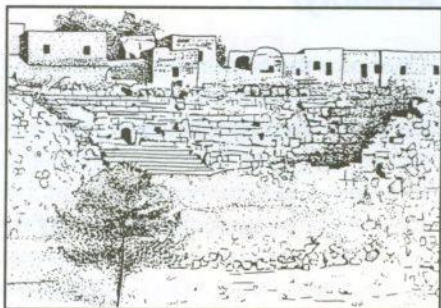


OCCIDENT & ORIENT

Newsletter of the German Protestant Institute of Archaeology-Amman Office



The Institute Maintains a Wide Range of Activities

Archaeology in the Middle East sometimes seems far away from reality, when scholars excavate in isolated areas or show no interest at all in the present day life of the people sharing their environment with them. However, in the Middle East archaeology can also become a very political issue. So it happens that archaeological research is misused to "prove" the "right" of people to settle wherever they wish and on the other hand, to deny this "right" to other people, just by pointing to selected archaeological discoveries. But archaeology is often also just seen as business, as a source of quick and easy income, which does not take into consideration the need of the antiquity site itself and often leads to severe damage to it. Nevertheless antiquity sites, if carefully dealt with, can be well integrated in touristic development projects. As archaeologists we should also be concerned with the post-excavation fate of the sites we dig. We should no longer be able to leave an excavation without - at least - considering its future use.

1997 will most probably be one of the busiest years for the institute. Repairs in the house as well as hosting guests and preparing for a number of coming excavations take up a lot of our time. Much of our work is concerned with Umm Qais, the ancient Gadara, and developments in this region. Three excavation teams affiliated to our institute will be excavating there this year. This will start with the project of Dr. Ute Wagner-Lux (Basel, Switzerland) and Dr. Karel Vriezen (Utrecht University, Netherlands) who will work on the Byzantine basilica, dated to the 7th

century A. D., next to the octagonal church. In August Prof. Hoffmann and his team from Cottbus University and the German Archaeological Institute will continue their work on the late Hellenistic temple and the city wall (see contribution by Prof. Hoffmann in this issue). In late autumn Dr. Thomas Weber, who is well known to all working in Jordanian archaeology, will head the third team working this year in Umm Qais.

In summer we will start excavating at the Neolithic site of Ba'ja in the south of Jordan, situated some 14 km. north of Petra. This project will be co-directed by Dr. Hans-Dieter Bienert and Mr. Hans Georg Gebel, and will be executed in collaboration with the German Research Association (Bonn, Germany), the German Archaeological Institute, Orient-Section (Berlin, Germany) and ex oriente (Berlin, Germany), a research association at Free University of Berlin (Germany).

In all our projects we try to work in close cooperation with our colleagues in the different Jordanian institutions and universities. It is our pleasure to announce that in March this year Prof. Dr. Lutfi Khalil was appointed a corresponding member of the German Archaeological Institute Berlin-Germany (DAI). The document was handed over during a dinner hosted by Mrs. Ingrid Liedgens, the Head of the Press and Cultural Section of the German Embassy.

In early March, German Foreign Minister Dr. Klaus Kinkel visited Jordan. We had the honour to guide the accompanying cultural delegation on the Amman Citadel. On the 8th of April our institute and the Lutheran Church

(continued on page 23)

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Gadara/Umm Qais excavations

By: Adolf Hoffmann, Technical University of Cottbus (Germany)

Preliminary report on the 1996 summer season in Gadara/Umm Qais carried out by the German Protestant Archaeological Institute (DAI) Berlin in cooperation with the Technical University of Cottbus:

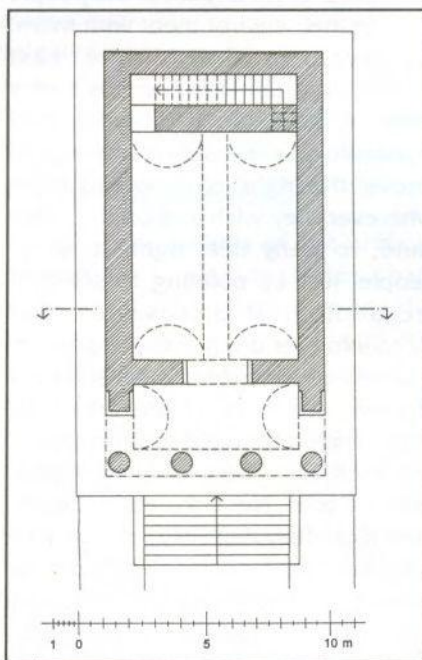
A second (1996) season in Umm Qais was necessary to complete the documentation work of the temple area, where excavation had started in 1995, and also of the southern city wall and the monumental gate at the western boundary of the ancient town. An additional sounding in the central gateway was made to get more information on the foundation, whose walls were erected on natural basalt blocks. In front of the southern city wall where a new parking area has been constructed, a test trench was opened. This was the last opportunity to get more information about the ancient dump area outside the city gate, now covered by concrete and stone slabs. Close to the temple a limited enlargement of the excavation trenches was made, but no more architectural elements of its upper construction have been found. A general topographical plan of ancient Gadara, made under the direction of the previous director of the German Protestant Institute, Amman office, Susanne Kerner, M. A., needed some additional study and measurements.

In the museum and its store rooms, analysis work continued on the small

finds from the different excavation areas and gave some important new results regarding the dating of the temple area and the city wall.

Temple area

There is good evidence that construction of the temple terrace had started before the middle of the 2nd



Ground plan (reconstruction) of the temple (C. Bührig, J. Meister).

century B.C. In this period the Seleucid king Antiochos IV founded or refounded sanctuaries in various towns, mostly consecrated to Zeus

Olympios the favourite god of the king. Gadara had become a Seleucid town only one generation before and one could suggest that Antiochos IV initiated a sanctuary of Zeus in this town too. The huge dimensions of the temenos perhaps point to a royal project, and coins from Gadara show that Zeus was still the main god of the town in Roman Imperial times.

The late Hellenistic doric temple most probably was destroyed in the 2nd half of the 1st century A.D. and than re-erected on top of the preserved podium without using the architectural elements of the first period. The style of building had changed, and if a capital from this area, now stored in the museum, belonged to the new temple then the ionic style defined that temple.

City wall

The new city wall protecting the western part of Gadara seems to have been built at the same time as when the temple was destroyed or a little earlier. The Jewish revolt of that time, reported by Flavius Josephus, most probably sparked a new fortification of the town. Its eastern parts used the remains of the Hellenistic walls. However, this new fortification obviously could not stop insurgents from entering the town and destroying the Hellenistic temple. ■

New Perspectives for the Study of Petra: The Archaeological Map of the Nabataean Capital

By: **Laila Nehmé, CNRS, Paris (France)**

In 1974, the Institut Géographique National made a 17 x 17 km aerial survey of the Petra area, producing a series of 197 black-and-white and color photographs at a scale of 1:10,000. These are divided into eleven bands with a longitudinal overlap of 60 to 80% and an overlap from one band to the other of 5 to 40% which was made necessary by the depth of the wadis. Soon after, M. Gory, J.T. Milik, F. Zayadine, and the late J. Starcky, in collaboration with the Department of Antiquities of Jordan, began a ground survey of the site in order to make an inventory of its monuments and inscriptions, about 1,000 of which were plotted on the photographs. The purpose of this survey was to produce a 1:2,000 archaeological map, but this was unfortunately never accomplished. In 1977, the IGN completed a photoplan covering most of the area which appeared on the photographs. It bears all the place-names based on information from the beduin and villagers and can now be seen in the Petra Visitors' Center.

The project was revived in 1988 with the participation of the ERA n°20 of the Centre de Recherches archéologiques, then supervised by J.-M. Dentzer. In the meantime, several students completed doctoral dissertations on specific categories of Petra's remains: tombs (F. Zayadine, 1971), baetyl monuments (M.-J. Roche, 1985), water systems and cisterns (Z. al-Muheisen, 1986) and triclinia (D. TARRIER, 1988). These studies pointed out the need for an archaeological map of the site which would make it possible to analyze the distribution of the monuments in the area extending from Beida in the north to Sabra in the south and from Selseis in the west to Wadi Musa in the east. Indeed, it became obvious that the development of the capital city of the Nabataeans, its chronology, settlement patterns and socio-economic environment, could be

understood only through the study of such an archaeological map. In 1988, the Royal Jordanian Geographic Center published the first version of the 1:5,000 topographical map of the central part of Petra which is now on sale in bookshops. This publication greatly helped the realization of the archaeological map project, because, after the monuments had been plotted on the photographs, it was used to show their location on the site. However, as it did not enjoy enough precision to locate the monuments within a few meters, it was systematically checked and complemented by R. Saupin, from the IGN, to produce a 1:2,500 topographical map which could adequately serve that purpose.

In order to collect the data for the archaeological map, five surveys were carried out on the site between 1988 and 1995. The monuments recorded during the first half of the 20th century by the early explorers (R.E. Brünnow and A. von Domaszewski, G. Dalman, A. Musil, G. et A. Horsfield, etc.) were identified and located, as well as the majority of those recorded more recently by the authors of the works cited above and by M. Lindner's team. Moreover, 1,000 unpublished monuments, ranging in importance from a small baetyl to a decorated tomb facade, were described, photographed, and mapped. Eventually, topographical plans of three groups of remains were made by professional surveyors. These are the Siq al-Bared north of Petra (scale 1:500), the so-called Dorotheos house along the cliff of al-Khubthah (scale 1:200) and the "third sanctuary" of G. Dalman, n°527 in his catalogue, which lies on the upper slopes of Jebel M'eisrah Sharqiyyeh (scale 1:100).

To sum up, there are in and around Petra more than 3,000 monuments: about 780 rock-cut chambers which are either clearly domestic or too filled up for their function to be determined, 628 remains with a religious

significance, 535 of which are niches, 619 tombs with a decorated facade, more than 500 cist or shaft tombs, 218 basins or cisterns, 217 funerary chambers, 115 banquet rooms and 22 wine presses. A few monuments in various categories, temples, public monuments and ordinary built houses whose remains are visible in the lower city north and south of Wadi Musa, are to be added to the above list. All the information collected during the field work for each monument was recorded in a relational database (4th. Dimension for Macintosh), which included a bibliography on the monuments of Petra and the 1,041 inscriptions in Nabataean, Greek, and Latin copied by J. Milik and J. Starcky. The monuments whose precise location was known were then plotted on the 1:2,500 topographical maps using a map-making computer program (GeoConcept for Macintosh). The use of a distinct and, as much as possible, a realistic symbol for each category of monuments makes for quick and easy reading of the archaeological map.

The map and the data captured in the computer database were studied as part of my doctoral dissertation (Université de Paris I, 1994) which, it is hoped, will be published in a year or two. This analysis allowed me to identify the various stages of development or decline of the city of Petra from the fourth century B.C. to the sixth century A.D., to trace the limits of its urban space, and to determine the role of the various categories of monuments (domestic, funerary, religious, etc.), and their interrelationships. The apparently chaotic distribution of the monuments can now be shown to result from the existence of settlement patterns specific to Petra and from the difficult environment in which the city was founded, and/or from the existence of alternating phases of prosperity and decline which led to the abandonment of certain areas at certain times. ■

Architectural Evidence at Neolithic Wadi Shu'eib

By: Gary O. Rollefson, 'Ain Ghazal Research Institute (AGRI), Ober-Ramstadt (Germany)

Wadi Shu'eib is one of those phenomenally large Neolithic sites that characterize the Jordanian highlands between 7,200 to ca. 4,500 B.C. Excavations were carried out at the site in 1988 and 1989 by Alan Simmons and Zeidan Kafafi in Areas I, II and III, and their work revealed a wealth of information concerning the settlement. Unfortunately, it has not yet been possible to publish the results of their research, but some indications of the architectural aspects of the Middle PPNB (MPPNB, 7,200 - 6,500 B.C.) and Late PPNB (LPPNB, 6,500 - 6,000 B.C.) periods can be gleaned from indications exposed in the road cut that stretches for almost 800 meters through the site.

