ACOR Newsletter

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The Eastern Levant, the Pleistocene, and Paleoanthropology

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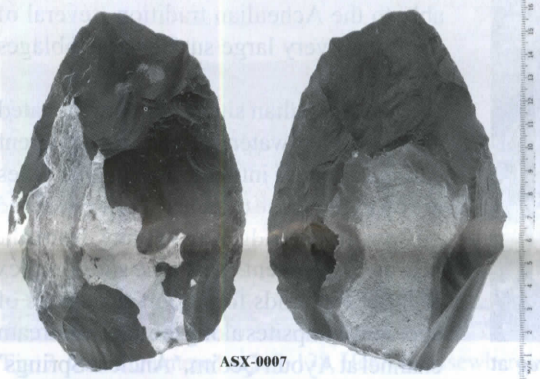


Fig. 1. Tranchet cleaver from 'Ain Soda, Azraq Oasis

The current view among most prehistorians is that the Middle Pleistocene was a period of marked evolutionary change in hominid physical structure, mental capacity, and technology. It also was the time when hominids first spread over most of the Old World. Because of its position at the crossroads of Africa and Eurasia, the eastern Mediterranean Basin and the Levant are geographically at the center of these events. The term "Levantine Corridor" has been used to describe a natural route connecting Africa and Eurasia. It generally refers to the Mediterranean Coastal Plain and the Rift Valley and adjacent uplands. Important sites in this region, including Tabun Cave, Gesher Benot Ya'aqov, and Ubeidiya, and new sites in Jordan, have provided a wealth of information on Pleistocene human geography and technology and have also raised new issues for debate.

Recent and ongoing research, especially in Jordan, requires that the concept of the Levantine Corridor be broadened to include the now-arid steppe/desert of eastern Jordan and Syria. It is now apparent that during much of the Pleistocene this interior zone provided a vital passageway north and south, as well as a lush environment for hominid exploitation and evolution. Enormous lakes, ponds, and spring-fed marshes existed on the eastern landscape of Jordan, from Mudawwara to the al-Jafr and Azraq basins, and northward to the el-Kowm Basin of Syria. Current work shows that this interior lacustrine/savannah corridor was intensively exploited during the Middle Pleistocene.

Fig. 2. Overview of the study area at the Ayoun Qedim locality, al-Jafr Basin, Jordan. Site Jafr-83 extends along the wadi crossing the center of the photo.

The Middle Pleistocene Context of Major Lake Basins of Jordan

A growing awareness of the importance of Pleistocene lakes as major regions of hominid exploitation in the eastern Levant is exemplified by new discoveries of significant Middle Pleistocene sites along the margins of Lake Azraq and Lake al-Jafr. Preliminary exploration of these sites has disclosed intensive Lower Paleolithic exploitation of lakeside environments and suggests a previously undocumented, specialized site function of large game hunting and butchery by Lower Paleolithic hominids.

The Azraq Basin

Middle Pleistocene hominid exploitation of eastern Jordan has been documented at the Azraq Oasis since the 1950s. In 1997, we conducted test excavations at a newly recognized Paleolithic complex at the spring pool of 'Ain Soda. The excavations revealed *in situ* deposits of Epipaleolithic/Late Upper Paleolithic, early Levantine Mousterian, and Late Acheulian. For the Lower Paleolithic period, two trenches produced Pleistocene faunal remains attributed to equid, camel, steppe rhinoceros, and an extinct elephant. Two other trenches yielded Middle Paleolithic artifacts including clustered Levallois points in direct association with bones of aurochs, equid, and a proboscidean. Faunal preservation is excellent in both the Acheulian and Mousterian exposures. Some areas are waterlogged and have the capacity to produce preserved organics.

All of the trenches revealed undisturbed artifact assemblages with marsh and lake associations. Acheulian exposures contained dense concentrations of bifaces, or handaxes, almost all of which are cleavers (Fig. 1). The activity at 'Ain Soda in the Middle and Late Pleistocene conforms to a picture of shoreline ambush hunting of megafauna that took advantage of the freshwater resources of a large Pleistocene lake with associated spring-fed marshes. Similar shoreline evidence was reported at 'Ain el-Assad about 1.5 km southwest of 'Ain Soda, and at C-Spring, between these sites. Such a situation apparently also occurred at Nadaouiyeh 'Ain Askar in Syria, where extensive Lower Paleolithic and Middle Paleolithic deposits were associated with a prominent spring oasis setting.

Fig. 3. A tranchet cleaver from Jafr-83

Fig. 4. A tranchet cleaver in the surface *reg* at Jafr-140

Fig. 5. Very large Levallois point core from Jafr-140

The al-Jafr Basin

At Pleistocene Lake al-Jafr in southern Jordan a similar situation is suggested by recently discovered Acheulian sites at Jibal el-Ghuweir, the escarpment that forms the eastern flank of the basin. The al-Jafr Basin lies some 200 km east of the Jordan Rift Valley. At times during the Pleistocene, this basin held one of the largest freshwater lakes in all of Southwest Asia. Our preliminary reconnaissance and site recording carried out since 1993 resulted in the discovery and documentation of 15 sites attributable to the Acheulian tradition, several of them with very large surface assemblages of bifaces.

The Acheulian sites are mainly located along former watercourses and apparent springs draining into the ancient lake. Sites are on Pleistocene terraces of low relief and on low finger ridges extending from the nearby escarpment. The large site complex at Jafr-83 extends for 800 m as a series of apparent campsites along the ancient stream channel at Ayoun Qedim, 'Ancient Springs' (Fig. 2). This feature is a box canyon cut by spring discharge into the escarpment of Jibal el-Ghuweir. We believe this canyon may have configured a natural setting for ambushing large game animals attracted to water there. Surface assemblages of Acheulian artifacts, including more than 220 bifaces, most of them tranchet cleavers (Fig. 3), were mapped at this site complex. Some of the sites at the Ayoun Qedim locality have very large surface assemblages of bifaces. Jafr-140 (Sakin Aswad, 'Black Knife'), where surface collection and mapping are in progress, has upwards of a thousand bifaces and fragments thereof, most of which are recognizable cleavers (Fig. 4). All of these sites also have lesser assemblages of Levallois artifacts (Fig. 5). Preliminary evaluation of these surface assemblages indicates that they date to the Late Acheulian and are generally comparable to the Acheulian of Azraq. However, the somewhat larger size and the form of the bifaces at al-Jafr sites suggest that these sites might be a little older. Jafr-25 has, in addition, an assemblage of very large and less refined bifaces that probably date to the Middle Acheulian.

