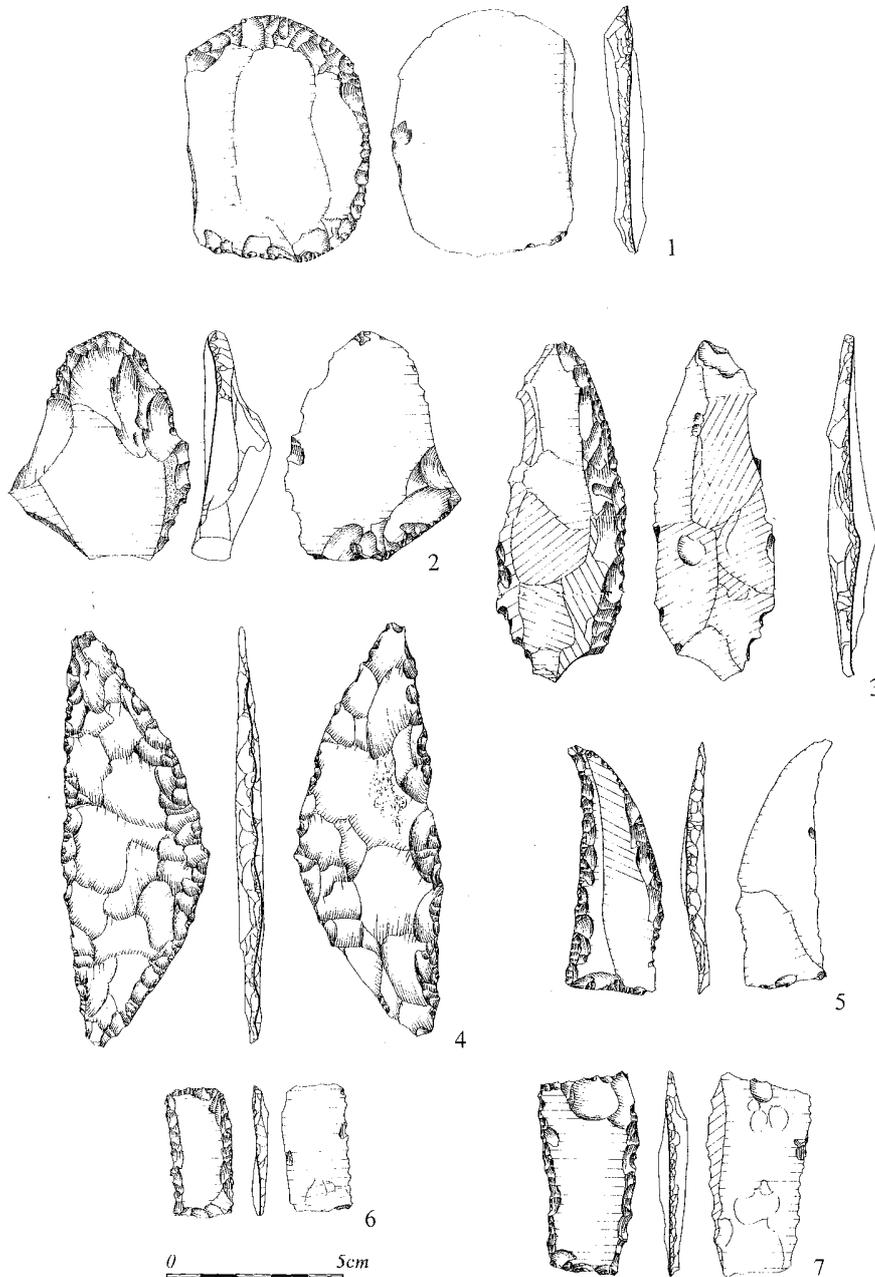
Among the tools an obvious exception are sickle blades. They all are made of high quality regular blades obtained by pressure (*par pression*) technique from regular single platform cores. No single core of this type has yet been found. Also the raw material of sickle blades distinctly differs of that known from all other materials from the site. All this may indicate that the sickle blades, or at least the half-products of sickle blades were delivered to 'Ain-El-Gazzareen from elsewhere.

So far only a very small sample of three retouched tools was checked by Dr. Małgorzata Winiarska-Kabacińska for wear traces. Only in one case the traces of wear were discovered. One perpendicular edge of the tool is jagged and demonstrates use sheen. It is impossible to state what kind of activity caused it.