The Neolithic town of Wadi Shu'eib is situated roughly halfway between 'Ain Ghazal and Jericho, and is located on a principal route of communication between the Jordan Valley and the Jordanian highlands. Its strategic location is reflected in its large size, estimated to be nearly 12 hectares (ca. 30 acres). The excavations in the late 1980s revealed that, like 'Ain Ghazal, Wadi Shu'eib began in the MPPNB and lasted until well into the Yarmoukian culture of the pottery Neolithic period. Much of what had been visible in 1989 has now been covered up by road works undertaken in 1989; but erosion in the past several years has made new information available.

PPNB red-painted lime plaster floors can be seen along nearly the entire 800-m.-long road cut, although it is not possible to determine if these are MPPNB or LPPNB structures. What is distinctive in a comparison with the situation at 'Ain Ghazal is the diffuse nature of the house locations. At 'Ain Ghazal dwellings were built with little space between them, approaching a 'proto-

urban' density already in the earlier part of the MPPNB phase. At Wadi Shu'eib, this density is much lower, with distances of many meters between houses. Although one must be careful about making conclusions based on 'roadcut visibility', it would appear that despite its large size, Wadi Shu'eib's population remained much lower than that projected for 'Ain Ghazal. But, as was the case at 'Ain Ghazal, certain locations were preferred for house construction. In one section between Areas I and II, seven lime plaster floors could be seen in superposition in about 1.5 m. of deposits.

The roadcut also shows abundant evidence of climate change. While the MPPNB and LPPNB layers consist mostly of soil, artifacts and fallen architectural remains, by the latter half of the 6th millennium the widespread 'Yarmoukian rubble layer', characterized by dense quantities of

angular scree, dominates much of the archaeological layers. This is an indication of strong erosion brought on by occasional but severe summer rainstorms that was not witnessed in earlier phases in Jordan. Such climatic conditions may have been partly responsible for the final abandonment of Wadi Shu'eib as a permanent settlement.

Much work remains to be done at Wadi Shu'eib, including additional excavations and an aerial survey to locate possible 'satellite' settlements and resource areas (such as the location of the excellent quality 'pink-purple' flint preferred by the PPNB inhabitants). These kinds of research goals are now being considered as a joint archaeological project between DEI, Yarmouk University and the 'Ain Ghazal Research Institute (Germany). ■



Plastered floor visible in a road cut at Wadi Shu'eib.

Umm Qais - More Than Just Gadara

By: Anna-Christine Janke (Irbid)

When today's travellers, tourists or researchers - and notably archaeologists - mention Umm Qais, they usually tend to refer to the ancient Greek and Roman site. Thus, the locational term Umm Qais is applied as a synonym for Gadara, readily evoking images of Hellenistic and Roman ruins and temples, as well as the life of the ancients. Yet, rarely ever is it acknowledged that Umm Qais is first and foremost an extant and very vital community (the term understood, in this context, as people living in close proximity) consisting of more than 5,000 people. Furthermore, it is often overlooked that the archaeological site also presents a historical site dating from the Ottoman period and inhabited by the population of Umm Qais until the late 1980s.

Interest in Umm Qais, or rather Gadara, is very much focused on the archaeological heritage of the locale; this perception has produced some very definite results for the population of Umm Qais, especially since 1974, and mainly felt in the socio-economic realm.

The following remarks are based on analyses of anthropological research and fieldwork conducted in Umm Qais during 1996 (details of the research and analyses by A.-C. Janke, unpublished).

However, in order to fully comprehend the magnitude of changes which the community of Umm Qais (in the above definition) has been - and still is - experiencing one must start out with some preliminary remarks.

The archaeological "story" of the locale is intentionally left out here, as much has already been said and written about it elsewhere by competent archaeologists. Thus, suffice is to mention that a more or less continuous and flourishing settlement has been evident at this specific locale for almost 2,000 years.

In 1596 C.E. (the abbreviation C.E. [Common Era] is used intentionally as

a somewhat less religiously colored mode of time reference than e.g. A.D. [Anno Domini]), the Ottoman administration undertook the last census in today's areas of Palestine and Jordan for the compilation of tax registers. In these registers, the name of Umm Qais is given as Mkes and it is indicated as the biggest wheat-producing village in the whole Northwest Bani Kinana area.

First transformation

A first transformation of the locale occurred through the Ottoman Land Code of 1858 that made it compulsory to register land which was to be cultivated. This Land Code overtly promoted agriculture, but moreover it also represented an attempt by the Ottomans at political centralization and increased state control (Shami, 1987). Due to the compulsory land registration people started to live in the locale on a more permanent basis, while previously many only stayed there a limited time of the year for the ploughing and harvesting seasons. Through the Land Code, however, people returned to Umm Qais from the surrounding villages and towns; in Umm Qais this dynamic resulted in the gradual stratification of the village community into mellakin (landlords or landowners) and fellahin (cultivators) (Shami, 1987). Though there was a communal use of land, it was by no means egalitarian; this socio-economic stratification of the villagers is also reflected on a spatial and architectural level in the Ottoman-period village layout of Umm Qais. A vertical stratification of the dwelling space from hilltop to foot of the hill took place when the first substantial and permanent dwellings were built between 1880 and 1930. The leading landowners (mellakin) settled at the top of the hill in housing complexes while the sharecroppers and tenant farmers (fellahin), the laborers, herders, and craftsmen settled along the slope toward the foot of the hill. Thus, the village basically consisted

of two parts: the Hara al-Foqa (Upper Quarter) in which the mellakin used to live and the Hara al-Tahta (Lower Quarter) where the houses of the fellahin were situated. The housing complexes of the mellakin were usually built in several phases over two to three generations, with either several generations and/or several siblings with their families living in the complex at the same time. Hence, each of these complexes is individually shaped and reveals that the living space underwent a continuous process of functional and structural change. A further difference between mellakin and fellahin houses concerns the used building materials; while the mellakin houses were built of stone, the fellahin houses consisted of mudbrick and clay.

Continuous use of resources

Even though the village's economy (mainly based on agriculture) had started to transform since the 1940s, and agriculture has been increasingly abandoned for employment in the civil service and the army, the mellakin housing complexes were still used. By the 1970s, Umm Qais had spread towards the south-east; yet, despite the socio-economic changes and transformations, most of the mellakin families continued living in the housing complexes on top of the hill, in close proximity to the archaeological remains of the Greco-Roman era - until 1974. In that year, the government of Jordan approved a proposal by the Department of Antiquities to acquire the lands and houses which were in close proximity to the archaeological ruins in order to further excavate and preserve the site. This process of appropriation took several years during which homeowners were not allowed to change, modify, or even repair their houses. By 1986/7, the mellakin and fellahin houses were abandoned by their inhabitants, due to the appropriation and its impact.

The anthropological research carried out in 1996 aimed at three major goals: 1.) the collection and analyses of socio-economic information on the population of Umm Qais; 2.) the collection of social data and information on the population, including its relations to the site and to the Ottoman-period houses; 3.) the attitudes and relations of the population towards an increasing touristic influx at the Greco-Roman site. Representative data and information were collected through questionnaires (random sampling), interviews with selected subjects from the concerned community and governmental institutions involved in the development of the locale, as well as through essays produced by the potential graduating classes of the two highschools.

Changing perceptions

While the analyses and results of this research will be published elsewhere, one specific aspect concerning the perception of the Umm Qais community of their living place will be illuminated here - the most important being that through the land and houses appropriation and the subsequently created "New Housing Area" outside the eastern boundaries of the original village, the perception on the village changed completely for its inhabitants. This change can be observed in the re-naming of the village parts; while the Ottoman-period houses used to constitute the "Old Village" until the late 1980s/early 1990s, the area down the hill was considered the "New Village". Today, however, Umm Qais consists for its population of three distinct parts: the former "Old Village" - that is the Ottoman-period mellakin and fellahin houses - has become the "Ancient Site", while the former "New Village" is now considered as the "Old Village", and the new housing area constructed by the Jordanian Housing Corporation forms the "New Village". These three village areas are indeed clearly visible, as any map of present-day Umm Qais demonstrates. However, much more important than the spatial distribution is the

perception of the people living in Umm Qais and their differentiation of the various parts which indicates a different relation to their village expressed in the re-naming.

Sensitive issue

For those generations who actually experienced living in the Ottoman-period houses (persons born until the late 1970s), the issue of resettling somewhere outside these houses is a very sensitive subject. Thus, those who had been living there still expressed a relationship to these houses, by for instance describing the very specific lifestyle with its defining characteristics favored through the specific building style. But besides shared and secluded living spaces, the Ottoman-period houses and the whole layout of the cluster of houses allowed for home food production and some animal husbandry, both indicating a high degree of self-sustainability. Due to the move into the "New Housing Area", many of these characteristic living aspects were abandoned, or, as it was expressed by one interviewee speaking for many: "When we left the house [referring to the Ottoman-period house], we left our traditions behind."

Emotional links

Obviously, the generations who experienced the specific lifestyle in the Ottoman-period houses have a very close and emotional relation to these houses. Quite contrary are the relations and opinions of the now 16-to-18-year-old generation who mainly knows about this lifestyle through the descriptions of others, but who did not experience it themselves. Thus, the Ottoman-period houses and the whole of Gadara is much more distant to this generation, and its relation to the place is not as emotionalized. A common reference made by this generation signals that the Ottoman-period houses are only perceived in the context of Greco-Roman ruins, which all should be restored. Hence, the former "Old Village" - that is the mellakin and fellahin houses - are not of major importance to this generation. This

generation only seems to consider the houses in the context of the archaeological site. Yet, also, the archaeologico-historical site does not figure prominently in the perception of the 16-to-18-year-old highschool students - probably indicating what some of them expressed as severed relations between the Umm Qais site and the local community, which appear separated from each other.

Major social changes

The land and house appropriations have brought a halt to almost 2,000 years of continuous settlement at the same spot, and led to major social changes for the population. They have, however, not produced a discontinuity which would allow for the consideration of the parts of Umm Qais as separate, unrelated entities. Hence, when talking about Umm Qais we should not just consider either Gadara or the inhabited present-day areas of Umm Qais, but rather include all three parts of the locale. If it is true that perceptions express themselves in the choice of words and vice versa, and that the choice of words reveals a specific perception, then we probably have to start from here in order to view Umm Qais in its own right.

Furthermore, it should not be overlooked - and specifically not by those directly involved in any kind of heritage management - that today's present will be tomorrow's past, and hence equal consideration should be given to past as well as present developments.

About the author: Anna-Christine Janke studied Art History, Classical Archaeology, and Romance Languages at the Ruprecht-Karls-Universitaet, Heidelberg (Germany). She received a B.A. in Interdisciplinary Studies from American University of Rome, Rome (Italy) and a M.A. in Social Anthropology (focus development) from Vermont College of Norwich University, Vermont (USA). Since 1986 she has been involved in development projects in Kenya, Zambia, Zimbabwe and Jordan. ■

Update on the Petra Church Papyri

By: Robert Daniel (American Center of Oriental Research - ACOR)

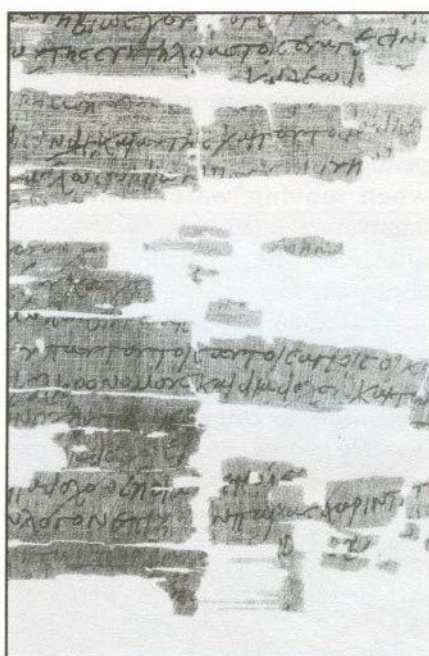
Vol. 1, No. 1 (June 1966), p. 10 of this Newsletter already announced the find of carbonized Greek documentary papyri of the sixth century A.D. that surfaced during the excavation of a Byzantine church in Petra conducted by the American Center of Oriental Research (ACOR) in Amman. The following is a brief description of two of the most important papyri in the archive

Papyrus Petra H.M. King Hussein bin Talal and H.M. Queen Noor al-Hussein (Inv. 83) is one of the largest and best preserved rolls in the archive. Its total length was probably eight to nine meters, and it contained approximately 600-700 lines of text. The document contains the settlement of a dispute between two men known from other Petra papyri, Theodoros son of Obodianos and Stephanos son of Leontios. The properties under dispute are not, however, situated in the town of Petra, but in the neighbouring village of Zadakatha (Sadaqa). Theodoros and Stephanos owned houses which were adjacent to each other. For several decades there had been disputes between these neighbouring families. Several conflicts flared up when Stephanos began to build a water-channel leading from a spring in the courtyard of his neighbour to his own house.