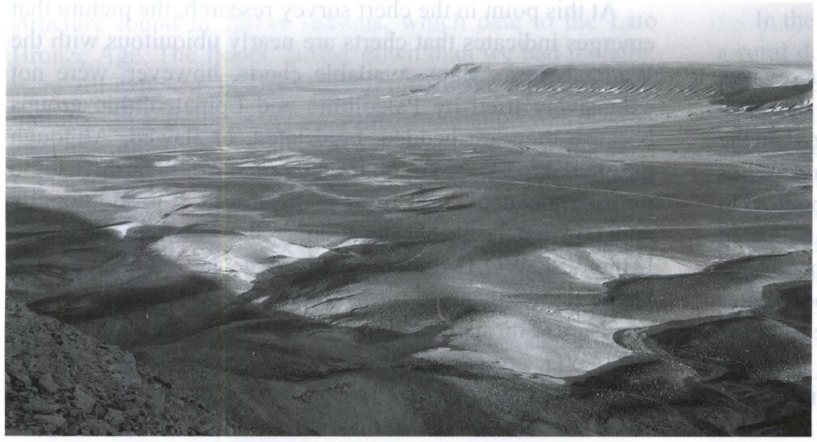


Fig. 6. View of the study area near Ayoun Qedim; site J-140 occupies much of the dark, flint-covered area in the center of the photograph.

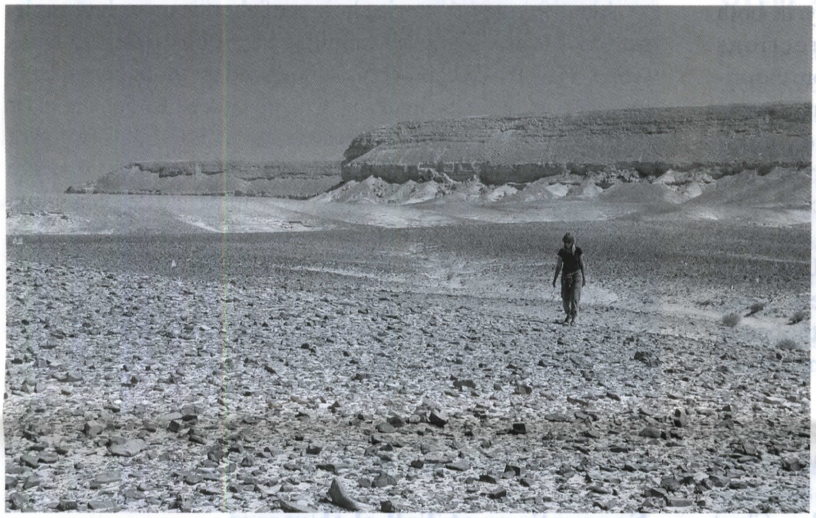


Fig. 7. Leslie Quintero* at Jafr-138. Here and elsewhere at Ayoun Qedim the artifacts occur in the surface *reg* of broken flint.

Test excavations suggest that these sites all appear to be badly deflated. Their surface assemblages are essentially dense concentrations of cleavers and the debitage from their production and maintenance (Figs. 6 and 7). Critical to ongoing analysis is the interpretation of these debitage assemblages.

Character of the Acheulian Industries

The Acheulian assemblages at Azraq Oasis and al-Jafr are remarkably similar. They are characterized by a biface component that is dominated to an extraordinary extent by tranchet cleavers. These tools have wickedly sharp transverse slicing edges formed by distal tranchet blows. Today, there is a consensus among Lower Paleolithic technologists that tranchet cleavers are butchery tools. Preliminary typological analysis of the excavated Acheulian lithic assemblages from 'Ain Soda disclosed that 65 percent of the tools are bifaces. This figure is surpassed in surface assemblages in the al-Jafr Basin. At Jafr-25, for example, where a very thorough surface collection of all formed artifacts and debitage was made, our preliminary analysis shows that over 95 percent of the tool assemblage consists of bifaces. Furthermore, of over 1,000 classifiable bifaces from 'Ain Soda, our technological analysis shows that more than 90 percent are clearly recognizable as tranchet cleavers. Preliminary field observations suggest that comparable figures will characterize the al-Jafr assemblages when the analysis is complete. Based on published assessments, tool assemblages so dominated by bifacial cleavers appear to be confined to the eastern oasis areas of the Levant.

The lithic assemblages from these lakeside settings thus contrast sharply with those from sites to the west, along the Mediterranean coast for example, where the greater tool diversity points to a broader subsistence base, and a broader range of industrial activities, possibly at domestic occupation sites. These findings suggest that early hominids at these eastern lakes focused on fauna attracted to the lacustrine zones and developed, as a consequence, a unique cultural repertoire for the exploitation of megafaunal resources.

Summary

The archaeological and paleoenvironmental data recovered at 'Ain Soda and al-Jafr provide significant evidence for functional variability in early hominid site expressions and concomitant life ways during the Lower Paleolithic. Specifically, the data suggest that these lakeside occupations demonstrate specialized subsistence adaptations with appropriately specialized tool assemblages. The assemblages and the contextual nature of the deposits are unique in the Levant. The research at 'Ain Soda and al-Jafr provides an enriched understanding of behavioral differences between Middle Pleistocene sites. These distinctive cleaver-rich assemblages appear to reflect regionally specific subsistence adaptations of significant duration. Altogether, the existence of this phenomenon in a restricted area of the eastern Levant has relevance to possible "community" concepts of communication and cooperation.

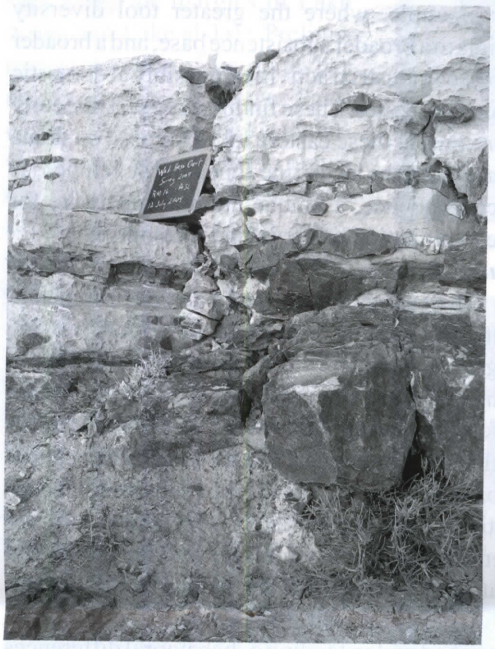
Substantiation of this view will demonstrate that hominids of the Middle Pleistocene had not only technical competence, but also sophisticated mental capacities, a concept not readily accepted by many researchers. Analysis of the cleaver assemblage from 'Ain Soda has revealed aspects of planning behavior, tool replacement in anticipation of functional exhaustion in contexts of flint scarcity, and other intriguing vignettes of early hominid thought processes. Further, the data discussed here strongly suggest that Lower Paleolithic hominids engaged in planned predation, possibly with group cooperation.

