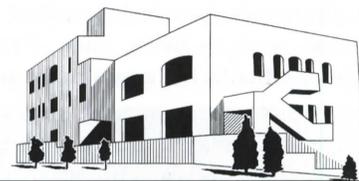


ACOR Newsletter

أخبار أكور



Vol. 13.2—Winter 2001

The *Misr* of Amman

William R. Darrow

The restorations of the Great Temple by ACOR, the Umayyad complex by the Spanish Archaeological Mission, and the continuing work by the Department of Antiquities have recreated Amman's citadel on the horizon. Perhaps not possessing the visual heft of the Acropolis, or Haram esh-Sharif in Jerusalem—or the new Babel Tower arising at the third circle—the citadel is again the city's visual focus as it was from the classical until the early Abbasid periods. Now being able to see it again lets us think through the changing strategies of display that marked the shift from Late Antiquity to Islam.

The palace (*dār al-imāra*), mosque and *sūq* complex was built on the northern end of the citadel during the Umayyad period, when Amman became a district capital. The complex was centered on an enclosed trapezoidal plaza; the mosque on the south and the palace on the north. Shops surrounded the plaza. The mosque was a partially covered hypostyle one, built on an artificial platform. The entrance to the palace complex was a striking domed building erected on the foundations of a Byzantine structure. The palace complex was oriented toward a second domed audience hall at the north end; where earlier there had been a temple. The plaza aesthetically united the mosque and palace successfully. In addition to the already existing street on the west, two additional streets leading to



View of Umayyad palace complex on the citadel from Jabal Weibdeh

the plaza were constructed, though not on an axis. The overall decorative vocabulary of the façades reflects Sasanian influence, seen also in the Umayyad 'palaces' in the region.

The centering of the palace complex on a square is typical of the *amsār*, 'provincial capitals' built in the early Islamic period, such as Basra, Kufa, Fustat, and regionally more relevant Ramla. In these, a larger orthogonal area surrounded

the center. This area contained neighborhoods identified with particular tribes. Amman, of course, was not a Muslim foundation. For obvious topographical reasons, the surrounding neighborhoods were below the citadel. The existence of what is now the King Hussein mosque, whose foundation is dated also to this period, is evidence that Muslims lived in the town below as well. The citadel layout lends powerful weight to the



View from mosque platform toward entrance hall of the palace; the dome is a restoration

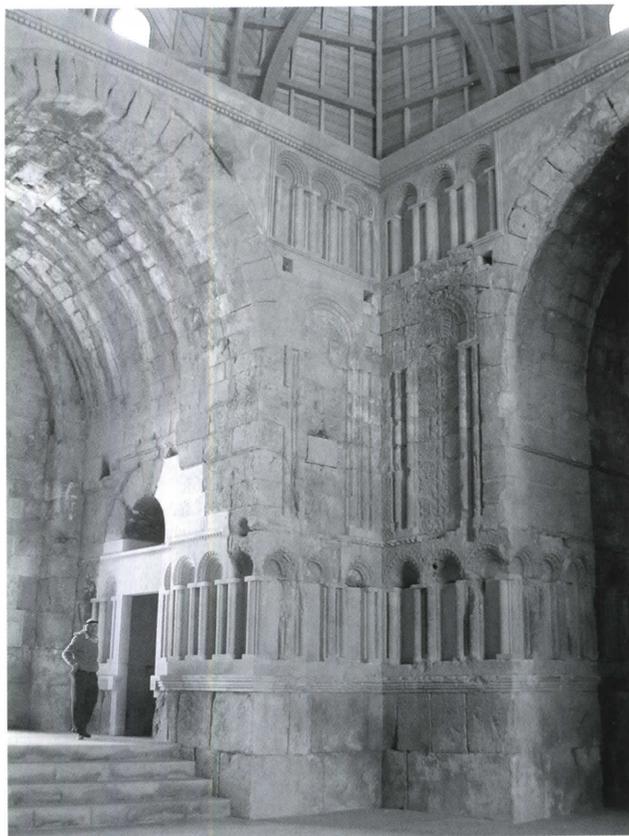
fundamental hierarchical structure of *amsār* design and its display of imperial authority. In this, it also relates to the vocabulary of the Umayyad 'desert palaces.' Who was the audience for this display?

In *Refiguring the Post Classical City* (Cambridge University Press, 1995), Annabel Wharton provided an elegant reading of the movement from classical to late antique urban visual discourse, based on changing notions of sacrality. Avoiding a simple public/private dichotomy, she juxtaposes the effects of the Temple of Artemis and the 'Cathedral' in Jerash on their viewers. She traces a movement from visual to haptic, from centered to multi-centered, and from presence to absence. The visually centered temple, which

most could only see, was replaced by the multi-centered baptismal/church complex, where baptized bodies move through, noting the miraculous presence of the absent divine which the Eucharist periodically instantiated. The palace complex on the Citadel lets us to sketch how Islamic notions of visual display and sacrality continued this story.

Islam is founded on a tension of the visual and the haptic. The haptic is evident in the inward turning character of the plaza and the relatively open access of the whole complex. But there is a striking return of the visual. It is a protean visuality, unmoored in a set discourse, symbolic of the appropriation of the land, to use a phrase of Oleg Grabar. The Dome of the Rock is the supreme example of this. At the provincial level, the citadel complex does the same. If we accept the suggestion that the space immediately west of the plaza was for martial displays, then the display of authority is as important as the haptic experience of it for its audience.

