

# ACOR Newsletter

## أخبار أكور

No. 2 - May 1990



### Field Projects Associated with ACOR

This issue covers sixteen field projects with a chronological range from Palaeolithic to Medieval Islamic. These are most but not all currently active field projects associated with ACOR. Others will appear in subsequent issues of the Newsletter.

#### **Donald O. Henry: The Palaeolithic Rockshelter of Tor Hamar**



End scraper

As part of a long-term study of the human ecology of the southern edge of the Jordanian plateau (in the vicinity of Ras in Naqb and El Quweira), excavations were conducted at the rockshelter of Tor Hamar during July of 1988. A multi-disciplinary research team of archaeologists, earth and natural scientists are investigating the relationships between past environmental changes and human responses.

Evidence collected from eight strata in the upper 2.2 meters of the shelter's deposit consists of over 250,000 chipped stone artifacts in addition to worked bone, ornamental shell, and groundstone specimens. Organic preservation is remarkably good with natural mastic still present on many of the stone tools. Bone from hunted animals is especially well preserved and abundant in most layers.

Artifactual evidence coupled with radiocarbon dates points to occupations stretching from about 12,500 to over 50,000 years ago. Layers A-E contain Epi-Palaeolithic material, while Upper Palaeolithic artifacts were recovered from layers F-G. Although very little of Layer H was removed, a few temporally diagnostic artifacts were recovered - all pointing to the late Middle Palaeolithic (i.e., 50-60,000 BP).

Animal bones, shells, and fossil pollen are providing important information on economy, settlement and past environments. Gazelle and wild sheep/goat are the dominant preyspecies, but hare, golden jackal, red fox, horse/ass, and auroch remains are also present. Aquatic shells from the nearby Red Sea are most common, but species from the Mediterranean and freshwater lakes (Lake Tiberias) occur within some horizons. Pollen data indicate much moister conditions than today for early Epi-Palaeolithic (layer D) and transitional Middle-Upper Palaeolithic (layers G and H) times.

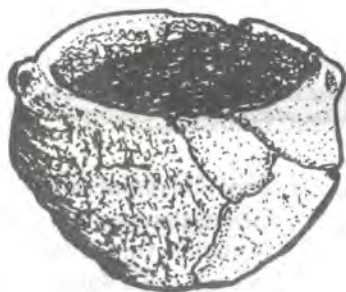
#### **Burton MacDonald: The Southern Ghors and Northeast 'Arabah Survey (1985-86)**

The Southern Ghors and Northeast 'Arabah Archaeological Survey (SGNAS) was in the field in both 1985 and 1986. It is, in many ways, an extension of the Wadi el Hasa Archaeological Survey immediately to the east. The first season of the SGNAS involved an archaeological reconnaissance of the area while the second season was a fullscale survey. The area, along the southeast plain of the Dead Sea and in the northeast Wadi 'Arabah, extends from es-Safi in the north to Wadi Fidan in the south. This area is divided into two sections by a pronounced, fault-bounded escarpment.

The SGNAS surveyed 240 sites, ranging from lithic and sherd scatters to large, architectural sites. The majority of the sites had not been previously reported in the scholarly literature. The SGNAS lithic materials span the period from the Lower/Middle Palaeolithic to the Early Bronze Age. However, there are no identifiable Upper Palaeolithic materials and the Lower/Middle Palaeolithic and Middle Palaeolithic Periods are represented by a total of three sites. The Chalcolithic/Early Bronze lithic sites are the best rep-

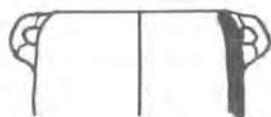


**Edward Banning:  
Tabaqat el-Buma:  
a Kebaran and  
Neolithic Site in  
Wadi Ziqlab**



Limestone bowl

**Alan Simmons:  
The 1989  
Excavations at  
Neolithic Wadi  
Shu'eib**



Small jar

resented. The ceramic materials span the Neolithic through the Modern period, but not all periods are represented. For example, there are no recognizable Middle Bronze, Late Bronze, or Persian sherds. The ceramic periods best represented include the Chalcolithic/Early Bronze; Early Bronze, especially EB IV; Iron II; Nabataean-Roman, and Byzantine. The SGNAS also collected beads and/or pieces

