# NEWSLETTER

#### Editorial

I t has been more than twenty years since the first issue of the Newsletter appeared. appeared. All through this time it successfully achieved its mission of conveying to conveying to the scholarly world reports and news about the activities of the faculty members at the Institute - later Faculty - of Archaeology and Anthropology at Yarmouk University.

Today, it is my pleasure to present this new issue of the Newsletter to our readers. As you must have noticed, it has been enhanced with a brand new design and layout. This is one of the first fruits of our recently established "Publications Office" at the faculty entrusted with the responsibility of producing publications in a professional manner, corresponding with the status of the Faculty and its activities.

However, I should admit that this positive change follows a period during which the Newsletter did not appear regularly due to circumstances beyond our control. For this lapse we offer our apologies, with the assurance that the difficulties previously faced have now been overcome and we intend to be much more prompt in the future.

As this issue of the Newsletter appears, one of its main contributors, and a much known and loved figure in Jordan's archaeological arena, will be sadly missed. Last December, our dear colleague, Nabil al-Qadi, passed away, leaving behind him many friends and colleagues who greatly appreciated his professional and personal qualities. We all pray that his soul may rest in peace.

**Editor in Chief** 

Zeidoun al-Muheisen

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## KHIRBAT ADH-DHARIH 12<sup>th</sup> SEASON OF

#### **EXCAVATIONS AND RESTORATIONS, 2004**

#### Zeidoun Al-MUHEISEN François VILLENEUVE



Dharih is a middle-sized site in the countryside, 100 km to the north of Petra. It is located close to the «King's Highway», the most important caravan road to link the north and the south of the Near East. The archaeological project in the site began in 1984 and has so far dealt with the following aspects:

- The chronology (Pottery Neolithic A; Early Bronze Age; Edomite in the Iron Age II; 1<sup>st</sup> to mid 4<sup>th</sup> century AD; end 6<sup>th</sup> to beginning of the 9<sup>th</sup> century AD, and eventually around 15<sup>th</sup> to 16<sup>th</sup> century AD).

- The large and luxurious Nabataean sanctuary, a valley-sanctuary close to the high-place sanctuary at Tannur (excavated in the 1930s). Tannur was probably dedicated to occasional processions (equinoxial, in particular).

- The small village (2<sup>nd</sup>-4<sup>th</sup> centuries AD) formed by peasant-houses, oilpresses and a luxurious seigniorial house.

- The necropolis, consisting of two cemeteries, where a monumental tomb belonging to the most influential family is located, built around AD 1100.

- Several agricultural and hydraulic traces.

- The hamlet (Christian, later Muslim) of the Late Antiquity, limited to the northern courtyard of the Nabataean-Roman sanctuary.

This remarkably beautiful site, located within a large uninhabited valley, has now become an interesting spot for both local and foreign visitors and tourists, due to its location on the main touristic route in Jordan. On the other hand, Dharih is, with Humaymah (south of Petra, excavated by a north American team), the only site to be thoroughly studied in the Nabataean world east of the Jordan River, and its remains are more diversified and better preserved than those in Humaymah.

Excavations within the cemeteries, the village and the remains around the site have already ended. Plans to finish digging within the sanctuary area and its annexes are also underway in order to prepare the site for final presentation to the public as soon as possible. The 12<sup>th</sup> season, in the summer of 2004, was conducted with this perspective as it concentrated on large-scale operations of cleaning, restoration and soundings within the sanctuary and near it.

Fieldwork lasted from June 26<sup>th</sup> to August 29<sup>th</sup>, 2004. Housing was provided by the Girls School of al-'Is village. A big crane from Yarmouk University's, Department of Transportation and bulldozers from Tafilah Municipality were of considerable help for heavy tasks. The team of archaeologists and technicians included up to 35 people, among them 13 Jordanians, 17 French, 1 Moroccan, 1 Algerian and 1 Bahraini student at Yarmouk University, 1 Swiss, and 1 Belgian teaching in Canada. The project also employed up to 60 local workers from Tafilah area. The team was visited during the season by a group of Iraqi archaeologists, many Jordanian professors and archaeologists, and the French ambassador Casa.

Apart from the digging itself, some specialized studies took place. A French graduate student, H. Gautier, started the charcoal and seeds study - the charcoals are still under examination; the seeds are mainly wheat and barley, *hummus*, peaches, grapes, and olives. The American scholar M. Perry included Dharih in an important program for measuring the percentage of strontium in animal and human bones: first results for Dharih have proved to be stimulating but perplexing, as they suggest that people buried in Dharih during different periods of antiquity were not of local origin but could have come from the Petra-Quweira area.

**Consolidation and restoration activities** were exceptionally important during this season. Hundreds of tons of debris accumulated through eleven seasons of excavation over a large area were removed to the south-east of the temple. Tens of meters of ancient walls were consolidated. Limited parts of walls of the late antique hamlet within the Nabatean-Roman aspect of the same spot were reconstructed. We carried out anastylosis work (including stone cutting and carving), especially on the northern (rear) wall of the temple, on the cultural platform and on the apse of the Byzantine church built inside the temple. Beside that, all the metallic objects and tens of pottery vessels were restored.

*Excavation* activity concentrated mainly on Area A, located on the sacred way towards the sanctuary; the southern area of the sanctuary, S7; the external areas of the temple, to the north (S9) and east (S10); the Eastern Gateway to the sanctuary (S2B-S11B); and eastern parts of the main (northern) courtyard (S2) of the sanctuary's *Pre-Nabataean phases*.

The season confirmed the presence of final Early Bronze Age and Edomite remains on many locations. In particular, a very thick Early Bronze IV destruction layer was present everywhere in Area A, immediately below the buildings of the 1<sup>st</sup> to 3<sup>rd</sup> centuries AD. The Edomite level, absent there, exists in Area B, some meters to the east.

#### 1<sup>st</sup> Century AD

Some additional discoveries made during the season contribute to the documentation of the first, small, sanctuary of Dharih, which is largely obliterated by the later sanctuary. A segment of the earlier sanctuary was discovered near the northwest angle of the later temple. The sounding there produced Nabataean painted pottery of a type dated around AD 20, which gives an approximate indication (at least a *terminus post quem*) of the building of part of the earlier sanctuary.

#### Area A

The season confirmed the indications obtained during the 2001 season in that interesting area, which served as a stop for travelers before entering the sanctuary. It was built in the late 1<sup>st</sup> century AD/ early 2<sup>nd</sup> century AD, and occupation there ended already by the 3<sup>rd</sup> century, one century earlier than elsewhere on the site (AD 363). Early destruction is also demonstrated in area S7, on the southern limit of the sanctuary. As a Palmyrene coin of Wahballath, Zenobia's son, dated AD 273, was discovered in area A, we suspect that the spot could have been destroyed during the campaign of the Palmyrene army in the late 3<sup>rd</sup> century.

Area A consists of an unpaved street leading towards the sanctuary, a caravanserai and annexes to the east of the street, and baths to the west. The caravanserai, a poor-quality building which was partially destroyed and modified many times, includes a large rectangular courtyard and a series of rooms to the east, north and south of the courtyard. It opens towards the street through a gateway (A5): the room to the south of the gateway was probably a guard-room (metallic weapon-heads found there). In the South aisle, the long and narrow rooms A4 and A10, without any fragment of objects inside them, could be stables. The bath (A2) is badly preserved, due to the reuse of its stones and pavement slabs by Byzantine rebuilders of the sanctuary area. Nevertheless, the heating system (hypocaust and ceramic pipes) of the hot room (caldarium) is quite well preserved, below floor-level.

#### The Sanctuary in the 2<sup>nd</sup> Century AD (Phase A)

That later sanctuary has actually a long history, where we may crudely distinguish phase A (early-middle  $2^{nd}$  century), main period of building activity, and phase B (late  $2^{nd}$  to mid  $4^{th}$  century) with a series of changes. The northern part of sounding S8, outside the north-west angle of the temple, provided a lot of potsherds of the foundation level. It can be roughly dated around AD 100, plus or minus 20 years. Due to that uncertainty, we are not yet able to say if the



building activity started before or after the Roman annexation of the Nabataean kingdom (AD 106).

North of the temple (rear part), area S9 was completely cleared to the circulation level around the temple. It was the level of a pavement, which actually has completely collapsed (earthquake of AD 363) in the underground room situated below, which has not been excavated yet.

A large-scale excavation of area S10, to the east of the temple, revealed, on the contrary, a solid pavement everywhere, and no underground room below. The area was densely built later, during the Byzantine-Umayyad reuse. The most interesting discovery there are the remains of a small sacrificial altar, 3.64 square meters, built very close (7 Egyptian cubits) to the east of the temple's eastern wall. A few elements of the altar decoration were also discovered such as a miniature Nabataean pilater capital *in situ*, and a relief depicting a *nefesh* on the front of a *pyramidion*. The sacrificial function of that building is confirmed by its proximity to the Eastern Gate of the sanctuary, which was entirely cleared in areas S2B/S11B (after dismantling its later blockings). That wide gate, with a very low threshold, was probably used as an entrance of animals meant for ritual sacrifices.