More importantly, though, it is not the sanctified body that moves through the space. The Muslim space is multi-centered as is the Christian, but rather than a fusion of baptismal and church achieved by a baptized body, the fusion we have of mosque, market and palace does not require the sanctification of bodies for habitation. Holiness has become a continual process of cleansing rather than a substantial transformation of the body. A community of bodies inhabits the complex, but the space does not mark a transformation of identity upon those bodies. Mosque, market and palace later came to be in



Partially reconstructed decoration on interior of the entrance hall

significant tension with one another as the Umayyads discovered. But it is not only the story of the ephemeral character of dynasty that the citadel tells. The complicated relations of identity, visuality, and sacrality continued to develop. In the case of the Dome of the Rock, this meant taking on new layers of meaning until today. In the case of the Umayyad citadel complex, it disappeared physically when it was abandoned. It also disappeared into the mists of Qur'anic/Biblical history reflected in the geographer Muqaddasi (ca. A.D. 985), who

Creating Contemporary Culture:

Arab Music Education in Amman

Amman has been named by UNESCO to be the “Cultural Capital of the Arab World” in 2002, and throughout the city cultural and artistic events are being held in honor of this year-long occasion. While Jordan’s cultural heritage sites have gained recognition in recent years, Amman’s reputation as a center for the performing and creative arts is yet to be built. Helping to provide a solid foundation for the development of these are a number of recently-established institutions for the arts.

My project focuses on one of these institutions, the Noor al-Hussein National Music Conservatory, founded in 1986, and its role in the transmission of Arab classical music in Amman. This research, supported by an ACOR/CAORC fellowship, will form the basis for my Ph.D. dissertation in ethnomusicology from Brown University. Using a variety of ethnographic techniques, including interviews, questionnaires, and participant-observation, I am gathering information on the teaching and learning of Arab music within the conservatory.

Although the instructors teaching Arab music at the conservatory are first-rate musicians and fine teachers, few students are studying Arab music at this time. Out of a total enrollment of about 200 students, less than 10 percent are studying Arab music—the rest are studying the performance, history, and theory of Western art music. This ratio reflects the degree of prestige that Western classical music enjoys among higher-income Amman residents—the segment of the city’s population most directly served by the conservatory.

Course offerings in Arab music at the conservatory include music theory, history, and sight-singing of Arab music, as well as a course on the *muwashshahat*, a repertoire of classical Arabic songs originating in *al-Andalus* in the thirteenth and fourteenth centuries. In addition to these courses, most of the Arab music students take private lessons on an Arab instrument—the *'oud* (the Arab predecessor of the lute) or the *qanun* (78-

stringed Arab zither).

The NMC also maintains an orchestra, which mainly performs pieces from the Western classical repertoire. From time to time, this ensemble also performs pieces from the Arab classical tradition or newly-composed pieces by Arab composers, including the orchestra’s conductor, Mohammed Uthmann Sidiq. Through participation in the orchestra, many of the students in the strings program are introduced to some



View from the roof of the entrance hall toward the palace complex



View from the roof of the entrance hall toward the mosque

reported that Goliath built the castle overhanging the city, which also contained Uriah’s tomb. Lost as an enduring Umayyad monument, it returns in multiple traces.

I would like to acknowledge the inspiration provided by Ignacio Arce, whose tour of the citadel for the Friends of Archaeology stimulated these reflections. The photographs are by Pierre M. Bikai

of the scales, techniques, and playing styles used in Arab music. However, most of these students are not inclined to pursue Arab music performance. Instead, they focus on rising through grade levels established for Western music by the (British) Associated Board of the Royal Schools of Music, who administer examinations twice each year in instrumental music performance and the history and theory of Western classical music.



Anne Elise Thomas and her qanun

Until the early to mid-twentieth century, the teaching and learning of Arab music was rooted in oral transmission. Pieces were taught and learned in the contexts of mentoring relationships, ensemble participation, and social gatherings, in which musicians taught and learned musical works through performance. Western musical notation was adapted to Arab music beginning in the nineteenth century and gained popularity in the twentieth, particularly in the region's conservatories.

Currently, written musical notation is used extensively in the Arab music curriculum at the NMC. Students are expected to master fundamentals of Western music first, including the major and minor scales and key signatures, to equip them for the systematic study of Arab music theory. In the teaching of Arab music theory, the *maqamat* (the Arab musical modes) are presented initially in written form, with particular emphasis on how the *maqamat* can be approximated in a Western-style key signature.

Elements of oral transmission are still in evidence, however. Sakkher Hatter, who teaches the course on the *muwashshahat*, presents these songs through performance rather than on paper. In private lessons, students use written notation to learn the basic melody of a piece, but performance details, such as ornamentation and techniques idiomatic to each instrument, are taught orally.

During the remainder of my research term, I plan to continue my observation and interviewing, with particular attention to student attitudes toward and motivation for learning Arab music. In addition, next year I plan to undertake a comparative case study at one of Cairo's institutions for music education. Through this research, I hope to document the processes at work on the contemporary transmission of Arab music, as well as those that encourage the continued involvement of young people in this musical tradition.

