



## INSTITUTE OF ARCHAEOLOGY HORN ARCHAEOLOGICAL MUSEUM

### Table of Contents

	Page
'96 Season Set	1
Editorial	2
Letters	2
BAS Award	3
Visitors	3
Lutheran Lecture	4
MN Presentation	4
Pottery Guide	4
Hess on Joshua	5
Gilmour on Cult	5
Posters	6
Hardiness	6
LB Settlement	7
Big Ideas	7
Kh. Rufeis	7
Mikne 1996	10
Ekron Cobra	10
Egypt Canal	10
Kerak Project	11
ASOR News	11
Methodology	12
Periodization	13
Publications	14
Al-Maktába	15
Random Survey	16

INSTITUTE OF ARCHAEOLOGY  
HORN ARCHAEOLOGICAL MUSEUM  
NEWSLETTER

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Volume 16, No. 4  
Fall 1995

### '96 Season Set

When Jephthah subdued the Ammonites, "he smote them ... as far as Abel-keramim" (Judges 11:33), whose ruins today may constitute Tell el-'Umeiri, situated about 7 miles south of Amman. Occupied from about 3000 B.C. to nearly 500 B.C., the site has been linked with the Ammonite king Baalis (Jeremiah 40:14) and with Pharaoh Thothmes III. During the Biblical period, the Ammonites used the city as an administrative center near their southern border with the Moabites.

During the past five seasons since 1984, excavators have found an Early Bronze megalithic tomb; an Early Bronze Age III jar containing more than 4,000 chickpeas; a jar handle stamped with the cartouche of Thothmes III; and 11th-century B.C. casemate defense system with a moat; a late Iron Age acropolis and citadel; a Persian administrative complex; and a sixth-century B.C. impression bearing Baalis' name.

Next summer, director Larry G. Herr (Canadian Union College) will continue excavating the early Iron Age defenses and settlement and the Persian administrative complex. He will also expand the use of sophisticated technologies such as advanced sub-surface mapping techniques, the Global Positioning Satellite system, and the Geographic Information System, which allows researchers to process hundreds of environmental and archaeological facts in seconds.

Occupied as far back as the Early Bronze Age, Tell Jalul lies 20 miles south of Amman. The city's ancient name and historical background remain unknown.

Two seasons of excavation have uncovered abundant ash deposits indicating a massive destruction during Iron Age I; two superimposed pavements from Iron II, which lead to a gate; a late Iron II pillared building; and scores of later burials.

Next summer, director Randy Younker will continue to expose areas from all periods represented at the site. (Edited from the *Biblical Archaeology Review*, vol 22.1, announcements by Douglas R. Clark).



### MEMO: Dig Dates

Today: Get Application

March 15: Last Day to return security form.

April 15: Last Day to return application and deposit.

May 15: Final payment due. Last day for Middle East Tour reservations.



## Editorial: Data Accuracy?

Humans will be humans, it seems. A major task here at the Museum/Institute revolves around archiving and interpreting field data. This may be obvious, but think about the challenges of coordinating data collected by scores of specialists over dozens of years at numerous sites. Many had their own ways of collecting and recording data, some better than others. Some seemed to have a gift, others ... well ... humans will be humans!


A small discrepancy, unnoticed or insignificant in the field, may wind up to be a major concern years later. Memories fade. Specialists move on. So the data that is recorded in the field must stand for itself. Whether the data are checks and numbers on a fill-in-the-blank locus sheet, a photographer's log, or a hand-sketched balk section, all the interpretation in the world is no better than the accuracy of the data when recorded in the field.

Trying to unravel a field-data mystery may require the diligence of Hercules Poirot. Consider the following real example from the 1989 Madaba Plains Project season. (Names are omitted to protect the innocent.)