#### Changes in the Sanctuary in the Late $2^{nd}$ – mid $4^{th}$ Centuries (Phase B)

The main change was discovered due to soundings in area S7, at the southern entrance of the sanctuary. Soundings of this season demonstrated that a series of 3 large rectangular rooms, adjacent to each other, were added around AD 200 to the sanctuary, south of the southern courtyard. These rooms, which served for some time as cultural *triclinia* (banquetting rooms with benches on three sides), were dismantled in the late  $3^{rd}$  century. At that time, this area was used temporarily as a huge working-place for workers employed in a building program of sanctuary additions, which actually were never finished.

#### *The Christian Settlement* (*Late 6<sup>th</sup> Century – Mid 7<sup>th</sup> Century?*)

As during every season, a series of domestic ordinary units of that period, located within the northern courtyard of the Nabataean sanctuary, were cleared. The most interesting element discovered this year from the period, was a long lintel, adorned with an incised Greek cross inside a circle. Two rosettes flank the cross.

The lintel was found near the southern gate of the main courtyard of the sanctuary. This gate served in the Byzantine period as a main entrance to the hamlet and the lintel probably belonged to it.

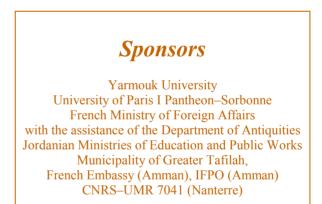
#### The Early Islamic (Umayyad and Early Abbasid) Settlement

Apart from domestic units of the same kind as in the Byzantine period, the main discovery was that of a small, very well preserved (2 to 3 m. high), late antique bath. It is located near the south-eastern corner of the sanctuary's main courtyard. It is built directly on the pavement of that courtyard, and has an over-elevated pavement, in order to accommodate the underground heating system (brick hypocaust) between the lower and higher pavements. Its plan is an elongated rectangle and includes two small chambers with stone benches at the bottom of the walls, vertical ceramic heating pipes within the walls, and a couple of heated basins (actually square coated bathtubs) at the southern end. The furnace was located at the bottom of the outer southern wall. Some devices of that bath have a few similarities with the (much larger) bath of the Umayyad palace in Khirbat al-Mafjar near Jericho.

A series of Arabic inscriptions and graffiti of the early Islamic period, none of which are *in situ*, were also discovered at various spots in the northern courtyard of the sanctuary. One is quite interesting due to its position: a long text written on the north pilaster of the north-east angle of the temple. However, it has not been deciphered yet. The most important document,



found near the Eastern Gate of the sanctuary, is a short monumental inscription, a dedication by  $Hi\bar{s}\bar{a}m$  bin  $\bar{S}\bar{a}b\bar{u}r$ , dated 79 Hg (thus AD 698-699). It is one of the earliest Islamic inscriptions to be discovered. The date clearly demonstrates that Dharih was already an Islamic place (at least partially) in the late 7<sup>th</sup> century AD.



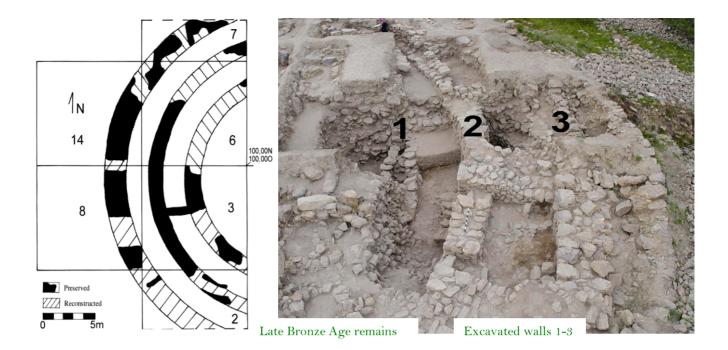
## TALL JOHFIYEH

#### A BRIEF REPORT ON THE 2007 SEASON

Ziad AL- SAAD Roland LAMPRICHS

Note the joint directorship of Ziad al-Saad and Roland Lamprichs, a fourth season of archaeological excavations at Tall Johfiyeh was conducted from 15 April to 10 May 2007. The Gerda Henkel Stiftung (Foundation) in Düsseldorf, Germany, and Yarmouk University in Irbid, Jordan, jointly funded the project. This season looked into more than 220 square meters within seven trenches. The work was mainly aimed at studying the archaeology of the early phases of the site, documenting its remains and increasing our knowledge and understanding of the Late Bronze Age remains at Tall Johfiyeh. New and conclusive information concerning the stratigraphy, pottery-sequence and architectural remains of the site's lower levels, considered to be a round megalithic building made of large lime- and flint stones, have been obtained.





Following the results achieved in 2007, Tall Johfiyeh was founded on natural bed-rock during the Late Bronze Age as a huge circular "structure" measuring more than 50.00m in diameter. As shown by our excavations, it was made up of several concentric walls (>3), each separated by a distance of approximately 2.00m. The areas in between were filled with medium sized lime- and flint stones forming a huge megalithic structure of a yet unknown function. Its general state of preservation is good and the excavated parts of the concentric walls still have a height of more than 4.50m. A layer of lime finally covered and sealed the megalithic structure. The reason for this is not clear and convincing parallels are hardly known in the region. Only the central part of Ruim Hiri, a site situated in the southern Golan area, shows some similarities with the megalithic structure excavated at Tall Johfiyeh. An interpretation as a Late Bronze Age cairn seems possible. More scientific investigation and excavations, however, are badly needed to verify this hypothesis.

Besides some bone-, flint- and basalt-fragments only pottery sherds, an arrow-head made of bronze, a bead-fragment and a few pieces of wood have been found at the lower levels of Tall Johfiyeh in 2007. The registered pottery assemblage is characterized mainly by forms affiliated to the Late Bronze Age. Sherds of the so called "chocolate on white" types are common. Only a few pieces date to the following Iron Age occupation of the site.

In sum, by this season it became clear that two main phases of "occupation" have to be separated at Tall Johfiyeh. They are characterized by:

- A circular megalithic structure dating to the Late Bronze Age. Its function is still unknown. An interpretation as a cairn seems possible but has to be verified.

- Several installations affiliated to farming activities were established on top of the Late Bronze Age remains during the Iron Age I-III. Among others, a farmstead consisting of a main building, and several storing and processing facilities were built within a perimeter wall.

After a gap in occupation Tall Johfiyeh was resettled during the Umayyad period. The architectural remains of this period were concentrated on the fringes of the site and in a small area on top of the mound. Afterwards, the site was abandoned.



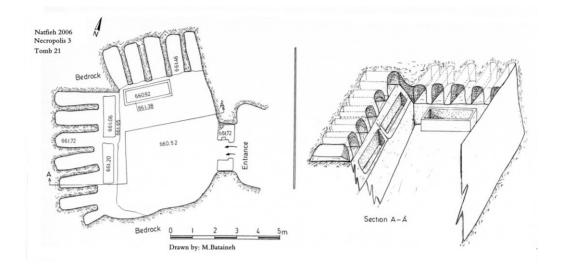
#### Mahmoud AL-NAJJAR, Jerome C. ROSE Muwafaq AL-BATAINEH



Project: Bioarchaeology Duration: May 21- June 15, 2006 Sponsors: Yarmouk University, Jordan University of Arkansas, USA

T he goals of the Bioarchaeology projects in North Jordan project are: (1) To reconstruct the health and diet of rural Roman/Byzantine villagers; (2) To refine our knowledge of the architectural variation in tomb construction; and (3) To contribute to our understanding of the rural economy as it has an impact on the lower social classes. Wadi Natfeh was visited by our team in July 2005 to assess its potential

for achieving our goals. The site was selected as the most suitable for conducting the 2006 field study with seven students, the co-directors/instructors, one faculty member from the Anthropology Department, University of Arkansas, and three staff members from the Faculty of Archaeology and Anthropology at Yarmouk University.



Excavation focused on a single row of horizontal shaft tombs along the east side of the wadi. Of the tombs in this row, 23 were excavated, and many robbed tombs were also evident in this row. The entrances were cut through hard limestone into the softer rock below, leaving the hard rock as the roof of the tomb. All these tombs had been robbed in recent times except one, which had been robbed in ancient



times, with the door replaced and the bones piled neatly at the end of the tomb. Osteological analysis indicates that these tombs were primarily for single adults. Thirteen tombs had only adult remains, with only two being sexed, one male and one female. One tomb contained only a single 10-year-old juvenile. Another contained four subadult individuals: 0-6 months, 2-3 years, 5 years, and 11-15 years. No osteological evidence of disease was found, although one person had suffered four episodes of childhood stress/disease.

In the row below, two of the many robbed tombs were excavated, to reveal an interacting tomb type. These horizontal shaft tombs had an entrance cut as those above but the tomb chamber was only 1 meter deep and 40 cm wide. If a body were placed in these tombs, the feet would extend beyond the covered portion. This tomb type deserves more attention and future excavation.

A large horizontal chamber tomb on the west wall of



the wadi was also excavated. This tomb was extensively robbed and production dates on the food packages left behind by the robbers indicated their presence here as recently as January 2006. This tomb had a nicely carved door and doorway, all destroyed. The chamber has 12 loculi, 2 stone-cut graves into a bench-like shelf, and 1 sarcophagus. Bone and teeth indicate a minimum of 13 individuals including 8 adults (1 male and 1 female) and 5 subadults (birth, 6-18 months, 2-3 years, 6-12 years, and 12-15 years). No disease or nutritional deficiencies were found.