Anne Elise Thomas

ACOR Fellow

Private Sector Participation:

Jordan's Untapped Water Resource

During the 1990s, the Jordanian government realized it faced a major water shortage. An ever-growing population, increased urbanization, and a higher standard of living were putting pressure on the country's very limited resources. New supplies could not be found, and policy needed to be changed from one of constantly trying to find new water sources to better management of the existing ones.

Citizens usually received water in their homes only 24 hours each week, and they had to store it; because the water was stagnant, and often very hot, it faced the danger of pollution. If they had the money, they could buy water from suppliers who delivered it to their homes in trucks, similar to those used in Europe and the U.S. to deliver home heating fuel.

Statistics showed that approximately 50 percent of the water flowing to homes, businesses, and industries in the municipalities was classified as "unaccounted-for." This meant that it was either lost in the ground because of leaky pipes, was not measured because the meter was broken, accidentally or deliberately, or simply the water bill was not paid.

In July and August of 1998, contaminated water came out of the Zai Water Treatment Plant and flowed into homes in West Amman. The Agricultural Committee in the lower house of Parliament investigated, and the Royal Scientific Society gave a report to the Minister of Water. An international committee was appointed to investigate the matter, and the results of its investigation were implemented. The problem has not reoccurred, but it caused a major debate about water. Few wanted to pay for the costs of purification, delivery to consumers, and sewage treatment.

There was no way around the problems by building another dam or tapping another aquifer. Almost all of Jordan's rivers and wadis were dammed, and many had become polluted; all of the aquifers were being exploited.

However, Jordan was not alone. Almost everywhere in the world, including western and eastern Europe, governments had neglected delivery systems, so pipes leaked horrendously, failed to modernize purification systems, so dirty and unsafe water often came into homes, and failed to build or modernize sewage treatment plants, so raw, stinking effluent was sometimes dumped into streams and rivers. The infrastructure could be easily neglected because it was out of sight, and

because citizens expected to receive water free, the government could justify its neglect by saying, "If they won't pay for it, we won't fix it." Money was spent on other things, such as defense, police, and education.

What was the way out of this predicament? Private Sector Participation (PSP). If the water sector was administered efficiently, if lost and stolen water was recovered, if water services were improved and citizens paid a higher portion of their costs, Jordan would be tapping a "new water resource." With encouragement from the American, European and Japanese governments, and the World Bank, Jordan decided to implement PSP. Much advice was received from the French, who have more than a century of experience in this type of water administration.

In France municipalities sign contracts with private companies to manage the delivery of water to homes, business, and industry. The two largest companies in the world providing water services are French: Suez Lyonnaise des Eaux and Vivendi Universal. The former is the result of the merger of two companies, one being the old Suez Canal Company, which built and operated the Suez Canal until Jamal Abdel Nasser nationalized it in 1956; the other being a water company with its headquarters in Lyon. Suez Lyonnaise operates in 120 countries, and 72 percent of its business is outside France. Vivendi Universal is a world-wide conglomerate involved in water, media, and communications; the Universal in its corporate name stands for Universal Studios.

In 1998 WAJ solicited bids from international corporations to manage the Amman Governorate Water Authority, and the two finalists were Suez Lyonnaise and Vivendi. On April 19, 1999, WAJ signed a four-year contract, starting July 31, 1999, with a consortium known as LEMA. Seventy-five percent owned by Suez Lyonnaise des Eaux, and 25 percent by Montgomery Watson Arabtech Jardaneh (a British-Jordanian firm), it is now managing the Amman water system, and is

European Investment Bank, and the Italian government. They are funding 85 percent of the costs of rebuilding the greater Amman water network at a total cost of \$270 million. The work will be completed in early 2005.

Jordan is the leader in the Middle East in going down the path of Private Sector Participation in order to alleviate the water crisis. Lessons learned from the experience in Amman will later be applied to private management of the water systems in the northern governorates (Irbid, Ajloun, Jerash, and Mafrqa) and Aqaba. It is hoped that more water and higher quality water will flow from this "untapped resource," and citizens will carefully conserve it because they will better understand its value.

Bruce Borthwick
ACOR Fellow

The Moab Archaeological Resource Survey

The Moab Archaeological Resource Survey was established to collect settlement, archaeological, and environmental data from the western part of the Madaba Plain in the highlands of central Jordan. The project seeks to document a cluster of sites in the region that were probably occupied by a single tribal unit in the Early Bronze Age (ca. 3600 to 2000 B.C.). The project fielded its initial season in the summer of 2000, completing detailed maps of surface architecture and 20 percent random, stratified, non-aligned surface collections at the sites of Khirbet Qarn al-Qubish and al-Murayghat. Additional mapping and photography was conducted at Murayghat in 2001, and test units were dug at Qarn.

Murayghat is a ceremonial and agricultural site southwest of Ma'in, dating to the Chalcolithic/EB I period. We have mapped, measured, and photographed 100 dolmens at the site, and documented several structures built of megalithic standing stones, with cobblestone floors. The dolmens typically have a back, sides and top, and are built directly on bedrock; a few have a low rock wall surrounding them. Their date remains uncertain because no diagnostic artifacts were found with any of the dolmens. However, most of the pottery collected in 2001 dates to the Chalcolithic/EB I, so it is likely that the dolmens date to that period also. Murayghat is a unique Chalcolithic/EB site, in a region emerging as a center of Chalcolithic ceremonialism. Because of its rarity, and clear importance to the study of ceremony and mortuary behavior, Murayghat is a site of special significance and should be preserved. Unfortunately, the site is endangered by the continued operation of a large gravel quarry located immediately to the north.