Finally, the connections of the Levant with the rest of the Old World in terms of hominid evolution and adaptation should no longer be based solely on evidence from a narrowly conceived Levantine corridor. Research in the plateaus of Syria and Jordan is contributing vigorously to a broadened awareness of the importance of the eastern lake basins as foci of hominid movement and adaptability.

*Leslie A. Quintero and Philip J. Wilke are from the University of California, Riverside; G. O. Rollefson is with Whitman College and University of California, Riverside

The 2004 Wadi al-Hasa Chert Survey

The main goal of the 2004 Wadi al-Hasa Chert Survey was to build upon and expand the work undertaken by the 2000 Eastern Hasa Late Pleistocene Project (Olszewski *et al.* in the *Annual of the Department of Antiquities of Jordan* 45). For systematic transects, team members were spaced about 20 to 50 meters apart, depending on the terrain, and each collected 15 to 30 chert samples. In the lateral exploration of Raw Material (RM) spot locales, the 2000 season GPS coordinates were used as an origin point. The *in situ* cherts were then traced laterally in both directions from the origin point and chert samples collected. GPS readings (UTM) were taken at the beginning and end of each transect line, as well as at the end of each lateral exploration line for the RM locales. Chert outcrops were documented using both digital and 35 mm film photography.



In situ nodular chert at RM 16 in the ASL Formation

The 2004 project identified 6 blocks (areas) within the al-Hasa drainage system and in areas to the north (Kerak Plateau) and south (Jurf ad-Darawish area). Seventeen systematic transects to collect chert samples were walked within these six blocks, some of which were placed in the immediate vicinity of the Paleolithic and Epipaleolithic sites of the Wadi al-Hasa. The 17 transects provided chert samples from *in situ* sources within the Wadi es-Sir Limestone (WSL)/Wadi Umm Ghudran (WG), Amman Silicified Limestone (ASL), Al-Hisa Phosphorite (AHP), and Umm Rijam Chert (URC) formations. The Muwaqqar Chalk-Marl (MCM) Formation, which was also examined, did not yield chert in the areas studied.

The chert survey also conducted lateral explorations of five RM locales (nos. 7, 11, 12, 14, and 16) which were discovered during the 2000 survey. These *in situ* nodular sources of chert are located within the WSL/WG, ASL, and AHP formations (photo above). The lateral explorations examined the distance over which nodules are visible and sampled the chert in each source to assess variability in color, texture, and quality. In no case did the survey "run out of" visible nodules along these lateral explorations; lines were ended when the nodular sources became patchy rather than continuous across the landscape.

At this point in the chert survey research, the picture that emerges indicates that cherts are nearly ubiquitous with the Wadi al-Hasa. Many available cherts, however, were not extensively used by Paleolithic and Epipaleolithic groups because they are bedded, brecciated, or flawed. Although usable flakes can be struck from them, it would be difficult to prepare adequate cores from such sources. It is additionally apparent that the best *in situ* nodular cherts include one source in the WSL/WG, two sources in the ASL, and one source in the URC. Some of these, for example, the ASL, are relatively widespread throughout the al-Hasa, while others, such as the WSL/WG, are confined to only a few exposures available during the Pleistocene. The URC source is some 7 to 10 km south of the al-Hasa, and its chert nodules would require longer distance transport to sites than the WSL/WG and ASL sources.

Identifying prehistoric choices of chert sources has implications for assessing the mobility of groups over the landscape, as well as whether or not they used methods of conserving chert if this raw material was perceived to be scarce or difficult to obtain. Future research (by M.P.C.) will compare the geological chert source samples to the chert used to make stone artifacts at the Wadi al-Hasa Paleolithic and Epipaleolithic sites of Tor at-Tareeq, Yutil al-Hasa, Tabaqa, Tor Sageer, Tor Sadaf, 'Ayn al-Buhayra, and Thalab al-Buhayra. The ultimate goal is to test a chert raw material procurement and utilization model for Late Pleistocene adaptations in the Wadi al-Hasa lake/marsh ecological system.

Deborah I. Olszewski, University of Pennsylvania
Maire P. Crowley, University of Pennsylvania
Maysoon al-Nahar, University of Jordan

Excavations at Tall al-'Umayri

The tenth season of excavations at Tall al-'Umayri, which took place during the summer of 2004, was directed by the authors and sponsored by La Sierra University in consortium with Canadian University College, the Division of Architecture at Andrews University, Mount Royal College, Pacific Union College, and Walla Walla College. Excavations took place in four fields, three of which were located at the western edge of the site. The fourth field was located on the southern edge. Earlier seasons produced finds from the EB, MB, LB, Iron I, Iron II, Persian, and, with limited remains, Hellenistic, Roman, and Byzantine periods. The site provided a location for agriculture during the Islamic era.

In Field A, the central area on the western edge of the site, we hoped to expose Iron I remains west of the later Ammonite Administrative Complex and connect them to Iron I remains already excavated to the north. Excavations produced at least two ephemeral phases of late Iron II remains above the more substantial Iron I remains north of a point where the perimeter wall curves into the site, possibly forming a gate. We located several rooms of a newly discovered Iron I house, and in the process, uncovered a floor with early Iron II remains, which are rare at the site.

In the northwest corner of the site, Field B, we hoped to locate the floors of two northern rooms in a palatial type of

structure found in earlier seasons, which date to the Late Bronze Age. The floors, farther down than we had thought, were not exposed; however, the limits of the building were outlined. In addition, a unique cultic installation was discovered in a mudbrick wall in the largest room (measuring ca. 5 x 8 meters). The cultic niche was whitewashed and consisted of a platform with at least two plastered steps. On the upper step was a large dome-shaped standing stone with four smaller ones, two on each side, with votive pottery vessels placed above the two stones on the right. This building may be a temple. A seal impression mentioning the Persian Empire province of Ammon was found in remains above the temple, which brings the total of such impressions to five.

Cultic niche in mudbrick wall of LB building in Field B with a domed standing stone flanked by four smaller stones with votive pottery vessels above the stones to the right

Cobbled courtyard from the early Iron II period may have served ritual purposes based on the model shrines and stature fragments found there.