#### Mahmoud AL-NAJJAR, Jerome C. ROSE Muwafaq AL-BATAINEH

xcavation at Natfeh was resumed through the tripartite cooperation between Yarmouk University, the University of Arkansas and the Department of Antiquities in Amman and Irbid. Once again the main purpose of the excavation was to train students from both universities on how to survey the site, recover human skeletal remains and all other artifacts, analyze them, and write a final report that could be published in scientific journals. The students also learned about the various burial customs, burial



offerings, and bone diseases, as well as about paleoenvironment and paleodiet.

#### **Excavation and Findings**

During this season 31 burials were excavated. These burials were all dug in solid rocks, usually horizontally, with only one individual in each burial. All burials were dug in rows and oriented west to east. Thirteen human skeletons were uncovered during this season in an extended position except burial No. 46 which differs from all other burials in that the two individuals were buried in a flexed position. It ought to be mentioned that not all burials were completely preserved as some were fragmentary as a result of humidity and rainwater. As for burial offering, little was found which included copper bracelets, one metal coin, a broken glass cup, four beads and part of a silver finger ring. This may be due to the fact that most early graves in Jordan have been robbed in antiquity as well as in modern times.



#### Lamia EL-KHOURI

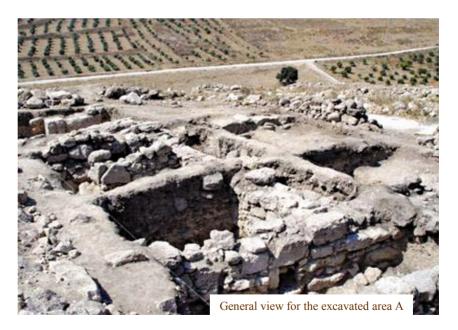
The excavation started in the 9<sup>th</sup> of July 2006 and lasted for 6 weeks. The project was carried out by an archaeological team from the Faculty of Archaeology and Anthropology at Yarmouk University in cooperation with the Jordanian Department of Antiquities, and directed

by Lamia El-Khouri. The staff consisted of the author, responsible for the excavation and photography; Muhammed Jaradat. Maher Abu Tarboush, Ali Rahabneh (area Husein supervisors), Deebajeh (photographer), Muwafaq Al-Bataineh (surveyor), Adnan Negresh (representative of the Jordanian Department of Antiquities), students of the Department of Archaeology and local workers.

Barsinia (Barsina JADIS 2221030) is about 112000 square meters and is located in the north western part of Jordan, 15 km west of the modern city of Irbid, and 1.5 km east of the small village of Deir es-Si'neh. The site was mentioned for the first time by G. Schumacher and then by N. Glueck. It was visited afterwards during the "West-Irbid Archaeological Survey" in September 2005.

The work was carried out in area A at the western part of the site and in necropolis A at the eastern

and southern parts. The main architectural remains encountered in the excavated squares are of domestic nature with a number of rooms used continuously from the Hellenistic to the Umayyad periods with some modifications. The uncovered walls are of a medium quality, built mostly with

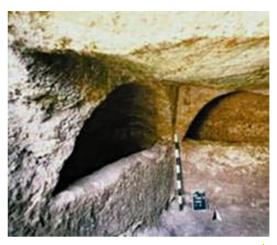


medium and large, both hewn and un-hewn stones. These walls were rebuilt during various phases as evidenced by the blocked opening of some entrances, the upper most levels of the walls that were built with different kinds of reused stones, and the variant quality of the building stones and techniques. One of the important characteristics of the structures is the paved flooring used during the Byzantine and Umayyad periods. Some of these floors were disturbed while others were restored and treated with lime mortar. Only one of the rooms has an intact pavement.

Iron Age and Hellenistic strata were encountered after two soundings at the lower level of two squares were excavated. These, together with surface finds, clarified the history of occupation in the site that started at least in the Iron Age and continued to the Ottoman Period. In the Iron and Hellenistic strata two silos (grain containers) built of small to medium sized rubbles were discovered.

In the squares, which were partially excavated down to the bedrock, there was considerable evidence of disturbance of the lower levels, particularly in the Roman and early phases of the Byzantine strata. The paved floors which were constructed in the Early Byzantine period were destroyed in the Late Byzantine and Umayyad periods. Traces of the damaged floors are still seen protruding from the walls, and still intact in some places. As a result, the paved floors were constructed early in the Byzantine period, when the earlier walls were used as foundations of the Byzantine structures. In the Early Late Byzantine/Early Umayyad period, the early Byzantine structures were reused with some changes in the arrangement of rooms. Some paved floors were removed and the lower level, immediately under the Early Byzantine paved floors (i.e. the Roman phases), were disturbed. The pavement stones were reused in blocking the earlier entrances and rebuilding the uppermost levels of the walls. This explains the presence of Late Byzantine and Umayyad potsherds under the levels of the destroyed paved floors. The Roman floors were not clear.

Four types of tombs were excavated east and south of the residential area; a chamber tomb with a shaft entrance (tomb 1), a cave chamber tomb with horizontal entrance (tomb 2), an individual simple carved tomb (tomb 3) and a monumental built-up tomb (tomb 4). The recovered bones from all tombs were extremely fragmentary and in great disorder due to robbery in recent and perhaps ancient times. The shaft tomb (tomb 1) contains three graves, one individual grave (grave 1) on one side of the shaft entrance, and a chamber with two graves (graves 2 and 3) on the



Tomb 2, Necropolis I

other side. Tomb 2 consists of a semi-square small chamber accessible by a descending staircase and an entrance to a wide doorway that leads to the burial chamber. The chamber contains three single graves of rectangular narrow *loculi* extending lengthwise into the rock. Tomb 4 revealed a new type of burial tombs at the site. It

is a kind of built-up tomb (mausoleum) of which only two courses of its outer walls were preserved. These outer walls were built of large sized stones. In the middle part of the monument a long grave was constructed using well-cut smoothly dressed large stones. The floor of the grave was paved with irregular flag stones. Of the entrance of this structure facing west, only the threshold was in situ.



Tomb 3, Necropolis I



#### MEDITERRANEAN NETWORK FOR CATALOGUING AND WEB FRUITION OF ANCIENT ARTWORKS AND INSCRIPTIONS

#### Project Work-Group

University of Pisa, the British Museum, Yarmouk University and the University of Saint Joseph

MENCAWAR is a two-year project funded by the European Community within the Sixth Framework Programme entitled "Integrating and Strengthening the European Research Area, Specific Support Measures in Support of International Cooperation".

MENCAWAR, an international collaborative

project, comprising the University of Pisa, the **British** Museum, Yarmouk University-Jordan, and the University of Saint Joseph-Lebanon, has been formed to create an online database of ancient South



Accessing our past http://mencawar.humnet.unipi.it

Arabian inscriptions and art, as well as Nabataean, Safaitic, Thamudic E, Moabite, Edomite, Ammonite and Phoenician texts.

This fully searchable database is a powerful research tool for historians, archaeologists and interested members of the public who wish to easily access and study these important inscriptions and artworks. Our project aims to increase awareness and preserve our cultural heritage.

The MENCAWAR project is an expansion of the very successful CSAI website first launched in

2004 which currently includes over 1200 ancient South Arabian inscriptions in Qatabanic, Awsanite, Sabaic, Minaic and Hadramitic inscriptions (http://csai.humnet.unipi.it). The partners will integrate their collections into this web-based corpus, offer training on the use of the cataloging software and collaborate through regular workshops. This web-based corpus has the unique advantage of being able to accommodate an ever increasing number of objects as well as constant updating to reflect new discoveries. The inscriptions and artworks are fully documented by trained experts. Each object is illustrated with photographs, and complete transcriptions and translations of all texts are provided.

MENCAWAR has the following top-level aims and objectives:

- To disseminate information on ancient Near Eastern artworks and inscriptions.

- To identify opportunities for further collaboration between EU members and south basin Mediterranean countries.

- To foster knowledge among researchers on the digitisation of ancient artworks and inscriptions in the Mediterranean region.

- To identify best practices and common understanding on cataloguing and digitisation processes.

- To create a network with informatics tools that can be used for cataloguing and extending its application to inscriptions and other artifact categories beyond ancient South Arabia.

- To facilitate the digital cataloguing of artworks and inscriptions.

- To promote cultural heritage.

The system at the core of MENCAWAR is based on a methodology that allows researchers to

transcribe, analyse and catalogue in digital format artworks and inscriptions.

MENCAWAR draws its inspiration from the CSAI (Corpus of South Arabian Inscriptions) project. established through collaboration between the Dipartimento di Scienze Storiche del Mondo Antico (University of Pisa) and SIGNUM - Scuola Normale Superiore, Pisa/Italy. CSAI was set up in 2001 with the aim of publishing the entire South Arabian epigraphic corpus in electronic form. Once the basic parameters for the edition of the epigraphic corpus were established, the Pisa University team proceeded with the digitisation of the epigraphs, coded in SGML/XML, while the SIGNUM technicians developed the T.RE.S.Y. (Text Retrieval System) software with search engine functions for XML formatted documents. This instrument makes it possible to update different types of searches within the corpus through the insertion of descriptions and textual markers within each epigraph.

The MENCAWAR system includes all the functions of the CSAI system, but it has been expanded to include two new capabilities: a detailed description (e.g. measurements, materials) and discussion of the artifacts as well as the inclusion of objects inscribed in two additional languages, Phoenician and Nabataean.