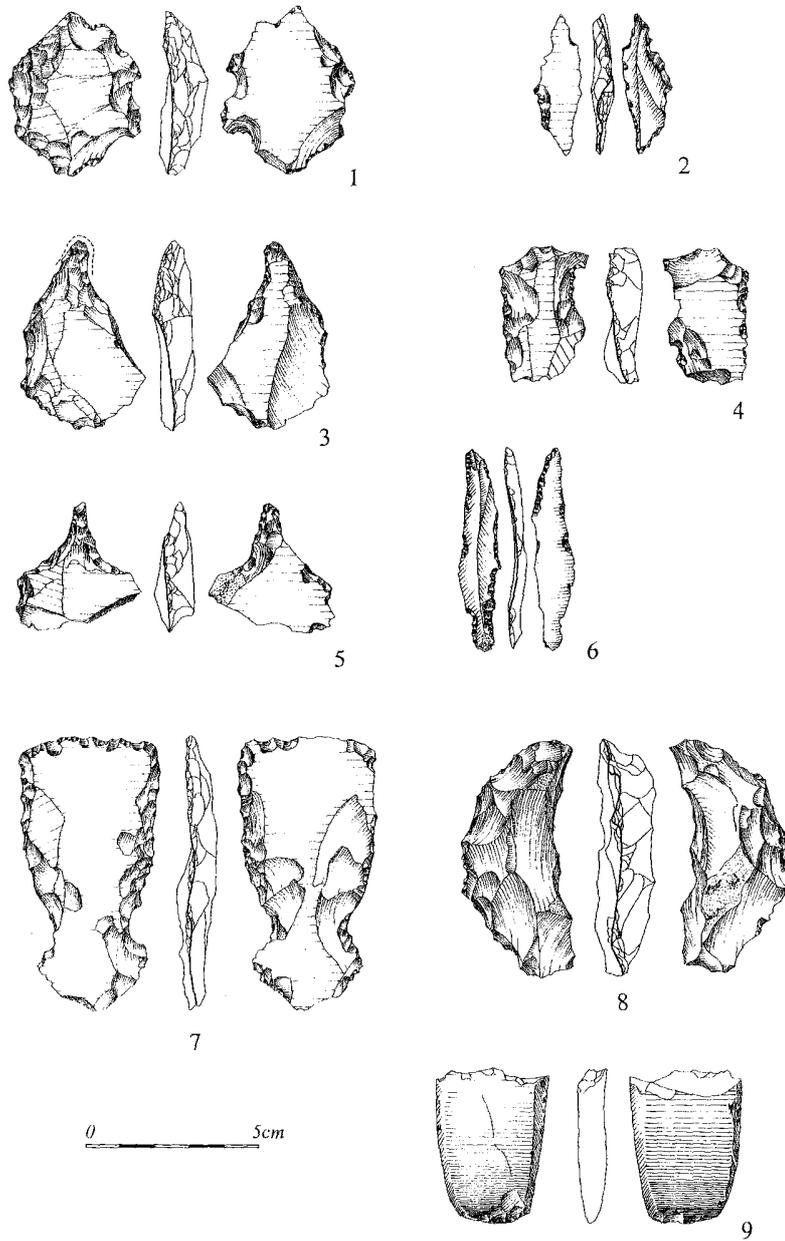
This is only a very preliminary report concerning the study of the Old Kingdom stone assemblage from 'Ain El Gazzareen. The investigation will be continued in years to come.



“Fig. I. Ein-el-Gezzareen. 1-2 – sickle blades; 3-4 – heavy duty scrapers; 5-6 – end scrapers.”



“Fig. II. Ein-el-Gezzareen. 1 – flat scraper; 2 – nosed scraper; 3 – crescent knife; 4 – bifacially retouched knife; 5 – triangular knife; 6 – rectangle; 7 – chisel. “



“Fig. III. Ein-el-Gezzareen. 1 – denticulate; 2 – double backed perforator; 3 – groover; 4 – notch; 5 – perforator; 6 – projectile point; 7 – double notch; 8 – crescent; 9 – stone axe.”

El Qasr 33/390-M5-2.

Dr. Fred Leemhuis, the director of the Qasr Project, writes:

**Report on restoration and research activities of the Qasr Dakhleh Project (QDP)
during the 2003 season**

During the 2003 season a beginning was made with the restoration of Bayt al-Qadi in the historical centre of al-Qasr in the Dakhleh Oasis. The restoration of Bayt al-Qadi was divided into two distinct parts: the restoration of the interior of the building and the restoration of the exterior.