In Field H, which is located in the southwest corner of the site, we excavated a large cobbled courtyard where fragments of model shrines and anthropomorphic statue parts had been found in earlier seasons. Excavators removed several later walls and traced the early Iron II courtyard over a wide area (ca. 6 x 10 meters). A single stone stands at the midpoint of the courtyard.

In the southern part of the site, Field L, we better defined a rural domestic structure from the Hellenistic period. Partially uncovered in previous seasons, it demonstrated two phases of use this season. A series of large walls constructed of huge boulders seems to date to the Iron I period. Small walls from the late Iron II period are sandwiched between them.

Located near the Amman National Park and boasting well preserved buildings from several periods in pre-Roman Jordan, the site has tremendous tourism potential, as well as the potential to inform Jordanians about a part of their earliest history.

Douglas R. Clark, Walla Walla College
Larry G. Herr, Canadian University College

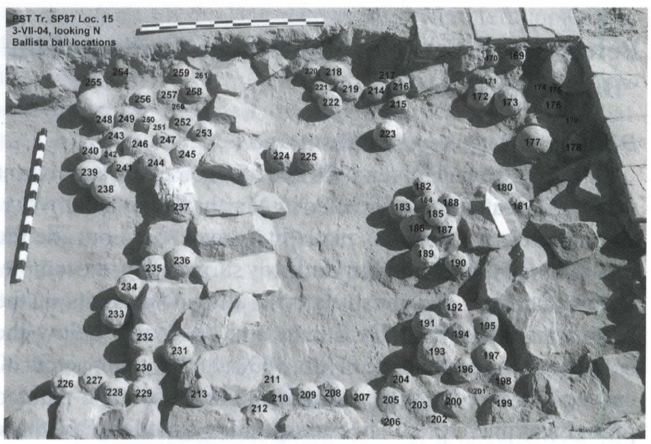
Brown University Excavations at the Petra Great Temple

The 12th season of excavations by Brown University archaeologists took place from June 5 to August 5, 2004. In an effort to better understand its stratigraphic development and phasing, excavations continued in all sectors of the Great Temple, including the Propylaeum, Lower Temenos, Upper Temenos, and the Temple proper.

Excavations completely exposed the Propylaeum and defined the east-west extent of the Great Temple Precinct. In addition, we partially uncovered an earlier central stairway that leads from the Roman Road to the precinct.

The Propylaeum, which measures 16.5 m north-south x 60.0 m east-west, has five rooms located to the east of the Central Stairway; these rooms are situated perpendicular to the Roman Street. To the west of the stairway are two large galleries that are situated parallel to the Roman Street. There are three entries into the Propylaeum East from the Roman Street. Room 3 was a monumental vaulted passageway into the East Cryptoporticus.

One of our objectives this season was to better understand the stratigraphy related to the ballista balls found in the north gallery of the Propylaeum West. A series of test trenches clearly revealed that this area was the staging of a conflict because 400 additional ballista balls and arrowheads were found here. We wonder if these missiles were prepared for an expected attack or were simply stockpiled as reserves.



Some of the ballista balls found this year at the Great Temple in Petra; photo by Artemis A.W. Joukowsky

In the Lower Temenos, excavations recovered the West Cryptoporticus under the West Triple Colonnade. Measuring 34.14 m north-south x 9.32 m east-west, these galleries were completely exposed. Within the deposits, we found four elephant-head capitals, two of which now embellish the restored columns of the Lower Temenos entry to the Great Temple Precinct. In addition, our team opened the Central Stairway that once led from the Lower Temenos to the Upper Temenos. The opening of these stairs, which had been filled in during the Nabataean period when the two side access stairways were built, was one of the most difficult projects undertaken this year.

Excavations in the Temple area focused on reinvestigating the precinct's extensive canalization system. We discovered a number of large canals constructed of hydraulic plaster, as well as several smaller lead pipes.

We discovered a plethora of artifacts, including 41 coins, 32 lamps, 14 bone objects, and 3 stucco fragments, one with some textile adhering to its surface. We also uncovered 13 ceramic objects and 11 stone objects. The discovery of 172 metal artifacts, mainly found in the West Cryptoporticus East excavations, was a great surprise.

This summer, we registered 19,000 objects in our Grosso Modo registry of artifacts, which includes pottery sherds, bone, metal, shell, and faience. In our separate database for architectural elements, we registered 3,012 items, including 276 column drums, 611 vault/arch elements, and 218 elephant head fragments.

We also reorganized our on-site artifact storage this season. This project was undertaken so we could find useful elements to be used for consolidation or reconstruction. This activity is described in our separate report on the 2004-2005 conservation efforts we wish to undertake in the future.

Our 2004 campaign was made possible by the generous assistance of the director, Fawwaz al-Khraysheh, and staff of the Department of Antiquities of Jordan; Suleiman Farajat, director of the Petra National Park; Sami al-Nawafleh, our Department of Antiquities representative; and the director, Pierre Bikai, and staff of the American Center of Oriental Research. We would also like to express our thanks to Brown University for making this season possible.

Martha Sharp Joukowsky, Brown University

Petra Great Temple: The Stucco Ceiling of the "Baroque Room"

Discovery, Recovery and Restoration

During Brown University's 2002 season of excavations at the Petra Great Temple, directed by Martha Sharp Joukowsky, an extraordinary find was made in a small room outside the precinct wall of the southern walkway surrounding the temple. Below the high and mostly sterile alluvial deposits at the bottom of the cliff of Ez Zantur and obviously below the collapse of the earthquake of A.D. 363, a highly compacted, 60 cm high layer of moulded fragments of stucco and painted plaster was uncovered. The excavation revealed that the these were the remains from the interior decoration of the room itself. These consisted of a stucco ceiling and wall revetments

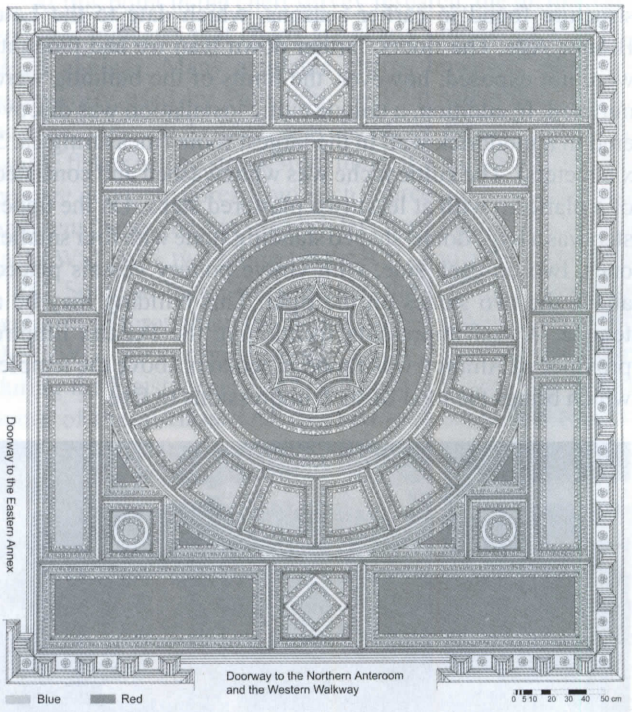


Fig. 1. Reconstruction drawing of the ceiling (by U. Bellwald)

with mural paintings in the lower zone and stucco architecture in the upper zone.