Khirbet Qarn al-Qubish is a small, fortified settlement at the edge of the Jordan Valley escarpment, dating from EB I to EB III. We conducted total-station mapping and a controlled surface collection in 2000, and excavated two test units in 2001. The first test unit was placed across the gate tower and entryway that's visible at the ground surface. This unit revealed two phases of stone pavements in the gateway, and clearly dated the fortification walls and both phases of the pavement to the EB III period (ca. 2600 to 2200



Water-delivery trucks

responsible for billing, collecting fees, answering customer complaints, and doing basic repairs. However, LEMA was not willing to take over a broken-down system without some outside help, which is coming from Kreditanstalt für Wiederaufbau (KfW) of Germany, the United States Agency for International Development (USAID), the World Bank, the

B.C.). No subsequent occupation of the area occurred—the area was covered with post-abandonment deposition by the Roman/Byzantine period.

A test unit was also placed in the midden on the west side of the site. We collected over 4000 sherds, as well as large



Dolmen 76 at al-Murayghat

amounts of lithic debitage, bone, charcoal, and seeds. The ceramics show that the midden began forming during the EB I period (ca. 3600 to 3000 B.C.), and continued to be used as a trash dump through the EB III. Sherds in the lower levels of the midden show affinities with sites such as Arad and Jericho. A basalt spindle whorl that we collected in 2000 is typical of the late Chalcolithic and EB I periods; it was probably manufac-



Quarry operations north of al-Murayghat

tured in Canaan, but the raw material may have come from Jordan. These artifacts suggest that Qarn was already a thriving agricultural village in the EB I period, with far-flung trade connections.

In 2002 a study season will concentrate on processing materials collected during the past two seasons and preparing for a pedestrian survey of the project area. In 2003, we plan to conduct a joint expedition at Qarn, bringing field school students from Arizona State and students from the Department of Archaeology at the University of Jordan. We hope to conduct an extensive excavation of a portion of the site where

we believe EB III structures will inform us about this little understood period in Jordan's past. Later seasons will concentrate on revealing the EB I component at the site.

These efforts are part of a Jordanian-American Archaeological Research Consortium program, which has been estab-



Excavation of the EB III gateway at Qarn



The lower phase of the EB III gateway pavement at Qarn

lished as a cooperative venture between Arizona State University, the University of Jordan, Yarmouk University, and the Hashemite University. The primary goal of the consortium is to provide graduate educational opportunities for Jordanian students in anthropology, archaeology and archaeometry at ASU. We appreciate the help that we have received from the American Center of Oriental Research and from the Department of Antiquities of Jordan, especially Dr. Fawwaz al-Khaysheh, Dr. Mohammad Najjar, and our field representatives, Ms. Rheem Shgour (2000) and Mr. Mousa Malkawy (2001). We look forward to continued cooperation with ACOR and the DAJ in our further investigations of these sites and the surrounding region.

Stephen H. Savage
Arizona State University

Early Bronze I Mortuary “Cities” in the Southern Ghors

The area of the Southern Ghors of Jordan (SGJ) extends along the southeast shore of the Dead Sea. The area is a geographically independent, contiguous unit; it is also the lowest point on earth. Over the last four decades, archeological explorations in the SGJ have uncovered three important Early Bronze (ca. 3500-2000 B.C.) necropolises: Bab edh-Dhra, an-Naqe' (Safi), and Feifa. Finds from the Bab edh-Dhra cemetery cover the entire EBA (ca. 3500-2000 B.C.); however, almost all those found at an-Naqe' and Feifa were EBI (ca. 3500-3100 B.C.) in date. All three sites are remarkably large; a surface survey conducted by the author in December 2000 as part of an M.A. thesis project revealed that each necropolis contained at least 10,000 EBI tombs. The survey also revealed the distribution of the different types of tombs.

Bab edh-Dhra

The prevailing EBI tomb-type at Bab edh-Dhra is a subterranean shafted chamber tomb. This type of tomb has a perpendicular, mostly circular, entrance that is 1-4 m deep. One to five circular burial chambers with domed ceilings radiate from the base of the entrances. The chambers usually contain skeletal remains in most cases of five individuals of both genders and nearly all ages, piled in the center of the chamber, on straw mats. Crania are usually located in a neat row to the left of the bone pile. The burial goods are deposited to the right of the bone pile. These goods include pottery vessels, usually nested in each other, unbaked clay female figurines, stone and alabaster maceheads, basalt bowls, carnelian beads, and wooden and bone objects. These tombs generally follow the natural contour of the terrain. They are also equidistantly spaced from each other, which indicates meticulous establishment of these burials. Bab edh-Dhra EBI shaft tombs are thought to be familial ones, belonging to pastoralists and/or maybe to agrarian clans.

In the EBIIb phase (ca. 3300-3100 B.C.), the shaft tombs tend to have only one interment chamber. In addition, a new burial facility, a circular mudbrick beehive-shaped tomb, is also found at this site. This type of tomb contained multiple successive articulated interments accompanied by pottery vessels, beads, pins, and bone objects.