From the technical point of view, the MENCAWAR network adopts 3 levels of tools for the representation, digitisation, cataloguing and study of epigraphic material:

- the first level, "cataloguing", aims to create the guidelines for a standard XML encoding and cataloguing of objects and texts, and to train participants on how to use the cataloguing software;

- the second level or "local study" is the development of a tool which allows epigraphic material to be uploaded and the text to be digitally analysed using expertise acquired in the creation of the CSAI website. Each partner can create a website to publish its cataloging activities;

- the third level or "distributed study" represents the final result of the project, that is the creation of a fully searchable database with all data catalogued by each partner (e.g. South Arabian, Phoenician, Nabataean).

The MENCAWAR project is currently focused on West Semitic inscriptions. The important collection of ancient South Arabian inscriptions and artworks in the British Museum will form a major part of the project. The collection totals over 740 objects, many of which were not previously published or catalogued in detail. The collection is composed of hundreds of pieces mostly inscriptional, in all the ancient South Arabian languages, but especially those in Sabaic and Qatabanic. It also includes important artifacts relevant to the study of the ancient South Arabian history of art. The edition criteria for cataloguing inscriptions adopted in the CSAI project have been improved in order to make them more suitable to the new type of documents which will be included within the MENCAWAR project.

The archaeological and epigraphic material from ancient South Arabia in the British Museum collection - often artistically outstanding pieces such as the Amran bronze plaques - drew the interest of scholars and encouraged the development of the discipline, since the nineteenth century.

Through the MENCAWAR project, this incredible collection will now be made more widely available. We are currently cataloguing artworks and inscriptions, scanning existing photographs, and taking new photographs of objects in our collection in preparation for our online and printed catalogues.

Another major focus of the MENCAWAR project will be Nabataean monumental inscriptions of historical importance discovered in the city of Petra and adjacent areas. The database will also include texts related to the Nabataean geographical realm, such as Safaitic, Thamudic E (Hismaic) and Iron Age Canaanite texts, i.e. Moabite, Edomite and Ammonite inscriptions. These vary in size and length from personal seals with single words to long inscriptions like the Mesha stone, which describes the political situation in the region during the Iron Age.

The principal investigators have selected inscribed objects from the Phoenician collection in the Beirut National Museum and the Directorate General of Antiquities storage for inclusion in the MENCAWAR project. The relevant library resources for upgrading the electronic records are being gathered and a new set of professional high resolution photographs is being created. The collection of the Beirut National Museum is freely accessible for research by any student or scholar and will be accessible through the web via the MENCAWAR project.

## Corridor-Buildings in Jordan

#### Zeidan KAFAFI

#### Historical Background

During the sixties of the last century, D. Kirkbride conducted several seasons of excavations at the site of Beidha where she recognized six architectural levels. These levels were assigned to the Middle PPNB period, while level I has been considered as a Roman/Nabataean mixture. Levels II-III yielded structures of a type different from those uncovered at the lower levels VI-IV, consisting of very small rooms built parallel to a corridor which divided the space into two wings. The excavator decided that this type of structure belongs also to the PPNB, but never specified which sub-period. In addition, D. Kirkbride such never discussed the purpose behind constructions.

As a result of the archaeological excavations at the South Field of Ain Ghazal, several units of the same type (corridor-buildings) were found, of which only one example was completely excavated. Based on the obtained uncalibrated C14 dates, it has been dated to the PPNC (first half of the 6<sup>th</sup> millennium BC). Actually, it has been noted by the excavators that the revealed constructions both at Beidha and Ain Ghazal are very similar in the plan and manner of construction.

#### Way of Constructing the Corridor-Buildings

The corridor-buildings excavated at Ain Ghazal may represent a re-use of an older MPPNB building. This structure was rectangular in shape, had a red-plastered floor and built with medium and large sized boulders. The construction was first laid over the terra-rossa soil. This reminds us of another similar structure excavated at the Central Field at the same site. It seems that this construction was abandoned during the LPPNB for some reason, but re-used during the PPNC.

During the PPNC the dwellers of Ain Ghazal used this construction by adding very wide short walls inside this room forming a net of small cells built adjacent to each other and arranged in two lines separated by a corridor.

At the site of Beidha, the story is in some ways different from Ain Ghazal. The constructions were built on the virgin soil. However, the MPPNB structures at the site do not show any precedence to the corridor-buildings. The most ancient MPPNB ones were circular in shape, and were followed by a rectangular type with rounded angles. However, the type and material of buildings are similar to the ones recognized at Ain Ghazal.

#### **Function**

As mentioned above, the excavator of Beidha never published any suggestion regarding the function of the uncovered corridor-buildings at the site. At Ain Ghazal, the excavators expressed themselves clearly by supposing that this type of building consisted of two storeys. The first, which is the lower, consists of cells used for storage and at the same time a foundation for an upper living room. We agree with the excavators that the construction consisted of two levels, but we believe (as explained below) that the plan of this lower level could not have helped in storing materials. This conclusion has been reached despite finding small objects inside some of the cells. What was the reason for building such an architectural feature? This question will be discussed below.

#### Climate and Environment during the Late Seventh-Beginning of the Sixth Millennium BC

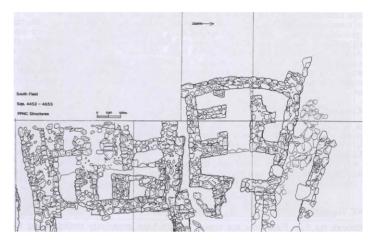
During the archaeological excavations at the site of Jabal Abu Thawwab in 1984, the excavator reported that he recognized a gravelly layer measuring about 1m high on some spots at the site. Yarmouk pottery sherds and flint tools were encountered in this layer. Deposits of the same type have also been noticed at other Yarmoukian sites, such as Ain Rahub, Ain Ghazal, and Wadi Shu'eib. In addition, during the eighties of the last century, the excavators of the LPPNB site of Basta in Ma'an vicinity exposed the same type of layer. However, no explanation or study was made until recently when scholars started investigating the so-called "Yarmoukian Land-Slides". In our point of view these dramatic climatic changes took place during the period ca. 6500-5500 BC "uncalibrated". This climatic phenomenon caused floods, which led water to run into the rivers and wadis in some regions of Jordan. As a result, people found themselves obliged to avoid the risk of rising waters and build their houses a little further from the endangered areas. In a later period, perhaps beginning of the 6<sup>th</sup> millennium BC, the high water retreated to a normal level, which drew people to return and settle closer to the running water. Perhaps this happened during the PPNC. However, people still feared the rising of waters in the valleys and rivers. Thus, to avoid the consequences, they decided to construct this first level which would not only allow the dwellers to live safely but also help flood waters to flow in and drain out (in the event of a flooding).

#### Ain Ghazal Corridor-Buildings

The occupants of Ain Ghazal in the first half of the 6<sup>th</sup> millennium BC had either reused the PPNB structures or built new buildings for themselves. The LPPNB two-level building style was replaced by single room houses or by corridor buildings of a type that consisted of very small rooms used as a first building level that carried another building level, which perhaps consisted of a cottage, or a tent or even a large room. No evidence has been found either at the site or elsewhere to confirm this claim.

Remains of the corridor-building style were excavated in the South Field at Ain Ghazal and at Beidha Levels II-III. Room sizes changed little compared to those related to the LPPNB; the PPNC ones are very small separated by a central corridor leading from the front entrance to the back wall. The only PPNC structure excavated at Ain Ghazal measured 3.5 x 3.5m and is semi-subterranean with very small cells separated by thick walls that perhaps supported an upper storey. In one of the cells and on the floor an assemblage of artifacts consisting of axes, loom-weights and other heavy duty tools were found.

The excavated PPNC corridor building at Ain Ghazal was originally constructed during the LPPNB and perhaps left by the inhabitants in a good shape for some reason. During the PPNC the inhabitants of the site decided to use the construction, and thus put up thick walls inside the buildings to create a corridor



lined by small cells on both sides. Scholars argued that these small and very narrow cells were built for storing purposes. However, and after studying constructions of this type, we began to question why the inhabitants of such houses would build them so small if they were to be used for storing purposes. In fact, it could be argued that this type of structure was never fit for storage for the following reasons:

- It would be too difficult to store and move inside such a small cell.

- If storage was the aim, it would have been much more convenient to leave the construction untouched for ease of storage and movement.

- If the cells had been used for storing goods, like wood or other heavy materials, the plaster floor below would have been destroyed, or at least affected. This was not the case at Ain Ghazal.

These reasons led us to believe that this first level was built to serve another purpose, in addition to carrying a second level. We think that this way of constructing buildings was adopted by the people of Jordan during that period to suit the climatic requirements.