The remains were subdivided into sectors and layers, and the respective fragments transferred onto wooden panels with a stabilizing sand embedment. The panels were then carried by hand to the J. L. Burckhardt Archaeological Centre for registration and documentation.

During the summer of 2003, the author began cleaning and consolidating the fragments and then began the large puzzle of putting together the approximate 10,000 pieces. In May 2004, the preliminary assemblage of the fragments was finished and the reconstruction drawings were completed (Fig. 1). Later, the fragments were permanently fixed on steel profile frames (Fig. 2). The central medallion and two of its surrounding quarters left Jordan in September 2004 to be displayed at the Berlin and Bonn exhibition "Faces of the Orient".

Description of the Ceiling

The ceiling is a rectangle that measures 367.5 cm x 337.5 cm. The design is of a rigorously central symmetrical plan, radiating from the intersection of two axes crossing at a right angle. The central element of the ceiling is a medallion with an inserted octagon, showing concave sides. It encases a calyx of the acanthus flower, rimmed by a wreath of eight leaves of the same plant. The central medallion is surrounded by an outer medallion which transforms the central octagon into a wreath of 16 sector coffers. The outer medallion is enclosed by a square frame with square angle coffers flanked by a pair of spandrel coffers. The square angle coffers are decorated with a small inserted medallion. A file of rectangular coffers of different width connects the square frame around the outer medallion with the rectangular shape of the room. On each side, the rectangular coffers are interrupted by a square coffer emphasizing the two central axes of the plan. The larger square coffers in the longitudinal axis are additionally decorated with

Fig. 2. The central medallion of the ceiling during restoration

a diagonally inserted square frame. The ceiling and walls are connected by a cornice with supporting modillions. The bottom of the modillions is decorated with double volutes; the coffers between the modillions are decorated with stucco rosettes. The medallions and their enclosing square and all coffers are framed by the same type of profile, a central recessed fascia flanked by fillets and tori. The frames of the outer medallion are accentuated by extending the standard profile with an additional fascia, fillet and torus towards the sector coffers. Adjacent to all the different types of coffers, the frames are flanked by a flat belt carrying a cymatium frieze. At the bottom of these belts, the coffers themselves are framed by an ovolo frieze. The bottom of the coffers is decorated with free hand-modeled applicates, showing vine tendrils with leaves and grapes.

The geometrical design of the ceiling is supported by a very restricted, but elegant polychromy. The moulded elements coming to the fore are generally left in the polished, white surface of the stucco. Only the fasciae of the frames and the rims of the belts carrying the cymatium friezes are painted either blue or red. The main portion of the painted area includes the bottoms of the coffers, which show the same blue and red colors as the stucco elements mentioned above. Contrary to the stucco decoration in the corridors of the temple itself, the ceiling does not show the slightest trace of gold leaf.

Construction of the Ceiling

The ceiling was originally constructed with the placement of small beams of poplar wood on top of the walls. These beams crossed the room from north to south. In a right-angled orientation to the beams, bundles of reed canes were fixed with ropes at their bottom. The bundles were additionally fixed with iron nails in between the rope loops. This mat of reed was then fully plastered with a mixture of sand, fine gravel and soaked lime. The plaster penetrated deeply into the spaces between the bundles, adopting them as a perfect reinforcement. Onto the finished, smooth surface of the plaster, the construction drawing of the ceiling was traced-the straight lines with red pigment, the circular lines carved into the surface with metal pins. Once the drawing of the main geometrical design was accomplished, the single prefabricated stucco elements were fixed on the ceiling with gypsum glue. The frame profiles were drawn from the stucco mortar with the help of metal templates, whereas the friezes were manufactured by moulds. The moulds were astonishingly small and only covered the length of two single elements. This method enabled the craftsmen to do straight friezes, as well as curved ones with different diameters from only one type of mould. At the end of the stucco work, the free hand-modeled tendrils were applied onto the bottom of the coffers. The last step in the process was the painting, which was done in a secco technique.

Dating the Ceiling

As no clear archaeological evidence (i.e., pottery sherds) for dating the interior decoration was found, similar stucco ceilings known from other excavation sites had to be consulted for technological and stylistic comparisons. A close analysis of all the stucco finds from the Northern Palace at Masada, built by Herod the Great, resulted in an astonishing correspondence to the elements from the Baroque room. The techniques used for the construction of the ceiling in the Baroque room are identical to the ones used at Masada, where even well preserved bundles of reed and ropes were found. The banqueting hall in the northern palace at Masada had a coffer style ceiling with exactly the same main frames, cymatium friezes on belts, and ovolo friezes as found in the ceiling of the Baroque room. Furthermore, the irregularities due to the short standard elements are identical. The bottom of the coffers showed the same free hand-modeled wine tendrils with leaves and grapes.

The ceiling in Caldarium 104 of the baths in the same Herodian palace had a cornice very similar to that of the Baroque room; its modillions were decorated with exactly the same double volutes (see G. Foerster, *Masada V, Art and Architecture*, Jerusalem, 1995). The same stucco elements have been found in other Herodian palaces, especially in the third winter palace in Jericho and in the lower Herodian palace in Bethlehem (see E. Netzer, Greater Herodium, in *QEDEM* 13, Jerusalem 1981; and *Hasmonean and Herodian Palaces at Jericho* I and II, Jerusalem 2001 and 2004).