Restoration of the exterior and connected research

In order to be able to check the foundation of the southern and eastern outer walls of Bayt al-Qadi it proved necessary to clean out the rubble from the adjacent buildings which are in a state of total collapse; not more than about two and a half meters of the walls were still standing and the enclosed spaces were totally filled up with the mud brick of the collapsed building. This clearing out was vital for the restoration, because the instable rubble was unsafe for placing the scaffolding in order to be able to repair the cracks and big holes in the outer walls (ill. 1). The parts to the south and the east directly adjacent to Bayt al-Qadi were cleared from mud bricks and rubble.

Very early in the clearing process objects and pieces of paper with writing on it were found. These were apparently not retrieved when the house had collapsed. Thus the clearing out was executed carefully and in a responsible way, because the thick layer of rubble (ill. 2) could be considered as containing a kind of archive in which, at least partially, the situation of the habitation at the moment of the collapse of the house was preserved. This turned out to be the case. On the very first day a document, a dated letter from 1308 AH/1891 AD (ill. 3) was found. In the almost six weeks, during which the clearing out took place, a large amount of objects and more than 180 documents were found, varying in age from about 30 to 300 years. It is most likely, that the majority of the document finds were part of a family archive, because of the fact that most of the documents were found in a relatively restricted area. Apart from documents, objects were

also found. The objects, mainly pottery shards and household goods (probably dating from the time of collapse of the building), and the paper documents were all recorded and listed according to the place and approximate depth where they were found.

The documents are quite varied: dated letters (ill. 3), dated contracts (ill. 4), fragments of the holy Qur'an (ill. 5) and magical texts (ill. 6). These documents are very important, because little is known about al-Qasr from this period. They will be studied carefully in the coming seasons, but it is already interesting to note that the fragments of the Qur'an appear to be of the reading of Ibn Muhaysin, which reading is connected with one of the Meccan traditions. It may be more than coincidental that the house to the south of Bayt al-Qadi is said to have belonged to the Qurashi family, which according to tradition emigrated to al-Qasr from Mecca.

The study of the more than 300 objects (ills. 7, 8 & 9) that have been found will give insight in the traditional way of living in the pre-modern past of al-Qasr.

When the floor level of the adjacent parts was reached, exploratory soundings were made next to the southern wall of Bayt al-Qadi and the standing façade wall of the collapsed neighbouring Bayt al-Qurashi to explore the state of the foundations (ill. 10). Because of the probable presence of archaeologically relevant objects in the ground archive, these probes were also executed in an archaeologically sound way. Next to the conclusion that the foundations were in a good and stable condition, it became clear that the present habitation level has been preceded by at least two previous ones. The floor level of the first habitation level below the present one was encountered at approximately 80 cm. under the present one and clearly date from before the building of Bayt al-Qadi (1702). There are clear indications that the street pattern of this level of habitation differed from the present one. One of the walls of a building, which was probably residential, crosses right under the present street. This probably indicates that in the period that Bayt al-Qadi was built a new phase in the history of al-Qasr. Under the floor level of this first habitation level below the present one at about 110 cm. below the present level a hollowed out log was found which appears to be some kind of a water channel (ill. 11). The finds of pottery shards from the different levels make a reasonable case for the assumption that al-Qasr was inhabited in Mamluk times (15th century and

before) at the least. The second level of habitation below the present one (from app. 80 cm. till app. 190 cm.) was encountered in the deepest of the two probes. In both trenches objects were found, notably Mamluk green glazed pottery shards (ill. 12). At the bottom of the second probe a small glass *sanja* or standard weight (ill. 13) with the name and the titles of the Fatimid caliph al-Mustansir Billah (1036-1094) was found; the first tangible evidence of habitation of al-Qasr in the 11th century. The probes were backfilled with clean sand. The results of these soundings clearly demonstrate the importance of further excavation in al-Qasr.

The study of the different finds has also started. It is already clear that the new data are of great importance, not only for the pre-modern history of al-Qasr, but also for a better understanding of human adaptation in the extreme circumstances of the oasis which has been very isolated until fairly recent times.