In 1987, the Wadi Ziqlab Project discovered an important new site. While sounding stream terraces for buried sites in the wadi bottom, our second probe encountered massive stone slabs. When lifted, they revealed a Late Neolithic tomb, subsequently dated to about 4600 BC, and its grave goods. It provides new insight into the transition between the Yarmoukian and Chalcolithic periods in a region where Late Neolithic sites were previously unknown. The tomb was cut into an Epipaleolithic site containing distinctive Kebaran stone tools. Tabaqat el-Buma is the name we propose for this site near the old village of Tibna.

The tomb was lined by upright stone slabs that supported the cap stones. The west wall consisted of a single stone set on end. Less substantial and much smaller stone-lined graves, for flexed inhumations, are known from the Neolithic levels at Byblos and at Batashi, but no large tombs

During the summer of 1989, a joint excavation of the Desert Research Institute (University of Nevada System), Yarmouk University, and San Diego State University conducted test excavations at the large Neolithic settlement located near the Wadi Shu'eib Bridge, some 10 km south of Salt. These investigations, which had started in 1988, completed excavations in three separate areas. The primary objective of the project was to determine the nature of the Neolithic sequence at the site, which is strategically located between the major contemporary Neolithic communities of 'Ain Ghazal and Jericho. The excavations revealed a sequence starting with a major

of jewelry, glass, metal fragments, shells, slag, and tesserae.

The final publication on the SGNAS will appear in the British Archaeological Reports - International Series later this year. It contains chapters on the methodology employed, natural resources of the area, lithic and ceramic period sites, glass, beads, and shells.

of the type found in Wadi Ziqlab have ever been reported in Neolithic sites of the southern Levant before.

The relatively undisturbed cluster of grave goods included a limestone bowl or mortar, a basalt grinding slab, a pierced stone disk, and several whole and restorable vessels, all placed at the east end of the grave chamber. These may have been arranged around the head of an individual interred in the tomb.

The human remains in the grave were fragmentary and incomplete, probably due to alternating wet and dry conditions within the tomb and burrowing animals. Surviving teeth and bone fragments indicate that the grave contained two individuals, an adult and a child.

In 1990 we plan to excavate Tabaqat el-Buma more extensively, and also to continue sounding nearby terraces to look for more sites hidden under Wadi Ziqlab's floor.

Prepottery Neolithic B (PPNB) component, followed by Prepottery Neolithic C and Pottery Neolithic occupations. Radiocarbon dates place the range of occupation from ca. 7300-5500 B.C. A wide range of material culture was recovered, including typical Neolithic chipped stone implements and pottery representative of both Yarmoukian and Jericho Neolithic sequences. Of particular interest are a series of Prepottery burials that appear to represent group interments, some with grave goods. Also notable is remarkably well preserved architecture, in some cases standing over one meter and a half high. The excavations documented approximately eight meters of Neolithic depos-



its, indicative of a huge settlement comparable to 'Ain Ghazal. As with 'Ain Ghazal, Wadi Shu'eib appears to have been abandoned after the Neolithic, and our current

studies are attempting to investigate what appears to be a major late Neolithic economic readaptation.

The joint San Diego State-Yarmouk University-Desert Research Institute project conducted seven weeks of excavations at 'Ain Ghazal in 1989. Work continued in the Central and South Fields to complete the investigation of PPNC and Yarmoukian deposits, and seven isolated test trenches probed the northern and western areas of the site.

We now have complete plans for two PPNC houses (one included a limestone game board) from the South Field, and both are virtually identical to buildings reported from the middle PPNB period at Beidha; we suspect that the Beidha stratigraphy may have been mis-dated. In the Central Field we have revealed a large expanse of Yarmoukian dwellings and associated courtyard activity areas, including what appears to be a "ramada", an outdoor roofed area without walls that functioned as an exterior working location. Several elegant Yarmoukian clay human figurines were recovered as well. Additional evidence to confirm an *in situ*

transition from the PPNC to the Yarmoukian period was also revealed.