#### **Book Review**

## JERUSALEM before ISLAM

#### Omar AL-GHUL

JERUSALEM before ISLAM

Edited by Zeidan KAFAFI Robert SCHICK

British Archaeological Reports International Series 1699 Archaeopress, Oxford

2007

survey of the literature on Jerusalem would quickly make it clear that the number of studies on its history is by no means less than those written about its present or future. This is not surprising, in view of the fact importance that the of Jerusalem today stems in the first place from its past. Anyone writing about Jerusalem today would not do so without bearing its historical significance in mind. Conversely, a historian dealing

with its past would almost always be aware of the implications of his writing on the current conflict on the city. Thus, the study of Jerusalem's history has become instrumental in shaping its present and future. This obviously has a negative impact on the academic studies that deal with the history of Jerusalem. Politicians and academics with political agendas are aware of the service rendered to their political cause by historical and archaeological studies; therefore, they do not hesitate to use this option. Many archaeological excavations and historical studies are directly commissioned by political entities and figures. It is no surprise therefore, that objectivity and an impartial verification of the truth cease to be the primary goals of these studies. Having clarified the motives behind manipulating the history of Jerusalem, there remains the puzzling question about the ability to actually fabricate history. How can one fake history? The answer to this question lies in the nature of the historical material itself. Speaking of Jerusalem before Islam, the historical material consists of the archaeological evidence. the written documents found in archaeological contexts, local and foreign, i.e. the Egyptian, Mesopotamian and Greek, and nonarchaeological written sources, foremost among which is the Old Testament. This material is, generally speaking, scarce, occurring sporadically in time and place, and indecisive, thus presenting both the historian and the archaeologist with a wide range of interpretations. This precisely, is the Achilles' heel of the issue. where politically motivated interpretations begin to play a role in shaping history.

It was with this background that the current book *Jerusalem before Islam* started and took the later form, in which it was published. In the last decade of the last century, initiatives were made on various levels in Israel to celebrate 3000 years of the history of Jerusalem. The figure 3000 clearly implies that the history of the city started around the year 1000 BC, when David supposedly built Jerusalem. What might have been there before seemed not to count, either because it did not serve the political statement intended, or perhaps because it contradicted with that statement. Many historians and archaeologists did not

hesitate to join this politically motivated act, revealing that they also were more concerned with ideological and political positions rather than the historical truth.

To counter their claims, the need was felt in Jordan, for a scientific response that would offer a balanced perspective. The Al al-Bayt Institute in Amman launched a project with the aim of writing Jerusalem's history, from the earliest periods till the rise of Islam. Prominent historians and archaeologists from the western hemisphere were invited to write down an unbiased history of Jerusalem, based on the results of archaeological historical excavations and investigations. Most of the contributing scholars were contacted in 1996 or sometime shortly before or after this date. The work appeared, however, with much delay in November 2007, for reasons that Zeidan Kafafi, one of the editors of the book, gives in the preface.

The book contains 17 papers in 5 sections. These are: - *Demography of Jerusalem before Islam* (Eduard Lipiński);

- Jerusalem and the Jebusites (Ulrich Hübner);

- Names of Jerusalem (Gerrit van der Kooij);

- Jerusalem in ancient Egyptian documents (Kenneth A. Kitchen);

- Jerusalem in the Amarna letters (George Mendenhall);

- Jerusalem in the Assyrian and Babylonian texts (Wolfgang Röllig);

- *History of excavations in Jerusalem* (Henk J. Franken);

- Jerusalem in the third and second millennia BC (Kay Prag);

- Jerusalem in the late second millennium and the beginning of the first millennium BC (Margreet Steiner);

- Jerusalem in the Iron Age (Larry Herr);

- Jerusalem in the tenth century BCE (Ernst Axel Knauf);

- Jerusalem in the Hellenistic and Roman periods (David Graf);

- Jerusalem in the Herodian period 37 BC-AD 70 (Achim Lichtenberger);

- Byzantine Jerusalem (Robert Schick);

- Churches in Jerusalem (Michele Piccirillo);

- Middle Bronze Age II pottery from Jerusalem (1700-1500 BC) (Peter Fischer);

Zeidan Kafafi wrote an introduction to the book, in which he pointed out its goals and commented on the methodology of the contributions. This last part would have been better placed, had it appeared in the synthesis that Kafafi wrote at the end of book, where he summarized the results of the scholarly papers in this book. The untiring effort by Kafafi, which led these 17 esteemed scholars to contribute to this work, deserves to be praised. The authors, all experts in the history and archaeology of Jerusalem, have delivered rather short and concise papers on specific topics. This is of great benefit to the reader, who can inform himself easily about the various periods and issues related to the history of Jerusalem. However, it must not be overlooked that most papers have been published without being updated since their submission more than 10 years ago.

From the editorial point of view, it is obvious that the editor has not established clear cut divisions between the various subjects covered by the articles. Thus, for example, the names of ancient Jerusalem are discussed in the papers of Eduard Lipiński, Gerrit van der Kooij and Kenneth Kitchen; and the 10<sup>th</sup> century BC is tackled by Larry Herr, Ernst Axel Knauf and Margreet Steiner. This overlapping, however, has its advantages. It reveals the different ways in which the same historical or archaeological question can be approached, and highlights the role interpretation can play in understanding historical and archaeological facts.

Now that the project is accomplished and the book published, one wonders whether it has achieved the goals set for it. In answering this question one should make clear from the very outset that the archaeological situation in Jerusalem does not allow for clear and decisive results. In this regard, I quote Larry Herr in this volume: "... Because Jerusalem was occupied through many millennia, the remains themselves thwarted archaeological research. Pits, rebuilding, stabilization of slopes covered with archaeological deposits, ancient removal of debris so new buildings could be founded on bedrock, and the presence of modern structures all combine to make the archaeological record of Jerusalem one of the most difficult to sort out anywhere in the Near East. For these reasons the excavators were not able to sort out their finds with enough accuracy to make possible a solid reconstruction of the city at any period". Therefore, it is not surprising that most contributors, who wrote about Jerusalem's history in the Bronze and Iron Ages did not base their discussion of the history of Jerusalem on the results of archaeological excavations.

One conclusion that the papers on Jerusalem in the Iron Age agreed upon should be pointed out: the archaeological excavations proved that Jerusalem in the 10<sup>th</sup> century was a small town. This leads to the conclusion that the description of Jerusalem in the Old Testament with its monumental, administrative and sacral buildings built under David and Solomon does not reflect historical facts. It was Margreet Steiner who most explicitly doubted the statements of

<sup>-</sup> Aelia Capitolina (Klaus Bieberstein);

the written sources – also as far as the Late Bronze Age is concerned – and called for reviewing the results reached based on them.

In his introduction. Zeidan Kafafi criticizes the fact that some of the authors, in writing the history of Jerusalem, did not hesitate to make use of the narratives of the Old Testament. Regarding the Old Testament as a late, subjective, religious text, Kafafi criticizes using it as an authentic historical source. We have to admit, however, that the issue is problematic and controversial. Though late, the narratives of the Old Testament do contain, as Knauf has shown, a historical core. Using them would surely be practical, and in many cases even inevitable, due to the nature of the archaeological evidence and scarcity of extrabiblical written documents from the second and first millennia BC. On the other hand, taking the narratives of the Old Testament as a starting point to study the history of ancient Jerusalem, and utilizing them together with the archaeological evidence and extrabiblical texts to prove pre-established, politically or religiously motivated views, is the major defect which archaeological and historical studies on Palestine in the first millennium BC have suffered from for a long time. Such an approach should definitively have no place in an objective study like the one proclaimed in this volume.

However, one point to bear in mind is that most of the scholars who contributed to this study come from a theological background, where – putting the issue of faith aside - the Old Testament is the primary subject of study. I believe that most of the scholars, who contributed to this volume, adhered to the objectivity

expected from them while tackling the archaeology and history of Jerusalem before Islam, but I believe at the same time, that they remained faithful to their cultural, academic and religious backgrounds, and dealt with this topic through their perception of the religious history of the Ancient Near East, a deeprooted perception with a long tradition.

Balanced assessments, while researching the history of the Ancient Near East including Jerusalem, can be achieved by studies that pay attention to all periods of human history in this region, without assigning special importance to a certain period or a certain source of information. Most importantly such studies should not try to force contemporary considerations on the past. The past should be studied as it was, not as we imagine it, or as we would like it to be. One might find this statement self-evident and redundant; unfortunately, a survey of the literature on the history of Ancient Palestine can easily prove otherwise.

In this regard, an important role can be played by Arab scholars, who in this book, apart from the editor, were regrettably absent. After decades of engagement in archaeological work and historical studies, Arab scholars are still not able to formulate their own understanding of the region's past. Strong institutional efforts and encouragement are therefore essential, to motivate those who have access to modern tools of research combined with direct contact with their oriental heritage, to write down an objective and realistic history of the Ancient Near East.

## SAFAITIC INSCRIPTIONS FROM WADI SALMAH (JORDANIAN BADIAH)

Author: Sabri ABBADI Publisher: Jordan Badia Research and Development Center, 2006 Pages: 163 Revised by: Omar AL-GHUL

I n this study the author presents 85 new Safaitic inscriptions, which he documented in Wadi

Salmah that lies 35 km to the north east of Safawi, in the north eastern Jordanian Badia. In 5 short introductory chapters the author discusses the term "Safaitic", presents the history of research, and discusses the geographical and historical settings of the Safaitic inscriptions. In the main chapter the inscriptions are presented according to their occurrence in the 3 cairns where they were found. The author starts by making brief remarks about the cairn and the inscriptions found on it, and then presents the inscriptions, offering a physical description of the inscription, followed by a linguistic analysis of its vocabulary. He begins by giving the

meaning of the word according to the Arabic lexica, and then refers to its occurrence in other Safaitic inscriptions and other Semitic languages. By difficult words, interpretations of other authors are brought into the discussion. Lists containing personal names, divine names, place names, names of animals, names of tribes and verbs and nouns are annexed at the end of the study, together with two maps, 18 photos of 35 inscriptions and drawings of all inscriptions. It should

be noted, however, that the quality of the photos barely allows a clear identification of the contents.

