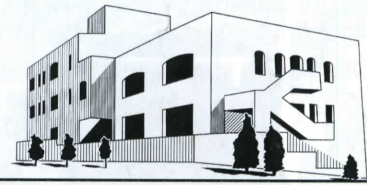


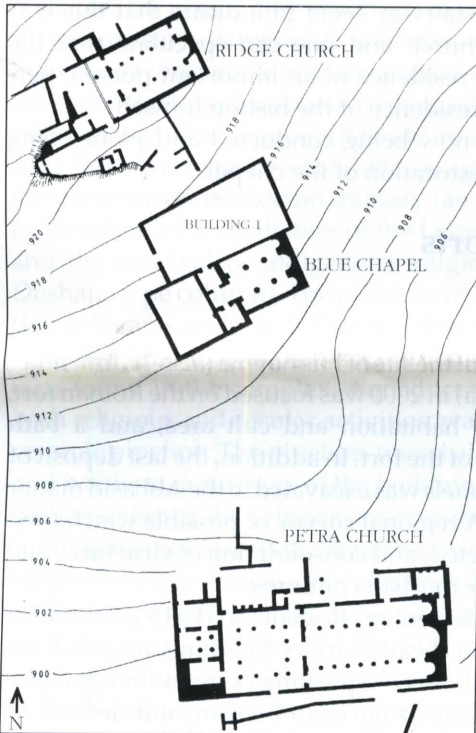
ACOR Newsletter

أخبار أكور

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Petra: Blue Chapel Complex *Patricia M. Bikai and Megan Perry*



The tenth season of excavations on the North Ridge at Petra was conducted from April 1 through May 4, 2000. Under Director Patricia M. Bikai and Assistant Director Megan A. Perry, the project seeks to delineate the city plan and pattern of population circulation between the Ridge Church and the Petra Church. While defining the buildings and streets in this sector, a large building complex was discovered.

The upper or northern building, designated "Building 1," measures ca. 28 m E-W x 15 m N-S, while the slightly larger lower building, "Building 2," measures ca. 30 m E-W x 15 m N-S. Building 1 is a tripartite structure running east to west, with the halls separated by walls. It appears to have been built originally in the Nabataean period. The eastern end of the building in general has been destroyed by later looting and farming activity. While we have a great deal of evidence that this building was used by the 6th to 8th century A.D. inhabitants of Petra, who left remnants of cooking fires and domestic debris, we have little artifactual or architectural evidence for its function in the earlier eras.

During the investigation of Building 1, it was discovered that it is joined to Building 2 by a doorway

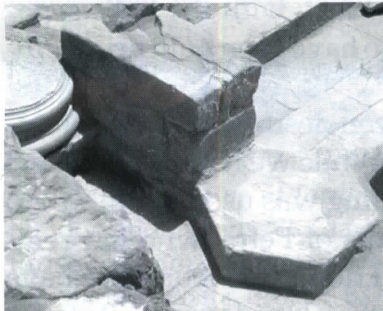
in the common wall between the two buildings. A narrow staircase drops 3.7 m from Building 1 to the floor of Building 2. At the bottom of the staircase, there is another door leading into the entrance hallway of Building 2; this is the only entrance into the lower building. To the south, directly across from the entrance stair is a small room. A sounding in the room revealed that it had two successive layers of stone flooring. The western room of



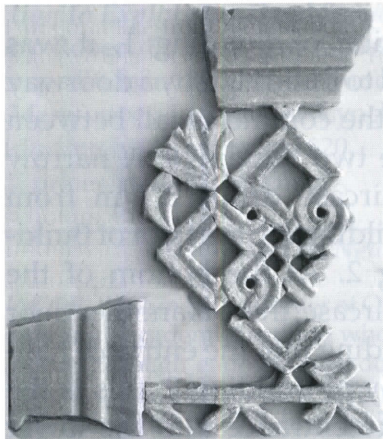
Above, plan of the general area by C. Kanelloupolous, using the base map of ACOR and Hashemite University; below, general view of the chapel, facing east



The steps between the two sections of the complex



Pulpit



Part of the blue marble surround of the pulpit

Building 2, measuring 10.5 m x 13.5 m, was also paved with stone. The very few artifacts and architectural elements in this quarter gave no indication of its function. The eastern end of the building proved to be a small chapel.

The interior of the chapel or church measures ca. 11 m N-S x 12.6 m E-W. It has a nave and two side aisles. There were two columns (and two pilasters) on each side. The colonnade is the most spectacular part of the monument. Each installation appears to have consisted of 1) a pedestal; 2) a column base; 3) three Egyptian granite drums; and 4) a two-part Nabataean capital. These appear to have carried arches as dozens of voussoir stones were recovered. Of the 12 granite drums that would be required for this colonnade, 11 pieces were recovered at the site. Additionally, many parts of the capitals were recovered and it is likely that they can be restored.

The chancel, which was paved with both stone and re-used marble pieces, was reached by three limestone

steps, but only the lowermost of these is intact. Three of the four slots for altar posts were found in the pavement of the chancel. These were almost immediately in front of the apse. In the apse itself is a stone construction which appears to be the substructure for a throne (for the

bishop?). Finally, on the northern side of the chancel there was a pulpit. The substructure of the steps and the base for a six-sided ambo were found *in situ*. Additionally a displaced step which would have led up to the ambo, a number of blue marble openwork lattice fragments, and a post that may have been part of the ambo were found. There was no evidence that there were ever mosaics, either on the floor or the walls, in this structure.

The discovery of yet another church in this area of Petra was a surprise. The Petra Church is ca. 50 m to the south and the Ridge Church only 20 m to the north of this structure. The original name of the chapel is not known; as the builders seem to have made a conscious attempt to match the blue of the granite columns with blue sandstone flooring and blue marble furnishings, it has been dubbed the Blue Chapel. The small size of the chapel and the fact that it could only be reached via the rather narrow stairway seem to indicate that this was not a public church and one can speculate that the complex is the residence of an important person, perhaps even the residence of the bishop himself.

Studies are now being conducted and plans being made for the restoration of the chapel.

Field Reports

Humayma

Excavation at the site of Humayma (also "Humeima", ancient Hawara) in 2000 was focused on the Roman fort, a Late Roman habitation and cult area, and a bath building south of the fort. In addition, the last deposit of carved ivory panels was excavated in the Abbasid manor house (F103). A regional survey of possible watch towers was completed, and consolidation of structures and preparation for tourism continued.

In the early 2d century Roman fort (E116), excavation of the principia (headquarters building) revealed numerous statue bases or speaking podia within the portico on either side of the central room, and defined all four sides of the parade ground. A paved room abuts the principia on the north side. A substantial structure in the northwest quadrant of the fort, probably the praetorium (commander's residence), proved to have mosaic floors made of large but colorful stone tesserae defining geometric patterns—the first mosaics found south of Petra. Some of the patterns are identical to those used in a first-century Nabataean villa at Wadi Musa. The praetorium was decorated as well with frescoes imitating colored stone revetment panels, some of which carried Greek graffiti and Latin dipinti. Excavations in the NE quadrant uncovered a massive structure roofed with arches and paved with tiles, possibly a stable or granary. For the first time, terracotta water pipelines were found in the fort, tapping either the reservoir in its NW corner, or the Nabataean aqueduct. During the fourth century some structures were altered for domestic activities and encroached on the south end of the *via praetoria*.



Field E116, Area I04, detail of mosaic floor

Excavations outside the fort focused on Fields E125 (Late Roman habitation area) and E077 (a Late Roman bath building). The third season of excavation at E125 revealed an insula-like structure containing over 20 rooms, probably comprising several discrete clusters of living and working areas sharing common walls. One of the areas functioned as a small shrine, which dates to the initial phase of occupation (late-2d to mid-3d century A.D.). Within the shrine were dedications reflecting both the presence of the Roman military (an altar dedicated by members of a vexillation of the Legio III Cyrenaica) and the survival of indigenous religious customs (a Dushara-type column). The presence of a Greek dedication to Serapis and the dedication of the legionary altar to Jupiter Ammon complement the many Egyptian artifacts found in the complex. Aqueduct water, used for both religious and secular activities, was supplied by a ceramic pipeline. The pipeline, traced along the eastern and northern perimeters of the building, proved useful both in defining the exterior limits of the insula, and in confirming the location of a Roman-period road—possibly the Via Nova Traiana. The shrine and other portions of the complex were built on the carefully constructed foundations of a dismantled Nabataean building. The walls of a similar building underlie the bathhouse built by the Roman garrison ca. 50 m to the west, suggesting that an early habitation area of Nabataean Hawara lies under the later Roman vicus.