"This site [119] was originally recorded as Site 127. Unfortunately, I had forgotten that I had already assigned this number to a site which [name omitted] recorded. Therefore, and because the original Site 119 was subsumed into Site 116A, it was decided to assign 119 to my Site 127. No problem, except that photographs were recorded and entered as Site 127 and all have the numbers 6/12/7/001-004. Photos with similar numbers were also recorded by [his] team, the sole difference of course, being the photographer's number. In the case of Site 119, the photographer number will be "6." In the case of Site 127, the photographer number will be anything other than "6." At some point in time, it is hoped that the photo numbers for this site will be changed to reflect the changed number and if you cannot find the proper photos under 6/12/7, try 6/11/9/001-004. This, however, creates a new problem because one photo was taken of a terrace wall at the old Site 119, which is now part of Site 116A, and labeled 6/11/9/001. To determine the different sites in this case, the dates the photos were taken will provide the clue. Site 119 photos were taken 8/4/89, and Site 116A photos were taken ??? I could go on, but you are probably so confused now that further explanation would cause you to go running from the room waving your arms and screaming. You would eventually be picked up, trying to ride a scooter to Katmandu, and put into a home for persons in your condition."

I have only the greatest respect for the scientific accuracy (and sense of humor) of the individual who provided this wonderful illustration which shows just how confusing things can become by the time field data is published.

Field specialists work under tremendous pressure: exotic locations with different cultural contexts, time parameters, fatigue. They do a tremendously laudable job recovering valuable information that will help future generations understand social and cultural history. Much of their work will never be repeated, and some (such as dirt excavation) is unrepeatable by definition. How much more important, therefore, is it that every bit of information be recorded as clearly and accurately as humanly possible?

The task of gathering accurate data involves both the accuracy of the individual specialist and the collection policies of the sponsoring project. The first challenge for a sponsoring project is to select specialists who are not merely academically qualified, but who also have the personality and temperament to facilitate accurate and diligent data recording. Then, the sponsoring project must organize its collection techniques to include clear lines of communication, adequate training prior to actual data collection, straightforward recording forms or databases, data descriptors that are equally useful both in the field and during post-season analysis, and continuity between seasons and specialists. The challenge may seem overwhelming, but then again, humans will be humans! (Ralph E. Hendrix) 

## Letters to the Editor

*We encourage comments and response to material in the Newsletter. We do, however, reserve the right to edit for space those excerpts printed herein. Anonymity will be respected when requested.*

### Re: "Paper or Disk?"

"The current trend in information technology is to create a Website and broadcast it on the internet. I believe the Horn Museum and Institute of Archaeology should get someone to create and maintain a website. ... Once the website is created, all resources on archaeology can be linked thru this site including publications, catalogs, newsletters, photos, videos, sound, personnel, etc. ... The information on the Internet is viewed through a browser using Netscape, Mosaic, etc. and can be downloaded to the PC, to be printed on the laser printer, etc. Going on the Internet is definitely a step in the right direction." KSK, Michigan.

### Re: Newsletter 16.3

"Thanks for a great summer 1995 issue of the newsletter, which arrived today. There is a lot of useful information in it." JM, Tennessee.

"Thank you for the excellent newsletters. MPP is a model project that we want to emulate." JHP, North Carolina.



## Corrections

The caption on page 7 of the summer Newsletter (16.3) was incorrect. The photo was not a "balloon" aerial, but rather, it was taken by the box kite-camera mechanism constructed by F. Ninow, the author of the associated article. We offer our apologies for our error. (REH)



## INSTITUTE EVENTS

### Horn Lectures

- Feb 12 Joe D. Seger: Tell Halif Bottom-to-top, 1992-93 Seasons; Horn Lecture Series, 8 pm, Seminary Chapel.
- Mar 4 Connie Gane, Excavations at Nineveh; Horn Lecture Series, 8 pm, Seminary Chapel.

### Pre-Dig Dates


- Mar 15 Dig security form must be returned to the Institute of Archaeology. (No exceptions)
- Apr 15 Last day for returning complete Dig applications and deposit.
- May 15 Final Dig payment due. Deadline for post-season Middle East tour.

### Summer Dig

- Jun 19 Wednesday morning, on-site excavation begins.
- Jul 10 Second "half-season" begins.
- Jul 14 First "half-season" ends.
- Jul 31 On-site excavation ends.
- Aug 1 Post-season Middle East tour begins.
- Aug 13 Middle East tour ends.

## BAS Award


The Biblical Archaeology Society Publication Award for "Best Popular Books on Archaeology" was announced in the September/October 1995 issue of *Biblical Archaeology Review* (Vol. 21.5). Co-winner of the biennial award was *Peoples of the Old Testament World*, edited by Alfred J. Hoerth, Gerald L. Mattingly and Edwin M. Yamauchi (Grand Rapids, MI: Baker Books, 1994; 400 pp; \$29.99).