After the clearing out of the above-mentioned parts and the backfilling of the foundations soundings with clean sand a beginning was made with the repairs and partial reconstruction of the southern and eastern exterior wall. Most of the structural damages have been repaired. Some of the larger cracks had to be connected with wooden bindings and some parts were reconstructed (ill. 14 & 15).

The collapsed parts of buildings to the southeast and the east of Bayt al-Qadi that were partially cleared out proved not to be adjacent buildings. These buildings were in the past being connected with Bayt al-Qadi and formed part of it. However, it is not yet clear whether they are contemporaneous with the original building. Two blocked door openings in the southeastern and eastern walls on the ground floor of Bayt al-Qadi which gave access to these parts suggest that they were.

Finally the façade on the western side was restored and the window openings were again provided with trellis-work of the old pattern (ill. 16 & 17).

Restoration of the interior

Thanks to the preparatory work of the 2002 season, the restoration of the interior of Bayt al-Qadi could be embarked upon successfully. Because of the clearing out and

cleaning of the previous season and the manufacture of about 9000 mud bricks, no preparatory work was necessary. Only a few temporary repairs had to be done again.

Generally speaking, the restoration was executed by starting at the ground floor and working upwards to the top floor. All stages of the restoration have been photographed and drawn onto the drawings that were made last year (see annexe).

On the ground floor as well as almost everywhere else in the building, damaged parts of walls were reconstructed and cracks in walls repaired, mostly by strengthening them in the traditional way with wooden joints (ill. 18). The doorways were repaired, adding new wooden lintels. In room nr. 4, two blocked doorways to the exterior were reopened and reconstructed (ill. 19 & 20). In room nr. 5, a non-original doorway was closed again and the wall reconstructed.

In the stairwell (room 2), the wooden covers of the steps were repaired on each floor or replaced with new ones, according to the traditional pattern. In the whole stairwell, the wooden floors with ventilation gaps were freed and restored when necessary (ill. 21 & 22). On the top floor of the stairwell, the blocked access to the third floor was cleared and the missing wooden floors were installed again according to the old pattern.

On the first floor, the damaged and dilapidated floors in rooms nr. 1, 4, 5 and 6 were removed (ill. 23). In the rooms nr. 4, 5 and 6, missing supporting beams were replaced by palm trunks which were cut to measure on the spot (ill. 24). Subsequently, the new floors consisting of palm branches stripped of their leaves (ill. 25) and bound together with string from palm fibre were put in place according to the old pattern (ill. 26 & 27). The string from palm fibre was in great quantities made in the traditional fashion by women from al-Qasr (ill. 28). Entirely in the traditional way, the floors were then covered with the leaves of the palm branches on which pieces of mud bricks were laid (ill. 29 & 30). Finally, the floors were covered with fine sand. In the same way as on the ground floor, the walls and doorways were repaired and several niches in the walls were reconstructed.

On the second floor, a large continuous crack in the eastern wall of room nr. 4 was repaired with connecting pieces of wood and filled up. The southern wall of the same room was reconstructed (ill. 14). Because there were no springing points of beams to be seen, this room has not been covered with a ceiling. It is not clear whether this room was originally covered or not. A closer inspection will clarify this question. If necessary, a new ceiling can be fitted. The damaged and dilapidated floor in room nr. 3 was removed, a new beam was fitted in and a new floor was laid. In order to bring the large room (nr. 5 and 6) on this floor into its original state, the dividing wall that had been added at a later period was removed (ill. 31) so as to form one big hall. The damaged and weakened floor in the western part of this hall was removed, a new beam was fitted and a new floor was laid. Subsequently, the hall was brought back into its original state by putting up walls to the original height, reconstructing two big windows (ill. 32) on the basis of the still present remains and a new ceiling was put into place by using the original holes for the beams (ill. 33). On the entire floor, the niches were reconstructed.

On the third floor, which was intended as roofless sleeping-quarters for the summer, room nr. 1 was repaired and rooms nr. 2 & 3 reconstructed (ill. 34). The reconstruction of the room above the reconstructed hall above the second floor is not finished and will have to be undertaken during the next season.