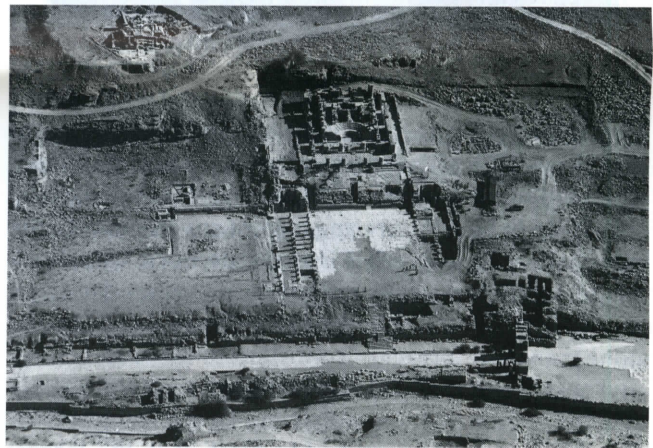
Field E125, Dushara block and basin

During the next two years the results of the Nabataean and Roman period investigations will be prepared for final publication. A small team will return in 2001 to complete the excavation of the Early Islamic period manor house and mosque in which the Abbasid family plotted the overthrow of the Umayyad Caliphate.

John P. Oleson, University of Victoria, Erik de Bruijn, University of British Columbia, M. Barbara Reeves, State University of New York, Buffalo

Petra: Great Temple

The Great Temple's spectacular setting and architecture as the largest freestanding monument in Petra strengthens its significance as one of the primary Nabataean ceremonial cult centers of the city. The Upper Temenos surround has been cut out of the living rock where there is a sacred cult effigy in relief. Springs and a complex series of hydraulic systems were diverted to serve its ritual. Its significance is emphasized by its eclectic architecture—the Lower Temenos flanked by porticoes, colonnades and distyle exedrae were constructed purposefully for cult practices. The massive tetrastyle-in-antis Great Temple and its Theatron were set apart from the hustle and bustle of the center city and suggest that it was dedicated to consecration.



General view of the Great Temple area

The eighth excavation season was carried out by Brown University archaeologists from June to August 2000. This year's work concentrated primarily on the Great Temple, but the so-called Small Temple identified by Wiegand and Bachmann, located to the west of the precinct, was also investigated.

Using the Total Station, we converted our data to Global Positioning Satellite technology. These data are presented in Universal Transverse Measurements grid coordinates. These data for the Petra Mapping Project, sponsored by the American Center for Oriental Research and undertaken by the Hashemite University, provide researchers with a plan of central Petra with sub-centimeter accuracy.

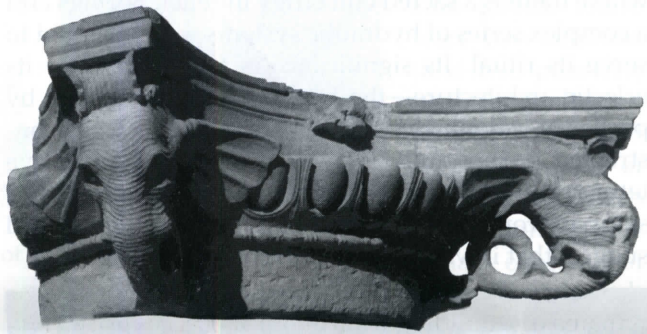
The Small Temple

The Small Temple was cleared of overburden—the

building measured 13.3 m east/west by 7.7 m north/south. *In situ* blocks were surveyed, as well as gray and white marble wall decoration from Carrara.

The Great Temple

The West Propylaeum was excavated. Here was an arcade, which continued to the west and then turned to the south for 34 m into a double vaulted arch system. For structural support, under the West Colonnade, was a massive east west retaining wall built into a subterranean double arched arcade under the triple colonnade and the Lower Temenos. The most compelling artifacts from the west propylaeum were a horned altar and two limestone elephant-headed capitals in excellent condition. One capital adorned an engaged column, and the other, a west colonnade column. After consolidation these superb capitals were moved to the Petra Museum where they greet the visitor upon entry.



Elephant-headed capital

A dramatic find was that the Upper Temenos southeast perimeter wall had been constructed against a sheer L-shaped scarp of bedrock, measuring 45 m in length by 10 to 11 m in height, creating a great paved plaza to the east. Carved in low relief into the bedrock was a cult image resembling a sword deity emerging from an anvil-shaped block. It was probably chiseled by the stone masons as an act of contrition to the rock.

The east corridor and east walkway were completely defined. It is now known that the Great Temple measures 35.5 m by 42.5 m east-to-west. It is the largest freestanding monument in Petra, covering 1507 m².

Catalogued were fragmentary Latin inscriptions: P R O VI [NCIA] could be read on one. Other artifacts included ceramic figurines, Nabataean bowls, an ostrakon fragment and an outsized marble hand, bone pins, complete lamps (the majority were Nabataean), and 24 coins. Our object databases served us well for the recording of all artifacts including architectural elements.

Between excavation seasons, consolidation in 2000 has included the re-erection of the southwest heart-shaped temple column, the theatron, the west corridor walls and the southeast stairway. Restoration also continued on the west corridor murals, and bilingual signs were erected to identify the major components of the Great Temple precinct.

Martha Sharp Joukowsky, Brown University

Roman Aqaba Project

The fifth field season was conducted from May 24 to July 9, 2000. The project's principal goal is to reconstruct the role of the city of Aila (ancient 'Aqaba) in the economy of the Roman Empire. The research design consists of a regional environmental and archaeological survey and excavation of the city to recover evidence about its economy. The regional survey was completed in 1998. Therefore the 2000 season focused exclusively on continued excavation of Aila, mostly in previously opened areas. These extended from the eastern 'Circular Area' to the area just northwest of Early Islamic Aila. One new area was opened to address a specific historical question about the Early Islamic settlement. The following summary proceeds from north to south, which also corresponds roughly with the chronological order of the remains.

Area O consists of soundings scattered over a wide area to locate the northern edge of Nabataean Aila. These soundings exposed portions of a Nabataean mud brick domestic complex. The goal in 2000 was larger horizontal exposure of this complex. It was founded in the 1st century A.D., briefly abandoned around the turn of the 2d century, then reoccupied later in the same century. The complex seems to have been finally abandoned by the early 3d century.

Area M lies southeast of Area O. Excavation in 2000 revealed more of a mud brick domestic complex from the Early Roman/Nabataean and Late Roman periods, with rich artifactual remains, including terra sigillata and Nabataean painted and unpainted fine ware. Quantities of natural clay, ceramic slag and kiln wasters, and several water channels suggested a local pottery industry in these periods. As in Area O, the Area M complex was briefly abandoned around the turn of the 2d century, then reoccupied early in the 2d century. After its abandonment in the 3d century, several human burials were laid into pits cut into windblown sand among the structures. Thirteen graves have been excavated to date. Nearly all the individuals were oriented east-west, with the head towards the west and facing south. The graves were largely devoid of grave goods, but associated pottery sherds suggested a 4th century date.

Area A lies ca. 300 m south of Area M. Previous excavation revealed occupation extending from Early Roman/Nabataean to Early Islamic. Excavation in 2000 yielded more evidence from the late 3d/early 4th centuries, including mud brick and stone structures and associated installations suggesting domestic occupation. Excavation also revealed a massive mud brick structure generally aligned with the putative church across the modern street. Area A also yielded more evidence of the Early Byzantine cemetery, including a complete tomb in section. This consisted of a mud brick surface marker, a vertical shaft ca. 0.7 m in depth, and a rectangular mud brick tomb-structure. Some 32 tombs have now been excavated in Area A. As in the Area M cemetery to the

north, nearly all the tombs were oriented E-W with the head to the west and the face to the south. The evidence suggests a date in the late 4th and early 5th centuries.

Area J is located along both sides of al-Istikhlal Street. Excavation has revealed two major structures: a monumental mud brick structure of the 4th century (tentatively identified as a church) and a stone fortification wall of the late 4th or early 5th century. The mud brick structure (26 m E-W by 16 m N-S) is oriented ESE-WNW and is surrounded by a complex of structures in all directions but the east. It yielded rich artifactual remains, including imported African Red Slipware, fragments of glass oil lamps, and several hundred coins. A major find this season was a complete rectangular alabaster plate recovered from the foundations of the structure. The structure was erected ca. A.D. 300 and experienced three phases of use before its destruction, apparently in the earthquake of 363. The eastward orientation, the plan, and some artifactual evidence suggest that the building was a church. A rectangular ancient trench in the putative chancel area suggests the prior burial of an important personage, presumably later removed after the building went out of use. This structure, if in fact a church, is possibly the oldest purpose-built church in the world.

Just to the south of this building is the Byzantine city wall; ca. 120 m of the wall have now been exposed. Three rectangular towers project from the northern or outer face of the wall. A large structure was also built against the inner (south) face, consisting of two elliptical mud brick towers connected by a mud brick wall, all erected on stone foundations set nearly as deep as the city wall itself, presumably as a rampart. It was apparently added to the wall in the late 6th century.