This study is definitely a welcome addition to the studies in the field of Ancient North Arabian Epigraphy. The recording and publishing of these inscriptions is becoming an urgent issue due to major changes currently taking place in the Jordanian Badia. In this very study the author mentions that some of the inscriptions of cairn 3 were lost, after he recorded them, as a result of opening a new road in the area.

As far as the content is concerned, this new group of Safaitic inscriptions confirms the established impression that the Ancient North Arabian inscriptions are, generally speaking, short and consist mainly of personal names. This new group of inscriptions would hardly introduce the reader to major new findings either with regard to their language or their content. Nonetheless, the



current study adds 21 new words and names to the Safaitic lexicon. From these the following are personal names: *hšk*, *zbdhm*, *zmt*, *shlyt*, *slh*, *šrkt*, *drh*, *'bšn*, *nbh*, *nhmn*, *yhy*, *ydr*, *yzn*; whereas the author supposes that *ğršt* and *wrql* are names of tribes. He assumes furthermore that *hwln* and *kbdt* are place names. To these should be added *hbtt*, apparently the ancient name of Wadi Salmah. The two nouns *tll* "tall" and *š'th* "his companions" conclude the list of new words in these inscriptions. It should be mentioned, however, that several of these represent morphological variants of previously known words; some of which are already attested in other Semitic languages.

The efforts by the author to publish these inscriptions should, however, be acknowledged. It is worthwhile mentioning here that out of the thousands of Ancient North Arabian inscriptions recorded by Jordanian and foreign scholars in recent years only a relatively small number were published.

On the other hand, one cannot overlook the fact that this study adheres to the same method of publication followed by most other studies on North Arabian Inscriptions. It does not go much further beyond the mere description of the linguistic forms occurring in the inscriptions. Religious, social, historical or economic aspects are barely touched upon. One example of the subjects of interest with regard to these inscriptions is the seasonal movement of the nomadic groups that left these inscriptions. The authors of the inscriptions mention that they spent the spring and summer seasons in that part of Wadi Salmah, where the inscriptions were written. Does this imply that Wadi Salmah was their spring/summer resort? If this was the case, can one tell through comparison with inscriptions found elsewhere where these groups spent fall and winter? Can one use personal names occurring in other inscriptions to

trace their movement? Further issues of interest are the characteristics of this specific group of inscriptions with regard to their language, orthography and palaeography in comparison with other inscriptions. It seems that an academic convention has been established by the scholars who publish Ancient North Arabian inscriptions, as a result of which it is deemed sufficient to present the newly found inscriptions, without dealing with the aforementioned aspects in them. In the current publication this is especially regrettable, because the author has in previous studies fruitfully tackled various problems related to Safaitic inscriptions.

It is hoped that this publication will encourage other colleagues to bring to light their collections of recorded Safaitic inscriptions in order to contribute to a better understanding of the language of these inscriptions and of the people who wrote them.

### Summaries

## OF THE MASTER THESES

DEFENDED AT THE FACULTY OF ARCHAEOLOGY AND ANTHROPOLOGY

The Churches of Hayyan al-Mushrif An Archaeological and Architectural Study

> Khaled al-Momani Supervisor: Zeidoun al-Muheisen

T his is a detailed study of two churches, a monastery and a chapel discovered at Hayyan al-Mushrif. It is mainly aimed at highlighting the historical, geographical and structural significance of the site using the historical resources available, published and unpublished excavation reports, related studies and field visits conducted by the researcher to film and draft the artistic and structural elements.

The thesis consists of four chapters. The first chapter explains the meaning of the name of the site and provides a review of its inhabitation stages and its historical and geographical significance. It also reviews the archaeological excavations conducted and lists relevant studies.

The second chapter is divided into two parts: the first explores the historical, archaeological and artistic aspects of the monastery, whereas the second introduces the chapel from its archaeological and artistic perspectives.

The history and archaeology of the middle church are explained in the third chapter, while the fourth deals with the history, archaeology and architecture of the northern church.

The study concludes with the following results:

1. The site has been of historical significance throughout the ages.

2. It was of great commercial importance due to its proximity to Trajan road.

3. The churches were built in accordance with the basilica design.

4. The structure of the walls, apse and all other parts of the church is symmetrical.

5. The two churches are different only in size; the church in the middle being the bigger of the two.

6. An aspect of the artistic features of these churches is the mosaic floors which mostly contain geometric designs.

Mosques in Irbid Governorate During the Late Ottoman Period A Comparative Architectural Study

Rakan al-Odat

**Supervisor: Mohammed Hatamleh** 

T his thesis deals with a number of Ottoman mosques uncovered in the Irbid governorate, including those at Sal, Bushra, Umm Qeis, Edon and Tibnah. Thus, this study attempts to shed light on mosques which have, so far, been neglected by scholars.

The study consists of four chapters and a conclusion. Chapter one deals with the history of the Ottoman Empire and its expansion in the Arab world. It also focuses on Jordan's architecture during this period, following which it sheds some light on the characteristics of the mosques in Asia Minor and the Arab World.

Chapter two provides a detailed description of each of the mosques studied.

Chapter three examines the plans, architectural elements and building materials of the mosques, with special emphasis on the function, shapes, designs and dating.

Chapter four compares Kufranja mosque with those included in this study. Several similarities and differences are discussed, in order to determine the general characteristics of the Ottoman mosques in Irbid governorate.

The study reveals that the mosques were built

according to the prevailing Ottoman architectural style characterized by the use of small ashlar blocks and arches which protrude from the surfaces of walls.

Provenance and Technology of Ayyubid/ Mamluk Glazed Pottery Excavated from Yasileh/ North Jordan: An Archaeometric Study

Ahmed al-Shorman

Supervisors: Ziad al-Saad

Zeidoun al-Muheisen

T his study aims at determining the provenance and reconstructing the manufacturing technology of Ayyubid/Mamluk glazed pottery from Yasileh/ north Jordan. Thirty representative glazed sherds were selected from the pottery recovered from Yasileh during six seasons of excavation (1988-1998) at the site. These glazes were classified into five groups based on typology, style and color. The samples were examined using chemical, mineralogical and thermal methods. Atomic absorption spectroscopy and loss of ignition were applied for the chemical investigation. Petrography and x-ray diffraction were performed for mineralogical investigation, while differential thermal analysis, Mössbauer spectroscopy and the refiring test were used for the thermal analysis.

Chemical investigation indicated that the glazes are of lead-glaze type and are classified into low, medium and high lead glazes. This type of glaze was produced by applying lead-silica mixtures to biscuit fired bodies, which were made of homogeneous pastes (non-calcareous ferrugenic clays). The variation of lead contents in these glazes substantiates that these varieties existed, on the one hand, to control thermal expansion in order to make the glaze layer more compatible with the body. On the other hand, the concentrations of lead were used to control the brilliance and the color of the glazes. Thus, Ayyubid/ Mamluk potters had a high degree of technical capability. They fired this pottery at temperatures that exceeded 1000co, which is indicated by the presence of mullite in x-ray diffractograms of unfired and refired sherds and by the absence of this mineral exothermic peak from differential thermal curves. Firing the pottery was done in oxidizing atmospheres, as the reddish brown colors of the bodies and the presence of hematite in Mössbauer spectra confirmed. Finally, mineralogy of the sherds (non-calcareous clay and mainly quartz and grog added tempers) does not match those available in Yasileh (mainly carbonates), which is a strong indication that this pottery was not locally made.

Museum Environmental Control as a Tool for Preventive Conservation Museum of Jordanian Heritage as a Case Study

Tammam Khasawneh

Supervisor: Ziad al-Saad

T his study was initiated due to the inadequate monitoring and control of environmental conditions in Jordanian museums, which endanger irreplaceable cultural material housed in these museums.

The study focuses on finding preventive conservation measures that are proper and easy to apply, in order to safeguard museum collections in Jordan. This study has been based on assessing environmental conditions in a Jordanian museum *(the Museum of Jordanian Heritage at Yarmouk University)*, which served as model.

Environmental variables including temperature, relative humidity, light and air particulate pollutants were monitored over period of about four months.

The evaluations concluded that environmental conditions in the museum are not properly monitored or controlled, and therefore fluctuate according to outdoor changes. This creates unfriendly environmental conditions, which initiate various forms of damage and deterioration to the collection. Chemical, physical and biological deterioration combined with human ignorance and neglect severely jeopardize a significant and irreplaceable part of the cultural heritage.

Internationally accepted guidelines, ethics and standards were used as reference to formulate a new code of conduct for the *Museum of Jordanian Heritage*. The proposed code of conduct includes guidelines, principles and methods to be adopted and implemented by the museum in order to protect and safeguard its collection.

Hospital, Disease and Healing A Case Study from Ramtha City

Silvia Antonio Scrimieri

Supervisor: Abdulhakeem al-Husban

T his study aims at explaining the phenomenon of health and disease, and the experience of treatment at al-Ramtha Hospital in Northern Jordan as one of the anthropomedical fields. It describes the local community in an attempt to show the transfer from a traditional system of medication to the modern

system of treatment, with emphasis on the relationship between culture, disease and healing.