The document records long speeches of both parties made before the arbitrators of the dispute. The speeches are not without rhetorical flourish: "If everybody could at his will act in this way, many men would be deprived of their lawful rights by the ill-doing of such people who wish, yes, who insist on taking other people's property into their possession."

There are several subjects under dispute: the right of drawing water from the spring and leading it through the houses; the right of building water-channels and using drains; and the right of access through the houses. Theodoros also accuses Stephanos of

stealing building material from his house, and Stephanos accuses Theodoros of an old debt concerning a sale of a vineyard. Finally, the decisions of the arbitrators are given, and the litigants settle their disputes with solemn oaths and their signatures.



A portion of a papyrus roll from Petra.

Of special interest is the appearance of the name of the Ghassanid leader Abu Karib in this document. In A.D. 528, the Ghassanids became reconciled with the Byzantines, and Abu Karib ibn Jabala was granted the phylarchate of Palaestina Tertia. In our document, his position as a phylarch is mentioned, but he probably acted as a private mediator in an earlier dispute over a sale of a vineyard, which is mentioned by our litigants.

Papyrus Petra Khaled and Suha Shoman (Inv. 10) is another one of the longest and best preserved texts in the archive. About 140 lines of relatively continuous texts survive, in addition to informative scraps of moderate size as well as about 500 small fragments that occasionally yield

useful information. This document is a division of inherited property by three brothers named Bassus, Epiphanius, and Sabinus. This is the order in which the names of the brothers appear in the text, and it probably reflects their respective ages.

The property being divided consists chiefly of houses, apartments, and numerous small parcels of land. Two of the brothers also inherit slaves. The third brother Sabinus, however, inherits no slaves. The reason for this is that each of the preceding two groups of slaves may have constituted a small family unit that was not to be divided for humanitarian and legal reasons. General practice was probably in keeping with what the Codex Theodosianus 2.25.1 prescribes specifically for the imperial estates: "When the property on imperial estates is divided, family units of slaves should remain intact with a single owner. For it is intolerable that children be separated from the parents, brothers from their sisters, and husbands from their consorts."

Roll 10 is of interest in terms of the archive in that it documents the family's extensive wealth, which consisted chiefly of immovable property. It is also of linguistic value because it contains a wealth of Arabic names for villages, for small areas in the countryside, and for houses and parts of houses. The Arabic names are given in Greek letters without word-division. Since they are certainly from the 6th century A.D., they are a welcome addition to the record of otherwise poorly-documented pre-Islamic Arabic. There is, for example, a house named Baith al-Kellar, probably "House of Storage" or "House of the Keeper of the Storehouse". Kellar seems to be a loan-word in pre-Islamic Arabic from Latin cellarius or cellarium. Another house has an upper chamber; the name of the upper chamber is Elliath Alebous, which is almost certainly Arabic for "the upper chamber of

Alebous" ('Alebous' being an old Arabic and Nabataean name).

Some of the Arabic toponyms that Roll 10 mentions for the Petra area of the 6th century A.D. can perhaps be identified with places that still bear the same or similar names today. Roll 10,

for example, mentions places called al-Rafida, Math al-Louza and Alok. About 5 km. north of Petra, in the mountains to the east above Beida, there exist today al-Rafid, Umm Louza, and Aluq. The first two, al-Rafid and Umm Louza, are adjacent to each

other, and Aluq is very close to them. At least six toponyms mentioned in the archive are identical with or similar to place-names used today in or very close to the town of Wadi Musa (e.g. al-Bassa and Ain al-Eis). ■

Azraq Wetlands Prehistory and Paleoenvironment Project

By: Gary O. Rollefson, 'Ain Ghazal Research Institute (AGRI), Ober-Ramstadt (Germany)

With the assistance of the German Protestant Institute of Archaeology in Amman (DEI), new visits were made to the area of Azraq Shishan ('South Azraq') in March to prepare the forthcoming excavation season in the summer of 1997. The areas around 'Ain el-Assad ('Lion Spring'), 'Ain Soda and 'Ain Qasiya were photographed, and additional surface collections were undertaken at 'Ain Soda. These artifacts consisted of 24 additional handaxes and cleavers dating to the Late Acheulian period (ca. 250,000 years ago; cf. Occident and Orient Vol. 1, No. 2 (1996): p. 3), several cores, and a number of flakes and blades among which were some scrapers, borers, knives and possible projectile points. Several animal bones were also collected, but these have not yet been identified.

The extraordinary thinness of many of the handaxes and cleavers reflects the exquisite workmanship of the hunters and butchers of 'Ain Soda. The sharp edges and acute points of many of the pieces are remarkably fresh, and conceivably could still be used for skinning and butchering animals today as they were in the dimly known Pleistocene era. Nevertheless, the heavily abraded condition of some of the other tools reveals that several occupation surfaces were exposed for extended

periods of time in the obscure past, when moving water, wind, and trampling animals ground down and blunted the chipped stone implements.

The location of so many of the tools in former lake deposits suggests that the animals were attracted to the lakeshore to drink the water and possibly to graze on nearby grassland.



Stone tools recovered from 'Ain Soda.

Using ambush techniques, the hunters panicked the animals (including elephant, camel, horse-like species, and other large herbivores) into the lake, where their speed was cancelled by the water and deep mud. The abraded tools on the exposed dry land also include many butchering tools, but here the scrapers and knives indicate activities associated with processing the animal skins for use by the hunters elsewhere.

The presence of elephants and other large grass-eating animals in the middle of the desert is strong evidence that the environment of the area was very different in the Pleistocene period compared to that of today. The existence of the lake also argues for a regime of higher rainfall, although it is not yet clear how large the lake was. (It is possible that there were several small lakes instead of a single large one in the Azraq Basin at the time).

In addition to tracing the changes in the stone tools used by the hunters in the Azraq area, the upcoming excavation season will place a strong emphasis on reconstructing the landscape, climate, and vegetation cover of the vicinity over the past-quarter million years. Samples of fossil pollen, microscopic molluscs, and soil formation processes should provide some of the answers to questions of how the

environment changed and what kinds of conditions the hunting societies faced. The tempo of environmental change might be measured if the project is successful in recovering animal teeth for Electron Spin Resonance dating, and it is also possible that potassium-argon (K-Ar) dating of ash layers in this volcanic part of Jordan could yield additional sources of chronological information. ■

Kamid el-Loz in Lebanon: The resumption of work in summer 1997

By: **Marlies Heinz, University of Freiburg (Germany)**

In summer 1997, the excavations in Kamid el-Loz will be taken up again by the Department of Near Eastern Archaeology, Albert-Ludwigs-Universität, Freiburg (Germany) under the direction of Marlies Heinz.

Kamid el-Loz, one of the largest and highest tells in Beqa'a, is situated in the southeast of the plain. The oval-shaped tell measures about 300 m. N/S-lateral length and about 240 m. E-W. Kamid 'el-Loz is situated at 949.80 m above sea level and today rises approx. 26 m above the Beqa'a plain. The tell may have originally been much higher. Sedimentation in the alluvial plane has obviously levelled the difference between the tell and the plain over the course of time. A spring has its source north of the tell.

Tell Kamid el-Loz was excavated from 1963 to 1981 under the direction of Prof. Dr. R. Hachmann from the University of Saarbrücken (Germany).

The purpose of the 1963-1981 excavations was to investigate the pre-Hellenistic settlement of the Beqa'a plain. As the plain borders Lebanon, Hermon and the Anti-Lebanon, this meant that a narrow land corridor linked the Mediterranean in the West to the Syro-Arabian steppes in the East. At the same time, it formed a connecting area between Egypt/Palestine and North Syria. The results of the 1963-1981 excavations have already provided extensive insights, especially into the Late Bronze Age settlement of Kamid el-Loz. Material evidence, architecture and small finds indicate a prosperous Late Bronze Age settlement.

Written sources from the Armana-Archive, Egypt, name a place called Kumidi, which Eduard Meyer identified as the modern Kamid el-Loz in 1897 (Hachmann in Berytus XXXVII, 1989: 89 ff).

Clay tablets from Kamid el-Loz support evidence of links to Egypt, especially in the 16/15 centuries B.C. Results of excavations show that the

Late Bronze Age city was built on older structures. However, only scarce knowledge of the type and perimeter of the Middle Bronze Age settlement is available so far and conclusive evidence for an older settlement other than the Middle Bronze Age settlement is completely lacking.

New emphasis

With the beginning of new excavations in 1997, the scientific programme shall have new points of emphasis.

Future investigations will focus on the documentation and interpretation of settlement structures and settlement systems at Kamid el-Loz, as well as the establishment of the reasons for these developments. Priority will be given to conducting excavations over large areas and to placing major parts of the respective settlement into a larger context. Settlement systems, the size of settlement in various eras, modification on architectural findings, or the continuity of construction and settlement structures will provide the basis for further interpretations of economic and sociological factors. Due to its unique geographic and spatial conditions, the Beqa'a formed a transit and connecting corridor between cultures in North and East Syro-Mesopotamia, the Mediterranean in the West, Palestine/Egypt in the South and North Syria - which was ideal for the development of far-reaching trade relations. Extensive finds from the Late Bronze Age settlement prove that the Kamid el-Loz settlement had contact with Egypt. The suitability of the corresponding regions as contact zones for cultures could have had an effect on the cultural development of these zones to various degrees. The emergence of an economically prosperous trade centre is just as possible as the formation of colonies,

implemented by strong economic powers in the neighbouring countries, who used the respective regions in order to secure locally required merchandise.

In order to trace the reason for and the background to the development of the settlement, a comprehensive set of questions will be compiled which will also place the phenomena of trade, colonisation and urbanisation processes into a larger context.

In order to treat relevant problems, theoretical concepts are now being compiled in order to provide explanations for urbanisation and colonisation processes. The documentation of these concepts also takes the question of the role of trade in various processes into consideration, especially in regard to queries about the background to urbanisation and colonisation, and relies on the combination of excavations conducted over large areas of the settlement as well as the evaluation of regional settlement systems.

Central functions and services of a city develop according to or as a result of interaction of the demands made by its own inhabitants and its surroundings. A parallel investigation of the site to be excavated and its surroundings is essential for the solution of the questions posed here.

Kamid el-Loz and the Beqa'a plain offer both opportunities. Tell Kamid el-Loz's expanse is large enough to document settlement structures and small enough to attempt a documentation of several epochs.

Studies carried out from 1963-1981, the already completed exposure of further areas of the Late Bronze Age settlement, and a survey published in 1995 investigating the history of the Beqa'a settlement undoubtedly make both the Beqa'a plain and Tell Kamid el-Loz ideal sites for further studies. ■

'Ain Ez-Zara - Kallirrhoe: The thermal bath of Herod the Great

By: Christa Clamer (Amman)

On the eastern bank of the Dead Sea, 2 km. south of the Wadi Zerqa Ma'in gorge, lies the oasis of 'Ain ez-Zara. Almost 400 m. below sea level, the oasis is watered by about 40 perennial fault springs, whose waters display a variety of temperatures and chemical compositions. Bordered to the north and south by steep fault escarpments reaching to the sea, it has a semicircular setting with rising terraces at the interior and a scenic mountainous background to the east, rising more than 1000 m. to the Moabite plateau and the palace-fortress of Machaerus, where John the Baptist was beheaded. The interior of the oasis is shaped and moulded by different watercourses surrounded by lush vegetation with high reeds, cane brakes, tamarisk and wild palm trees. Nearer the shore, the lowest shelving terrace breaks off and ends in cliffs followed by a strip of pebble beach, gently sloping towards the sea.