The BAS announcement describes this volume as a "collection of essays by various scholars [which] brings together old and new perspectives on the peoples that march across the pages of the Hebrew Bible. The authors cover the origins, histories, rulers, architecture, art, and religion of the peoples and cultures with whom Biblical Israel came into contact. Separate chapters examine Mesopotamia, Anatolia, Syria-Palestine and Egypt and the Transjordan, enabling the reader to envision times past and distant places." Institute director Randall W. Younker was a contributor to the volume. We offer our congratulations to the authors and editors of this award-winning volume. (Philip R. Drey) 

## Museum Visitors

The Horn Museum continued to draw visitors in November and December despite weather-forced closures and the holiday season.

Three school tours were held. Ninety 3rd-grade students from Washington Elementary School (Coloma, MI) toured the museum on Nov. 3 and were led by Mrs. Kuhn, Mr. Berry, and Mrs. Foss. The 1st and 2nd-grades of Denise Curnatt at the Ruth Murdoch Elementary School (Berrien Springs, MI), consisting of 24 students, visited on the 15th. Ten 9th- and 10th-graders from Kalamazoo Junior Academy toured later in the month.

Visitors during the weekends were also welcomed. Even though the Museum exhibit floor was often closed due to holidays and severe weather, 64 people viewed the exhibits during November and December. Included in these were the informal visit by an archaeology class from Grand Valley State University and several art history students from Lake Michigan College. (Philip R. Drey) 

### Siegfried H. Horn Endowment Fund to be awarded.

The Horn Endowment Fund will award its first travel grant to a SDA Seminary Master of Divinity student this spring. This first award of \$1000 will assist in broadening the perspective of the future minister to include the personal experience of visiting the Holy Land and excavating as a member of the Madaba Plains Project.


Applicants will have completed two archaeology classes as well as submitted a short essay explaining their interest in archaeology and how they envision the impact of dig participation on their ministry. The deadline was February 5. Selection from qualified applicants will be made by a committee comprised of the Seminary Dean, the Institute Director, and the Museum Curator. The successful applicant will be notified the first week in March. (David Merling)





## Brotherhood Lecture

During the month of July, 1995, Philip R. Drey presented a lecture to the local chapter of the Lutheran Brotherhood in his hometown of Carroll, IA. Approximately twelve members of the Brotherhood attended the early morning breakfast/lecture.

Drey used the Madaba Plains Project slide collection (a slide group summarizing each field season) from the 1989 field season at Tell el-Umeiri. Various brochures and pottery sherds enhanced the lecture. A question-and-answer session followed. The presentation was part of a series of lectures hosted by the Lutheran Brotherhood in which the culture of the Bible is illuminated. The presentation was received very warmly as Drey was invited back to present other lectures on archaeological relationships to the Bible and future field seasons. (Philip R. Drey) 

## Financial Support


Thank you for your financial support since January 1, 1995. We have just recently mailed our yearly donation request letter, and appreciate the prompt responses.

Since these very recent gifts are still being processed and we are keen on giving due credit to all donors, we will forego publishing a list of contributors in this issue. (Ralph E. Hendrix)

## Gregor Presents in Minnesota

Zeljko Gregor, Ph.D. student and Publications department editorial assistant, presented three lectures at the Seventh-day Adventist church in Vadena, MN, from December 1-3.

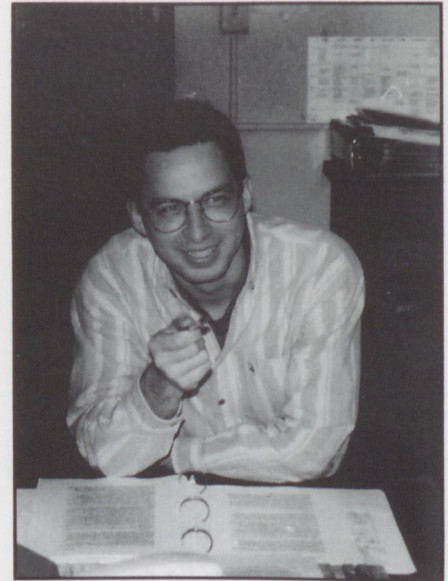
Gregor spoke on the relationship between archaeology and the Bible (by examining the site of Tell Jalul), on the biblical significance of gates and fortification systems, and on evidence of Joseph found in Egyptian history.