The test probes had mixed success. A small cave had at one time been used by Neolithic occupants, but its stratigraphy had been completely disturbed: once by Byzantine farmers who used the cave as a burial "crypt" and again by recent "pothunters" who searched for Byzantine artifacts. A sizeable architectural feature, with massive stone-block walls, was shown to have been of Byzantine construction (animal pen?) and had no bearing on Neolithic occupations at the site.

The remaining test probes were more productive. Two 4x4 m trenches provided our first detailed Late PPNB (6,500-6,000 B.C.) occupations, including a house with a plan very similar to contemporaneous Basta. This house held a large (ca. 65 cm diameter) sun-dried clay storage vessel. Other trenches yielded Late PPNB(?)/PPNC/Yarmoukian sequences that stressed the long continuity of site use during the Neolithic period.



Plaster statue

**Gary O. Rollefson:**  
**Excavations at**  
**'Ain Ghazal, 1989**

We have been investigating the history of early copper mining and smelting at Feinan, the most important area for early metal production in the Near East, except Cyprus. Fieldwork since 1984 combined with analytical investigation of the ore, metal and artifacts from the Levant clearly demonstrate that Feinan had a key role in the early copper supply of the entire region.

The beautiful green copper silicate ore was mined in the Pre-Pottery Neolithic period for beads, pendants and cosmetics.

The first metallurgical operations were carried out in the Chalcolithic period in a very primitive process in small amounts. Most of the ore was exported for smelting elsewhere. The reason for the chronological gap between the discovery of metal in Anatolia long before in the 7th millennium and the spread of metallurgy in the 5th/4th millennium in Transjordan/Pales-

tine is not fully understood yet.

In the Early Bronze Age the revolutionary discovery of the use of manganese ore as a flux enabled the smelters to produce copper in amounts of hundreds of tons. Numerous EB mines can be seen today. The smelting camps were nearby. The first slag heaps arose in this period.

The peak of copper production was the Iron Age II. Enormous slag heaps at the smelting sites of Feinan and Khirbet en-Nahas have a volume of more than 100,000 tons, indicative of metal production in the order of 5000-10,000 tons.

The Romans also produced the metal in large quantities. More than 50 mines are concentrated in the Wadi Ratiye and Abiad area. The Roman mine of Umm el-Amad is a technical monument of extraordinary importance. This horizontally constructed chamber-pillar mine is the only known complete mine of the Roman empire.



Copper slag

**Andreas**  
**Hauptmann:**  
**Early Copper**  
**Production at**  
**Feinan, Wadi**  
**Arabah**



**Steven Falconer &  
Bonnie Magness-  
Gardiner:  
Tell el-Hayyat/  
Tell Abu en-Ni'aj**



Building on the results of the East Jordan Valley Survey, the Tell el-Hayyat Project is investigating Bronze Age rural life in the Jordan Valley. Excavations were directed by the authors at Tell el-Hayyat in 1982, 1983, and 1985 and Tell Abu en-Ni'aj (North) in 1985.

At Tell el-Hayyat (0.5 ha) six architectural phases represent the Early Bronze IV period (Phase 6) and the Middle Bronze Age (phases 5-1). Unmixed Phase 6 deposits, just above sterile soil, were limited to a small area near the center of the tell. No EB IV structures were found. Hayyat's most striking architecture consists of a stratified series of four MB II temples *in antis* (phases 5-2). Phase 5 (MB IIA) domestic architecture consisted of a single mudbrick wall on the tell's west slope. Phases 4 (MB IIA), 3 (MB IIB) and 2 (MB IIC) provided remains of single- and multiple-roomed structures, unroofed courtyards and alleyways. Excavations on Hayyat's south slope also revealed a dung-fired updraft pottery kiln. Byzantine and modern pits have left only fragments of Phase 1 (MB IIC) wall foundations and surfaces near the modern tell surface.