The hot springs of 'Ain ez-Zara are well known today to all picnickers and visitors from Amman and its surroundings, who come down the modern highway connected to the asphalt road along the Dead Sea shore. On weekends they invade the oasis by the thousands, enjoying swimming in the Dead Sea and bathing in the natural rock-cut pools created by the hot springs. Not so well known are the archaeological sites close to the hot springs, which are distinctively visible on the pebble beach and on the lower shelving terrace above the beach. They are the remains of the renowned Baths of Kallirrhoe, praised in antiquity for the curative properties of their waters, and frequented by Herod the Great.

In his famous account, Flavius Josephus describes King Herod the Great's visit to the hot springs at Kallirrhoe just before his death in 4

B.C. (Jewish War, I, 657-659; Antiquities XVII, 169-176). The sick and ailing king still clung to life and hoped to find relief in the curative waters. Josephus writes that the king, coming from Jericho, "crossed the Jordan to take the warm baths at Kallirrhoe, the waters of which descend into the lake Asphaltitis and from their sweetness are also used for drink." However, the curative method applied by the physicians (a bath in hot oil) was not successful and the king fainted, and half dead "started on his return journey and reached Jericho in an atrabilious condition." Later, the site fell into oblivion, but thanks to the dramatic account by Josephus, the site's name was preserved. In the beginning of the 19th century, when explorations were carried out in the mountains of Moab in the search for biblical and historical sites, the ancient location of Kallirrhoe was re-discovered. In 1807 the German scholar Ulrich Jasper Seetzen reached the oasis of 'Ain ez-Zara, and suggested its identification with ancient Kallirrhoe, basing his assumption on the description by Flavius Josephus. The identification was confirmed by the illustration on the Madaba map discovered in 1884, where the baths of Kallirrhoe are placed near the sea between two large water courses, Wadi Mujib in the south and Wadi Zerqa Ma'in in the north. Later, other scholars followed suit, visited the site and recorded archaeological ruins near the shore.

Access by land was difficult. Except for H. B. Tristram, who ventured down the steep descent from the eastern plateau (1872), all scholars came by boat: le Duc de Luynes (1864), Abbé Heidet (1908) and Père Abel (1908/09), as well as the study groups of the Deutsches Evangelisches Institut für Altertumsforschung des Heiligen

Landes (1961 and 1965). H. Donner, H. Schult and A. Strobel re-investigated the archaeological monuments in the beach area and on the higher shelving terrace. The monumental ruins close to the water front with column drums dispersed over the area were described as harbour installations, with porticoes and stairways leading up to the lower terrace, where another large ruin was identified as a villa. Finally, in the years 1985/86 and 1989 the first archaeological excavations were conducted at the site by the Deutsches Evangelisches Institut für Altertumsforschung des Heiligen Landes (DEI) directed by A. Strobel.

The excavations, carried out in a limited area on the lower rock terrace, provided stratigraphical, numismatic and ceramic evidence of two periods of occupation: the Early Roman and the Early Byzantine. The earliest building was founded during the reign of Herod the Great, at the end of the first century B.C., and continued to the end of the first century A.D. Thereafter, an Early Byzantine re-settlement lasted from the second half of the fourth century to the end of the fifth century.

Excavated was a large ruined villa on the lower rock terrace about 150 m. inland, composed of two building complexes, Building A and Building B. Building B has a central axis running west-east with a larger hall surrounded by a symmetrical arrangement of three rooms on the northern and southern sides. The central hall seems to have served as a triclinium, while the adjacent rooms were living rooms. To the east the triclinium had an open courtyard, which was surrounded by a row of rooms on the northern and southern sides. Building B was connected to Building A by a row of rooms running along the edge of the western escarpment, while enclosing

to the east an open courtyard, perhaps used as a garden. Building A is a rectangular structure with rooms built around an inner courtyard. Similar to Building B, the rooms on the northern and southern sides show a symmetrical arrangement, while the dominating feature on the western side is a large hall with two side rooms and on the eastern side a large pool or bath. The pool had an inlet on the east, from where it was fed by a hot spring, and an outlet on the western side through which the overflow was carried through the courtyard to the western escarpment. The hall on the western side seems to have been a portico, supported by a row of columns on the inner side. It had an entrance near its northern end, which probably was paralleled at the southern side. Two side rooms served as storerooms, one containing chalk, the other bitumen.

Though much destroyed and eroded, the villa displays sophisticated architectural planning, which seems to relate directly to Herodian architecture as seen at Jericho and Greater Herodium and may be compared to Palace I at Jericho. Part of the rooms were also elaborately decorated, as shown by some stucco fragments and many scattered column drums, indicating a portico (in part reused in the Byzantine structure).

Due to new development projects in the area of ez-Zara, the Department of Antiquities of Jordan has started new rescue excavations at ez-Zara:

In the harbour area, excavations (conducted by Saad Hadidi, Mohamad Waheeb) have so far exposed the most outstanding and extensive building complexes, which seem to date also from the Early Roman occupation. Before the construction of the modern asphalt road, which covered up a part of the ruins, most of the outlines of the buildings had been visible on the surface and some had been recorded earlier by Donner, Schult and Strobel. Three long walls, each 1.50 m. wide, run parallel to the shoreline and extend probably more than 200 m. north-south. Between them is a roofed hall, 3.45 m wide, with plastered walls and floors, which

was perhaps part of the ancient thermal bathing facilities. There are further lateral buildings leading up to the oasis, including a monumental stairway.

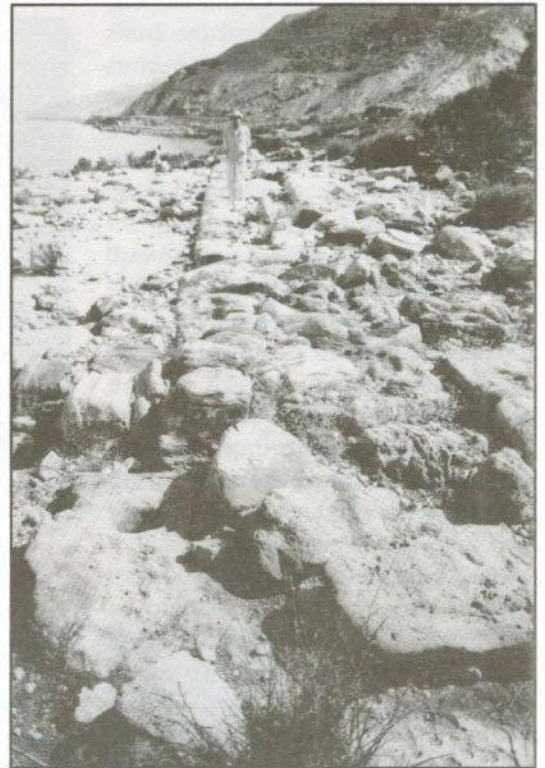
On the lower shelving terraces, some distance to the north of the large Building A/B complex, two structures, Buildings C and D, were exposed, representing either private villas or larger farmsteads (excavated by the author). The ruins had been endangered by farming and construction activities. Both buildings are situated beside a watercourse and surrounded by farmland.

Building C, built on a small projecting salient some 60 m. north of Building A/B, had been recorded during the 1986 excavations. The building is constructed very close to the escarpment and has in part been eroded to its foundations. Its architectural layout shows a rectangular, rather massive structure with an open courtyard surrounded on the west and south by a row of larger rooms. A doorway, 1.10 m. wide, leads from the central room at the west side into the courtyard, where a stone-built tomb was discovered in front of the entrance. The tomb seems to be of a later date. The living floor, preserved in several places, yielded Early Roman pottery.

Building D, further to the north and above the Wadi ez-Zara, has not yet been completely exposed. It shows a large L-shaped structure with a series of rooms and an inner courtyard. Similar to Building C, the site had been used for farming and is projected for construction. Despite heavy destruction, the building has retained some of its living floors. According to pottery evidence, Building D also belongs to the Early Roman period.

Other unexcavated archaeological remains have only been recorded. Another villa or farmhouse is situated at the southern side of the oasis (now largely destroyed by bulldozers). The

huge projecting rock on the lower cliff, split in the middle and slightly shifted, probably by an earthquake, shows signs of human workmanship on its eastern side. Recorded by Abel and Donner, it is thought to have been an open rock-cut pool (Nymphaion) with an inlet channel for the thermal water on the east and an outlet to the west. We assume that it was part of the Early Roman bath installations. In addition, an ancient water-mill with a feeding channel had been installed, using the sloping surface and the cliffs at the end of the rocky terrace, the date of which can only be established by excavations (the feeding channel has



The harbour area before excavation (view to the north).

been destroyed by farming) .

We assume that Kallirrhoe was planned in connection with Herod's building activities at Jericho and the rebuilding of the palace-fortress of Machaerus. It may have been primarily designed as country site with thermal baths and a small harbour or anchorage place, which offered the connecting link between Jericho and Machaerus. While the recreation centers were close to the seashore where the hot springs gushed into the

Dead Sea and access was easy for convalescent and sick people arriving by boat, villas and farmhouses were situated on the lower terraces and within the oasis, close to watercourses and surrounded by a small private domain planted with trees and vegetables.

Or, alternatively, was the oasis a royal estate, that provided important revenues for the king? Blessed with plenty of water, arable land and an almost tropical climate, the site was well suited for the cultivation of the famous date palms and aromatic plants. While the fruits of the date palms from En-Gedi, Jericho and Zoar were noted for excellence throughout the Roman Empire, the palm trees also were good for honey and the fruits for date wine, and the balsam bushes produced a resin which was used for cosmetics and medicine. The balsam, in great demand in Egypt and the Roman world, was a state monopoly and its cultivation therefore important for the treasury. An ancient stone wall on top of the higher shelving terrace limiting the oasis to the east runs close to the edge of the escarpment. This long wall is reminiscent of the boundary walls which enclosed the royal estate at Jericho, from the late Hellenistic period to the time of the First Revolt (70 A.D.). But only excavation can secure its dating.

During the first century A.D., Kallirrhoe continued as a well-known spa and a sort of 'urban village', probably also accumulating wealth through export of its agricultural products and bitumen extracted from the Dead Sea. Comparative studies of the finds show that the site was dependent on commerce and resources from the Judaeian capital and other contemporary Judaeian sites on the western side of the Dead Sea, while contact existed also with the Nabataeans.

According to archaeological evidence, Kallirrhoe was abandoned and destroyed, like Machaerus, at the end of the First Jewish Revolt. With the spreading of unrest and open rebellion against the Romans and the Roman army controlling the area of the Dead Sea, Kallirrhoe was probably

cut off from the west some time before the stronghold of Machaerus fell into the hands of the Romans in 72 A.D. The inhabitants of the villas and country houses may have left the village before the arrival of the Roman army in the Moabite highlands.

Byzantine era use

After a gap of about 300 years, an Early Byzantine re-occupation was represented in the Building A complex, where the newcomers built on a raised level, using preserved walls as foundations, or founding their walls on the Early Roman floor level. Architectural remains of the Early

Up until the 1994 Peace Treaty with Israel, the oasis was situated in a military area, which did not allow large scale development activities, but only small-scale agriculture and grazing by local bedouins. Since then, little is left of the original vegetation. The land of the oasis has been parcelled out and sold and the plots are protected by iron fences. Much of the land has been cleared of trees, bushes and stones (also of archaeological remains) to gain arable land, which is cultivated all year around, irrigated by a system of plastic pipes and channels. Modern houses have been built and more will doubtless follow, since the oasis is



Villa A/B complex at Zara (view to the south).

Byzantine period were poorly preserved due to heavy erosion, though numismatic and ceramic finds were quite abundant, dating the occupation to the second half of the fourth and fifth centuries. So far we have no evidence of a re-occupation in the other areas of the oasis, and we assume that occupation in the Early Byzantine period was much more sparse than during the Early Roman period. It was perhaps connected with some farming and trade across the Dead Sea, as depicted on the Madaba map. Judging from the ceramic evidence, the inhabitants at Kallirrhoe came from the Moabite region. It seems that after the fifth century the site was abandoned and never rebuilt, except for a few bedouin shelters or agricultural installations used during the farming and harvesting seasons.

projected as a new development area with the facilities of a modern spa.