An-Naqe'

Located 26 km south of Bab edh-Dhra, the EBI cemetery in an-Naqe' contains mostly stone-lined, elongated or oval-shaped cist tombs. However, two well built chamber tombs, very unique for this period, are also located in this site. In most cases, the cist tombs are covered with well-shaped slabs fixed with clay; however, some tombs lack any roofing structure. Architecturally, two categories of cist tombs are recognized in an-Naqe'. The first is lined with well-dressed stones that comprise the lower course; the upper course is built of crude stones and cobbles. The second cist tomb category has walls that are built entirely of boulders. These cist tombs contain scant human remains, in an advanced stage of deterioration (maybe an indication of single disarticulated inhumation), and burial goods consisting mainly of pottery vessels, identical to those from the same period in Bab edh-Dhra, and occasionally

carnelian beads, stone or alabaster maceheads, shell bracelets, and ostrich eggs. Unfortunately, the position of the an-Naqe' EBI necropolis in the delta of the Wadi al-Hasa makes it susceptible to tremendous chronic silting, which contributed to the displacement and decay of the human remains and burial enclosures. Therefore, it is difficult to infer much about the social aspects of the people of the EBI an-Naqe' cist tombs, yet the presence of the two chamber tombs may suggest that the EBI people of the site had some kind of social hierarchy.

Feifa

The EBI necropolis in Feifa, which lies 10 km south of an-Naqe', has not yet been satisfactorily studied. Few tombs have been sampled; however, illicit digging has shown that the cemetery is similar, in terms of size, to the ones in Bab edh-Dhra and an-Naqe'. In regards to the tomb type, the Feifa necropolis is similar to the one at an-Naqe'. The dual architectural techniques of the observed cist tombs in an-Naqe' were also shown in Feifa. The ceramic evidence from the Feifa EBI cist tombs shows that the cist tombs lined with well-hewn



Chamber tomb, an-Naqe'



Robbed cist tomb, Feifa

stones are EBIIa in date, and those tombs lined with rough boulders are from the EBIIb phase.

By the beginning of the EBII/III phase, an-Naqe' and Feifa ceased to be used as necropolises. However, the necropolis at Bab edh-Dhra shows gradual continuity to the EBII/III phase. It is in that phase when the first aspects of urbanization began to emerge in the southern Levant. The EBII/III phase at Bab edh-Dhra offers a good case to study the aspects of early urbanization in Jordan. The site consists of a walled town and a vast necropolis. Rectangular mudbrick structures, known as

chapel houses, were the dominant burial facility at this site. The architectural origin of these structures can be traced back to the EBI phase in the SGJ. Perhaps, if a large number of people living in large permanent settlement is one of the aspects of urbanization, one may postulate that the notion of the city of the dead in the SGJ preceded the notion of the city of the living; thus it is plausible that the later was inspired by the earlier.

*Zakariya al-Naimat, Yarmouk University
ACOR Fellow*

References:

- R.T. Schaub and Walter E. Rast, 1989, *Bab edh-Dhra': Excavations in the Cemetery Directed by Paul W. Lapp* (1965-67), Winona Lake.
- M. Waheeb, 1995, The First Season of the An-Naqe' Project, Ghawr As-Safi, *Annual of the Department of Antiquities of Jordan* 39: 553-55.

Update on the Petra Papyri

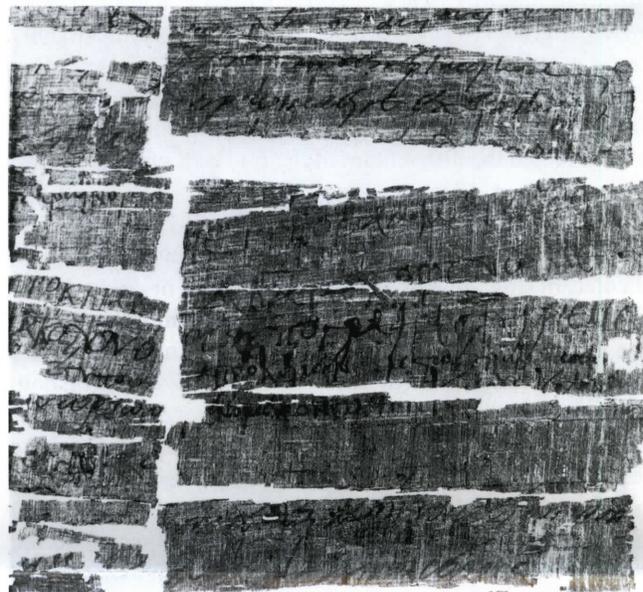
The papyrus called P. Petra inv. 83 consists of a single very long document of ca. 500 lines, in which several long-standing disputes are settled between Theodoros son of Obodianos, the central figure of the Petra papyri, and his neighbor Stephanos son of Leontios, in the village of Zadakatha (modern Sadaqa), ca. 25 km southeast of Petra. The date of the composition of the document is probably A.D. 574.

The document is about 6.5 m long and the way it was rolled resulted in about 114 layers. Most of the thousands of fragments of those layers were, immediately after conservation, not in their correct sequence. Thus reassembling the document, which goes hand in hand with the general interpretation of its contents, has been a slow and difficult process. At the moment, we believe that the placement of most of the fragments is correct, although some doubtful placements remain, due to the fact that ca. one quarter of the roll is irrevocably lost. The digitized images of the roll created by Steven W. Booras and Gene Ware of the Institute for the Study and Preservation of Ancient Religious Texts (ISPART), Brigham Young University, have proved to be very helpful as they allow experimentation with moving the fragments without disturbing the originals, which are very fragile; the digitized images also make the study of the material in Finland, away from the original papyrus, easier.