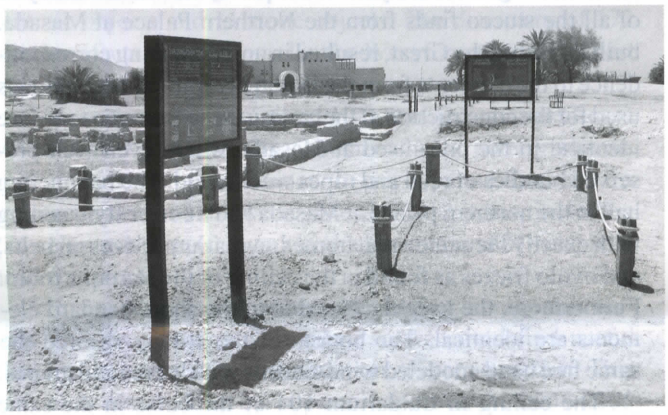
As in the Baroque room ceiling, the moulded stucco elements from all the Herodian palaces were left unpainted; the white polished surface was the color itself. The correspondence between the fragments found in the various Herodian palaces is so perfect that it may even lead to the conclusion that the same craftsmen that worked in Herodian palaces also constructed the ceiling in the Baroque room. The decorations of the Herodian palaces are well dated-the northern palace at Masada was built around 25 B.C., the third winter palace at Jericho around 20 B.C., and the lower Herodian palace in Bethlehem around 14-10 B.C. As the decoration of the Baroque room must have been executed at the very end of the main construction phase of the Great Temple, it may be concluded that this event probably occurred immediately after the decoration in the lower Herodian palace was completed, i.e., during the last decade of the 1st century B.C.

Ueli Bellwald

ACOR Field Projects

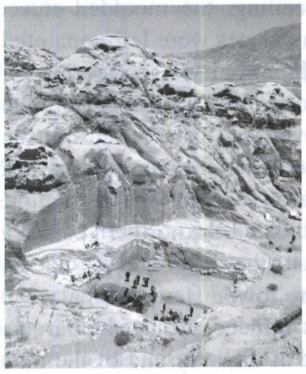
Aqaba: Islamic Ayla

On April 30, ACOR, in coordination with the Ename Center for Public Archaeology and Heritage Presentation (Oudenaarde, Belgium), completed its Islamic Ayla Landscaping Project, which installed a walking path and 14 informational panels at the Ayla site located next to the Aqaba Mövenpick Hotel. The objective of the project, implemented in Jordan by Kurt Zamora and Pierre Bikai, was to expand the range of tourist activities in Aqaba, which will increase the number of visitors to the city. The project was made possible by a grant from the Aqaba Technical Assistance Support Project (a project of USAID); by the expertise of the Ename Center, especially that of Tom Nevejan and Neil Silberman; and by the Department of Antiquities of Jordan, in particular Fawwaz al-Khraysheh and Sawsan al-Fakhry. The informational panels were designed by Tom Nevejan and manufactured by The Modern Advertising Center in Amman. Below is a general view of the site showing the signs, paths, and benches; a view of one area; and one of the signs.



Petra Environs: Beidha

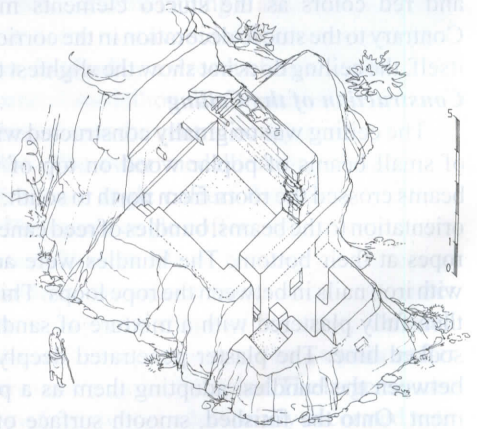
ACOR continued work in Beidha from March 27 to April 15, 2004. The first objective of the season was to continue documentation. Under the direction of Patricia Bikai, the Umm Qussa area was surveyed by Eng. Fawwaz Ishakat of Hashemite U. and architectural documentation was done by Chrysanthos Kanellopoulos. Strategic archaeological soundings were made in a few areas by Shari Saunders and Neal Bierling to define parts of installations.



Umm Qussa contains a large rectangular cistern measuring 16 x 16.35 x 5.2 m deep, one of the largest in the Petra region. Its capacity is 1360 cubic meters. It was about half filled with windblown sand and modern debris. Much of this was cleared (photo above by Neal Bierling). The lowest 30 cm of fill consisted of very thick mud that contained sherds of the 1st c. A.D. Nabataean type. Although there is a complex network of channels associated with the cistern, a survey of the surrounding area by Eng. Fraser Parsons was unable to identify a catchment area large enough to feed a cistern of this size.

Additionally, documentation begun in 2003 in nearby Amti Canyon was completed. Two wine presses were found in the canyon, one of them with a capacity of over 3000 liters (drawing below by C. Kanellopoulos); it is of the four-square type, common in the Byzantine period, although wine production could have begun in this canyon in the Nabataean period.

The project was made possible by generous grants from the Khalid Shoman Foundation (courtesy of Suha Shoman) and the Dick and Betsy De Vos Foundation. In-kind donations were made by the Petra Region Authority and by Hashemite University. ACOR also thanks the Department of Antiquities, in particular the director, Dr. Fawwaz al-Khraysheh, and Mr. Suleiman Farajat, director of the Petra National Park.



Director's Report:

January through June 2004

Pierre M. Bikai

ACOR Projects

Baptism Site Documentation Project, Chrysanthos Kanellopoulos and the Department of Antiquities of Jordan

Beidha Excavation Project, ACOR, Patricia Bikai and Naif Zaban, USAID Petra Endowment

Islamic Ayla Presentation Project, ACOR and the Ename Center for Public Archaeology and Heritage Presentation, Aqaba Technical Assistance Support Project (USAID)

Petra, Petra Documentation Project, Chrysanthos Kanellopoulos, USAID Petra Endowment

Petra Scrolls Project, U. of Michigan: Robert Caldwell, Traianos Gagos, and Ludwig Köenen

Fellows in Residence

Council of American Overseas Research Centers (CAORC) Senior Fellows:

Angel Foster, Ibis Reproductive Health/Harvard Medical Group, Young Women's Health and Sexuality in the Middle East

Pete Moore, U. of Miami, Qualified Industrial Zones in Jordan

Tina M. Niemi, University of Missouri, Kansas City, Investigation of Historical Earthquakes in Jordan from Primary Text & Archaeological Excavations

Leslie Quintero, U. of California, Riverside, Archaeological Investigation of the Lower Paleolithic of the al-Jafr Basin

Robert Rook, Fort Hays State U., Military Memorials and Museums in the Arab World

Rustom Mkhjian of the Dept. of Antiquities at the John the Baptist site with fellows Robert Rook, Brannon Wheeler, and Björn Anderson

Joseph Stumpf, Montgomery College, Diachronic Study of an Urban Domestic Setting, 1st-10th c. CE