In view of this development, a systematic archaeological survey was carried out in 1995 (conducted by Khairieh 'Amr and Khalil Hamdan) as part of the Environmental Impact Study under contract from the Jordan Valley Authority. It has revealed a high concentration of archaeological sites, some of which belong to the Chalcolithic/Early Bronze Ages, as well as the Early Islamic periods. With regard to the uniqueness of this area with its rich natural flora and fauna and important archaeological remains, new proposals have been launched to preserve the oasis as a natural and archaeological park, and as a tourist attraction with the facilities of a modern spa nearby. ■

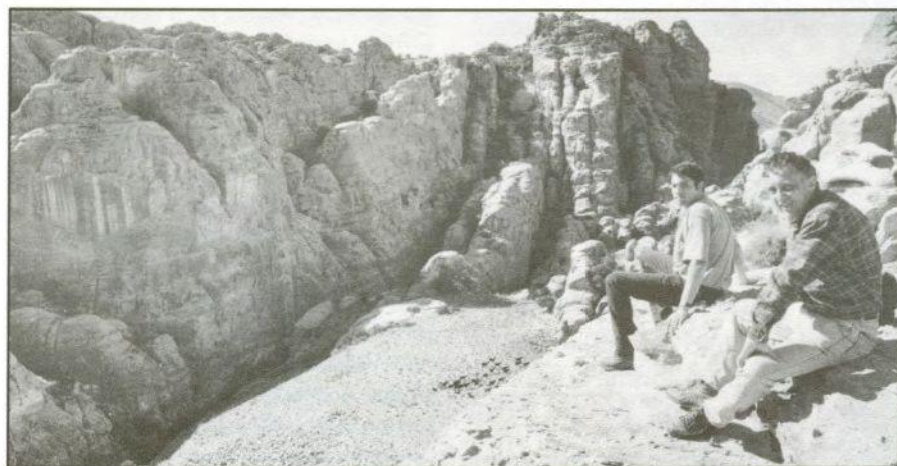
Ba'ja - Investigations into one of the earliest settlements in Jordan

By: Hans-Dieter Bienert, German Protestant Institute of Archaeology, Amman-office (DEI), and Hans Georg Gebel, Free University of Berlin (Germany)

Archaeological research in the past decade has considerably broadened our knowledge of the Pre-Pottery Neolithic B (PPNB, 7,500 - 6,000 B.C.) culture in Jordan. A number of new sites have been discovered, of which the most outstanding are 'Ain Ghazal, Wadi Shu'eib, es-Sifiya, Basta, and 'Ain

The German Protestant Institute of Archaeology-Amman office is planning this summer to start excavations at another PPNB central settlement site. This project will be co-directed by the authors. The site called Ba'ja is located some 14 km. north of Petra/Wadi Musa (1120-1160 m.

1996). In 1984 it was first investigated by Hans Georg Gebel in the framework of his project "Tübingen Atlas Palaeoenvironmental Investigations in the Greater Petra-Area". (Gebel 1986, 1988, 1990, 1992; Gebel & Starck 1985). Gebel carried out a small test operation, which revealed evidence of vast and rich cultural layers of the late PPNB. It became quite obvious that Ba'ja has no later layers than the Late Pre-Pottery Neolithic B (late 7th millennium BC). It flourished in this climax period of central settlements along the Rift Valley. Thus Ba'ja so far is the only example among the major central settlements that would allow us to study the conditions of growth and decline for such settlements under purely local conditions. Here, adaptations into extensive pastoralism were limited by the environment, and thus information on the dynamics both for subsistence and demographic developments at the end of the PPNB may be expected to be clearer. Most



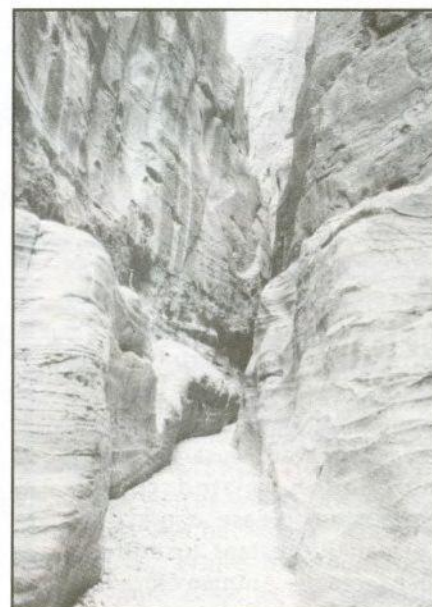
View (from N-E) from a rock formation down onto Ba'ja and its main settlement area.

Jammam. Until the early eighties only Beidha, a site which is situated 5 km. north of Petra, had been examined and was regarded as one of the few PPNB sites in Jordan. With excavations at 'Ain Ghazal, a 14 ha. PPNB site on the outskirts of Amman, this picture changed considerably, and drew attention to an outstanding feature in early Near Eastern sedentism which is characterized by large central settlements such as the above mentioned sites. These sites are all situated along the eastern edge of the Jordan Rift Valley. There are justified reasons to discuss issues related to this phenomenon as an earliest manifestation of proto-urbanism, although we might deal here with a chronologically isolated feature of its own in man's development up to city hierarchies.

above sea level). It rests on an intramontane steep slope in a naturally fortified setting, bordered by the Siq al-Ba'ja and nearly vertical rock formations. The site can only be reached through the siq which is up to 70 m. deep and at several spots blocked by huge fallen rocks.

The site covers an area of approximately 1.2 - 1.5 ha. which is rather small in comparison the other PPNB central settlements. However, its expansion was clearly limited by the spatial conditions of its protected setting and the natural limits of its catchments (Gebel 1992). Nevertheless outliers of the settlement can be expected in the nearby rocks.

Ba'ja was discovered by Manfred Lindner and his team from the "Naturhistorische Gesellschaft Nürnberg, Germany" in 1983 (Lindner



The Siq al-Ba'ja.

likely Ba'ja is the successor settlement to nearby Beidha, which was abandoned by the end of the Middle PPNB. In addition, the advantage of a single-period site, which could only grow vertically due to restricted place, and where well preserved multiple-roomed architecture, built in a pueblo style, rests on steep-slope terraces, offers the chance of non-distorted insights into the internal settlement organization and thus into the social organization of such Late PPNB communities.

The 1997 season will be carried out by the German Protestant Institute of Archaeology-Amman office in collaboration with the German Archaeological Institute (Orient-Section), Berlin (Germany) and *ex oriente e.V.*, a research association at Free University of Berlin (Germany). Funding comes from the German Protestant Institute of Archaeology - Amman office and its Head Office in Hannover (Germany), the German Research Association (Bonn, Germany), the German Archaeological Institute, Orient-Section (Berlin, Germany) and *ex oriente* (Berlin, Germany).

Preliminary results of the excavations, which are due to take place between the middle of June and the middle of July, are expected to be presented at a symposium on the Central Settlements in Neolithic Jordan immediately after the end of the summer season. This event will be held at the Mövenpick Hotel in Wadi Musa and is organized by the German Protestant Institute of Archaeology - Amman office and *ex oriente e.V.* (Berlin, Germany). It will be supported by the Mövenpick Hotel, the Embassy of the Federal Republic of Germany in Amman, Mu'tah University, the Ministry of Tourism and Antiquities, the Petra Regional Council and Petra Moon Tourism Services in Wadi Musa. For further information related to this symposium please contact the German Protestant Institute of Archaeology - Amman office (see address on page 1).

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Remains of a house wall at Ba'ja.

CARCIP Launches Restoration Works in Petra

By: Helge H. Fischer, Project Director/CARCIP, Amman (Jordan)

After three years of preparatory measures, actual restoration work on one of the monuments in Petra has now commenced within the framework of German Technical Assistance to Jordan.

It was with a big sigh of relief and at the same time with a sense of pride and achievement that actual restoration work on one of the monuments in Petra was finally launched by the Conservation and Restoration Center in Petra (CARCIP), currently under establishment through German Technical Assistance to the Hashemite Kingdom of Jordan.

Relief, because visitors and interested parties alike could finally witness what they always expected to see and hear from the scaffolding-encased monuments in Petra: generators running, the hissing noise of compressed air, loads being hauled up the scaffolding, cranes loading and unloading materials... Hopefully this will put an end to the often irritating questions of those who, out of a lack of understanding of the essential preparatory steps preceding any restoration, had little appreciation for this type of work.

It was not that there was nothing going on before: there was, but these were more subtle activities which actually went on intermittently the whole time and were not always visible to the casual visitor. Restoration work at a world heritage site is nothing you can compare to normal construction. It is a highly sensitive issue that requires utmost care and preparation, where every single step needs to be carefully planned, justified and documented.

And, a sense of pride, because in spite of all difficulties and constraints the project is right on track, and those involved in it share the feeling and conviction that what they are doing is in line with the highest international standards and guidelines applicable to the conservation and restoration of such an important site.

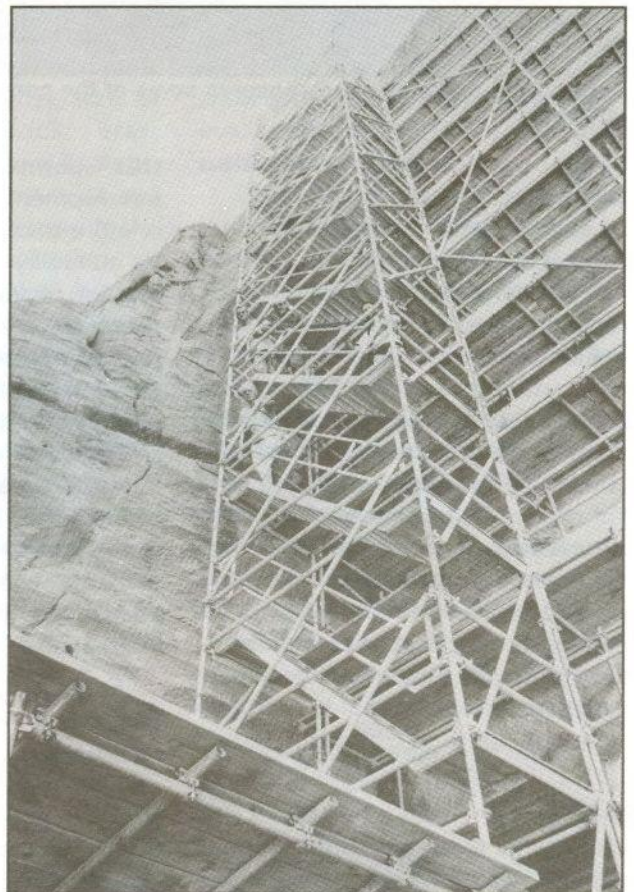
Maybe this is a good opportunity to dwell a bit on the subject and to explain the nature of the preparatory works.

First of all one has to realize that the monument under restoration now, monument 825 or, as it is also known, the "tomb of the 11 graves", is the first monument undergoing restoration by CARCIP. Thus the methods, materials and procedures to be applied are being applied for the first time in this site and most of them first had to be developed. Moreover, not specialists and contractors from Germany are applying these techniques, but Jordanian staff that had to be recruited, further trained, and given a chance to build up some experience with a lot of new information and skills. For this is not a German project but, in the end, an entirely Jordanian affair. The project is actually about assisting the Jordanian government in establishing its own fully functional Jordanian center. The establishment of the center that is meant to carry out this work had to go hand in hand with the preparatory measures on the monument first to be restored.

This means that the physical establishment of the center, with its vast

infrastructure, with the required selection, purchasing, delivery and installation of equipment, with the execution of elaborate training programs, some which are still ongoing, and the execution of all the measures preceding actual restoration of the first monument, had to be done simultaneously.

Let's put the establishment of the actual center aside for a moment and look into these preparatory steps that were executed in the first three years of the project, after we were ready for it. What is the essence of this kind



Scaffolding at a tomb being worked on at Petra.

of preparatory work? Any preparatory work in any serious attempt in the conservation and/or restoration of any monument actually follows an internationally accepted standard procedure. In brief, these steps comprise the following (each of which included its tailored training component, so that in the end each step was or could be executed almost entirely by the assigned Jordanian staff):

resources managers, architects and engineers but also practitioners with proven experience in restoration procedures.