The presentations were supplemented by slides and Gregor's personal collection of pottery. Approximately 30-70 people attended each lecture. (Philip R. Drey) 

## Institute Work Continues

Student staff continue work on a number of projects for the Institute, Museum, Publications, and Dig.

Paul J. Ray, Jr. (assistant to the Curator) is preparing background research for a new coin display. Zeljko Gregor (photographer) has been photographing Tell Jalul objects, archiving the resulting prints and negatives. Brian Manley (artist) has completed drawing the Tell Jalul objects slated for return to the DAJ this summer and is now drawing coins for the new coin display. Philip R. Drey (editorial assistant) continues work on the pottery study guide, mailing lists, and is preparing basic background research for an upcoming feasibility study on enlarging the *Newsletter* to more of a magazine format. Paul, Zeljko, and Phil are also assisting Ruzica Gregor (the secretary) in dig preparation. (Ralph E. Hendrix) 



Philip R. Drey prepares the *Study Guide*.

## Pottery Study Guide On Track

*A Study Guide to the Pottery Forms of Transjordan: Neolithic through Middle Islamic* is quickly nearing its publication date. Pre-publication orders continue to arrive.

Philip R. Drey and Ralph E. Hendrix have edited the text of the 64-page booklet and the layout of the 19 control cards and the 390 flashcards. Hendrix has begun the process of scanning the approximate 500 illustrations found on the control- and flashcards into the computer for editing and revision.

The methodology of the book, the form-based paradigm, was presented at the ASOR meetings in November at Philadelphia. The poster presentation by Drey and Bjørnar Storfjell allowed scholars for the first time to view the methodology utilized in the book.

The request for scholars to voice their input as consultants has been well-received. Responses continue to arrive almost daily and the process of including their input has begun. (Philip R. Drey)








Richard S. Hess

## Hess on the Historical Context of Joshua

Richard S. Hess initiated the 1995-96 Horn Museum Lecture series on November 13 with a presentation of his topic of "Rahab's Name and Other Textual Evidence Regarding the Historical Context of Joshua." After a review of recent discussions of the historical context of Joshua, Hess compared territorial descriptions from the Egyptian Amarna letters, Ugaritic boundary descriptions found in Hittite texts, and town lists from the sites of Ugarit and Alalakh with the corresponding contents of the book of Joshua. He also compared personal names found in the Bible with similar Late Bronze Age names found outside of the Bible. Approximately 35 people attended this informative lecture.

Hess is Professor of Old Testament in the Department of Theology and Religious Studies at Roehampton Institute London. He received his Ph.D.

in West Semitic Languages and Literature from Hebrew Union College and has done post-doctoral work at the University of Chicago, Albright Institute of Archaeological Research in Jerusalem, and the University of Cambridge. Hess has authored the books *Amarna Personal Names* and *Personal Names in Genesis 1-11*. (Philip R. Drey) 


## On-Line Archaeology

In an *ASOR Newsletter* (Winter 1995) article describing the Lahav Research Project's "DigMaster" on-line archaeological source of figurines recovered from Tell Halif, Paul F. Jacobs focused on some specific contributions "web" publication can offer archaeologists. Two are particularly interesting:

1) On-line publication is so much less expensive than traditional hardcopy publication that the project can afford to publish all the bits and pieces found through excavation, not just those that have some obvious "appeal."

2) On-line publication such as the Lahav DigMaster "bridge[s] the gap between discovery and final publication."

Jacobs is correct. Electronic publication (on-line, disk, etc.) is ridiculously cheap compared to traditional hardcopy publication (\$10s vs. \$1000s!), and provides access to more data in a form that allows a greater variety of analyses.

The problem is availability: non-computerized scholars, future users, permanent archives (libraries). This may result in costly redundancy, if (as Jacobs implies) on-line publication is not a replacement of, but an augmentation to, final hardcopy publication. Challenging problems necessitate clever solutions. (Ralph E. Hendrix) 



Garth Gilmour

## Gilmour on the Archaeology of Cult in Palestine

On November 27, Garth Gilmour presented the "The Archaeology of Cult in Early Iron Age Palestine: A Methodological Approach" at the second installment of the Horn Museum Lecture series.

Approximately 30 people attended the lecture at which Gilmour discussed the quantification of criteria for Early Iron Age cult sites. He has found that several sites which had been previously classified as "cultic" may not be cultic at all.