**R. Thomas Schaub  
& Walter Rast:  
Expedition to the  
Southeast Dead  
Sea Plain**



Grave goods at Feifa

Phase II of the regional project begun in 1975 commenced with a field season in December 1989-January 1990. Field work focused on the southern Ghor sites of Feifa and Khirbet Khanazir.

In the vast Feifa cemetery, eleven cist tombs were cleared. The first structural type had large vertical slabs lining the walls, while the second type had walls built of boulders and large cobbles. Examples of both types had roof slabs in place. Most of the burials were secondary and disarticulated, but some partial articulation was found. One of the boulder-lined tombs had Early Bronze IB (ca. 3200 B.C.) pottery. Artifacts in the slab-lined tomb suggest an earlier date, perhaps contemporary with the EB IA tombs of Bab edh-Dhra' or even earlier.

Some of the cist tombs had cut into Pottery Neolithic occupational levels. Surface survey of the cen-

tral and eastern areas of the cemetery suggests that this Pottery Neolithic settlement was quite extensive.

Test excavations at Tell Abu en-Ni'aj (2.5 ha) exposed three stratified architectural phases, all dating to EB IV. Domestic architecture is characterized by mudbrick and *terre pipe* roomblocks similar to those found at Um Hammad Gharbiya.

We anticipated Hayyat as a simple agrarian hamlet, and Ni'aj as a seasonal pastoral encampment. Floral and faunal analyses show that both were sedentary settlements. Neutron activation analysis suggests that Hayyat and Ni'aj were manufacturing fineware, as well as utilitarian ceramics. In conjunction with Hayyat's unexpected public architecture, these results reveal a persistent element of not-so-simple village life spanning EB IV and MB II.

Current analyses focus on 1) the spatial patterning of faunal and ceramic remains that may clarify the role of Hayyat's temples, and 2) a comparison of lithic technologies used in the two communities. Whereas excavations at Hayyat are complete (and backfilled), excavation at Ni'aj will resume in 1991 or '92.

A sounding in the town of Feifa confirmed that the first settlement in this area was in the Iron Age. A town wall (8th Century B.C.) was uncovered built directly over Early Bronze Age cist tombs.

Khirbet Khanazir was also mapped and excavated. The eighty eight rectangular structures situated along the terraces and hillsides of a two square kilometer area appeared to be an Early Bronze IV village, but five cleared buildings yielded no occupational debris. Large slabs in the floor areas were ceiling stones of well-built stone-lined burial chambers. Entrance to the chambers was provided by stone-lined shafts. Evidence of reuse of some of the burial chambers during the Early Bronze IV period was provided by fully articulated burials placed over earlier partial and totally disarticulated groups. A scarab with hieroglyphic signs and a button seal with a carving of Anubis on the flat side came from a disarticulated burial.

Some of the cist tombs had cut into Pottery Neolithic occupational levels. Surface survey of the cen-



The first major season of excavation at Tell Nimrin (Shuna South) was undertaken in May and June, 1989. The objectives were to determine the occupation sequence of the site from surface and stratified material, to recover floral, faunal and ceramic assemblages for analysis, to conduct a geological study of the site and to assess the potential of the site for future work.

A thorough surface survey yielded some 41,000 sherds that indicate that Tell Nimrin has been continuously occupied from the Early Bronze IV period up to the present, with the possible exceptions of the Late Bronze and early Iron Ages. The sherd distribution confirmed that bulldozing has altered the surface layers of the tell.

Three areas of excavation were chosen to extract as much diachronic information as possible in a single season by a small staff. The excavation areas were placed in such a way that they can be linked in future seasons to provide long sections through the site.

The third season of excavations at Tell el-'Umeiri was conducted from June to August 1989. On the southern shelf remains from EB III were uncovered, including streets, blocks of houses and a store-room with 28 storage vessels. On the western slope a Middle Bronze rampart was discovered. The pottery seems to date to MB IIC. LB earth layers were found on the eastern shelf.