Brannon Wheeler, U. of Washington, Arab Prophets of the Quran and Bible

Philip Wilke, U. of California, Riverside, Early Bronze Lithic Industry

Council of American Overseas Research Centers (CAORC) Fellows:

Matthew Breznai, North Carolina State U., Central Jordan in the Classical Period

Michaelle Browers, Wake Forest U., Reformation in Islamic Political Thought

Christine Jo Dykgraff, U. of Arizona, Martyrdom as a Theme in Palestinian Literature 1967-1987

Jennifer Jacobs, U. of Pennsylvania, Ululation in Levantine Society: Vocalization as Aesthetic, Affective, and Corporeal Practice

Kimberly Katz, Towson U., Holy Places and National Spaces: Jerusalem under Jordanian Rule, 1948-1967

Jessica Lieberman, George Washington University, Transnational Advocacy Networks: Role of Jordanian NGOs in Women's Rights and Press Freedoms

David Patel, Stanford U., Speaking for Change: Friday Sermons, State Oversight, and Local Politics in Jordan

Laura Pearl, U. of Michigan, The Islamic Movement at Yarmouk U.

Mezna Qato, St. Antonys College, Oxford, Palestinian Historiography

Samuel H. Kress Fellows:

Björn Anderson, U. of Michigan, Nabataean Identity

Leigh-Ann Bedal, Pennsylvania State U., Petra Imperial Cult

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

ACOR-Assisted Projects

Leigh-Ann Bedal, Pennsylvania State U., Petra Garden & Pool Complex Excavation

P.M. Michele Daviau, Wilfrid Laurier U., and Robert Chadwick, Bishop's U., Wadi ath-Thamad Project

Martha Sharp Joukowsky, Brown U., Petra Great Temple

Øystein S. LaBianca, Andrews U., and Bethany Walker, Oklahoma State U., Tall Hisban Project

Thomas Levy, U. of California, San Diego, Wadi Fidan Excavation Project

Tina Niemi, U. of Missouri, Kansas City, Wadi Araba Earthquake Project

John Oleson, U. of Victoria, Humayma Excavation Project

Suzanne Richard, Gannon U., and Jesse C. Long, Lubbock Christian U., Archaeological Expedition to Khirbet Iskander and Its Environs

Bruce Routledge, Benjamin Porter, and Danielle Steen, U. of Pennsylvania's Museum of Archaeology and Anthropology, Dhiban 2004 Pilot Project

Lectures

Jan. 4. Kurt Zamora, ACOR, The Geography of Jordan

Jan. 4. Pierre Bikai, ACOR, Ancient History of Jordan

Jan. 5. Abla Amawi, United Nations Development Programme, Modern History of Jordan

Jan. 5. Betty Anderson, Boston U., Arab Politics in the 20th Century

Jan. 5. Tina Niemi, U. of Missouri, Kansas City, Archaeological and Geological Evidence of Earthquakes in Wadi Araba (held at the Department of Antiquities of Jordan)

Jan. 6. Khaled Nusseibeh, Ubada Center, Introduction to

Islam

Jan. 7. Badi' al-Abed, The Formation of Islamic Architecture and Variety within Unity in Islamic Architecture

Jan. 8. Ghazi Bisheh, The Late Byzantine/Early Islamic Transitional Period

Jan. 8. Amjed Qursha, U. of Jordan, Women in Islam

Jan. 9. Widad Kawar, ACOR, Traditional Arab Textiles

Jan. 10. Ali Ahmed al-Rabai, Al al-Bayt U., Arab Culture and Literature

Jan. 10. Brannon Wheeler, U. of Washington, Arab Prophets of the Quran and Bible

Jan. 14. Tina Niemi, U. of Missouri, Kansas City, Paleoseismology of Wadi Araba, Jordan (held at the U. of Jordan)

Jan. 18. Farouk Omar Fawzi, Al al-Bayt U., History of Islam

Jan. 19. Abla Amawi, United Nations Development Programme, Women in the Middle East

Jan. 20. H.R.H. Prince Hassan bin Talal, Royal Institute for Interfaith Studies, The Three Monotheistic Faiths of the Middle East

Susanne Hofstra and Nathan Rein with H.R.H. Prince Hassan

Jan. 21. Abdul-Majid Nusayr, Jordan U. of Science and Technology, Islamic Heritage in Science

Jan. 21. Amb. Edward Gnehm, U.S. Embassy in Jordan, Arab American Relations

Mar. 18. Robert Rook, Fort Hays State U., War Memorials and Museums in the Arab World

Apr. 24. Björn Anderson, U. of Michigan, Approaches to Cultural Identity in Nabataea

May 15. Brannon Wheeler, U. of Washington, Arab Prophets and the Tombs of the Giants

June 29. Michaelle Browers, Wake Forest U., Strange Bedfellows

June 30. Jennifer Jacobs, U. of Pennsylvania, Ululation in Levantine Society: Vocalization as Affective, Aesthetic and Corporeal Practice

Happenings at ACOR

Jan. 3. Patricia Bikai departs for India to attend a meeting of the Council of American Overseas Research Centers (CAORC).

Jan. 3. Twelve faculty from member schools of the Council of Independent Colleges (CIC) arrive to participate in ACOR's


The Council of Independent Colleges group: Cymone Fourshey, Ernest Limbo, Charles Herman, Mary Hendrickson, Susanne Hofstra, Katherine Hoffman, Nathan Rein, Timothy Dzierba, Edward Macierowski, Pierre Bikai, Barnett Cochran, Sanford Silverburg, Craig Wansink

Teaching about Islam and Middle Eastern Culture seminar (above). The three-week program includes an extensive lecture series and tours to numerous historical and cultural sites in Jordan.

Feb. 11. Central and north Jordan experience an earthquake that registers 4.9 on the Richter scale. It only takes a second for staff and residents to realize the building is not shaking


Mary Ellen Lane, Executive Director of CAORC, addressing the meeting at the American Institute of Indian Studies in New Delhi

from the construction overhead.

Feb. 12. Pierre takes a group of governors on a tour of Amman.

Feb. 22. ACOR welcomes 23 Iraqi museum specialists, who stay at ACOR for five days before departing for the U.S. to participate in a five-week preservation and conservation program to be conducted in New York, Philadelphia, and Santa Fe.

Feb. 28. Kurt talks about successful grant proposal writing at an Amideast workshop on fundraising.

Mar. 11. Fellows and residents tour historical sites in the Salt and Dead Sea areas.