At the end of the season, the entire house was structurally in a good condition again, although not everything that had to be done was completed. The northern wall has still to be checked on the outside. This wall is partially a connecting wall with the adjacent building and reparations and clearing work have to be undertaken there before this can be done. The study of the history of the building finally made clear that the rediscovered and reopened doorways on the ground floor on the eastern and the south-eastern side gave access to annexes or open courtyards of which the outlines have been defined. These parts, of which it was not clear at the beginning of the restoration whether they were part of the house will be reconstructed during one of the coming seasons on the basis of the discovered building elements. The whole house will still have to be plastered inside. This will be done in the traditional way. New doors according to the old pattern

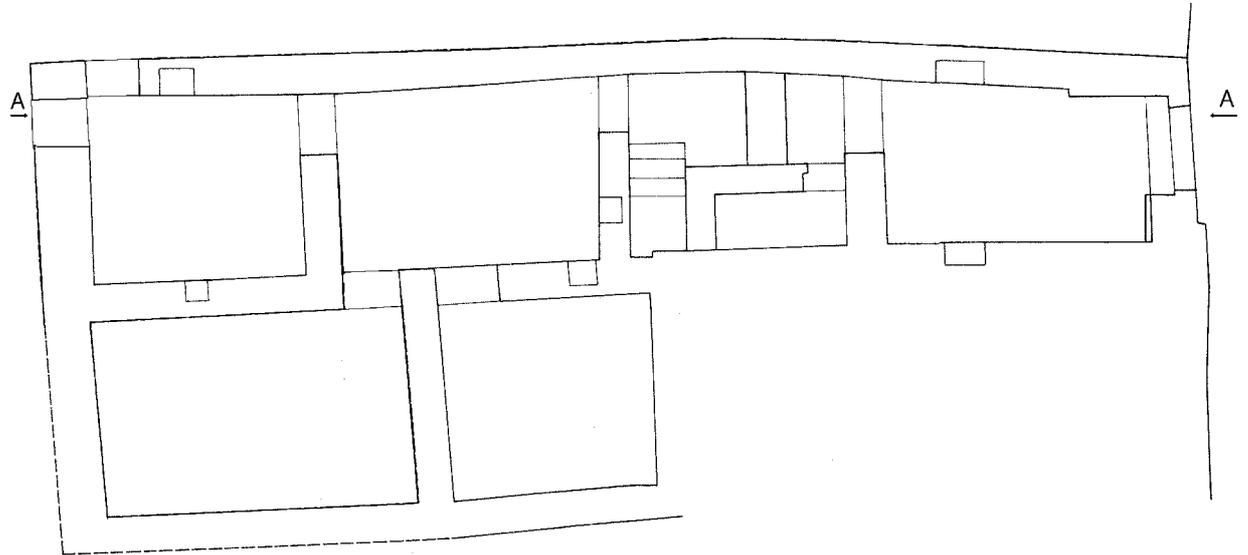
will be made for each doorway. Once this is done, Bayt al-Qadi will be suitable for residence again.

During the work it appeared that the transfer of knowledge of old techniques under the direction of master craftsmen played an important part in the restoration activities. This transfer took place in the form of training on the job in that each master craftsman had his own team of workmen. It was interesting to see that after three weeks of work the senior master, Mr. Ahmad Salix Mohammed stated the judgment that according to him one of the workmen, namely Mr. 'Abd-al-Gaffer Mohammed was experienced enough to be a master. The other present master, Mr. Sushî 'Abdallâh Sansui agreed with this judgement. After consultations with the chief restorer and the field director, this decision was passed on to the new master, to whom a special team was allocated immediately. And, as if he had never done anything else before, he directed and taught them from then on. Thus this project was also important for the transfer and expansion of knowledge and the mastery of various traditional techniques that are needed for the restoration of old mudbrick houses in al-Qasr.

The restoration and research team consisted this season of Anetta Piber-Łyżwa MA of Warsaw University (24 January – 25 February), Ir. Wolf Schijns of the Technical University of Eindhoven (19 February – 5 March) and Dr. Frederik Leemhuis (19 January – 29 March) in close cooperation with Mr. Ahmed Salem, chief inspector Islamic Antiquities of the Supreme Council of Antiquities in Dakhleh, with supervising inspector Mr. Magdi Mohammed Abdallah, inspector for Islamic Antiquities of the SCA in al-Qasr and with Mr. Rizk Abdalhay Ahmad, chief restorer for Islamic Antiquities of the SCA in Dakhleh, together with a team of 4 master craftsmen and 22 workmen.