Work on the western slope outlined a coherent Iron I casemate fortification system. It included a casemate wall, a beaten-earth rampart and a moat. Iron I pottery was in the rampart, while pithoi found within the casemate room indicates a date in the 11th or early 10th century for its destruction attested by an almost 2m deep destruction layer.

Three large buildings from the late Iron II period were excavated at the western edge of the acropolis. The southern building may have been an administrative center. At the eastern edge remains dating well into the Persian period were uncovered.

The foundation of a small plastered pool contained two early Roman sherds. The well at the bottom of the northern slope

Area I provided the best stratigraphic evidence for the earliest occupation with approximately six meters of *in situ* stratified Middle Bronze material. Area II confirmed the extensive nature of the Middle Bronze occupation. Area III produced architectural remains and large quantities of pottery from the Iron II period, as well as a three line Aramaic ostrakon.

The 1989 excavation showed that the tell is composed almost totally of human occupational debris and not, as Glueck thought, of natural geological deposits. It also documented substantial pre-Roman occupation, especially during the Middle Bronze Age and Iron II period. The conclusion of Phase I of the project will be achieved by a 1990 excavation season.



Six meters of Middle Bronze material at Tell Nimrin

was in use in EB, Iron I, Iron II, Roman and Byzantine times.

Excavation at el-Dreijat, 2.8 km southwest of 'Umeiri suggested that the site was originally occupied in the Iron II period, perhaps as a rectangular fortress. In the late Persian and early Hellenistic periods the site underwent radical changes. New walls were built and floor levels were lowered.

Excavations at Tell Jawa revealed three city walls. The earliest remains came from early Iron II domestic surfaces. More domestic dwellings came from the middle Iron II and late Iron II periods. There is no evidence of significant occupation following the Iron Age.

Five survey teams worked within a five kilometer radius of 'Umeiri. A subsurface mapping team used ground-penetrating radar. The random survey team completed an intensive survey of 5% of the survey area. The environmental survey studied water retention facilities in Wadi Bishara south of 'Umeiri. The farmstead documentation team studied 14 rural agricultural facilities. The ethnoarchaeological team concentrated on late Ottoman cave villages.

## **David McCreery & James Flanagan: Tell Nimrin Excavation**

## **Larry Herr, Randall Younker, Oystein LaBianca, Lawrence Geraty: Madaba Plains Project**



**Bill Jobling:  
The Aqaba-  
Ma'an  
Archaeological  
and Epigraphic  
Survey, 1990**

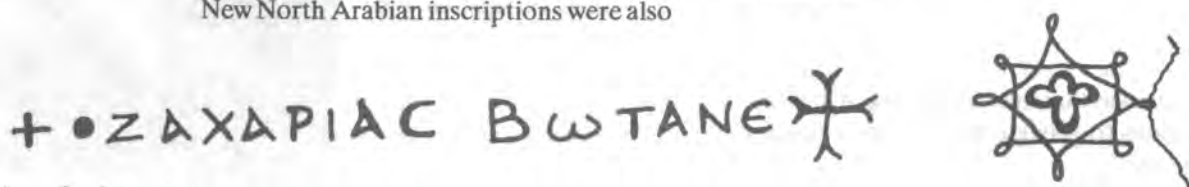
The aims of the ninth season were to complete the survey of antiquities sites in the area south and southeast of Wadi Rum with special reference to the epigraphy and hydrotechnology of the area to be added to a computer-based gazetteer of antiquities sites, to reexamine previously located sites, to continue to examine the palaeoecology of the area, to continue to locate and record the rock art and inscriptions. Computer programs were used in the field to scientifically record and analyze North Arabian and Nabataean inscriptions.

Of particular interest was a new Greek inscription with Christian symbols attesting to either the presence of Christians associated with the transit of camel caravans or the presence of a pilgrim or cenobite. New North Arabian inscriptions were also

found that fall into two categories: those concerned with devotions to the goddess al-Lat and genealogies, frequently containing tribal names.