Gilmour is Professor of Archaeology at the University of Cape Town in Cape Town, South Africa. He received his Ph.D. from Oxford University for his dissertation on the archaeology of Early Iron Age cult in southern Levant under the direction of P.R.S. Moorey. He has excavated at Tel Har Tuv, Achziv, and Kalavassos-Ayios Dhimitrios in Cyprus and is working with the Tel Migne-Ekron Project. (Philip R. Drey)






## ANNUAL MEETINGS

In November of each year, the Society of Biblical Literature (SBL) and the American Academy of Religion (AAR) co-sponsor an international convention. These annual "year-end" meetings figure largely to archaeologists and theologians since scores of specialized organizations coordinate their own yearly convocations with the major societies. In addition to organizational business meetings, professional papers are read, announcements are made, new publications are released, agreements for new projects are fine-tuned, and an opportunity is made available to enter freely into interdisciplinary discussions.

Students, faculty, and staff of the Institute of Archaeology are fortunate to be able to attend these meetings regularly, often presenting papers, moderating meetings, and taking care of organization business. November of 1995 was no exception. This year, papers were presented to the members of the American Anthropological Association (AAA), the American Schools of Oriental Research (ASOR), the Adventist Theological Society (ATS), and the Near Eastern Archaeological Society (NEAS).

It has long been the policy of the *Newsletter* editors to include announcements of pertinent papers and events associated with Institute participation in the meetings. In slightly new form, we offer in this issue a more descriptive view of the content of our presentations. These have been gleaned from the individual authors and so are presented over their individual by-lines. We hope that providing more substantial summaries of papers presented will be of greater service to our readership. (Ralph E. Hendrix) 

### Poster Presentation

Poster presentations were held during the ASOR-sponsored ceramic sessions at the University Museum of Pennsylvania University. Philip R. Drey and J. Bjornar Storfjell presented a poster concerning the methodology used in the forthcoming pottery study guide which they co-author along with Ralph E. Hendrix.

Their poster, entitled "Standardization of Pottery Terminology," was the public introduction of the "form-based paradigm" which is key to objectively associating vessel form with terminological descriptors. The paradigm was conceptualized by the authors during the preparation of the study guide.

Beginning with illustrations of similar vessel forms with different published names, the poster presented both a written and mathematical description of the paradigm. Handouts were included in the presentation providing details and requesting feedback.

The poster presentations were held in conjunction with the ceramic sessions. Approximately 150 people attended the session which dealt with

ceramic technology which was presided over by Gloria A. London.

David Merling was also scheduled to participate in the same poster session with a presentation titled "X-rated Black Ware" (actually, the synopsis of x-ray analysis of black ware sherds) resulting from research conducted with Barry Wilkins of Arizona State University. Unfortunately, due to emergency circumstances, Merling had to return to Berrien Springs and was unable to make the presentation. (Philip R. Drey)



### Jalul '94


Randall W. Younker reported the 1994 season at Tell Jalul to members of the NEAS (the details of which have already been published in this *Newsletter* (vol. 15.3, Summer 1994). (Ralph E. Hendrix)



### Hardiness

In a paper entitled "Indigenous Hardiness Structures and State Formation Towards a History of


Jordan's Resident Arab Population" which was presented to the American Anthropological Association's session on "The Archaeology of Ethnicity" at Washington, D.C., I took up the question of why ethnic solidarities continue to persist in many parts of the world today, with the consequence that ethnic conflicts also continue to occur.

On the basis of insights gained from archaeological research in Jordan, I posited the evolution of "indigenous hardiness structures" by means of which local populations have sought to maintain future and social environment. I further argued that the synergistic impact of such hardiness structures over the long term tends to be corrosive dissolvent of certain types of state-level polities. Examples of such structures found in Jordan include tribalism, multi-resource economic pursuits; maintenance of fluid homeland territories, residential flexibility; low-care water sourcing; hospitality and honor. In Jordan, these structures have attained great strength and resilience because of almost four millennia of foreign domination and exploitation of the indigenous population. It was posited that similar strategies have evolved in many other societies around the world and that their existence accounts, to a large degree, for the persistence of ethnic solidarities and conflicts. (Oystein S. LaBianca) 