Previous excavation of Area K, ca. 50 m southeast of Area J, had yielded evidence inside the city wall, including structures of the Umayyad and Abbasid periods (late 7th to 10th centuries). Excavation in 2000 revealed stone and mud brick structures of the Early Byzantine period (4th and 5th centuries) built along a street. Rich artifactual remains, including imported fine wares, amphorae, and numerous coins, suggest the vibrancy of Aila's economy in this period. Deep probes in several trenches reached Late Roman (2d to 3d century) strata before season's end. Area K has thus produced a stratigraphic profile of Aila's history from the 2nd through 10th centuries.

Area R was a new area opened to date the city wall of Early Islamic Ayla, southeast of the project's excavation areas. The excavator (Donald Whitcomb) suggested a mid-7th century date for the foundation of Early Islamic Ayla, but was prevented from reaching the foundations of the city wall by the water table. Other scholars had suggested that the fortifications of Early Islamic Ayla might actually date to the Late Roman period (ca. 300). In an attempt to settle this question, the Early Islamic city wall was excavated to recover datable material from its foundations. Once the wall was articulated, a pump

was employed to permit excavation below the water table. Pottery from soil layers against the north face of the masonry foundations and from a soil layer extending under the foundations dated to the 7th century, confirming Whitcomb's date for the foundation of Early Islamic Ayla.

S. Thomas Parker, North Carolina State University

Madaba Plains Project: Tall al-'Umayri

The 2000 excavations at Tall al-'Umayri have uncovered new levels of occupation that date to times when settlements in Jordan were rare. Located near the Amman National Park on the Airport Highway south of Amman, the site has already produced over 20 impressive settlements altogether.

Excavations during the season uncovered more earthen and plaster floors surrounding a dolmen, or large stone burial monument, on the southeast slope of the hill, dating to ca. 3000 B.C. Although not representing a new settlement, there were at least six distinct surfaces on the uphill side of the dolmen and at least three below. This is the first dolmen in the Mediterranean basin to produce quantities of burials (20), complete pottery vessels (20), and surfaces indicating ceremonial use patterns.

Discoveries of the current season also include the remains of a building from about 1300 B.C whose stone walls were over 1 m wide and still stand 3.5 m high in places and whose second story was mudbrick. Very few buildings from this period have been found in Jordan and this one must have been an important structure.

Tall al-'Umayri boasts one of the best preserved towns in Jordan from the early Iron Age (ca. 1200 B.C.). The walls of several houses stand 2 m high and pillar bases indicate that the roofs were supported by wooden posts. This settlement probably represents nomadic tribal groups settling into towns and villages, perhaps the people we now know as the Ammonites. One of the houses provides an excellent example of a typical hill-country "four-room house." The floor of an adjacent house revealed a layer of burned and broken ceramic



The Late Bronze Age building with its massive walls surviving 3.5 m high in places and forming two rooms of a larger structure which disappears into the northern balk

vessels. It was a major building consisting of three wide rooms and a fourth, smaller room jutting out to the south in which were seven curious stones lying down. These may have served some kind of cultic function.

Another new story can now be told as the team excavated a large plastered area which turned out to belong to the 11th-10th centuries B.C. On the uncovered plaster and cobble surfaces lay many smashed vessels, including a cult stand with two curious standing figures having masculine heads, but only one breast each. They faced each other in the stand, clearly identifiable as female from the profiles they presented, but each one missing the breast on the inner side of the cult stand. What might these say about religious practice here?

A minor settlement at the site is also apparent from the late Hellenistic period (ca. 150-50 B.C.) when a few residents constructed a small farmstead on the southern edge of the tell. It may have produced wine on the surrounding hillsides and grain in the valley bottoms. In the courtyard of the building, the team found complete



pottery juglets and lamps as well as food-producing implements.

Among the small finds were several seals including one made by the Hyksos rulers of Egypt. This brings the total number of seals discovered at 'Umayri to over 80. Most of the seals were associated with the administrative complex from the late Iron Age and represent bureaucratic activity there. Continued research on the bones recovered from the early Iron I trash pit has revealed the presence of bones from a lion, a brown bear and Nile Perch.

To help keep the remains at 'Umayri accessible by scholars and other visitors, a major restoration effort is underway. This includes protective boundaries, observation platforms, wall/building consolidation, interpretive signs and a one-to-one scale complete reproduction of the Iron I four-room house which will serve as a visitors center.

Douglas R. Clark, Walla Walla College, Larry G. Herr, Canadian University College, and Warren C. Trenchard, La Sierra University

Jabal Hamrat Fidan

During July and August, 2000, the University of California, San Diego, the University of Bristol and the Department of Antiquities of Jordan completed Phase I

(1997 to 2000) of field research in the Jabal Hamrat Fidan (JHF) region of southern Jordan. Located at the 'gateway' to the copper ore rich Faynan district, the JHF project focuses on the role of early ore procurement and metallurgy on the evolution of societies from the Neolithic to the Iron Age. The 2000 season, recently completed, had three primary goals: a) completion of excavations in the Khirbet Hamra Ifdan (KHI) Early Bronze (EB) III metal manufactory; b) botanical, geophysical and geomorphological surveys in the JHF; c) processing of data from both the 1999 and 2000 season including the complete archiving of the material; and d) preparation of the sites excavated in the JHF for local visitation and ecotourism.

The 2000 excavations, directed by T.E. Levy and R.B. Adams, at KHI aimed at trying to identify domestic structures linked to the inhabitants of the EB III site. Previous excavations demonstrated the widespread nature of EB metal working activities at the site with nearly 50 rooms and courtyards linked to this specializa-



tion. By opening an additional 11 squares of 5 x 5 m each adjacent to the 1999 excavation, domestic units were located. In addition, information regarding the recycling of metal during the EB III came to light. All artifact and architectural data was collected using GPS technology adapted to standard EDM survey equipment.

A botanical survey focused on identifying the main landscape and vegetation units in the JHF; a total of 9 major units were defined and mapped. In addition, new plant types never recorded in this part of Jordan were identified. Substantial work was also carried out on the identification of paleo-springs that would have been used in the JHF from the Neolithic through Iron Age.

The geophysical survey focused on the mapping of the closest mining complex to KHI situated at Umm Tha'hor. Using an Electro magnetic induction (EMI) tool, a series of mine shafts and galleries were identified.

A geomorphological survey was made along the Wadi Fidan for a distance of 7 km. The aim of the survey was to identify changing landscapes in the Wadi Fidan portion of the JHF from the Paleolithic through the Iron Age. A series of ancient terraces were identified, and the data is now being modeled using GIS. This data will be



Excavations in the Early Bronze III metal 'manufactory' at KHI; note the large ceramic vats in the room in the foreground instrumental for analyzing human/land relationships in the JHF 'deep-time' study of ancient metallurgy and social change.

During the excavation substantial resources and time were devoted to processing: a) the lithic data from the 1999 PPNB excavations; b) the human remains from the 1997 excavations at the Iron Age cemetery of WFD 40; c) the archaeozoological remains from both the PPNB site of WFD 1 and the EB II-IV site of KHI; d) the conservation of artifacts from both the 1999 and 2000 excavations; e) the ceramic assemblage from KHI; f) the archaeometallurgical remains from both the 1999 and 2000 seasons at KHI; g) digital photography of the 2000 artifacts; h) digital survey and mapping data as well as the excavation GIS data input and analyses.

In accordance to the JHF project's commitment to preserving and presenting the sites excavated since 1997 to the public, M. Najjar directed the construction of trails and presentation walls at four major sites excavated by our team. These sites include the PPNB village of WFD 1, the EB I metal workers village at WFD 4, the EB II to IV copper metal manufactory at KHI, and the Iron Age cemetery at WFD 40. To facilitate visitation at these sites, large signs in Arabic and English were placed at each site. The signs provide a brief explanation of the significance of each site.

Thomas E. Levy, University of California, San Diego, Russell B. Adams, University of Bristol, and Mohammad Najjar, Department of Antiquities

Khirbet Iskander

The 2000 Expedition to Khirbet Iskander took place between May 23 and July 8. A consortium of three schools sponsors the project: Gannon University, Lubbock Christian University, and McMurry University.