More engravings of large horned bulls were located in panels of rock art datable to the Nabataean-Roman period. These animals appear to be of both a heavier domesticated variety and a leaner foraging variety and indicate that there was a grazing regime which is not part of the ecology of the area today.

Work has continued on recording and analysis of the variety of querns found in the area in an attempt to relate these and other cereal lithics to models of hunter-gather communities as reflected in the panels of rock art.



A new Greek inscription

**Marie-Jeanne  
Roche:  
Petra Cultic  
Niches Project**

In July and August 1988 fieldwork continued on the Petra Cultic Niches Project with the aim of supplementing a dissertation catalogue for publication.

Cultic niches are a distinctive feature of the Nabataean capital, where they number in the hundreds and are found almost everywhere. They are often clustered in specific spots, indicating the holiness of a natu-

ral or man-made features. Most of the niches are simple, rectangular hollows carved into the rock face, but they are very diverse in form and sophistication. Although the insides of the niches are generally empty, there are often one or more erect stones, called betyls, in them.

The project concentrated on some areas to be visited or revisited. Rare examples of types of niches or betyls already known were found. For example, in the northwestern sector of al-Mu'aysra, among several unrecorded niches of special interest, a niche decorated with two moon crescents on the tops of pillars was found in a sector damaged by earthquakes. From the southeastern sector near Jabal Harun came another example of an eye-idol, usually the goddess el-'Uzza. In a small and very weathered niche on the way to the top of el-Khubtha were four betyls in a row, similar to the ones in the Siq. Altogether, about fifty unrecorded niches were found, sometimes in places that are already well known. The reason is that while some niches are meant to be seen, as in the Siq, others are purposely hidden. This project will publish a photographic catalogue, the first one on this type of monument.



Cult niche



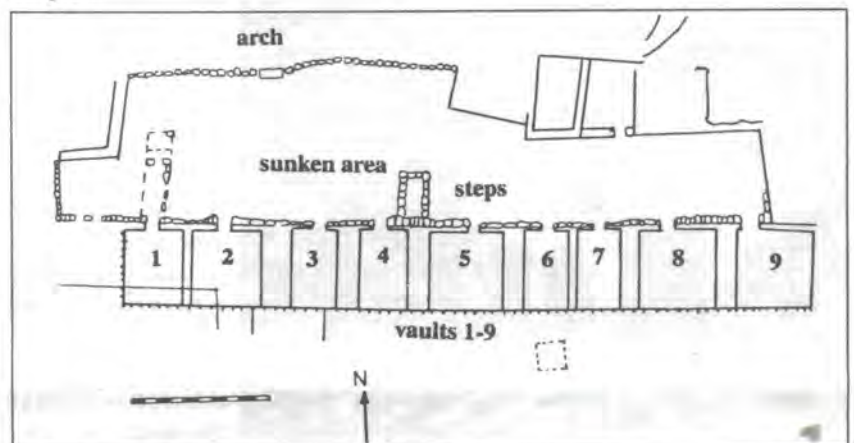
An archaeological research programme was started in 1983 in northern Jordan with Irbid and Beit Ras as the foci. Since that time survey has continued and major excavations have been conducted at both sites.

Irbid and Beit Ras, Arbela and Capitoliias of the Roman and Byzantine periods, are located on the fertile plateau of north-western Jordan. Irbid has grown around the tell. Following survey work, the municipality of Irbid removed major sections of the tell to expand the available business district space. Salvage excavations were conducted and portions of the tell were left untouched, enabling research excavations in 1986 and in future seasons. The stratified occupational history of the site spans the period of time from ca. 3500 B.C. to the mid-eighth century A.D. Because of the continuous occupation of the site, the layers dating earlier than the ninth century B.C. have mostly been removed from the tell.

Beit Ras was a planned Roman city. Stratified occupational data indicate a well-planned Roman city with a city wall and monumental architecture. Unique in Beit Ras is an intricate rock-cut cistern system and a reservoir, built during the Roman period and used throughout the following

periods. Recent excavations in the cistern system have indicated a Mamluk rebuilding. Most impressive is the tiered suq, two levels of which have been excavated, consisting of vaults, a utilitarian tessellated pavement and public buildings, one of which was a church. This space, although altered following the mid-seventh century, remained public space well into the Mamluk period.