Of course, many aspects of the final result of this process are often predictable, as any concept for this matter has to follow well established criteria that are known to professionals dealing with restoration issues, and often are also laid down in specific codes. What needs to be stressed in

with the material at hand, i.e. have similar properties, appearance, and features.

2. Site preparation

After selection of the object to be restored and agreeing on a sound concept, the monument or site first needs to be made accessible for closer inspection and work. This requires normally the construction of a scaffolding. In our case a coated steel scaffolding was first supplied, and during its erection in front of monument 825 a number of local Bdul were continuously trained in scaffolding erection principles, theoretically and practically. (This step alone, including its training component, took about 4 months).

3. Survey of the site or monument

Now that the monument is accessible, a series of studies are initiated, the first of which is a complete architectural survey, either manually or with electronic equipment, the result of which is a set of base maps in defined scales, similar to architectural plans. Also, this step included a training component in improving not only tedious manual skills but also state of the art on-line electronic surveying techniques and a lot of practice. At the end the required base maps were produced by a combination of manual and electronic surveying and sophisticated computer applications in our Amman office.

4. Damage assessment

In this step, according to certain conventions and procedures, a comprehensive surface analysis of the monument is carried out and documented, photographically and in drawings and sketches. The various types of damage encountered are then entered with specific color codes into one of the prepared base maps. At the same time, from such observations, comparative field studies, and laboratory research, also ascertained as much as possible are the causes of the observed deterioration.

5. Architectural investigation

In line with modern restoration principles, as much as possible only



Technicians and colleagues observe some of the conservation work close-up at Petra.

1. Elaboration of a restoration concept

This is one of the most important steps in the restoration process as a whole. Here all the basic decisions regarding the future restoration are defined and agreed upon, such as what the restoration intends to achieve, what materials are to be employed (sometimes also specifically what materials not to employ!), how far to go or not to go with the restoration process, the type and volume of documentation desired, the procedures and techniques to be employed, specific studies warranted, funding issues, equipment required, logistics and, so on.

In practice elaboration of the restoration concept for a World Heritage Site entails a number of site visits with local and international experts, all of whom have to be specialists in their respective fields, comprising scientists, cultural

this connection is that the development of a restoration concept is more than an agreement reached by culturally inclined or technically versant people. It is the consensus reached by conservation and restoration specialists who form their decisions on the basis of known and established standards and guidelines and personal experience in this field. It is a consensus reached by a group of specialized professionals. Finally, it is the assigned cultural resources manager who decides on what is being done or not being done. This is international practice.

Some of the most important principles to be observed here are: the mandate to (as much as possible) use original materials, employ original techniques of construction, and ensure that the work done is reversible, if this can be achieved. Additionally any material used, if not the original one, should be as compatible as possible

original techniques are employed. With ancient monuments this often poses a problem if there are no records or accounts on how the monuments were constructed. As this is commonly the case with ancient monuments, construction techniques have to be deduced from careful investigation of construction marks. This fairly newly established technique is now known as architectural investigation. It is an investigative technique developed by scientists in close cooperation with practitioners. The careful analysis mainly of tool marks in the end gives a fairly comprehensive insight into how construction was originally executed. Architectural investigation of "our" monument led to a number of new insights into how the Nabateans created their facades.

6. Lithological and petrologic investigation

If applications are to be made onto the original rock mass it is of utmost importance that such additions or mortars be compatible with the original material. For this, the properties of the original rock have to be known, such as its strength, porosity, permeability, composition, hardness, salt content and distribution, and so on. Some of the properties of the rock are also established through simulations by exposing the rock to a set of controlled conditions and recording the changes observed. Such investigations comprise a major piece of serious research and study.

7. Production of original mortars and rock substitutes

From the established rock properties an extension mortar may be designed, using original rock components, for example from a nearby quarry, and then subjecting this artificial material to the same tests as the original rock (step 6) and a number of additional tests until the required properties are established. Such tests also involve field trials and long-term field observations, i.e. observation of the material in the environment where it is going to be used.

8. Elaboration of plan of measures

Just as on any architectural plan,

on the basis of the previous investigations and in line with the procedures outlined in the concept, a map or plan is produced indicating, again in specific color codes, all the individual measures to be taken.

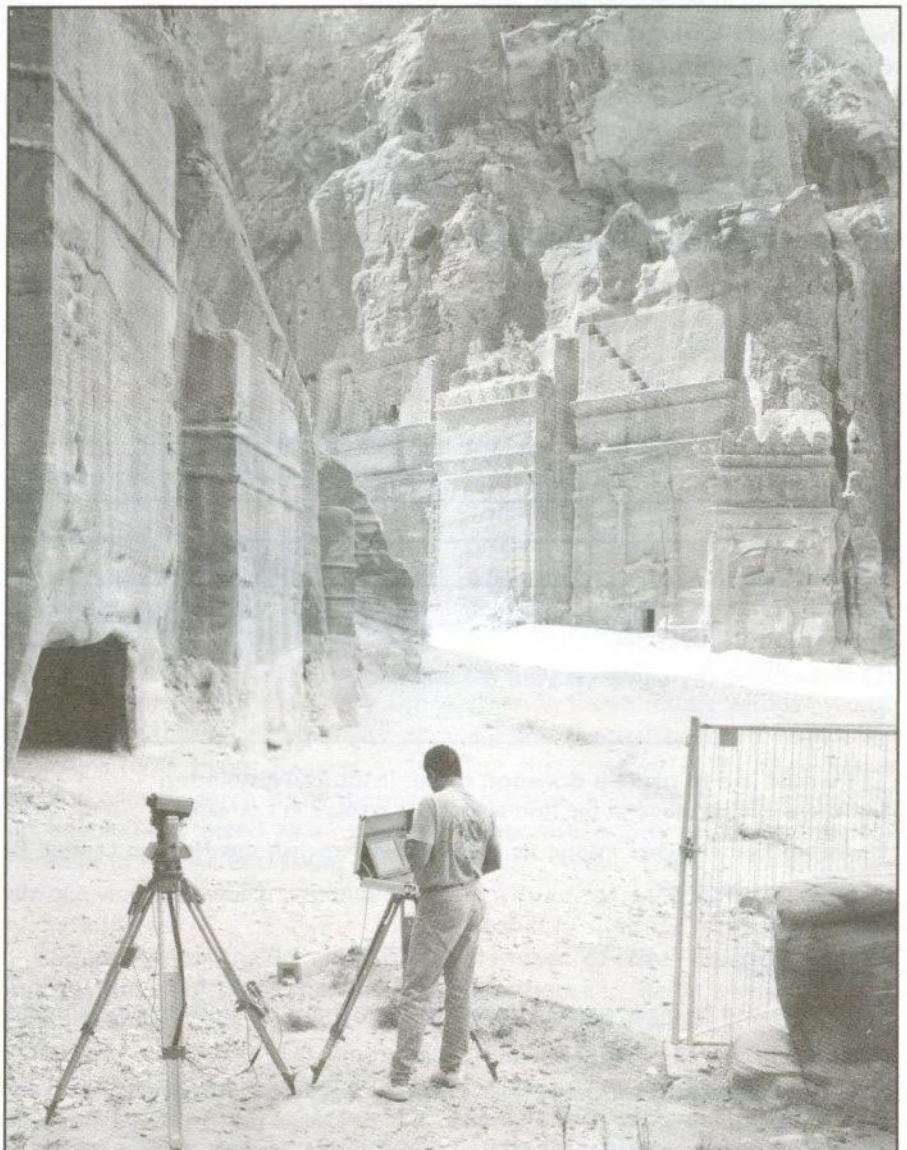
9. Execution of actual restoration

After all these preparatory steps are finalized, carefully documented and double-checked actual restoration can begin. Commonly this is done by starting with a few trial applications on less obvious parts of the monument in well defined areas. This step is often necessary as a last check on how the materials developed behave on the original. These applications are observed for some time, then subjected to some tests on site, involving aesthetic con-

siderations. Only then does the actual restoration begin, again normally executed by masons or artisans, sometimes even scientists having received special training in this field and having a good record of successful applications, and always in coordination with the cultural resources manager in charge.

10. Documentation and archivation of ongoing and completed work

Documentation and archivation play an important role in all modern conservation and restoration campaigns, its main purpose being to document the work done for future restorers and as proof to parties concerned. Documentation normally should include a clear description of the original state of the site,



Electronic online-surveying of monument 825.

monument or part of it, intermediate steps of restoration, and the final result.

As simple as this may appear, this requires strict discipline and a number of steps and procedures that ensure that the observations recorded can later be easily retrieved.

For this we are in the process of building a computer-assisted archive, comprising digital images stored on CD-ROM, scanned material, maps, text, cross references, hyper links, and a capacity for easy retrieval of any relevant information

Steps 1 to 8 have all been executed in the preparatory phase. A lot of preparation and actual execution have also already gone into step 10, and step 9, the actual restoration with the specifically adapted materials, has just been launched.

All this taken together may give the reader better insight into the actual work that precedes and has to precede any meaningful restoration, and why so much time had to be spent on details.

If you have a running office or

center and dedicated, highly specialized staff, this procedure, in the end, is straight forward, though it will never become a routine, as each situation has its individual set of problems.

In our case, to accomplish all the steps outlined - let me once again stress - first a whole suitable infrastructure had to be build virtually from scratch: not even rooms to house the most basic pieces of equipment were available and CARCIP, much as everyone felt it is badly needed for Petra, had to compete with many other groups for the scarce space available until some kind of compromise could be reached. To structure the planing process, computers had to be installed, with printers, plotters, graphic design and CAD-programs; software had to be installed and compatibility problems solved, storage rooms set up, laboratory capacities generated; machine shops, adequate transport facilities, office space, repair and maintenance had to be ensured, and new staff had to know how to operate

and use the various tools, materials and equipment at their disposal. All this went on parallel with the preparatory steps.

The next big step now in the establishment of the new center is the construction of CARCIP's own dedicated building on a site near the Petra Forum Hotel. The architectural plans for this new construction have already been prepared by our Jordanian staff in the Amman office. Again construction will have to run parallel to actual restoration work.

Yes, it is all in all an enormous effort. But is it worth it? Again, a big yes! All of us involved in this project, from our colleagues in the DoA to those working with us at Yarmouk University or the Hashemite University, or in our own offices, share the common feeling that being successfully involved in the conservation and restoration of a World Heritage Site such as Petra is one of the most rewarding achievements there is for a professional. ■

The Madaba Mosaic Map Centenary, 1897-1997: Travelling through the Byzantine-Umayyad Period

By: Herbert Donner, University of Kiel (Germany)

A Colloquium under the Patronage of H.R.H. Crown Prince Hassan bin Talal, April 7-9, Amman

The mosaic map on the floor of the Greek Orthodox St. George's Church at Madaba is one of the most important and most precious cultural monuments in the territory of the Hashemite Kingdom. It is not only the oldest known map of Palestine on both sides of the River Jordan and of Lower Egypt, but also the most reliable one up to the beginning of modern cartography in the 13th/19th centuries A.D. This unique and incomparable monument was discovered in 1884, and first published in 1890 by the librarian of the Greek Orthodox Patriarchate in Jerusalem, the Reverend Father Kleopas Koikyliades. On the occasion of its centenary, an organizing committee to which belonged, among others, the Director General of Antiquities of Jordan, Dr. Ghazi Bisheh, and Father Michele Piccirillo of the Studium Biblicum Franciscanum in Jerusalem, invited participants to an academic colloquium held in Amman, at the Regency Palace Hotel. More than one hundred scholars from several countries participated and 28 of the announced 41 lectures were given and discussed. Though the Madaba Map has been known for 100 years and has produced a remarkable bibliography, it still presents enigmas and unsolved problems. Such problems the participants debated thoroughly and controversially, from the following aspects: the discovery of the Madaba Map, the geographic, artistic and theological contexts of the map and its literary sources, Egypt,

and the identification and exploration of the sites. A field trip to the Madaba region took place on the third day of the colloquium, led by M. Piccirillo, to Umm ar-Rasas, Madaba itself, and mount Nebo (Ras as-Siyagha). Afterwards, there was a short discussion and some proposals. Finally, some of the participants had the opportunity to accompany Dr. K. Politis to Deir Ain Abata, near as-Safi, the better of two candidates for the sanctuary of St. Lot which is represented on the Mosaic Map. Altogether, the colloquium was very useful and fruitful, as is usually the case at conferences with a strictly limited focus, in contrast to general congresses which often tempt people to make too general and superficial statements.