Work concentrated on the northwest corner of the mound in Area B. The site of Khirbet Iskander is well known for its wonderfully preserved and substantial remains from the Early Bronze IV period, a non-urban period sometimes called the "Nomadic Interlude," dating to ca. 2300-2000 B.C. First, work this season provided

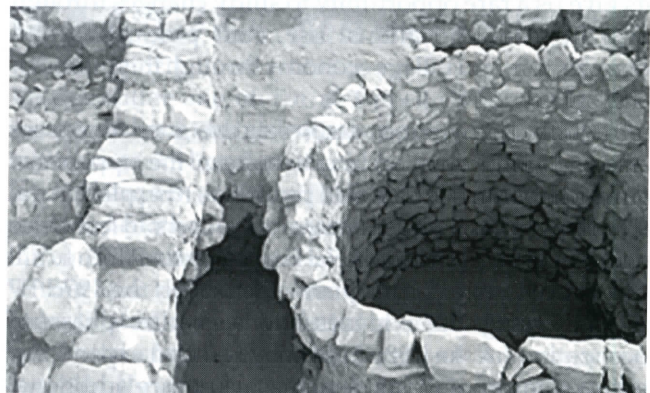
greater horizontal exposure of the previously investigated EB IV settlement phases in Area B. Second, the project also investigated earlier phasing from the urban EB II/III periods discovered in 1997.

A new tier of six squares was opened on the southern side of Area B, bringing the total to 18 (5 x 5 m) squares over which the Phase A settlement has been traced. As expected, a series of (mostly interconnected) domestic structures came to light. Though the southern boundary walls of the complex had been visible from surface tracings, this summer's work revealed the exact nature of the arrangements of rooms and the use of space. Compared with the earlier EB IV Phase B settlement, the arrangement of broad and long room houses and the extent of domestic equipment in Phase A is distinctive. By the end of the period, in Phase A, the northwest neighborhood had apparently shifted from being a public area to a more domestic one.

In one of the new buildings uncovered, a kitchen room was identified. The B19 room included a tabun, a mortar, a preparation stone, a bin area, as well as two doorways. In B15, a unique and somewhat enigmatic silo or well came to light in the courtyard of a large broadroom house. It was ca. 2.5 m in diameter and even deeper than that. In fact, by the end of season, we had not found the bottom. Finally, for the first time, evidence for house walls abutting the outer line of defenses was discovered in Area B, Phase A. This phase is contemporary with our "Gateway" Phase in Area C.

The second major focus of the campaign was to investigate Phases C-E. These are the transitional and pre-EB IV strata on the mound. A number of exciting discoveries took place at the west end of the field, including the uncovering of what appears to be the earlier western perimeter wall, a mudbrick wall on a stone socle. It lay below the poorly constructed stone wall that is currently visible along the west side of the mound. The latter wall—the one visible to Nelson Glueck when he surveyed the site—abuts the tower at the southwest corner and is clearly a later rebuilding at a much higher founding level. This latter wall was constructed in Phase C2, reused in C1, Phase B, and apparently partially in Phase A as well.

This discovery greatly clarifies the construction his-



Square B15, the silo or well in a courtyard

tory of the fortifications. In 1997, excavation linked the founding of the fortifications to a Phase C structure and surface; it is evident now that the EB IV population reused and rebuilt the earlier urban defenses. The fortifications at Khirbet Iskander—the only ones known in the EB IV period—are more comprehensible now.

Suzanne Richard, Gannon University, Jesse C. Long, Jr., Lubbock Christian University

Tell Abu en-Ni'aj

Located in the northern Jordan Valley, Tell Abu en-Ni'aj is a single period agricultural village dating to the Early Bronze IV (EB IV) period (2300-2000 B.C.). Tremendous social changes were happening in the southern Levant during the Early and Middle Bronze Ages with the development, abandonment and subsequent reestablishment of the first cities established in the region. Tell Abu en-Ni'aj provides an excellent opportunity to study the development and abandonment of this country's earliest cities, which are associated with the ancient Canaanites.

The Canaanites developed one of the world's earliest urbanized societies during the Bronze Age. Tell Abu en-Ni'aj contains crucial remains that tell us how Jordan's ancient inhabitants responded to the collapse of these early cities between 2300 and 2000 B.C. The importance of Tell Abu en-Ni'aj stems from several characteristics:

- 1) All Canaanite cities and towns in ancient Jordan and Palestine were abandoned by approximately 2300 B.C. People moved into pastoral encampments in southern Jordan and Palestine, but farming villages like Tell Abu en-Ni'aj are extremely rare during this time.

- 2) Previous archaeological work at the tell has shown that the deep archaeological remains at the site are unique for Early Bronze IV sites in Jordan and provide a rare opportunity to study how the Canaanite people adjusted and coped following the abandonment of Bronze Age cities and town.

- 3) Tell Abu en-Ni'aj is one of very few Early Bronze IV sites occupied through most of the period, based on the depth of stratified deposits and a small sample of transitional EB III/EB IV sherds found in the lower levels. The duration of occupation and stratified deposits give us a rare opportunity to study changes through time in plant and animal use, craft production and distribution, and village economy through this period of upheaval.

The 2000 excavation season was designed to recover artifacts and village architecture from the uppermost and lower strata, which will permit us to explore rural agrarian ecology and patterns of household behavior over the long-term collapse of Early Bronze IV. To fulfill this research design, we planned to finish the 1996/97 units to enlarge our evidence from the earliest phases of occupation (at the bottom of the site), and expand our excavations north of these units to capture additional material from the latest levels (just below the modern

surface) at Tell Abu en-Ni'aj.

We began laying out new squares and establishing new site datums on January 22, 2000. We spent approximately ten days reestablishing the 1996/97 excavation squares, beginning in areas of the site that we determined were damaged by bulldozers. We placed 4 x 4 m new squares in what appeared to be less disturbed areas on the top of the tell. After working for ten days we discovered some of these units had been disturbed by bulldozers, so we had to stop work in several of the units. We were able to excavate eight units down to non-cultural levels, and completed five other units that were begun in 1996/97.

We also drew a 15-m-long stratigraphic cross-section through a portion of the site damaged by the bulldozers. The stratigraphy in this portion of the site shows three architectural phases with mudbrick architecture atop at least two earlier phases represented by horizontal layers of archaeological sediments. This shift from dense artifact bearing horizontal strata to strata containing large numbers of mudbrick walls was also apparent in our excavation units. This was an unexpected finding, but preliminary the shift seems to coincide with changes in pottery style and temper. Subsequent research, analyzing the changes in pottery form and construction, lithics, animal bone and plants used in these earliest layers at Tell Abu en-Ni'aj will shed light on the settlement and subsistence immediately following urban collapse.

Steven E. Falconer, Patricia L. Fall, and Jennifer E. Jones, Arizona State University

Wadi Ziqlab

The Wadi Ziqlab Project conducted geomorphological and archaeological surveys of wadi terraces in Wadi Ziqlab from 28 May to 28 June 2000. The goals of the season involved reconstructing late Pleistocene and early Holocene paleolandscapes and the valley changes over time, and relating these changes to the distributions of sites, especially those of the Epipaleolithic, Neolithic and Chalcolithic periods. The survey discovered 18 previously undocumented sites ranging from the Middle Paleolithic to the Iron Age. Additionally, it was found that the extent of Neolithic and Early Bronze occupation at Tell Rakan (WZ 120) was greater than previously believed. It also documented the alluvial and colluvial histories of several places in the wadi key to reconstructing the prehistoric topographies associated with these sites.

Survey and reconstruction of the valley's changing morphology was done principally by examination of ancient river terraces and colluvial slopes, their stratification (where visible in exposed cross-sections), and the artifacts contained both in and on them. Other sources of information included examining changes in watercourse, location of springs, tectonics, sediment transport and deposition. We know that the wadi has changed dramatically over time through the interplay of natural

factors and human use. Ultimately, the paleoenvironmental reconstructions will be used to examine human land-use patterns and to predict the location of archaeological sites in less intensively surveyed areas in the region.

Survey was accomplished mainly by groundwalking, with routes planned to examine a series of terraces previously identified in aerial photographs. In addition, the team paid close attention to any sections exposed by road cuts, erosion gullies or the wadi channel, and to terrace margins where erosion may have exposed buried material. Initial inspection of these terraces took place during the first two weeks of the survey, and was followed by subsurface and column sampling.

Terraces of potential prehistoric occupation were sampled by small test trenches. On terraces where the goal was to obtain a stratified column of bulk sediment samples and microartifacts, column samples were excavated from the sides of exposed sections. Particular attention was paid to sections containing a CaCO_3 -rich red deposit of suspected Geometric Kebaran age, first identified at Tabaqat al-Bûma. The location of this distinctive deposit was traced throughout the wadi, and sampled at each location for further geomorphological and thin section analysis. Samples for micromorphological analysis were taken either by cutting out blocks of sediment, or where possible with Kubiena boxes pushed into the sediment.

In order to integrate geomorphological changes occurring throughout the wadi with changing land-use and settlement patterns, certain lines of evidence have been pursued in our sampling scheme. Bulk sampling of deposits for standard sediment analysis was conducted throughout the wadi in order to provide information on depositional environment, pedogenesis and post-depositional alterations.