Mar. 12. Pierre takes a group of American Embassy employees on a tour of bustling downtown Amman, including the Roman theater and the Citadel.

Mar. 14. Pierre leads senators Ted Stevens (R-AK) and John Warner (R-VA) on a tour of Petra. The following day he takes their wives on a tour of downtown Amman.

Mar. 20. Pierre continues a marathon month of tours, this time

to the desert castles with American Embassy employees.

Mar 25. ACOR hosts a gala reception for the Getty Conservation Institute (GCI) - World Monuments Fund (WMF) Iraq Cultural Heritage Conservation Initiative, which was established to address the catastrophic damage sustained by Iraq's cultural heritage during and in the aftermath of the 2003 war. A memorandum of understanding is signed by GCI, WMF and Iraq's State Board of Antiquities and Heritage during the reception.

ACOR Trustees Mohammed Asfour and H.R.H. Prince Raad; Donny George of Iraq's State Board of Antiquities and Dr. Itimad al-Qusairi, the acting director of the State Board; Gaetano Palumbo of the World Monuments Fund with Dr. Fawwaz al-Khraysheh behind him, and Timothy P. Whalen, director of the Getty Conservation Institute.

Gov. Dirk Kempthorne (R-ID), Gov. Kathleen B. Blanco (D-LA), Gov. George E. Pataki (R-NY), Pierre Bikai, Gov. Ted Kulongoski (D-OR), Gov. Tim Pawlenty (R-MN), and Gov. Linda Lingle (D-HI) in front of the Great Temple of Amman

Mar. 26. Patricia begins her second season of excavation at Beidha (Little Petra). The objectives of this project are to document this major Nabataean site, expand the touristic infrastructure, and create local employment.

Petra by night: Senator Ted Stevens, Catherine Stevens and Pierre Bikai

Apr. 14. With the rainy season over, construction of the two new half floors continues in earnest.

Apr. 27. Kurt gives a tour of ACOR to a group of 30 Americans visiting Jordan and Egypt; the trip was organized by the American Museum of Natural History.

May 23. Pierre and Patricia, as well as many other ACOR affiliated scholars, participate in the 9th International Conference on the History and Archaeology of Jordan held in Petra. This year's theme is "Cultural Interaction through the Ages." This conference is held every three years; the next one, in 2007, will be sponsored by ACOR and held in Washington, D.C.

May 31. Pierre and Patricia take ACOR trustees, their families and friends on an exciting tour of beautiful Sinai and Sharm al-Sheikh, including the Monastery of St. Catherine.

June 4. The ACOR Board of Trustees hold their annual spring meeting in Amman.

June 16. Pierre presents a lecture on the Petra Church at the Iraq Heritage Congress, held in Petra.

June 25. Pierre takes U.S. Ambassador to Jordan Edward Gnehm on a tour of the north, including Umm al-Jimal.

Donors to ACOR

From January through June 2004, the following friends of ACOR made donations:

General donations were made by Anacortes Sister City Association, Jocelyn and Ed Badovinac, Katharine Beckwith, Almut Busse, Connie and Terry Christensen, Sally and Bert de Vries, Henriette and Robert Fremont, Farid Habib, Martha and Artemis Joukowsky (Joukowsky Family Foundation), Marianist Province of the U.S., Anthony Marshall, Joan Meisel, Margaret Nuzum, Barbara Porter, H.E. Leila Sharaf, Alan Simmons, Richard Stephenson, Courtney Finch Taylor, Charles Thomson, Joe Thorn, Christopher Treble, and Terry Walz.

The Harrell Family Fellowship Endowment received a donation from Paula and Edgar Harrell.

A donation to the Petra Church Conservation Endowment was received from Barbara and Jon Pearl.

Donations of books and journals were received from Takeru Akazawa, Nahid al-Qaysi, Albright Institute, Björn Anderson, Anne Marie Baylouny, Leigh Ann Bedal, Michaelle Browers, Robin Brown, Casa de Velázquez (courtesy of Vincent Lautie), Cincinnati Art Museum (courtesy of Glenn Markoe), Gregory A. Crawford, Thomas Dailey, Department of Antiquities of Jordan (courtesy of Fawwaz al-Khraysheh), Edie Dunn, Christoph Eger, Farouk O. Fawzi, Seymour Gitin, Basema Hamarneh, Brett Hill, Katherine Hoffman, International Crisis Group (courtesy of Joost Hiltermann), Zeidan Kafafi, Ludwig Köenen, David Jonathan Lawrence, Bill Libby, E.M. Macierowski, Fatma Marii, Brigitta Meier, Robert Mittelstaedt, Megan Anne Perry, Michele Piccirillo, Lisa Ann Pierce, Doss Powell, Davis S. Reese, Gothard G.G. Reinhold, Suzanne Richard, Gary Rollefson, Shari Saunders, Robert Schick, M. Marcel Sigrist, Elizabeth Stone, Jane Taylor, Timothy Whalen, Brannon Wheeler, Park Li Young, and Paul Zimansky.

Publications

***The Petra Papyri* I**, edited by J. Frösén, A. Arjava, and M. Lehtinen. This first volume begins with the historical and archaeological context of the papyri; conservation; an outline of the dating systems in them; and a study of the family of the main character in the texts. The texts are documentary and written in Byzantine Greek. The volume includes 11 main documents and 5 minor ones, each with an introduction, Greek transcript with critical apparatus, English translation, and commentary. This large format (33 x 25 cm), cloth-bound volume has 192 pages including 26 plates. $80.

The Petra Church by Z. T. Fiema, C. Kanellopoulos, T. Waliszewski, and R. Schick. Report on the church excavated by ACOR in Petra. With more than 700 illustrations, the volume contains reports on all aspects of a project that excavated what was probably the cathedral of Petra. This large format (33 x 25 cm), cloth-bound volume has 464 pages, 36 in full color. $150.

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. 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, paperbound) 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 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.

Madaba Map Centenary 1897-1997. With assistance from ACOR, the proceedings of a conference on the Byzantine mosaic map have been published. This well illustrated hard-bound volume has 278 pages, and is available for $125.

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 National Press.

June 2004 Board Meeting

The Board of Trustees held their annual spring meeting in Amman on June 4, 2004. During the meeting, Director Pierre Bikai formally announced that he would be retiring from ACOR in 2005 or 2006, depending on when the next director can assume the position. The trustees, who had been previously informed of Dr. Bikai's plans, outlined the search process that would begin with advertising the position in September 2004. Those wishing to have information on the position can contact ACOR's Boston office. Dr. Bikai became director in June 1991.

ACOR Trustees

ACOR's Web Site: www.bu.edu/acor

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