The Madaba Mosaic Map, an exquisite reproduction of which, made by the Madaba Mosaic School, was shown in Amman, most probably originates from the second half of the 6th century A.D.; at any rate, it was laid after 542, the date of the consecration of the Nea Theotokos Basilica in Jerusalem. Its sense and purpose cannot easily be described, for undoubtedly various motives and intentions led to its creation. The main intention, however, was the realization of the exceptional idea, totally unknown before the 6th century, to illustrate God's salvation history according to the Old and New Testaments in a map. The otherwise unknown and anonymous mosaicist based his work on the Greek Bible, the famous Onomasticon of Biblical Place Names written in Greek by the Bishop Eusebius of Caesarea Maritima around 320 A.D., and perhaps on Josephus Flavius and other literary

sources, not to forget Roman-Byzantine itineraries and road maps. Furthermore, the map has a liturgical function: it enabled the members of the congregation to come into direct contact with the Holy Land by treading upon it, while the holy liturgy realized and actualized God's salvation history which had occurred in precisely that land. Finally, an educational purpose of the map may be noted: the church of God introduced herself as a teacher and master of Christian culture. In this way, a map was created that became one of our main sources for the Byzantine topography of Palestine, apart from its uniqueness as a work of geography and art. 147 items (cities, villages, single churches, inscriptions) are represented, the disproportionately large picture of Jerusalem as the navel of the earth and two fragments of Galilee and the Phoenician coast not included, along with further facts and features of real geography (mountains, plains, rivers, the Dead sea and others), of culture (ships, bathing installations, a watch-tower), of zoology and of botany. Numerous Greek inscriptions can be seen, explaining the sites and their Biblical significance, marking the territories of the ancient Israelite tribes, quoting the blessings according to Gen 49, Deut 33 and Judg 5, and referring to important events mentioned in the Bible. For further information and details see H. Donner, *The Mosaic Map of Madaba. An Introductory Guide. Palaestina antiqua 7*, Kok Pahros Publishers House, Kampen/The Netherlands (also available in Jordan).

Around the middle of our century, the Madaba Map was in such poor condition that careful restoration and

conservation were urgently needed in order to prevent its irrevocable destruction. Therefore, The German Palestine Exploration Society completely restored and conserved the mosaic in 1965, generously supported by the Stiftung Volkswagenwerk at Hannover. The

renewed mosaic map was ceremoniously unveiled on November 14, 1965, in the presence of His Beatitude Bededictos I, the late Patriarch of Jerusalem and All Palestine, and numerous political and ecclesiastical dignitaries.

After all, there is good reason to

assume that this unique and precious monument which belonged not only to Jordan but to the entire world will enter the 3rd Millennium A.D., and the 16th century after the Hijra, without further damage. ■

The Muslim-Christian Consultation on Religion and Secularism: A conference organized by Aal Albait Foundation, in cooperation with the Evangelical Church of Germany (EKD)

By: Claudia Schreiber, German Speaking Congregation, Amman (Jordan)

From the 7th until the 9th of April a three-day consultation between representatives of the EKD (Evangelical Church of Germany) and key figures from Muslim and Christian Arab communities and organizations took place at the Regency Palace Hotel in Amman. The meeting, which drew some 50 scholars, politicians and dergymen from several countries, was organised by the Royal Academy for Islamic Civilization Research - Aal Albait Foundation. It was the second meeting of representatives of the EKD and the Aal Albait Foundation. The first consultation was held in Loccum, Germany in November 1995 and concentrated on the issue of peace.

This time, the theme of the consultation was to explore inter-faith dialogue within the context of coexistence of religion and secularism. HRH Prince Raad bin Zeid chaired the opening session on behalf of HRH Crown Prince Hassan, under whose patronage the consultation was held. The main objectives of the meeting were to exchange views and historic experiences on secularism and religion in Islam and Christianity, and to identify the contemporary and future challenges facing religious societies in a changing world. The

conference identified common basic problems, eg. the participation of religious minorities in public life on the basis of equal rights and opportunities, the ability of people of different convictions to peacefully coexist and settle their conflicts in a pluralistic society, and preventing the exploitation of religious feelings for selfish political interests. During a lunch hosted by HRH Crown Prince Hassan, Bishop Dr. h. c. Rolf Koppe made an invitation for a third meeting in Berlin which Crown Prince Hassan accepted.

On Tuesday, 8th of April a reception

organised by the German Protestant Institute of Archaeology-Amman office and the German Speaking Congregation of the Lutheran Church of the Redeemer Jerusalem/Amman took place at the institute to welcome Bishop Rolf Koppe and his delegation.

After the conference the delegation was invited to an excursion to Umm Qais, where German archaeologists have excavated for several decades. The trip was organised by the German Protestant Institute of Archaeology-Amman office. ■



From the opening session of the Muslim-Christian Consultation.

The Gebel Shara Survey: A New Approach to Petra's Hinterland.

By: Laurent Tholbecq, Institut Français d'Archéologie du Proche-Orient (IFAPO), Amman (Jordan)

The Gebel Shara, dominating Petra on its eastern side, constituted in antiquity the major hinterland of the Nabataean capital. Its high rainfall and numerous springs provided substantial resources to the city and its inhabitants, such as the major spring of Ain Musa feeding the settlement of Gaia where main roads converged from the north, east and south.

In May 1996, a survey of the area was started, roughly limited to the Wadi Musa basin itself (from its northern ridge, north of the new settlement of el-Hai, to Umm Sawanneh, on the south; on the west, there is the natural border between the sandstone and limestone areas). 122 sites had been surveyed by previous travellers (esp. N.Glueck, A.Killick and D.Graf); 118 sites were located, and integrated in a computerized database. The research was largely based on aerial photography; a 1:10000 map of the archaeological remains of the area is in process of being made. The survey mapped only classical and later period sites; this first campaign pointed out the remarkably high number of classical sites concentrated in this area.

The main roads and caravan routes were followed, among which was a section of the Via Nova Traiana, including related installations along

the way. A major east-west axis avoided the centre of Petra in the northern part of the Wadi Musa basin, reaching the plain of Baidha through Kh. Debdebeh. This natural way was linked to the eastern road network through a major site, on the northern ridge of the basin (site 76). Several outposts along secondary routes have been found. Resting places with endosures seem to have been organized in clusters along routes approaching Petra.

Near the springs, villages with cisterns were found which appear to be not later than Byzantine. Other sites consisted only of isolated structures interconnected with a secondary local network of roads. Many areas were covered with agricultural terraces, the dates of which could not be ascertained. On the Via Nova Traiana, a fort (site 37) measuring 55 x 44 m. has been located. There were a number of watchtowers in prominent positions.

The surface collection of sherds has shown the development of the settlement pattern of the area in the Roman-Byzantine period. We are sharing the information with the Department of Antiquities of Jordan,



Rock-cut houses in the Wadi Siyyagh at Petra.

which surveyed a part of the area in a salvage project (1996). Hopefully, the study will provide chronological evidence to better understand the impact of the annexation of Petra's hinterland and the apparent florescence in the area during the Byzantine period.

One of the objectives of the campaign of May 1997 is to study the toponyms of the area in order to compare them with the ones on the Petra Scrolls. ■

New Discoveries at Yajouz

By: Dr. Lutfi Khalil, University of Jordan, Amman (Jordan)

Khirbet Yajouz, located about a kilometer north of the Sweileh-Zarqa road, was documented by several travellers during the 19th and 20th centuries. A team from the Department of Archaeology, University of Jordan, carried out two seasons of excavations in 1995 and 1996, in cooperation with the Department of Antiquities.

During the 1995 season was discovered a chapel north of the large basilical Church which was excavated by the Department of Antiquities in 1994. The chapel had two architectural phases and two distinct levels of mosaics are obvious, the mosaics being decorated with a geometric pattern. There are five adjacent rooms; the largest room, at the west end of the chapel, had four arches, and at the entrance between the room and the chapel a coloured mosaic floor with a geometric design was revealed, with an eight-line Greek inscription with names of a bishop, priest and curator. If the bishop is the Theodosios who is mentioned in the Yadudeh-Amman Church, this means that the chapel was founded in 508 A.D. On top of the mosaic floor about a 15 cm. thick layer of ash was found, and it extended beneath a collapsed arch, perhaps from the building's destruction during the 749 A.D. earthquake.

An intact cemetery was discovered during the 1996 season in the area of the chapel, its entrance to the south of the chapel. Two types of burial system were used, seven loculi were carved from the rock, and six graves were built up with dressed stones. About 146 skeletal remains were excavated. Various types of pottery retrieved included lamps, candlesticks, and vessels. Also, glass, iron, copper and small finds were found. The preliminary study of the pottery from the chapel and the cemetery suggest a 6th - 8th century A.D. date. This date is contemporary with the dates given to the foundation and destruction of the chapel.

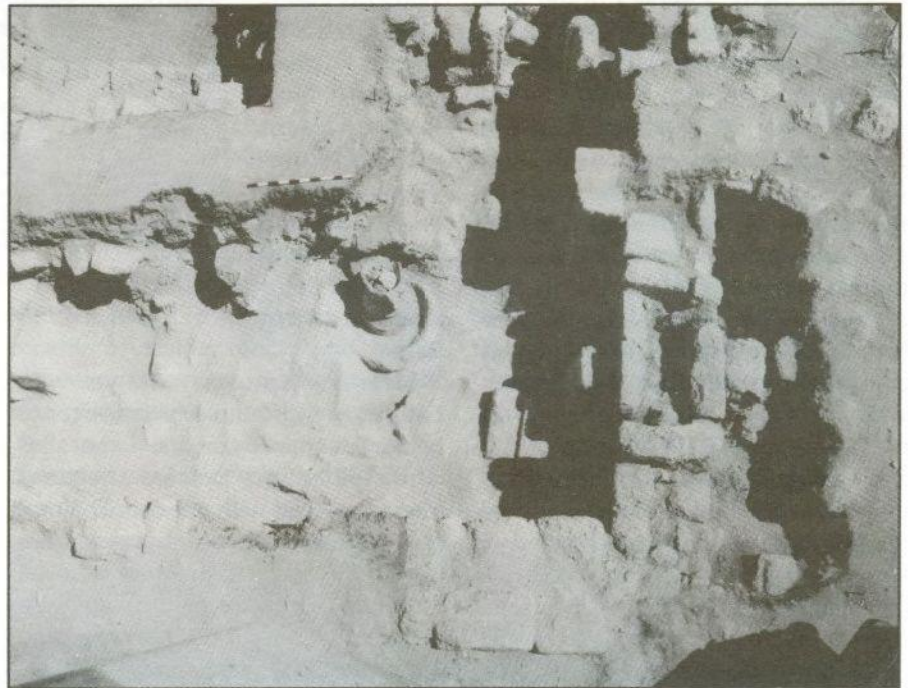
In about the middle of the site and

west of the above mentioned chapel, an industrial area with adjacent living quarters were discovered. During the 1995 season grain milling facilities were found. The mill consists of a large grinding stone and a core, both made of basalt; the grinding stone has two holes to hold poles on both sides for turning the stone on the fixed core. Underneath it is a circular basin made of limestone to collect the ground flour.

A wine press discovered in 1996 consists of three basins, built with well

Umayyad periods.

The industrial area had deep stratigraphy in comparison with the stratigraphy in the chapel area. At lower strata sigillata sherds of pottery were found, which can be dated to the 1st century A.D., but no architecture remains can be related to this type of pottery. However, many re-used carved stones from the Roman period in the chapel and the basilical church buildings confirm the existence of Roman habitation at the site. Also, two Roman milestones



The excavated mill area at Yajouz.

dressed stones; the floor is covered with uncoloured large tessera; each basin floor slopes towards the south-west corner, where there is a plastered hole, perhaps leading to a reservoir.