Phytolith samples were collected to examine the ubiquity and abundance of various plant remains to yield palaeoclimatic information or relate to time period (*i.e.*, Epipaleolithic vs. Neolithic). Also, micro- and macro-artifact sampling served as age controls for many of the surface and subsurface deposits. Finally, thin section samples will serve to aid in identifica-



Test trench at site WZ 148; note the distinctive dark (red) deposit below a colluvium containing numerous large stones

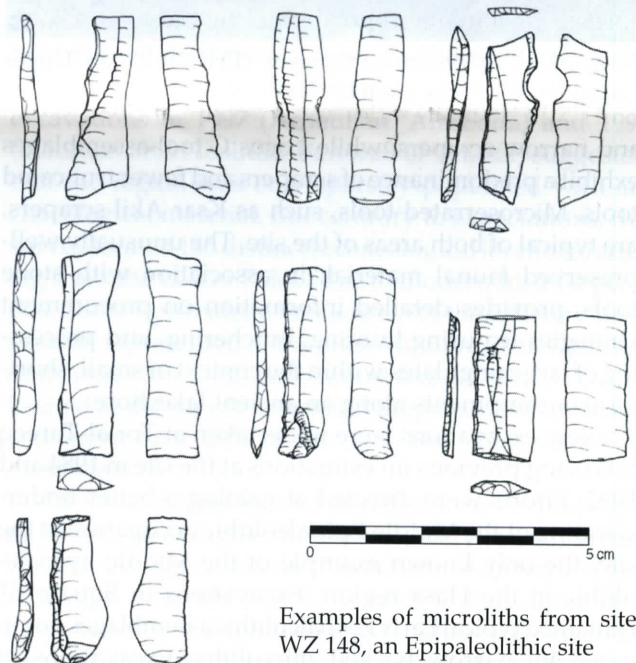
tion of the above-mentioned red deposit.

The 2000 field season of the Wadi Ziqlab Project is the first of many planned for the specific interest of integrating geological and geomorphological activity in the wadi system with settlement patterns and land-use changes during Epipaleolithic and Neolithic periods. New sites were examined specifically within their geomorphological setting. Key off-site areas were examined for landscape reconstruction. Previously documented sites were reexamined in order to tie them to other sites and geomorphic processes in the wadi. The 2000 survey will help to present a clear picture of how people were using and being affected by a changing landscape.

Lisa Maher and E.B. Banning, University of Toronto

Wadi al-Hasa

The Eastern Hasa Late Pleistocene Project (EHLPP) conducted its third season of investigations at Upper and Epipaleolithic sites in the Wadi al-Hasa during the summer of 2000. Research efforts were again focused on adaptations to lake and marsh settings in the interior Levant. Excavations were carried out at the Upper Paleolithic site of Thalab al-Buhayra (EHLPP 2) and the



Examples of microliths from site WZ 148, an Epipaleolithic site

Epipaleolithic site of Tor al-Tareeq (WHS 1065). This season also included an intensive survey for chert sources in the eastern Hasa basin.

At the open-air site of Thalab al-Buhayra, two previously tested areas were expanded. Excavations at Locus C exposed cultural material along an ancient shoreline with at least two closely associated early occupations in consolidated marl sediments between 0.30 and 0.77 m below the surface, dated to $25,698 \pm 100$. Excavations revealed the remnants of at least 13 informal hearths with fire-affected rock, dense primary lithics, and an

abundance of well-preserved specimens representing *Bos*, *Equus*, and possibly *Sus*. Articular fragments, long bones, cranial, and mandibular fragments are particularly well represented, while axial elements are rare. At least 70 whole teeth were recovered, most of which are large molars of equids. We also recovered the remains of a mandible with two tusks and a maxilla fragment with some teeth in place, all of which appear to be from a wild boar, rarely documented at Levantine Upper Paleolithic sites. At Locus E, dating to $24,900 \pm 100$ and positioned stratigraphically above the Locus C occupations, remnants of hearths are equally numerous. Equid teeth are also frequent, while rare examples of gazelle teeth have also been uncovered. The lithics at Locus E are dominated by blade/bladelet debitage and truncated tools



Excavations at Thalab al-Buhayra (EHLPP 2), an Upper Paleolithic site in the Wadi al-Hasa

and narrow scrapers, while Locus C tool assemblages exhibit a predominance of scrapers and fewer truncated tools. Microserrated tools, such as Ksar Akil scrapers, are typical of both areas of the site. The unusually well-preserved faunal material, in association with stone tools, provides detailed information on procurement strategies featuring hunting, butchering, and processing of large ungulates within the context of small, short-term encampments along an ancient lakeshore.

New excavations were undertaken at Tor al-Tareeq following previous investigations at the site in 1984 and 1992. Efforts were directed at gaining a better understanding of the Middle Epipaleolithic occupation at the site, the only known example of the Middle Epipaleolithic in the Hasa region. Excavations in Square B1 contained typical Early Epipaleolithic assemblages dominated by narrow backed microliths. Excavations in Squares C1 and C2 provided a complex stratigraphic sequence in which some Early Epipaleolithic materials were displaced downslope, resulting in a sequence from bottom to top of Early Epipaleolithic, Middle Epipaleolithic, and Early Epipaleolithic. The *in situ* Early Epipaleolithic contained narrow backed microliths, backed and truncated, truncated, pointed bladelets, and common use of the miccoburin technique. Above this, Middle Epipaleolithic microliths (relatively frequent wide lunates and wide trapezes) occur with narrow backed microliths and rare miccoburin technique. The fauna includes large fragments in the size range of *Bos*. An *in*

situ hearth was uncovered and should provide a much needed radiocarbon date for the rare Middle Epipaleolithic. Two additional units (C3 and C4) revealed Middle Epipaleolithic assemblages in the upper levels and Early Epipaleolithic in the lower levels. The lithic assemblages correspond to those found in Squares C1 and C2 for these periods.

An intensive survey for chert raw material sources was conducted using 22 transect areas. Chert was found to be widely available in the three major geological formations in the eastern Hasa. Preliminary analyses suggest that no prehistoric group had to travel farther than 50-100 m from where they camped to gain access to good quality chert, and they appear to have followed the principle of least effort in this regard in virtually all cases.

N.R. Coinman, Iowa State University, D.I. Olszewski, Bishop Museum, Honolulu

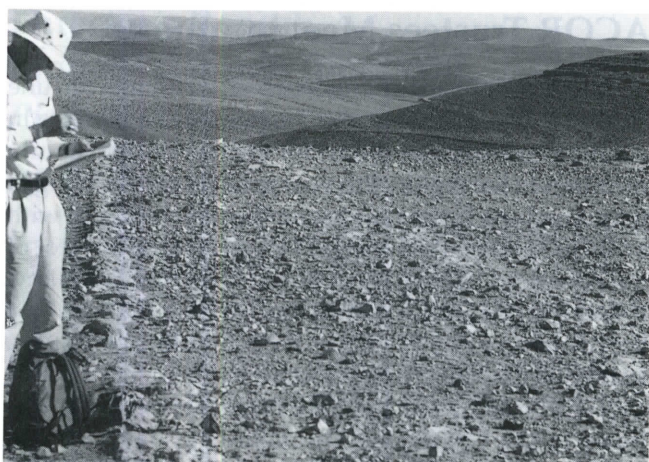
Tafila-Busayra Survey: Phase 2

The Tafila-Busayra Archaeological Survey (TBAS) held its first field season in 1999; a report on this work appeared in the *ACOR Newsletter* (11.1 [1999]: 4-5). Phase 2 of the project took place between April 29 and June 16, 2000.

The specific objectives of the 2000 season were: 1) to survey the remaining 63 random squares in Zone 2 which were not covered during the 1999 season as well as the six squares in Zone 3; 2) to carry out a purposive survey of areas not covered by the random squares of these same two zones; 3) to continue to investigate the archaeological materials associated with Wadi al-Juheira Lake, a Pleistocene lake, in the Jurf ad-Darawish region; 4) to continue to "ground-proof" potential sites that D. Kennedy, University of Western Australia, Perth, identified on aerial photographs; and 5) to continue to connect geographically with the territory of the Wadi al-Hasa Archaeological Survey (1979-1983) to the north of the TBAS territory.

Archaeological materials collected in the 63 random squares in Zone 2, which covers the plateau in the area of both at-Tafila and Busayra in the west and towards Jurf ad-Darawish to the east, included Lower/Middle Palaeolithic, Upper/Epipalaeolithic, Ceramic period lithics, Iron II, Hellenistic (very little), Early Roman (Nabataean), Roman, Byzantine, and Middle/Late Islamic sherds. In addition, sites surveyed both within and near these random squares yielded lithics and sherds from the same archaeological periods.