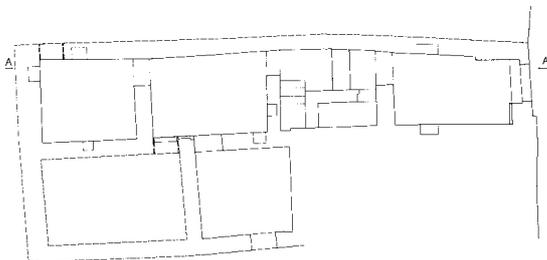
We can look back with great satisfaction on a successful season of restoration in al-Qasr, thanks to all the people mentioned in this report. Their dedication, especially that of the local workmen, has made the first phase of the restoration of mudbrick houses in al-Qasr, which must eventually lead to the reconstruction of this unique historical little town, a success.

Annex



Ground floor Bayt al-Qadi
situation 2003

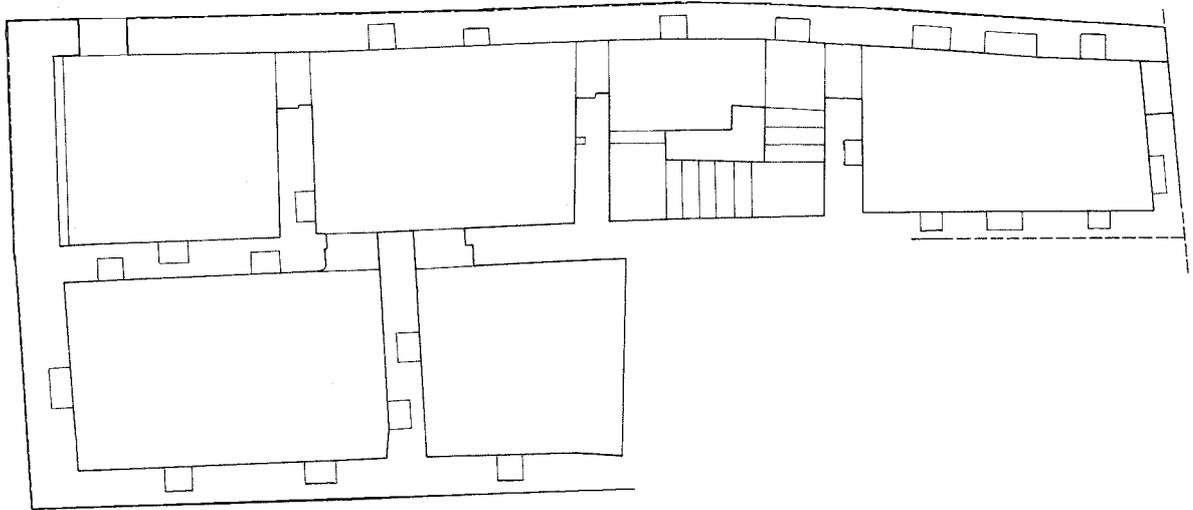
4	3	2	1
6	5		



Ground floor Bayt al-Qadi
situation 2002

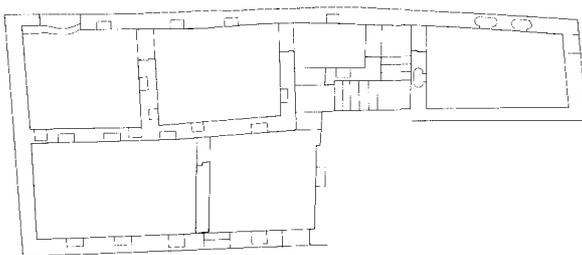


First floor Bayt al-Qadi
situation 2002

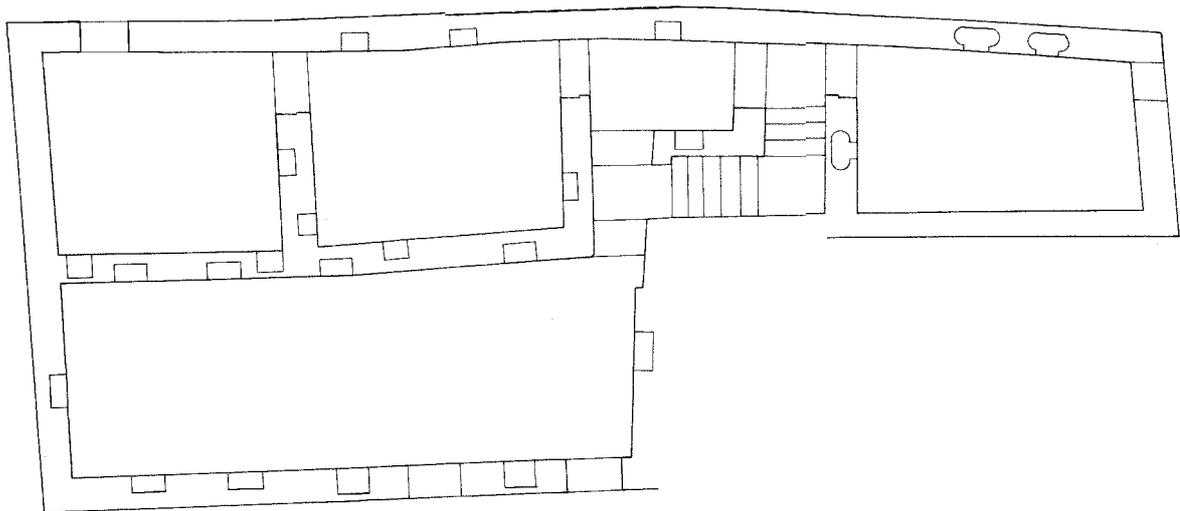


First floor Bayt al-Qadi
situation 2003

4	3	2	1
6	5		

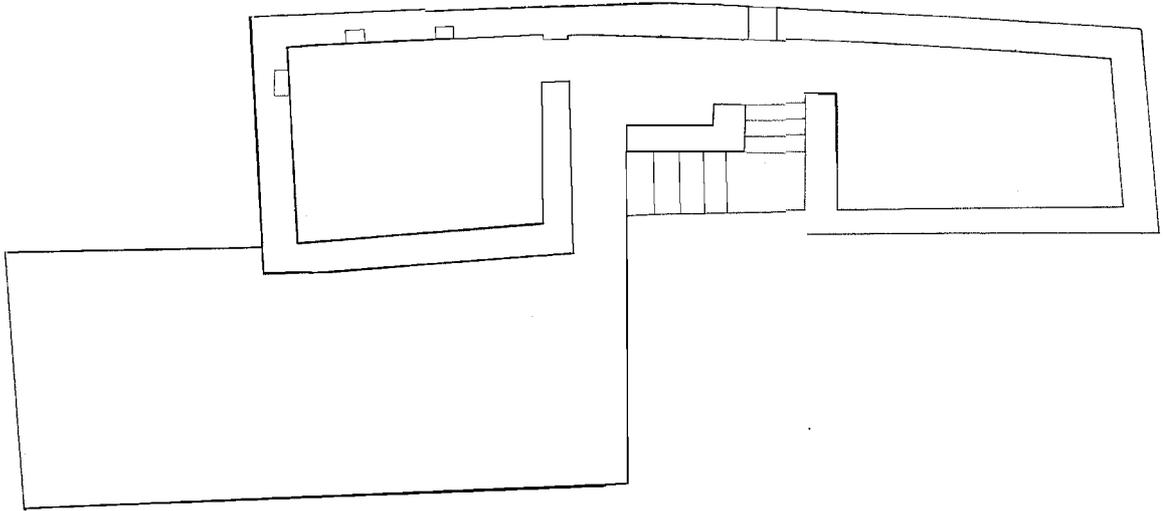


Second floor Bayt al-Qadi
situation 2002



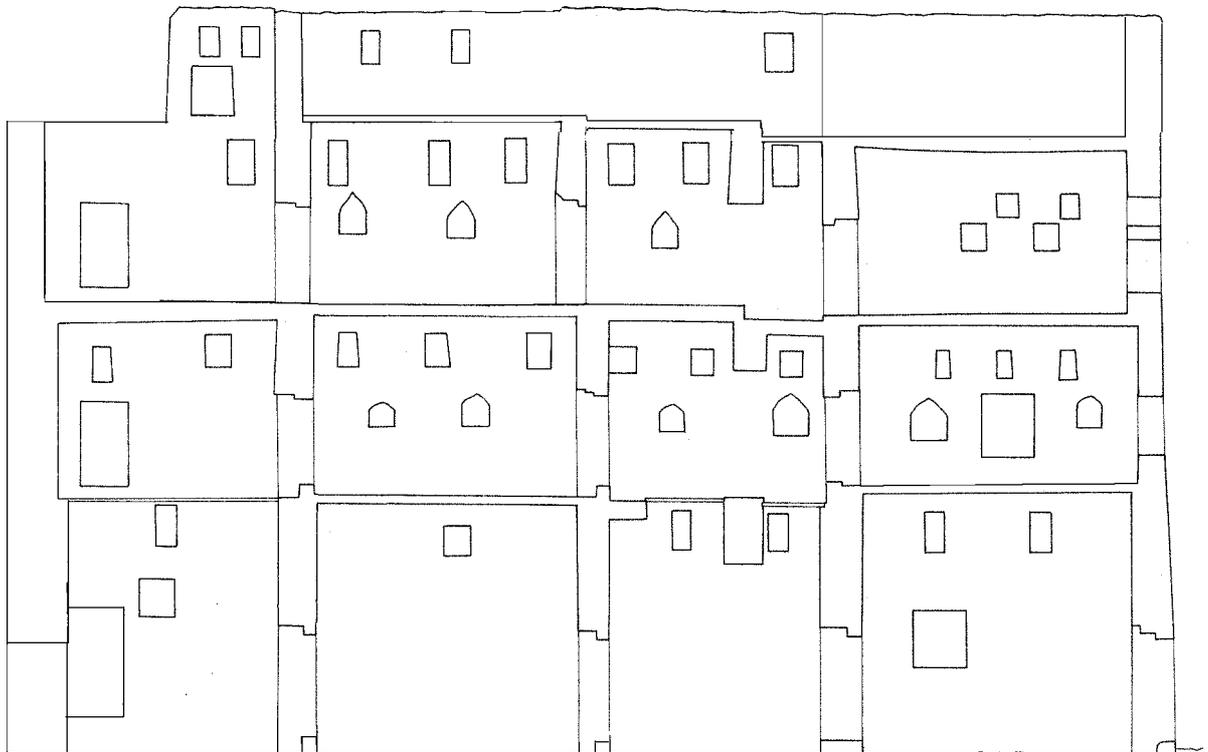
Second floor Bayt al-Qadi
situation 2003