Current work on the papyrus is concentrated upon the detailed interpretation of the contents and the writing of the commentary. There are several points of special interest. The form of the document is unique among extant settlements of disputes in papyri. It begins with an introductory part describing in succinct form the claims of the litigants and the written evidence presented by them, including contracts of sale as old as 77 and 53 years. This is followed by three pairs of presentations by the disputing parties, the first pair apparently delivered in advance in written form; the other two were perhaps written on the basis of notes made by a secretary during their oral presentation. Such extended presentations of accusations and defence in the form of first person singular

narrative have not been met in any of the extant settlements of disputes. After these presentations, the decisions made by the arbitrators are given, and the document ends with the signatures of both the arbitrators and the litigants. The document thus throws new light on the formalities of settling disputes, both in and out of court.

As the dispute concerns mainly practical matters arising between owners of neighboring real estate—questions of access and transit, of using water pipes and sewerage, and of additional construction—the document offers interesting material that illuminates the architecture and building of



A small part of Inv. 83; photo by R. Henry Cowherd

private houses, as well as the legislation applied in the region of southern Jordan during the 6th century. The details are rather complicated, as some of the disputes are long-standing and several people have been involved in them. Interpretation is not made easier by the biased view taken by each of the parties and their abusive style.

The document has additional historical interest because of the appearance of the Ghassanid phylarch Abu Karib ibn Jabala among its sphere of persons. He had been involved in an earlier transaction concerning a vineyard. Stephanos claims that in this connection, Theodoros had promised to pay the sum of two talents to Stephanos's father. Theodoros denies this and takes an oath to that effect; the matter is settled in Theodoros's favor. It seems probable that Abu Karib had acted as a mediator in the matter, but the details of his involvement require further clarification.

*Maarit Kaimio
University of Helsinki*

Stalking Jordan's Elusive Black Iris

Jordan's elusive black iris is undeniably elusive but was spotted in glorious bloom in a rare cluster alongside the road and wheat fields between Umm Hamat and Muhay high on the Jordanian Plateau. Doug and Carmen Clark indicate they spotted clusters of black irises, as well, on the King's Highway

south of Kerak. According to Musselman's *Jordan in Bloom: Wildflowers of the Holy Land* (2000:22), the location of these specimens south of Kerak would suggest they are *Iris petrana* (Petra iris) with larger leaves and flower stems than the *Iris nigricans* (black iris), which is found north of Kerak. Although the photo illustrates that they are indeed black, in reality, the specimens photographed are a deep, dark maroon



Black iris; photo by Nancy Coinman

in color with lighter interiors. Another rarely noted wildflower is the unusual broomrape, which is a parasite that nourishes upon the roots of broom or other bushes and sends up a tall spike of yellow flowers but has no leaves. These have been seen recently in the Wadi al-Hasa, not typically noted for its flora, where they have been found emerging beneath bushes in the bottom of the wadi. ACOR's own "nature preserve" at Khirbet Salameh has provided a bonanza of wildflowers, including red poppies and anemones, purple thistles, yellow chamomile and yarrow, and the diminutive sweet pea-like purple flowers of cultivated lentils—all against a background of waving wheat that already in mid-April (2002) has reached heights greater than four feet. The extraordinary rains of this winter and continued cool weather have conspired to provide a spectacular array of wildflowers and endless deep rich green fields of wheat and wild groundcovers wherever one travels in Jordan.
Nancy Coinman
ACOR Fellow



Broomrape; photo by Nancy Coinman

Director's Report: July through December 2001

Pierre M. Bikai

ACOR Projects

Petra North Ridge Project, ACOR, Patricia Bikai, Megan Perry, and Naif Zaban, USAID Petra Endowment

Petra, Petra Mapping Project, ACOR and Hashemite University, USAID Petra Endowment

Petra, Petra Documentation Project, Chrysanthos Kanelopoulos, USAID Petra Endowment

Petra Scrolls Project, U. of Michigan: Traianos Gagos and Ludwig Koenen

Fellows in Residence

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

Leigh-Ann Bedal, Petra Garden Feasibility Study

Douglas R. Clark, Walla Walla College, Domestic Architecture in Jordan during the Iron I Age



Susan Gelb, William Darrow, Ann Elise Thomas, John Rucker, and Leigh-Ann Bedal

William R. Darrow, Williams College, The Islamic Transformation of the Late Antique Levant
Council of American Overseas Research Centers (CAORC)
Fellows:

Diane Grubisha, U. of Wisconsin, Milwaukee, Steatite from Archaeological Sites in Jordan

John D. Rucker, U. of Missouri, Columbia, Da'Janiya Hinterland Survey Project

Ann Elise Thomas, Brown U., Transmission of Musical

Heritage: Youth Involvement in Arab Music at the National Conservatory of Music, Amman, Jordan

Near and Middle East Research and Training Program (NMERTP) Post-Doctoral Research Fellow:

Salman H. Alani, Indiana University, Arabic Prosody: An Acoustic Syllable Based Analysis

Kress Fellow:

Susan Gelb, U. of Texas, Austin, Hadrian's Journey to Arabia: Romanization and Architecture

Pierre and Patricia Bikai Fellow:

Deirdre Grace Barrett, Brown U., Eliciting Patterns of Trade in Petra, Jordan from the First Century BCE through the Sixth Century CE

Kenneth W. Russell Fellow:

Zakariya al-Naimat, Yarmouk U., Early Bronze I-III Mortuary Practices in the Southern Ghors of Jordan

Jennifer C. Groot Fellows:

Kendra Drever, U. of Calgary, Wadi ath-Thamad Project

Marianne M. Jacobs, Carson-Newman College, Karak Resources Project

Courtney C. Self, Oklahoma State U., Madaba Plains Project

Harrell Family Fellow:

Mark D. Green, Indiana State U., Identifying Spatial Relationships between Geophysical Resources and the Location

of Ancient Sites during the Roman Period on the Karak Plateau Using Remote Sensing and GIS

ACOR-Assisted Projects

P.M. Michèle Daviau, Wilfrid Laurier U., Wadi ath-Thamad Project

Timothy P. Harrison, U. of Toronto, Tell Madaba Archaeological Project

Martha Sharp Joukowsky, Brown U., Petra Great Temple

Stephen H. Savage, Arizona State U., Moab Archaeological Resource Survey

Donald Wimmer, Tell Safut Project

Lectures

July 2. Thomas R. Paradise, U. of Arkansas, Nature or Tourism: Which is Harming Petra More?

July 16. Edward Banning and Lisa Maher, U. of Toronto, Geoarchaeology and Late Prehistory in Wadi Ziqlab: Finding Elusive Sites

July 23. Bert de Vries, Calvin College, Religion and Society at Umm El-Jimal

July 30. Timothy P. Harrison, U. of Toronto, Conservation of

Donors to ACOR

From July through December 2001, the following friends of ACOR made donations:

The ACOR Endowment received a donation from Virginia and Wesley Egan and Jane S. Elins.

General Donations were made by Carol Andreae and James Garland, Whitney and Roger Bagnall, Paul Baker, Laird Barber, Mette and Robert Beecroft, Martha A. Boling-Risser and Robert J. Risser, Jr., Stephen Bonadies, Nancy Broeder, Candler Broom, Elizabeth and Carroll Brown, Caroline Bruzelius, Connie and Henry Christiansen, III, Nancy Coinman, Calvin College, Jennifer and Thomas Davis, Sally and Bert de Vries, Felix Emse, Jr., Tim Ferrell, Caroline A. Forgason, Carol and Harold Forshey, Ilene Forsyth, Nancy and Francis Frederick, Elise Friedland, Gillian and Lawrence Geraty, Anna Gonosova, Lily and Sami Habayeb, Jill and Nelson Harris, Adalat and Abed Ismail, Pamela Johnson and Stephen Lintner, Martha and Artemis Joukowsky (Joukowsky Family Foundation), James Lipman, Patricia March, Donald Mayo, Patricia and Robert McWhorter, Eathel and George Mendenhall, Janet and Eugene Merrill, Helene and Ken Miller, Gerda and Donald Mook, Elizabeth and William Overstreet, S. Thomas Parker, Elizabeth Platt, Susanna and Walter Rast, Suzanne Richard, Marilyn and R. Thomas Schaub, Barbara and Edwin Schick, Denise Schmandt-Besserat, Charles P. Schutt, Jr., Lee R. Seeman, Lisa and Bernard Selz (The Selz Foundation), Christine Sleeper, James Socknat, Heather and Edwin Taylor, Mari and David Terman, C.M. Thomson, Trainer Family Foundation, David Webster (Webster Charitable Foundation), Theresa and Thomas Whetstone, Sarah and Marlin

White, Margaret and James Wiseman, Constance Worthington and Terry Tullis, and Julianne and Harold Zimmerman.

Donations to the Harrell Family Fellowship Endowment were received by Paula and Edgar Harrell and Matthew P. Harrell. The Kenneth W. Russell Memorial Trust received a donation from Nicola Zwaschka.

The Jennifer C. Groot Endowment received donations from Tim Ferrell and S. Thomas Parker.

The James Sauer Fellowship Endowment received donations from Aina and Roger Boraas, Lillian and Frank Cross, Gillian and Lawrence Geraty, Paula and Edgar Harrell, Alice and Peter Machinist, S. Thomas Parker, and Patricia and Joe Seger.

A donation towards the publication of the Petra Papyri was received from Lou Gonda (Gonda Family Foundation).

Donations to the Anne C. Ogilvy Library Endowment were made by Ames Planning Associates, Aina and Roger Boraas, John R. Lee, and Margaret and James Wiseman.

Donations of books and journals were received from Zaki Ayoubi, Leigh-Ann Bedal, Virginia and Peter Chase (from the estate of John Zimmerman), Carlos Cordova, Thomas Dailey, Edith Dunn, Timothy Gianotti, GROEP Planning (courtesy of Werner Desimpelaere), Ludwig Koenen, Jon Lindborg, John Lintner, Jodi Magness, Carol Malt, John Oleson, George (Rip) Rapp, Avraham Ronen, Neil Silberman, and Peter Warnock.