The study shows that a change has taken place in the local community of al-Ramtha city in various cultural, economic and social aspects of life. This has led to a change in attitudes in the local community towards traditional health services due to the role played by the hospital and changes in cultural beliefs brought about by the interaction between the hospital and the members of the local community.

The transformation is apparent in the increased numbers of people being admitted into different wards of the hospital and those who receive treatment in the outpatient clinics. This is due to the easy availability of the modern medical facilities in the local community.

However, despite the availability of modern medical facilities, there are those who still seek treatment from traditional healers, herbalists, and even magicians. This is especially apparent when the patients are not cured and continue to suffer from fatal diseases.

Consequently, the study concludes that the transformations seen in al-Ramtha city are not the effect of the hospital alone. Other factors have played an enormous role in changing perceptions about health and illness, such as social, economic, cultural and educational influences, in addition to the development of transportation services and the availability of electricity and water.

The Dental Microwear of the People of Ya'mun in North Jordan during the Middle/Late Bronze Ages

Mohammad al-Rousan

Supervisor: Abdulla al-Shorman

 $\mathbf{\Gamma}$  he aim of this study is to reconstruct the paleodiet of the people of Ya'mun during the Middle and Late Bronze Ages by analyzing the occlusal microwear of the maxillary molars. Casts of twenty three molars were examined under the Electron Microscope. Scanning The output micrographs were analyzed using Microware 4.02. The obtained data were statistically analyzed using the SAS package. Results show that the Late Bronze Age samples have a wider striation and more pits than the Middle Bronze Age samples. This suggests a greater dependence on plants during the Late Bronze Age. The results show a heterogeneous pattern of striation orientation in both periods, which indicates that the people of Ya'mun did not use their teeth as tools.

The Impact of Reality Television on the Youth An Anthropological Study in Jordan

Lana Mehiar

Supervisor: Mohammad al-Tarawneh

T his study was aimed at investigating the impact of reality TV on Jordanian youth. A questionnaire was distributed to a sample of 200 students from Yarmouk University, a community college, and a secondary school in Irbid. The researcher developed the questionnaire consisting of 14 statements related to demographic and general information of the samples, in addition to 54 statements which deal various dimensions to measure the social and cultural impact of reality TV on the community in general.

The following conclusions were reached:

- There is high viewership, by all the research samples, of TV reality shows.

- 51% of the sample evaluates reality TV negatively, while it is accepted by 47% of young males and females.

- Reality TV has a negative impact on individual, family and society.

- It was clear that reality TV affected the youth negatively since such shows are deliberately designed to influence youth and direct their focus to things that are alien to the Arabic culture.

- Monthly income plays a more important role than sex, age, and educational level in effecting a cultural impact on individuals.

Examples of Middle Bronze Ages Settlement Patterns in Palestine

Mohammed Adarbah

Supervisor: Khaled Abu Ghanimeh

T he purpose of this study is to shed light on the patterns of human settlements in Palestine during the Middle Bronze Age (2000-1550 BC).

The study considers the geography and topography of Palestine, which were major factors in the distribution of settlements during this period, when Palestine was divided into three major geographical areas.

The study consists of five chapters: Chapter one discuss the geography of Palestine, along with its topography and climate.

Chapter two provides a definition of the settlement patterns, their function, and the impact of the various environmental factors on them.

Chapter three presents historical information from various sources, especially about the political life during the period between 2000-1500 B.C.

Chapter four focuses on the permanent settlement patterns during the Middle Bronze Age, and also points out the distinguishing features based on an analytical and comparative statistical study for each geographical area.

Chapter five examines, in detail, certain sites for their importance during this period, such as Ras al-'Ain, Tall al-Gerisha and Tall al-Ajjul in the plains area, Miggido (Tell al-Mutaslem), Tall Beit Mirsim in the mountainous region, Hazor (Tall al-Qadah), and Tall al-Milh in the plateau of Beir al-Sabe' area.

The Fortifications of Algiers under the Ottomans, Selected Samples, Archaeological Field Study

Fadeelah Hamzawi

Supervisor: Saleh Sari

T his study consists of an introduction and four chapters. The introduction examines the deteriorated historical situation that prevailed in North Africa in general, and Algiers in particular, until the establishment of the Ottoman state, which helped transform it into an important city. This period witnessed military campaigns by the crusaders against the region, and against al-Andalus.

Algiers played a remarkable role in the events due to its strategic significance and soon became the city of *jihad*, which continued to flourish and develop because of trade.

The researcher examined the literature of both the Arabic and non-Arabic sources and adopted the historical methodology, where she discussed the emergence of the city, its name, geographical location and the political, economic and military situation under the Ottomans. The researcher focused on the defensive elements of the city along with an *in situ* study of the towers, castles, gates, walls, reservoirs and other utilities, examining the materials of structure.

Chapter one deals with the establishment of the city and the origin of its name in addition to its location, geological structure, and the impact of its location on its planning and historical development until it became the main city of the Ottoman state in North Africa. Chapter two tackles the aggressive European campaigns and the reaction of the Algerians by building defensive fortifications against the repeated attacks of the Franks. The towers are classified into two groups: those overlooking the sea, such as Tamentfoust and Borj Kiffan and those over the mountains, such as the Emperor's Castle.

Chapter three discusses selected samples of the archeological field study. The researcher chose four that are still standing, examining each one independently and in detail.

Chapter four focuses on the decoration and architectural elements. The buildings were military in form and function, as they were constructed in times of war. However, they helped introduce and develop a distinct decorative architectural style, which became the main characteristic of the city.

Finally, the researcher presents an in-depth study of the common characteristics of these buildings and their significance.

> The Two Churches of Mar Ilyas An Architectural and Artistic Study

> > Sahar al-Qudat

Supervisor: Zeidoun al-Muheisen

T he study investigates the architectural and artistic aspects of the two churches of the site at Mar Ilyas monastery. It aims at highlighting the importance of the site which dates back to the end of the Byzantine Settlement and the beginning of the Islamic period. The study also aims at showing the importance of this religious site having been approved in 1999 by the Vatican as one of the Christian pilgrimage sites in Jordan.

The analysis depends on historical sources, reports on excavations (published and unpublished), and foreign and Arabic studies, as well as field visits to the Mar Ilyas monastery site.

Various elements are dealt with in three chapters. The first chapter discusses two topics. The first is about Ajlun since ancient periods, including the Byzantine period and ending with the Islamic periods. The second introduces the name, site, historical and religious factors and the periods of settlement.

The second chapter studies the architecture of the two churches of Mar Ilyas Monastery separately, with focus on the archaeological findings.

The third examines the artistic features of the two churches - Mar Ilyas Monastery including the floral mosaic ornaments and the inscriptions (which were limited to the upper church) and the stone decorations represented in the capital of the columns.

After a detailed examination of the site, the following conclusions are drawn:

- The design of the churches studied are bascilican.

- They are similar in terms of the decorations and colors of the mosaics on which nature and the local environment are depicted, such as grape leaves and acanthus branches.

- In the churches covered by the study no human beings are depicted.

- The medium and small sizes of the churches show that they were not projects executed by a donor, or a charitable person. This is also clear from the written inscriptions found in the churches.

Study of Mortars and Mortar-like Materials from Khirbet Edh-Dharih Site (Jordan)

#### Younes Amar

#### Supervisors: Ziad al-Saad

#### Zeidoun al-Muheisen

T his study aimed at examining and identifying the different types of mortars and mortar-like materials used in the Khirbet Edh-Dharih site, during different periods of time when the site was occupied ( $1^{st}$  century AD -  $7^{th}$  century AD). Twenty eight samples were selected from the different monuments at the site during two stages of fieldwork (August 2004 and May 2005). These samples were classified into three distinctive groups according to their functions: binding mortars, plasters and hydraulic mortars.

The samples were examined using a combination of chemical and mineralogical methods. Chemical analysis was done by using calcimetry, while mineralogical analyses were done by using petrography and x-ray diffraction.

Chemical analysis results indicated that three types of mortars based on lime content were used in Dharih: the first type is characterized by a high lime content, while the second shows a moderate lime content. The third type, with low lime content, is gypsum-mortar.

Petrographic investigations and x-ray diffraction analysis proved that the mortars with moderate lime content were made with lime and gypsum.

It has been concluded that gypsum was widely used as binding mortars and internal plasters and no technological change occurred in the preparation and application of mortars from the Nabataean period until the 7<sup>th</sup> century AD. This may indicate that the use of gypsum was a local tradition. Lime was also used to bind mortars, plasters and hydraulic mortars. The majority of fillers added to the different types of mortars were gypsum, limestone, quartz and chert, all of which occur at the site and its surroundings. Grog or crushed pottery and charcoal are also found in some of the samples. These fillers were added in order to produce high quality, hard mortars. High quartz content in lime plasters made them more resistant against shrinkage. This intentional selection of fillers is taken as an indication of the sophisticated skills of the site's inhabitants and their thorough knowledge of mortar manufacturing techniques. The skills of the plasterers in Dharih are apparent through the variations in the composition of different layers, either in binders or in fillers.

Finally, the greater use of gypsum mortars rather than lime ones is attributable to the lack of abundant timber necessary for fuel, since the production of lime needs higher temperatures than that of gypsum.

A Conservation Plan for Umm al-'Amad Basilica in Gweilbeh (Abella)

#### Worood Samara

#### Supervisor: Ziad al-Saad

T his research deals with the deterioration and reconstruction of Umm al-'Amad Basilica in Gweilbeh. Although many conservation projects have been carried out in the basilica, they have not, unfortunately, been based on a master plan or any specific guidelines for a proper presentation of the site. Conservation principles and concept have been neglected and none of the international charters have been followed.