4	3	2	1
6	5		



Third floor Bayt al-Qadi
situation 2003

4	3	2	1
6	5		



Section Bayt al-Qadi
situation 2003

0 5m



Section Bayt al-Qadi
situation 2002

0 5m



Ill. 1 Southern exterior wall of Bayt al-Qadi before restoration



Ill. 2 Situation south of Bayt al-Qadi before clearing



Ill. 3 Letter from 1891



Ill. 4 Multiple contract from 1720



Ill. 5 Fragment of Qur'an manuscript



Ill. 6 Magical text



Ill. 7 Embroidered purse



Ill. 8 Wooden spoon



Ill. 9 Wooden comb



Ill. 10 Sounding in the corner between the southern wall of Bayt al-Qadi and the façade wall of Bayt al-Qurashi, looking to the west



Ill. 11 Hollowed out log in situ in deep trench, looking east



Ill. 12 Mamluk glazed pottery



Ill. 13 Fatimid glass weight



Ill. 14 Partially reconstructed southeastern doorways



Ill. 15 Southern exterior wall of Bayt al-Qadi after restoration



Ill. 16 Façade of Bayt al-Qadi after restoration



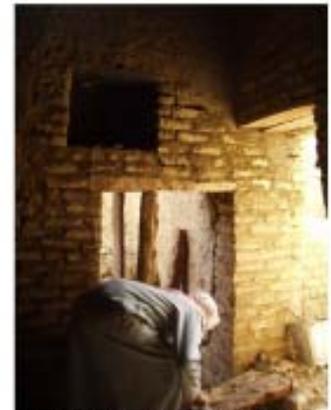
Ill. 17 Trellis above the front door



Ill. 18 Binding with wood



Ill. 19 Reopened doorways



Ill. 20 Reconstruction of reopened doorways



Ill. 21 Upper part of stairwell leading to top floor



Ill. 22 Restored wooden floor with ventilation gaps in stairwell



Ill. 23 Removal of damaged floor in room 3 on second floor



III. 24 New floor beam in room 3 on first floor



III. 25 Stripping palm branches



III. 26 New flooring in room 3 on first floor



III. 27 New flooring in room 3 on first floor



III. 28 Production of palm fibre string



III. 29 Floor covering with palm leaves



III. 30 Floor covering with mud and broken bricks



III. 31 Removal of dividing wall between rooms 5 & 6 on second floor



III. 32 Reconstructed window



III. 33 The reunited and restored rooms 5 & 6 on second floor



III. 34 Rooms 2 & 3 on top floor