A special thank you to Mohammed Najjar for his donation of approximately 750 books and journals from his personal library.

the West Acropolis, Madaba

Aug. 1. P.M. Michèle Daviau, Wilfrid Laurier U., Results of the Wadi ath-Thamad Project 2001

Aug. 6. Leigh-Ann Bedal, U. of Pennsylvania, The Petra Garden Feasibility Study: Results of the 2001 Season

Aug. 13. Martha Sharp Joukowsky, Brown U., The Brown University Excavations at the Petra Great Temple, 2001

Aug. 15. Stephen H. Savage, Arizona State U., The Moab Archaeology Resource Survey: Results from the 2000 and 2001 Field Seasons

Dec. 30. John D. Rucker, U. of Missouri, Columbia, Da'Janiya Hinterland Survey Project

Happenings at ACOR

July 1. Kurt and former ACOR fellow Tom Paradise visit Jerry Rose at his Tell Ya'amun site. While taking a tour of the church, they witness the exciting discovery of the screen posts.

July 7. A raging brush fire, a common occurrence during the dry summer, sweeps across the empty lot adjacent to ACOR. The local fire department responds quickly and efficiently.

Aug. 4. Humi and Pat are kept busy with a large shipment of books that Said brings in. These books were made possible by grants from the Getty Grant Foundation and the U.S. Department of Education.



Sam Walker working on ceramics from Khirbet Salameh, the site across the street from ACOR, for his M.A. thesis

Sept. 7. Pierre leaves for Atlanta to attend an ASOR workshop.

Sept. 16. Pierre attends a reception welcoming Roland Lamprichs, the new director of the German Protestant Institute of Archaeology.

Sept. 30. Kathy and Nisreen close out the fiscal year. Kathy invites everyone to stay at her new penthouse suite in Hawaii.

Oct. 6. Pierre and ACOR fellows attend the opening reception for the new Visitor's Center in Madaba.

Oct. 10. Patricia gives a lecture on ACOR's projects, including her excavation, for the British Ladies of Amman.

Oct. 14. Pierre gives cooking lessons to ACOR fellows, who enjoy eating their lesson.

Oct. 15. The ACOR Board of Trustees Jordan Committee



The 1979 red Mercedes brought to ACOR by Pierre in 1988; he got it back when he became director and, with 311,000 km on it, it has now been retired

holds a meeting during which publication of *The Petra Church* is announced.

Nov. 16. The ACOR Trustees hold their annual fall board meeting in Broomfield, Colorado.

Nov. 18. Kurt attends a CAORC meeting on Information Technology in San Francisco.

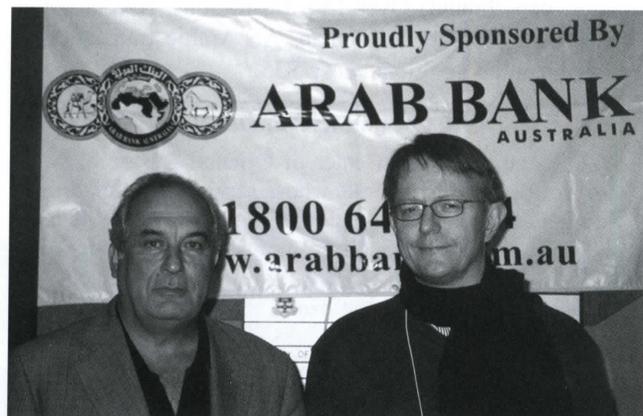
Nov. 22. ACOR staff and families, Trustees, and residents celebrate Thanksgiving with a wonderful dinner prepared by Mohammed, Said and Abed.

Nov. 25. Pierre and Patricia attend an Iftar hosted by H.M. Queen Rania.

Dec. 25. ACOR hosts a festive holiday brunch for staff and residents.

Jordan Conference in Sydney

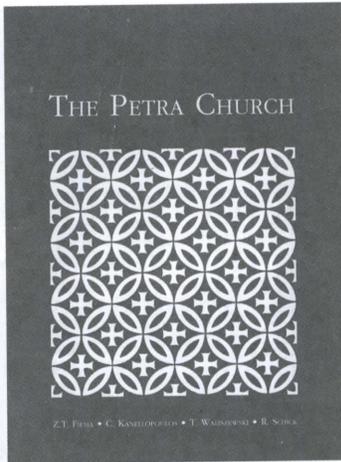
From July 9 to 13, the University of Sydney hosted the Eighth International Conference on the History and Archaeology of Jordan. There were more than 120 participants including over 20 who are affiliated with ACOR. At the closing session it was announced that the Ninth Conference (2004) would be held in Jordan. Pierre Bikai then announced that ACOR would host the Tenth Conference (in 2007) in Washington, D.C.



Pierre Bikai with Alan Walmsley who, with his committee, did a wonderful job of organizing the Sydney conference (the Arab Bank was one of the sponsors)

New Publication

The Petra Church by Zbigniew T. Fiema, Chrysanthos Kanellopoulos, Tomasz Waliszewski, and Robert 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, a building lavishly decorated with mosaics and marble. This large format (33 x 25 cm), cloth-bound volume has 464 pages, 36 in full color. \$150.



Other 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, paperbound) Over 150 illustrations, five in color. Includes a separate large map. An Arabic translation is available at no additional cost. \$35.

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.

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.

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 for \$125. All prices include shipping.

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Ex-Officio: Dr. Pierre M. Bikai, ACOR Director and Dr. Joe Seger, ASOR President

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

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