Archaeological periods represented in the collected materials from the random squares in Zone 3—the desert region immediately north of Jurf ad-Darawish—are Lower, Middle, and Upper Palaeolithic; Roman; and Byzantine. In addition to these periods, sites both within and adjacent to the random squares of the zone yielded Ceramic period lithics, Late Neolithic/Chalcolithic/Early Bronze lithics, and Middle/Late Islamic sherds.



Burton MacDonald at TBAS Site 180, a Roman Road, the Via Nova Traiana, looking north

The continued investigation of Wadi al-Juheira Lake resulted in the location of 18 additional sites. As in the previous season, the predominant archaeological materials were Lower, Middle, and Upper Palaeolithic, Late Epipalaeolithic, Chalcolithic/Early Bronze (lithics and sherds), Roman, Byzantine, and Late Islamic (sherds).

TBAS team members judged 44% of the 18 potential sites that Kennedy identified on aerial photos to be archaeological sites. This is in keeping with the 41% of Kennedy's potential sites that team members judged, in the previous season, to be sites.

Among the 139 sites (TBAS Sites 152-290) that the TBAS team investigated this season, the major site-types include: 49 enclosures/seasonal camps with architecture; 16 watchtowers; 12 seasonal camps/production/processing centers, mostly without architecture; nine milestone(s) or fragments of milestones sites, associated



Spear point at TBAS Site 254

with the Roman road (Via Nova Traiana, built between a.d. 111-114) and the Hajj Route (built during the Late Islamic period) in the central and eastern segments of the survey territory respectively; and four water-catchment facilities.

During the 2000 season, TBAS team members connected their survey territory with the territory of the Wadi al-Hasa Archaeological Survey by means of the Roman Road and the Hajj Route.

Of the lithic materials represented in the area surveyed during the 2000 season, the Middle Palaeolithic is dominant. The density of materials from this period is

particularly high in the area of Wadi al-Juheira Lake. Epipalaeolithic materials are also well represented in the southern portion of the lake. Both lithics and sherds represent the Chalcolithic period. There is little evidence of Early Bronze and no evidence of either Middle or Late Bronze in this season's collections. Material dating to the latter part of the Iron I period was collected. The best-represented materials from the ceramic periods come from the Iron II, Early Roman (Nabataean), and Byzantine. However, while there is little in the way of Early Islamic materials, the Middle/Late Islamic period is well represented. Additional information is available at <www.stfx.ca/people/bmacdona/tbasweb/welcome.htm>.

Burton MacDonald, St. Francis Xavier University, and Scott Quaintance

Azraq Wetlands Survey

The Azraq Wetlands Survey (AWS), sponsored by the Royal Society for the Conservation of Nature (RSCN), was undertaken to establish an inventory of archaeological resources in the Azraq Wetlands Reserve in South Azraq. The survey was designed to cover the 13 km² of the Wetland Reserve using 100 m transects, with 25-m intervals between each crew member. The survey began on 1 July 2000 and continued until 27 July 2000.

The survey was remarkably successful. Previous excavations in 1997 (Acheulian 'Ain Soda) and 1998 (Natufian and Neolithic Bawwab el-Ghazal) suggested that the region was only sparsely populated with archaeological material. But contrary to expectations, the survey located 145 distinct archaeological localities ranging from the Lower Paleolithic to modern historic periods. Table 1 provides a breakdown of the different time periods represented at the sites. Notably, if all Epipalaeolithic sites are combined, almost two-thirds of the sites located in the survey contained Epipalaeolithic material, and more than 25% of the sites had some Neolithic presence.

Of all of the sites located during the survey, the most important remain the three sites already known before the survey began: Lower Paleolithic 'Ain Soda (Sites AWS 128, 129, 130 and 131), Middle Paleolithic and Epipalaeolithic 'Ain Qasiyeh (AWS 122), and Bawwab al-Ghazal (AWS 79). Nevertheless, other sites that should be investigated more thoroughly through test excavations and even more thorough investigations include the large and dense sites of AWS 24 (Epipalaeolithic), the AWS 48 site complex (13 separate loci, mostly Epipalaeolithic), and AWS 102 (PPNB), which in addition to a bead-making industry, also produced two exposed burials. Additional surface collections were made at 'Ain Soda in order to expand the artifact sample collected in previous years. This year's efforts resulted in 176 more bifaces, but there has not been time to sort the large number of Levallois elements and flake/blade tools.

Intensive collections were also made around 'Ain

NUMBER OF SITES WITH ARTIFACTS
FROM PARTICULAR ARCHAEOLOGICAL PERIODS

Period	n	% (N=145)
Paleolithic (general)	1	0.7
Lower Paleolithic	3	2.1
Lower/Middle Paleolithic	2	1.4
Middle Paleolithic	4	2.8
Upper Paleolithic	1	0.7
Epipaleolithic (general)	64	44.1
Earlier Epipaleolithic	24	16.6
Natufian	9	6.2
PPN (general)	8	5.5
PPNB/C	18	12.4
Late Neolithic	2	1.4
Chalco/EB	22	15.2
Islamic	2	1.4
Modern	8	5.5
Unknown	9	6.2

Qasiyeh, and vertical sections in the former pool (Locality II in the western end and Locality I in the eastern end) were cleaned to obtain a clear stratigraphic sequence. This work produced considerable quantities of chipped stone material, but more importantly, it also demonstrated the very rich quantities of animal bone (including excellently preserved bird and microfaunal remains). The section cleaning indicated that there are at least three *in situ* archaeological layers at the site. These include a Levantine Mousterian layer just above lake marls; an Early Epipaleolithic layer, characterized by pointed arch-backed bladelets, in boggy peat deposits (probably dating to between 22,000 and 19,000 B.P.); and a later Epipaleolithic horizon in marsh peats that contains triangular lunates (ca. 19,000 to 16,000 B.P.), in addition to masses of very well-preserved animal bone that includes a wide variety of microfauna, birds, and larger animals. 'Ain Qasiyeh promises to provide a very clear understanding of the Epipaleolithic exploitation of the Azraq marshlands.

In addition to the earlier periods, lithic scatters attributable to the Chalcolithic and perhaps Early Bronze Age (fan scrapers, blades and flakes with large, steep platforms, etc.) were also found, which amounted to more than 15% of the sites located during the survey. The presence of Chalco/EB camps is paralleled with suspected contemporaneous pastoral animal enclosures located during other surveys in the greater Azraq area.

The distributional pattern of sites through time in the marsh area indicates that Epipaleolithic visits were principally restricted to the southern and western parts of the wetlands, while Neolithic and Chalcolithic/EB sites occurred more frequently in the northern and eastern areas. How this change in site selection may relate to environmental changes can, we hope, be explained in future excavations and sediment sampling in the area. Gary O. Rollefson, Whitman College, Leslie A. Quintero, University of California, Riverside, and Philip J. Wilke, University of California, Riverside

ACOR Trustees Meet in Amman

The ACOR Board of Trustees met in Amman on June 7, 2000. Every other year, the Trustees hold a meeting in Amman and organize a tour for themselves and family members in the region, this year to Lebanon. Arriving in Beirut on June 2, the tour began the next morning with a tour of downtown Beirut led by Leila Badre, director of the American University of Beirut Museum. For many, it was the first visit to Beirut since before the war, and they were amazed to witness the rebuilding of the city. Later that day, the trustees toured Byblos, a remarkable site with ruins from the Late Neolithic period to the times of the Crusaders. The following day included



Pierre Bikai (left) at Tyre

tours of Tyre, Sidon, and Beitedine. On the last full day of their trip, there was a visit to Baalbeck, known for its beautiful Roman temples. The story of the Lebanon trip was written by James Wiseman, an ACOR trustee, and published in *Archaeology* (53.5, Sept./Oct. 2000, pp. 8-11).

The trustees returned to Amman on June 6 to rest and tour sites around Amman before their meeting the next day. Major topics of discussion at the meeting itself included the budget, fund-raising, and the establishment of the James A. Sauer fellowship program. A new trustee, Neil Silberman, was also welcomed to the board. That evening, ACOR hosted a beautiful reception for over 300 guests in honor of the Trustees and to mark the 100th anniversary of the American Schools of Oriental Research. Although the official business ended on June 7, many of the trustees stayed on for a three-day trip to the south that included a tour of



Trustees and other friends of ACOR tour Wadi Rum; Pierre, at right in the white cap, explains the Nabataean temple.

Petra and Wadi Rum with Pierre and a tour of trustee Tom Parker's site in Aqaba. For all of them, it was an exciting and memorable experience.