A series of rooms with internal arches and vaults was revealed; in one room, the arch is collapsed and its stones are complete in situ, a possible result of earthquake destruction. A plastered floor was revealed beneath the collapsed arch. Many complete pottery objects and some coins were retrieved in the industrial area, which can be dated to the Byzantine and

found in the nearby Shafa-Badran area, dated to the 2nd century A.D., suggest that Yajouz was a major city which served as a way station 7 miles out of Philadelphia, on the way to and from Gerasa some 23 miles away.

In conclusion, Yajouz was an important site during the Roman, Byzantine, and Umayyad periods; the site covers some 550 x 400 metres, therefore more seasons of excavation are recommended. ■

A New Thamudic Inscription From Madaba

By: Pierre M. Bikai (American Center of Oriental Research - ACOR)

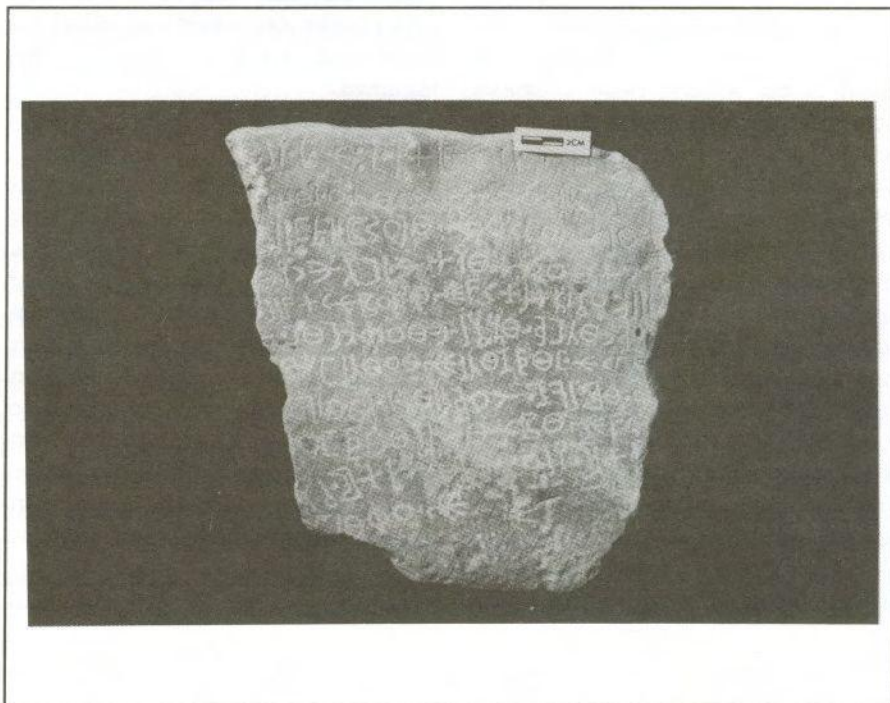
The inscription was found in the western part of the Madaba Archaeological Park. It was not in a stratified layer, but in debris around the mouth of a cistern. It is inscribed on a slab of hard white limestone measuring 23 x 21 cm. The text consists of ca. 230 letters varying in size from 1 to 2 cm. It is one of the largest Thamudic inscriptions ever found, and its importance lies in the fact that it was found in Madaba. Another long Thamudic inscription was found in Urienbeh, east of Madaba, and there is an assemblage from Yaduda, north-west of Madaba, so it appears that Thamudic spread to at least the area just south of Amman.

The letters in general are very clear, few are missing, and the text is what is called 'Thamudic E' or 'south Safaitic'. The reading of the text starts from left to right, and when the line ends, the next line starts from right to left, and so on.

There are eleven lines. A preliminary reading indicates that the beginning of the text mentions the name of "Flhn bn Hnn bin htm dal ...", possibly a tribe's name. There are

also other names such as -mlk bn s'd or "s'dlh", "whblh", "cwdlh, zd", and "bn hrb", etc. In other places it names the goddess "lt" or "Allat." At the end of the text it says "w dkrt lt mn yl'nn w

l'nt lt mn yl'n ... wq' d," which can be read as, "I mention to Allat those who curse and the curse of Allat on the one who curses, I sign D." ■



The long Thamudic inscription discovered at Madaba.

Excavations at Tell el-Handaqq South

By: Meredith S. Chesson, Harvard University (USA)

The major goals of the excavations at Tell el-Handaqq South have focused on the investigation of domestic contexts within an urban EBA site, to form the basis for a comparative study of the political, social, and economic frameworks of EBA household organization. Methodologically, the excavations have concentrated on exposing a broad, horizontal area to cover as much of the ground plans of these domestic complexes as possible. Additionally, the analysis of the forms and functions of the ceramic vessels, lithic, bone and groundstone tools, and other materials recovered from these domestic units informs our understanding of the types of economic and social activities associated with residential units. Three seasons of excavation have been conducted at the 15 ha. walled town of Handaqq South, located on the southern banks of the Wadi Zarqa, near the village of Abu es-Zighan.

Within the excavated area, four major phases of remodeling have been identified architecturally and stratigraphically. While the results from radiocarbon analysis have not yet been concluded, analysis of the ceramics from primary and secondary deposits suggests a late EB III occupation. Architectural installations recovered in excavation represent typical domestic features from EBA residential units: benches, pillarbases, hearths, storage bins, door sockets, grinding stones, and inset ceramic basins. Ceramic forms suggest a wide range of economic and social activities in domestic contexts, including food preparation, storage, and consumption. Preliminary analysis of the lithic assemblage indicated the production of lithic tools on site, and the recovery of several groundstone loom weights and ceramic spindle whorls attests to textile production within household context. Textile

production is also reflected in the high percentage of sheep and goat fauna, which suggests that pastoralism played an important part in the EBA urban economy. Remains of pigs, cattle, donkeys, dogs, and wild fowl were also present in the faunal assemblage. Preliminary analysis of paleobotanical remains indicated that EBA people also relied on agricultural products, such as cereals and legumes.

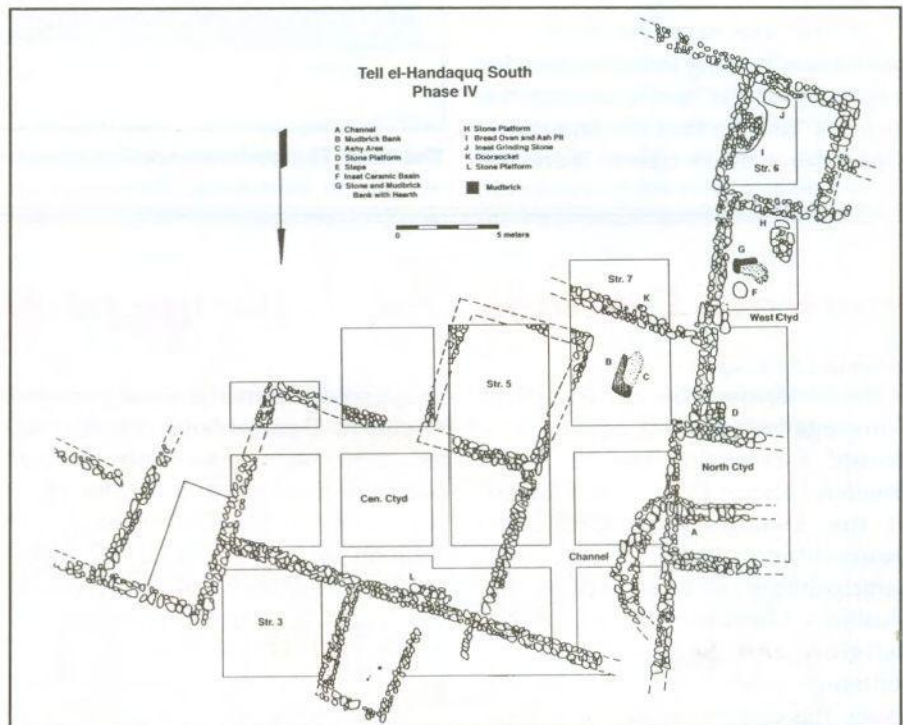
A range of activities

Functional analysis of the artifact assemblages demonstrates that members of EBA urban households participated in a wide range of activities to support their residential unit, including farming, herding, craft production, and exchange. In addition to more utilitarian items, one ceramic cylinder seal, a gameboard, and several figurine fragments were recovered from domestic contexts in the settlement. These items suggest



The cylinder seal recovered from Tell el-Handaqq South.

that household members also participated in activities that would not simply contribute to the economic welfare of the residential compound, such as game playing, social and economic exchange, and ritual action. ■



Ground plan of the excavated houses at Tell el-Handaqq South.

Institute Carries Out a Range of Activities

(continued from page 1)

of the Redeemer - German Speaking Congregation (Jerusalem-Amman) hosted a reception for the Right Reverend Bishop Dr. h. c. Rolf Koppe of the Evangelische Kirche in Deutschland (EKD) upon his participation in the conference on The Muslim - Christian Consultation on Religion and Secularism- (see contribution by C. Schreiber in this issue). This conference was organized by the Al Albait Foundation in

cooperation with the Evangelische Kirche in Deutschland (EKD). The reception was very well attended by over 200 people. On April the 14th the newly appointed Minister of Tourism and Antiquities, Mr Aqel Biltaji, visited Umm Qais and we had the opportunity to introduce him to the work of the German archaeologists at the site and to discuss our activities.

We do hope that in the future we will be able to continue our activities

and even widen the field of cooperation with our Jordanian colleagues, and offer assistance to scholars in all fields working in this country. ■

Fellows in Residence and Associated fellows (December 1996 - May 1997)

- Dr. Ute Wagner-Lux, Basel (Switzerland), Dr. Karel Vriezen, University of Utrecht (Netherlands) and Kien van Rijn van Alkemade, University of Leiden (Netherlands), "Research on finds from archaeological excavations in Umm Qais (Church and Church Terrace, parts of the Decumanus, southern Basilica)"
- Alexander Manakos, GTZ-Project, "Water Sector Planning Support at the Ministry of Water and Irrigation"
- Anika Kohls, German Speaking Congregation Amman, "Practical Work in Social Projects".
- Dr. Roland Lamprichs, University of Freiburg (Germany), "Excavations at Abu Snesleh: Preparation of Final Report"
- Scholars holding a one-year travel scholarship from the German Archaeological Institute (DAI): Dr. Johannes van Elsbergen, Dr. Sebastian Brather, Dr. Axel Filges, Dr. Susanne Moraw, Dipl. Ing. Corinna Rohn, Dr. Claudia Kleinwächter, Dr. Michael Heinzelmann, Dr. Bernhard Weisser, Dr. Adelheid Otto.

Donors to the library

Römisch-Germanisches Zentralmuseum Mainz (Germany); German Embassy, Amman (Jordan); German Foundation for International Development, Bonn (Germany); Jordan-German Project for the Establishment of a Conservation & Restoration Center in Petra (CARCIP), Amman (Jordan); Konrad-Adenauer-Foundation, Amman (Jordan); Centre d'Études et de Recherches sur le Moyen-Orient Contemporain (CERMOC), Amman (Jordan); Institut Français d'Archéologie du Proche-Orient (IFAPO), Amman (Jordan); American Center of Oriental Research (ACOR), Amman (Jordan); The Institute of Archaeology and Anthropology, Yarmouk University, Irbid (Jordan); Friends of Archaeology, Amman (Jordan); Prof. Dr. Eugen Wirth, University of Erlangen-Nürnberg (Germany); Dr. Roland Lamprichs, University of Freiburg (Germany); German Archaeological Institute, Berlin (Germany); Institute of Diplomacy, Amman (Jordan); Friedrich Ebert Foundation, Amman (Jordan); Royal Institute for Interfaith Studies; Aal Albait Foundation Amman (Jordan); Ministry of Water and Irrigation, Amman (Jordan); Ministry of Culture Amman, (Jordan); Jordan Tourism Board, Amman (Jordan); International Press Office of the Royal Hashemite Court, Amman (Jordan).