This study centers on the factors that contributed to the deterioration of the historical buildings at the site, including natural and the human factors, with special focus the causes which led to the destruction of Umm al-'Amad.

A series of laboratory methods were applied in order to:

- Define the main factors of deterioration and find a suitable solution.

- Analyze the activity of some consolidants on the basilica stones.

- Verify the kind of mortar and plaster used.

- Determine the physical and chemical properties of the stone by laboratory tests applied according to Standards of German Industry (DIN). Analyses were carried out by:

- X-Ray diffraction

- Polarizing microscope analysis on thin sections.

- Water absorption measurement and porosity

measurement- salt Crystallization test.

Causes of decay were identified by using the results of previous examinations.

Corpus of the Nabataean Inscriptions from Northern Jordan

Ikhlas Rahahlah

Supervisor: Omar al-Ghul

T his study aims at compiling a corpus of published and unpublished Nabataean inscriptions from northern Jordan. The corpus, alongside the inscriptions includes a translation and a commentary on the inscriptions, as well as a discussion of the personal names occurring in them.

So far 73 inscriptions were uncovered in Northern Jordan. The region includes the sites of Umm al-Jimal, Umm al-Sirab, Umm al-Quttain, Tall Qiase, Khsha' as-Silitin, Dair al-Kahef, Sabhah, Subhiah and al-Mafraq museum. Most of these were published by Littmann, who uncovered them in Umm al-Jimal, Umm al-Quttain, Umm al-Sirab, Sabhah, Subhiah, Kom al-Rouf and Tall Qiase, during the Princeton University campaign in 1904-1905.

The study consists of two chapters:

- The first comprises the inscriptions. They are listed according to the places in which they were found, and numbered accordingly. Information about the inscriptions, such as the *editio princeps* of the inscription and the previous studies are mentioned. Detailed information about the stone, in which the inscription was engraved, its measurements, the measurements of the letters, a photograph and a drawing of the inscription are also given. This is followed by a transliteration and translation of the inscription, along with a commentary on the content and language of the inscription.

- Since the inscriptions in the corpus consist mainly of personal names, the second chapter was dedicated, to the study of the personal names occurring in the first chapter. The meaning of the names are given as they occur in *Lisan al-Arab* and in the Dictionary of Northwest Semitic inscriptions, if attested there. Then the inscriptions, in which the names occur, are given. Parallels to the names in the Greek, Nabataean, Palmyrene and Northern Arabian inscriptions are also given. Based on this data an attempt has been made to

define the morphological form of the name. This chapter concludes that most of the names are linguistically Arabic.

Ancient North Arabic Inscriptions of North Saudi Arabia An Analytical Comparative Study

Maddallah al-Inizi

Supervisor: Nabil Bader

T his study presents ancient North Arabian inscriptions recorded in northern Saudi Arabia from 1994 to 2005. During this period, the researcher recorded many inscriptions from different areas and selected 90, which were found on four sites in one area: Samra ar-Rasharashiya, Jabal Umm L'inan, Maqil and Qraqur. The inscriptions from these sites deserve special attention, because this area has not been sufficiently surveyed for inscriptions, and it is expected that the newly published material will shed more light on the language and the life of the people there.

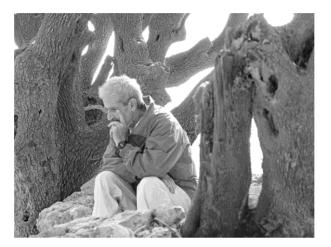
The inscriptions are published according to the cairns in which they were uncovered. The researcher gives a description of the stone, the inscription and the method of writing. He then offers a transliteration and a translation of the inscription. This is followed by a linguistic analysis of the vocabulary, which was compared with its counterparts in the North and South Arabian inscriptions.

The study also discusses the personal and divine names occurring in the inscriptions. Genealogical lists of the persons mentioned in the inscriptions are also made to determine the relationships between them.

#### In MEMORIAM

## NABIL AL-QADI

I have known Nabil al-Qadi for the last three decades as an excavator and a researcher. I do not recall the number of projects he participated in. They were certainly tens of them during his service in the Department of Antiquities and Yarmouk University. I enjoyed his participation in the projects under my supervision including the excavations at Queen Alia



International Airport, excavations at Musheirfeh east of Amman, excavations at Sahab and the survey around the site, Tall Deir 'Alla in the Jordan Valley, Khirbat az-Zeiraqoun northeast of Irbid. Nabil was always reliable in the preparation process, the excavations, documentation, preparation of field reports, storing, description of objects, and occasionally conservation of various discoveries. Above all, Nabil was always pleasant and cooperative which led to the confidence of his colleagues. I have never heard Nabil complaining in spite of the heavy loads. Nabil, we ask for your forgiveness. You have given your colleagues and institutions more than your family. God bless you.

Moawiyah Ibrahim

#### Dearest friends,

I'm just receiving a message telling me the very sad news that Nabil passed away this morning and I would like immediately to you Maryam and to your children express my sadness and bring my condolences..

Your family as you know is part of the Abu Hamid family and it is one of its strongest member who is leaving us today. I have been working with Nabil since a little more than twenty years and from the first day I recognized his great qualities: the first ones being his extreme modesty and his seriousness allied to this immense kindness. A great personality ... All my warmest messages and my sincere condolences to his family.

Geneviève Dollfus

Our friendship goes a long way back ... one might not expect it since I'm from Tafilah and he was from Hebron - but he was actually a distance relative of me ... thus I got to know him as we still were school kids. Later on in life, our ways met again ... we both became archaeologists ... since then the personal and the professional aspects in our lives went hand

in hand ... he became my colleague, but surely also my friend ... we worked on many sites together and I had the chance to learn from him ... his commitment ... his knowledge ... and especially his modesty ... it was always a joy to have him as partner in the field ... even in the last couple of years, as his health began to weaken, he fulfilled to stood up to his tasks just as usual ... and kept thereby the same high spirit. It is not always true that you do not know the value of someone until he departs ... we all cherished Nabil and appreciated his noble character as he was among us ... but now, as he is no more there, we get to feel the huge loss his departure means to us and we miss him so much ... as a friend and partner ... Dearest Nabil

May your soul rest in peace and may Allah have mercy on you.

Zeidoun al-Muheisen

With very sad feelings I convey my condolences to those who were close to Nabil. He is deeply impressed in our memory, not only because of his personality, but also because of his professional qualities - e.g. exceptionally qualified in fieldwork. I wish his family all strength to overcome this loss. Gerrit van der Kooij

Nabil will be always remembered as an excellent and competent excavator, and as a great person and as a good friend.

Hans Nissen

#### Bismillah al rahman al rahim

made him a modest and respecting human being. I lost a true brother who guided me during so many him, and open His paradise for him.

This hope should comfort his family and us, until we

Hans Georg Kasem Gebel

#### Dear Nabil.

I may inform you that today I went with the students Zeiragoun, Abu Thawwab, Ain Ghazal, and adh-Dharih, they all gave the same answer: you were not said: he did not show up for the last weeks...and which you have excavated...we found out that they az-Zeiraqoun in the north, Petra in the south, Abu Hamid in the Jordan Valley and Sahab on the steppe.

may find you by one of your friends. But, we thought also found ourselves obliged to pick up only few names of your friends to ask about you...Amongst Geneviève Dollfus and Hans Georg Kasem Gebel your relatives in Egypt/Africa. Their answer was the same Nabil is not here, but where is Nabil? the places you should be....the pottery sherds, the grinding stones, the archaeological sites, your friends and myself thought that the only place you should be there...and they miss you...and swore by their own friends and I, sat down...joined your family...we sat down together and wept...we all have tears in the eves...could not exchange any word...but understood

Zeidan Kafafi

#### Dear All.

The news of Nabil's passing has come as a shock. Though I new he was in poor health, I had not anticipated that his health was failing, nor that he had declined as rapidly as he did at the end. Nabil was a on those he came in contact with that was long-lasting first met Nabil in 1985, while participating on a student exchange arranged through the Institute of Archaeology at Yarmouk. I will never forget arriving on the excavations at the Late Neolithic and EB site each grain of topsoil in my assigned square. Nabil let me go at it for a couple days, and then after I had taught me, and I will always be grateful that I was fortunate enough to start out with a master. I doubt there is anyone who has logged more hours of fieldwork in Jordanian Archaeology, but Nabil never needed to carry that distinction on his shoulder. In our Thank you Nabil, and Godspeed.

Tim Harrison

On a holy day, a Friday, we lost an esteemed colleague, a dear brother, a noble person ... noble in his way of life ... in his piety and knowledge and in his devoutness to work. We first met in 1985 ... since then we worked side by side in more than 50 fieldwork projects ... all through that he was an example in his commitment to his work and research and in his willingness to help others. Dear Nabil ... We all feel very sorry for your loss as a competent archaeologist and as a prominant figure at the Faculty of Archaeology and Anthropology ... We were very much hurt by your departure ... but yet, it eases our sorrow to know that you have left your traces in every corner of our Faculty ... on every tall you worked on, and you have surely left an everlasting trace in every one of us ... We will always cherish your memory and pray to God to bless your soul.

Ali Omari