Kurt Zamora

Director's Report: January through June 2000

Pierre M. Bikai

ACOR Projects

Petra, Petra Mapping Project, ACOR and Hashemite University, USAID Petra Endowment
Petra, Petra Documentation Project, Chrysanthos Kanellopoulos, USAID Petra Endowment
Petra, Petra North Ridge Project, Patricia Bikai, Megan Perry, and Naif Zaban, USAID Petra Endowment

Petra Papyri Publication Project

U. of Helsinki/Academy of Finland: Jaakko Frösén, Marjo Lehtinen, Antti Arjava, Maarit Kaimio, Mari Mikkola, Mari Mustonen, Tiina Rankinen, and Marja Vierros
U. of Michigan: Robert W. Daniel, Traianos Gagos

ACOR-Assisted Field Projects

Steve Falconer, Patricia Fall, Molly Davies, Arizona State U., Archaeology and Environment of the Dead Sea Plain

Steve Falconer, Patricia Fall, Jennifer Jones, Arizona State U., Jordan Valley Village Project Excavations at Tell Abu en-Ni'aj
Alan Simmons, U. of Nevada, Mohammad Najjar, Department of Antiquities, Ghwair I Neolithic Project
Donald O. Henry, U. of Tulsa, 'Ain Abu Nekheileh Excavation Project
Burton MacDonald, St. Francis Xavier U., Tafila-Busayra Archaeological Project
Edward (Ted) Banning and Lisa Maher, U. of Toronto, Wadi Ziqlab Project
Nancy R. Coinman, Iowa State U., and Deborah I. Olszewski, Bishop Museum, Hawaii, Eastern Hasa Late Pleistocene Project
Martha Sharp Joukowsky, Brown U., Excavations at the Petra Great Temple
Thomas Levy, U. of California, San Diego, Russell Adams, Bristol U., Mohammad Najjar, Dept. of Antiquities of Jordan, Jabal Hamrat Fidan Regional Archaeology Project
John P. Oleson, U. of Victoria, Humeima Excavation Project
S. Thomas Parker, North Carolina State U., Roman Aqaba Project
Suzanne Richard, Gannon U., and Jesse Long, Lubbock Christian U., Expedition to Khirbet Iskander and its Vicinity

Donors to ACOR

From January through June, 2000, the following friends of ACOR donated to the endowment: Mr. Nicholas Clapp, Mrs. Nan Frederick, Mrs. Sandra Scham and Mr. Paul Scham, H.E. Senator Leila Sharaf, Mrs. Laurel Swetnam and Mr. John Swetnam, Mrs. Lucy Wiseman and Dr. James Wiseman, and Mrs. Judy Zimmerman and Mr. Harold Zimmerman.

General Donations were made by: Andrews University, Mr. Kory Cooper, Ms. Dorothy Drummond, Mr. Felix W. Emse, Jr., Mrs. Marilyn Forney and Mr. Robert Forney, Mr. Artemis A.W. Joukowsky and Dr. Martha Sharp Joukowsky (Joukowsky Family Foundation), Mr. Robert N. Latz, Mrs. Estelle Peisach and Mr. Jack Peisach, Mr. Graham L. Prendergast, Mrs. Sheila Purello and Mr. Joseph Purello, and Mr. Robert J. Schweich.

Donations to the Petra Church Conservation Endowment were received from: Mrs. Judith Adams and Mr. James Adams, Ms. Carol Andreae and Mr. James Garland, Anonymous, Mrs. Willoughby L. Bishop, Mrs. Doris Ann Brigham and Mr. Lee Brigham, Ms. Melva Bucksbaum (The Martin Bucksbaum Family Foundation), Ms. Joyce Chelberg, Mrs. Marie Cleasby and Mr. Gilbert Cleasby, Mrs. Dorothy Conant and Mr. James Conant, Mrs. Judy Flath and Mr. Gene Flath, Mrs. Ruth S. Hughes, Ms. Yona Joest, Mr. Artemis A.W. Joukowsky and Dr. Martha Sharp Joukowsky

(Joukowsky Family Foundation), Mrs. Emily King and Mr. Robert King, Mr. San W. Orr, Jr., Ms. Nancy C. Reynolds, Mrs. Janelle Shaffer and Mr. David Shaffer, Ms. Kathleen Daubert Smith, Dr. Paula Swart, Mr. T.C. Swartz and TCS Expeditions, Ms. Britt Tidelius, Mr. Ronald Verdoorn, and Mrs. Judy Zimmerman and Mr. Harold Zimmerman.

The Jennifer C. Groot Endowment received a contribution from Mr. Tim Ferrell.

The Kenneth W. Russell Memorial Trust received a donation from Mr. Glen Peterman.

Donations to the Pierre and Patricia Bikai Endowment were received from Drs. Pierre and Patricia Bikai, Mrs. Helen M. Cecil, Ms. Caroline Davies, Ms. Norma Sullivan and Mr. Austin Ritterspach, Mrs. Mary Wilkinson and Mr. John Wilkinson, Mrs. Judy Zimmerman and Mr. Harold Zimmerman.

A Petra papyrus was adopted by Ms. Carol Andreae and Mr. James Garland.

Donations to the library endowment were made by Dr. Roger S. Borass, Ms. Sandi Anne Chesrown, Mrs. Carol Forshey and Mr. Harold Forshey, and Dr. John R. Lee.

Donations of books and journals were received from Ms. Shatha Abu Shatha, Dr. Maysoon al-Nahar, Mr. Thomas A. Dailey, Mr. R. Dorsett, Dr. Laurie Eisenberg, Dr. Elise A. Friedland, Dr. Lawrence T. Geraty, Dr. Martha Sharp Joukowsky, Ms. Luna Khirfan, and Dr. Jane Petersen.

Lectures

- Jan. 23. Alan Simmons, U. of Nevada, and Mohammad Najjar, Dept. of Antiquities, Jordan, Recent Discoveries of the Ghwair I Neolithic Project
- Feb. 26. Jon W. Anderson, Catholic U. of America, Social History of the Internet in Jordan
- Mar. 18. Jennie R. Ebeling, U. of Arizona, Analysis and Interpretation of Ground Stone Artifacts from Middle and Late Bronze Age Temples in Palestine
- Mar. 27. Steve Falconer and Jennifer Jones, Arizona State U., Excavations at the Early Bronze IV Village of Tell Abu en-Niaj in the Jordan Valley
- April 8. Neil D. MacKenzie, Water Mills and Settlement Patterns in the Ajlun Area: An Examination of Ayyubid/Mamluk Contexts
- April 10. Jerome C. Rose, U. of Arkansas, Crusader Babies in al-Wu'ayra, Petra
- April 22. Christopher Parker, U. of Ghent, Palestinians in the Margins of State Building: Conflict, Mobilization, and Survival
- May 9. Jon Anderson, Catholic U., Internet Technology and Media: Choices of Jordan
- June 14. Edward Banning, U. of Toronto, From First Farmers to Early Oil Barons in Northern Jordan: Farmsteads, Villages and Olive Oil Factories from the Neolithic to Early Bronze Age in Wadi Ziqlab
- June 19. Burton MacDonald, St. Francis Xavier U., The Tafila Busayra Archaeological Project: Surveying in Southern Jordan
- June 26. Peter Wigand, Yarmouk U., Climate History of the Middle East for the Past 10,000 Years
- June 28. Suzanne Richard, Gannon U., Archaeological Expedition to Khirbet Iskander and Vicinity

Fellows in Residence

Near and Middle East Research and Training Act (NMERTA) Senior Research Fellows:

- Jon W. Anderson, Catholic U. of America, Social History of the Internet in Jordan
- Neil D. MacKenzie, Water Mills and Settlement Patterns in the Ajlun Area: An Examination of Ayyubid/Mamluk Contexts

Near and Middle East Research and Training Act (NMERTA) Pre-Doctoral Fellows:

- Dmytro Roman Kulchitsky, George Mason U., The Use of Information Technology in Human Resource Development Public Policy-Making Communities: The Cases of Jordan and Israel
- Ranjit Singh, U. of Virginia, The Origins of Pacts: Regimes, Oppositions, and Political Liberalization in the Middle East
- Stephanie E. Nanes, U. of Wisconsin, The Hidden Side of Politics: Women and Informal Networks in Jordan
- Tori I. Rohl, Chicago-Kent College of Law, The Influence of Islamic Law on Jordanian Contract Law and the Settlement of U.S./Jordanian Business Disputes

through Arbitration

- United States Information Agency/Council of American Overseas Research Centers Post-Doctoral Fellow:*
- Elise Friedland, Rollins College, Roman Marble Sculptures from the East Baths at Gerash: Origins, Import, and Meaning



Fellow Roman Kulchitsky (right) is greeted by H.M. King Abdullah at the information technology conference

United States Information Agency/Council of American Overseas Research Centers Fellows:

- Jennie R. Ebeling, U. of Arizona, Analysis and Interpretation of Ground Stone Artifacts from Middle and Late Bronze Age Temples in Palestine
- Christopher Parker, U. of Ghent, Palestinians in the Margins of State Building: Conflict, Mobilization, and Survival
- Susan Smith, U. of Tulsa, Archaeological Fieldwork in the Wadi Hisma
- Betty Anderson, Boston U., The Jordanian National Movement of the 1950s: Socio-Economic and Political Influences
- Nancy R. Coinman, Iowa State U., The Upper Paleolithic of Jordan: Human Adaptation during the Late Pleistocene
- Jonathan Lawrence, U. of Notre Dame, Living Water? Investigating the Development of Jewish Ritual Bathing and Christian Baptism
- Samuel H. Kress Foundation Fellow:*
- Lara G. Tohme, Massachusetts Institute of Technology, Out of Antiquity: Umayyad Art and Architecture in Context
- National Endowment for the Humanities Fellow:*
- Bethany Walker, Oklahoma State U., Reconstructing Mamluk Administration in the Transjordan: A Multidisciplinary Study
- Jennifer C. Groot Fellows:*
- Alyson Berkowitz, Mercyherst College, Khirbet Iskander Excavation
- Michael Martin, Princeton Theological Seminary, Khirbet Iskander Excavation
- Walter Ward, North Carolina State U., Roman Aqaba Project
- Harrell Family Fellow:*
- James Cook, U. of Victoria, Humeima Excavation Project

Pierre and Patricia Bikai Fellow:

James Cook, U. of Victoria, Humeima Watchtower Survey

For information on ACOR's fellowships contact:
ACOR, 656 Beacon St., 5th Floor, Boston, MA 02215-2010, tel.: 617-353-6571, fax: 617-353-6575, e-mail: acor@bu.edu, or on the web at www.bu.edu/acor

James A. Sauer Fellowship in the Archaeology of Jordan

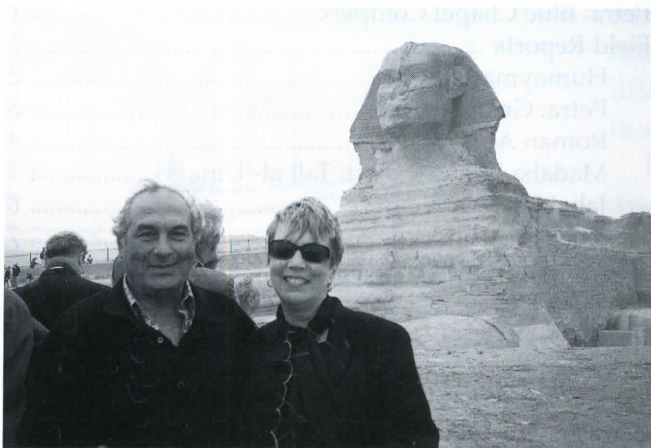
A committee to create a fellowship in memory of Dr. James A. Sauer, who was director of ACOR from 1975 to 1981, has been formed. The committee hopes to raise enough funds to create an endowment, the income from which would support annual fellowships for graduate students working in the archaeology of Jordan (history, anthropology, art history, classics, religion, and related fields).

Fellowships would be administered by ACOR and be awarded to U.S., Canadian, and Jordanian students.

Donations earmarked for this endowment can be sent to ACOR.

Happenings at ACOR

Jan. 28. There is a blanket of snow outside. ACOR residents shake snow from the trees, and Karin Voets and daughter Johanne Parker make a snowman on the veranda.



Pierre and Mary Ellen Lane, Executive Director of the Council of American Overseas Research Centers (CAORC) at the Sphinx

Feb. 7. Alberto Fernandez, Counselor for Press and Cultural Affairs at the U.S. Embassy, comes for lunch and meets with ACOR Fellows.

Feb. 13. The Jordan Committee of the ACOR Board of Trustees holds a meeting at ACOR. The major topic of discussion is the board meeting in June which will be held in Amman.

Feb. 23. Patricia finishes editing the annual "Archaeol-

ogy in Jordan" article for the *American Journal of Archaeology*. She and Virginia Egan have decided that this is their last turn at editors.

Feb. 28. Pierre and Patricia leave for Petra for two back-to-back tours. While Pierre lectures, Patricia uses the new digital camera to photograph the mosaics at the Petra Church.

March 8. For the umpteenth time, Pierre goes out to Madaba to check on the renovation of the new house.

Mar. 14. Pierre escorts a delegation of U.S. Senators to Petra. They are Senator Richard C. Shelby (AL); Senator Ernest F. Hollings (SC); and Senator Robert Kerrey (NE).



Senator Kerry, Senator Shelby and Annette Shelby, Pierre, U.S. Ambassador to Jordan William Burns, a Bedul Bedouin, Peatsy Hollings and Senator Hollings at Petra

Mar. 15. Ali Jabri helps us to rehang the art work in the living and dining rooms.

Mar. 20. Pierre and Patricia leave to attend the five-day CAORC directors' meeting in Cairo. On the road to the airport, they see the pope returning from his visit to Mount Nebo.

Apr. 8. Artemis and Martha Joukowsky, accompanied by Nicholas and Kathryn Clapp, arrive for a brief overnight visit after an exciting tour of Nabataean sites in Saudi Arabia.

Apr. 12. Pierre leaves for a one-week trip to Washington to present a lecture at the ASOR Centennial Celebration.

Apr. 17. Mohammed, Said, and Abed Adawi visit Patricia and the North Ridge Project in Petra.

May 8. Unbelievably, it is so cold that Abed has to turn on the furnace again.

May 22. ACOR hosts a luncheon for departing USAID Director Lewis Lucke. He and his wife Joy are presented with a framed picture of a Petra Church mosaic named in their honor. He was instrumental in the creation of the Petra Endowment.

May 31. The first of the ACOR trustees arrive for the meeting.

June 7. The trustees hold their spring board meeting in ACOR. Later that evening, ACOR hosts a reception in honor of the trustees and in recognition of ASOR's centennial celebration.

ACOR Publications

The Mosaics of Jordan by Michele Piccirillo. Large format, cloth-bound volume includes 303 pages in full color with 824 illustrations, plans, and aerial photographs. \$175.

The Great Temple of Amman: The Architecture by Chrysanthos Kanellopoulos. The architecture of the temple that was excavated and partially restored by ACOR. Large format, cloth bound. \$80.

JADIS: The Jordan Antiquities Database and Information System: A Summary of the Data, edited by Gaetano Palumbo. Basic information on nearly 9,000 archaeological sites from all periods, plus 117 maps. This 453-page, hard-bound volume is xerographically reproduced. \$40.

The Great Temple of Amman: The Excavations by Anthi Koutsoukou, Kenneth W. Russell, Mohammad Najjar, and Ahmed Momani. Description of the 1990-93 excavations undertaken by ACOR and the Department of Antiquities. This hard-bound volume has 180 pages and 3 fold-out plates. \$65.

Madaba: Cultural Heritage edited by Patricia M. Bikai and Thomas A. Dailey. Catalogue of the remains from the Early Bronze Age through late Ottoman vernacular houses (113 pages, paper-bound) Over 150 illustrations, five in color. Includes a separate large map. An Arabic translation is available at no additional cost. \$35.

Ancient Ammonites & Modern Arabs: 5000 Years in the Madaba Plains of Jordan edited by Gloria A. London and Douglas R. Clark. Life across the centuries in the area excavated over the past 30 years by the Madaba Plains Project. \$27.

The 150th Anniversary of the United States' Expedition to Explore the Dead Sea and the River Jordan by Robert E. Rook. An assessment of the Lynch expedition in 1848. Hard-bound volume of 32 pages. Many reproductions of Lynch's illustrations, including his three maps. \$20.

All prices include shipping.

ACOR and its Newsletter

ACOR, the American Center of Oriental Research, is a nonprofit academic institute whose services are supported through endowments, donations and grants. ACOR is tax exempt as a 501(c)(3) organization, as determined by the U.S. Internal Revenue Service. Inquiries may be sent to ACOR, P.O. Box 2470, Amman 11181, Jordan, Tel.: (962-6) 534-6117, Fax: (962-6) 534-4181, e-mail: ACOR@go.com.jo, or to ACOR, Boston University, 656 Beacon St., 5th Floor, Boston, MA 02215-2010, Tel.: 617-353-6571, Fax: 617-353-6575, e-mail: acor@bu.edu. The *ACOR Newsletter* is edited by Patricia M. Bikai and Kurt Zamora. Printed in Jordan by Jordanian Printing Press.

Madaba Map Centenary 1897-1997

With assistance from ACOR, the proceedings of the international conference on the Byzantine map have been published, edited by Michele Piccirillo and Eugenio Alliata. This well illustrated hard-bound volume has 278 pages, and is available from ACOR for \$125, inclusive of shipping.

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