Research conducted at Irbid and Beit Ras combines the traditional strategies of long-term archaeological programmes with the immediate needs of a developing area by employing salvage and rescue methodologies.



Plan of vaults of the tiered suq

The third campaign was carried out in June and July 1989, and analyzed the character and evolution of the water supply system of the settlement of ancient Auara during the Nabataean, Roman, Byzantine and Umayyad periods. Two major public cisterns, two cisterns in private homes and a bath were excavated. The survey has also yielded new data on house and settlement design.

A probe behind the walls of the better preserved public cistern yielded Nabataean ceramics. The chronology of these types of pottery is still the subject of scholarly discussion, but the Nabataean character of the cistern was established, and it may be that the structure was built in the first century B.C., when Aretas III founded the town. The two public cisterns were filled by separate intake channels, demonstrating Nabataean skill in obtaining water from runoff. The two private cisterns were in the courtyards of large houses, carefully roofed

and paved over, and surrounded by a curb wall. One of the cisterns on the outskirts of the inhabited area may date as early as the first century A.D., suggesting that Auara's pattern of settlement was set early.

The bath building was of typical Roman type, probably constructed in the second century A.D., and remodelled in the fifth or sixth century, when it included a large reception room with seven stone beds for undressing and for relaxing, an adjacent reception room with three beds, a cold bath chamber with a basin for the bathers to splash themselves, a sweat room with a heated floor where the visitors could sit in a hot moist atmosphere, and a hot bath room with a heated floor and walls where they could wash themselves. Carbonized remains in the well-preserved brick-vaulted furnace revealed that the local Jointed Saltwood plant was used for fuel (14C date: A.D. 350 + - 60).

## **Cherie Lenzen: An Update on Irbid and Beit Ras**

## **John Oleson: Humeima Hydraulic Survey, 1989**



In the winter and spring of 1989 rescue excavations were conducted at the lower church of el-Quweisma, in southeast Amman, in advance of house construction which has now destroyed the site. The site consists of a church constructed in the 5th century A.D., which later was paved with mosaics in the 6th century. The church was rebuilt and repaved with mosaics in 717-718, as a dedicatory inscription records. The church continued in use for some time before it was abandoned, perhaps in the 9th century.

The excavation revealed the architectural features of the church, including the apse on the east end, with a large cistern. Flanking the apse on the south was a large room, with fill layers containing pure Iron Age pottery. Three rooms were on the west

side of the church. In the northern of these rooms was an intact burial chamber, containing a number of burials, datable to the late 8th/early 9th century by five pear-shaped oil lamps placed in a niche. In the central of the three western rooms were benches and two cupboards, the lintels of which were decorated with crosses. Additional rooms to the west and north of the church were left uninvestigated.

Among the objects found in the excavation were an inscribed altar from the Roman period, a few pieces of the marble furnishings of the church, several stone blocks with crosses carved on them, and a large amount of animal bones, broken glass and pottery vessels from a fill layer in the north-west tomb on which the bodies were placed.

**Robert Schick &  
Emsaytif Suleiman:  
Excavations of  
the Lower  
Church at  
el-Quweisma**

Shobak Castle was founded by Baldwin I of Jerusalem (A.D. 1115/1116) in the interests of Crusader colonial expansion, but it was soon captured by Salah al-Din (1189) and thereafter played a strategic role in the political and territorial integrity of the Ayyubid (1189-1262) and Mamluk (1262-1517) empires. Subsequently, the Ottoman empire claimed the castle of Shobak (1517) where a garrison was maintained periodically until the end of the Arab Revolt (1918). With the demise of Ottoman rule, local tribes settled the castle and remained there until the 1930s. As such, the castle stands as a rich agglomeration of architectural components that attests to the broad range of functions ascribed to this complex socio-economic and political entity. The excavations in August of 1986 concentrated in the Ayyubid palace, tentatively dated to the period of Sultan al-Mu'azzam 'Isa (1197-1226). In addition, remains of the Mamluk and Ottoman occupations were also investigated. Identification of the palace is attributed to C. H. Brooker and T. Allen.

During 1987 brief excavations were conducted at the 12th Century Crusader fortress of el-Wu'eira at Petra, and Kerak Castle, whose history essentially mirrors that of Shobak Castle. The deposition at el-Wu'eira yielded a stratified 12th Century ceramic corpus. Although largely

associated with specifically Frankish occupation, this assemblage may well reflect the general characteristics of indigenous ceramic production in south Jordan during this period. Aspects of this material may be compared with ceramics from the founding levels of the Ayyubid palace at Shobak. At Kerak Castle, C. H. Brooker and T. Allen identified another Late Islamic palace, which preserves the same generic plan executed at Shobak Castle, one which was popular in Egypt and other areas of the Near East during the Ayyubid and Mamluk periods. The results of a brief test trench in this structure indicate that it was a 14th century Mamluk construction, possibly from the reign of Sultan al-Nasir Muhammad.

**Robin Brown:  
Late Islamic  
Archaeology in  
the Southern  
Highlands**



The Mamluk tower at Shobak



## ACOR Staff News

Ruba Kana'an, an architect graduated from the University of Jordan, began work as the Cultural Resource Management planning consultant in August, 1989. She was joined in January by anthropologist Cynthia Shartzter who is both the CRM archaeologist and ACOR's archaeological grants administrator. Their work will be featured in the next issue of the Newsletter. In January maintenance man Ray Lumubos and his wife left to fond farewells of the staff to face new careers and climate in Toronto. Oscar Hicban has taken his place.

## Scholars-in-Residence at ACOR

Besides enabling field research, ACOR operates a scholars-in-residence program. It provides library, study and work space, living quarters and meals under one roof, and is within walking distance of other institutes and the University of Jordan. In addition to archaeologists, scholars are welcome from all disciplines concerned with the past and present human condition in Jordan and the surrounding region. They may stay for as little as a day to a year or more. To facilitate their scholarship ACOR offers a number of fellowships, some in cooperation with the American Schools of Oriental Research. Please send inquiries on fees, qualifications and fellowships to the ACOR director.

## Institute of Archaeometallurgy Founded in Bochum, Germany

This institute for the study of the history and technology of metal production was founded at the Bergbau-Museum Bochum with support from Volkswagen-Stiftung. The main goals are 1) to offer archaeologists a service laboratory for the analysis of metallurgical residues like artifacts, slags, ores and crucibles, and 2) to conduct scientific research in early metallurgy in close cooperation with archaeologists.

The director is Dr. Andreas Hauptmann whose work on mining at Feinan is described above. He is especially interested in Chalcolithic and Early Bronze metal artifacts and other relics from archaeological excavations in Jordan for analysis in his laboratory.

Other institute projects include early iron metallurgy in Germany, tradeways of copper in the Near and Middle East and the beginnings of metallurgy in the Pre-Pottery Neolithic period.

## Two Other Newsletters on Jordanian Archaeology

The Friends of Archaeology Society of Jordan publishes a monthly Newsletter to inform members of its activities, lectures, current fieldwork, exhibitions, members' news and publications. Three times per year, in cooperation with the Department of Antiquities and Al Kutba Publishers, it also publishes a Newsletter titled Ancient Jordan with brief reports on the latest results of new fieldwork.

Membership includes receipt of both Newsletters. Non-residents may join the Friends of Archaeology Society for an annual fee of \$10. Interested individuals or institutions should send their fee with name and address to Muna Zaghlul, FoA Treasurer, P.O.B. 2440, Amman, Jordan.

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The Fall, 1990, issue will include articles on the Cultural Resource Management Program, The Aqaba/Ayla Project, the Amman Citadel - 'Ain Ghazal Feasibility Study, Cultural Tourism at Pella and UmmQeis, the Work of the 1889-90 Scholars-in-Residence, the ACOR Staff.

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