## ANNUAL MEETINGS

### Late Bronze Settlement

“Settlement Pattern in Late Bronze Age Transjordan: A Preliminary Look,” a paper presented to members of the NEAS considered ethnoarchaeological insights relative to the conclusions of Nelson Glueck. As a result of his survey between 1932-47, Glueck concluded that there was nearly a complete gap in sedentary occupation between the 18th and the mid-13th centuries B.C. south of the Wadi Zerqa, and hence that the Exodus could not have occurred during this time. Since then, newer surveys and excavations have carved away at this so-called gap hypothesis, being filled by at least 79 LB sites between the Wadis Zerqa and Hesa. Though only 10 LB sites have been found in northern Edom, the nomadic-sedentary continuum model based on ethnoarchaeological studies has broadened our view of ancient economy and therefore the lack of evidence for sites is not necessarily an argument for lack of settlement. Notwithstanding the problems inherent in survey methodology and indeed the definition of the terms “site” and “settlement” among various researchers, it is still possible to say something in a preliminary way about Late Bronze Age settlement patterns in Transjordan, namely that there was an LB population in Transjordan, although apparently a mixed bag of sedentarized and nomadic. (Paul J. Ray Jr.) 


The “annual meetings” provide an opportunity for all who are interested in archaeology to witness first-hand the process of reporting fresh new finds to the world. It is open to academics, students, and the interested public.

### Seven Ideas

Seven “big ideas” are pivotal to knowledge production in all fields of science. A paper presented at the Teachers' Workshop in connection with the ASOR Educational Outreach Section titled “Using Archaeology to teach the Seven ‘Big Ideas’ of Science” illustrated the point.

These seven “big ideas” are system, model, constancy, change, evolution, scale and energy.

Advances in all fields of science occur through a series of four tasks, each task involving utilization of these big ideas. The first task is specialization, whereby the scientist becomes familiar with previous discoveries and current understandings and procedures in a particular field of study. The second step involves learning about a particular system in order to be able to identify its component parts. The third task involves studying how the various parts of the particular system in question behave and intersect. And the fourth task involves reporting any new knowledge gained to professional peers and the public.

This workshop introduced K-12 teachers to how they can use archaeology to familiarize students with the aforementioned concepts and processes of knowledge production in the sciences. (Øystein S. LaBianca) 

All who are interested in attending the November 1996 meetings in New Orleans may contact the Institute of Archaeology for more information. Be a part of archaeology in action.




### Khirbet Rufeis

A paper entitled “Sedentarization and Nomadization in Transjordan in the Early Islamic Period: The Khirbet Rufeis Cave Complex Excavations and Wusum” was jointly presented by Paul J. Ray, Jr., and Øystein S. LaBianca to ASOR members

Until recently, the late 8th through the 12th centuries A.D. have been seen as somewhat of a stagnant backwater in Jordan. Supposedly, with the move of the new Abbasid caliphate to Baghdad, there was a drastic decline in population and sedentarization in the area. Newer studies suggest a somewhat modified view of this period where, at least in Northern Jordan, there seems to have been a continual interest by the Abbasids until well into the 9th century.

Two seasons of excavation of the Khirbet Rufeis cave complex, part of the hinterland component of the Madaba Plains Project, seem to lend credence to this newer proposal.

The complex, which possibly served as a Khan near the old Roman road in the area, was used until it was destroyed by an earthquake, probably in the mid-9th century, at which time it was further used by tribal elements for seasonal habitation. Part of the complex was turned into kind of a *divan* and outfitted with a black painted panel of which *wusum* (camel brands or tribal markings) along with both painted and chiseled signs, letters and occasional words were displayed. The latter seems to reflect a digression from a high point in literacy as indicated by earlier Safaitic and Thamudic inscriptions in the area to a low point of vestigiality following the withdrawal of the dominant powers from the region.

This gives us a window on the nomadic end of the continuum in the late Early Islamic period. (Paul J. Ray Jr. and Øystein S. LaBianca.) 




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## ARCHAEOLOGICAL NEWS

### Tel Migne-Ekron 1996

Tel Migne, biblical Ekron, has announced the plans for the 13th field season. The site is one of the largest Iron Age sites in Israel and is one of the five cities of the Philistine confederation. It is located 10 miles inland from the scenic Mediterranean port of Ashdod. The date of the excavation is scheduled for June 9-July 26, 1996.

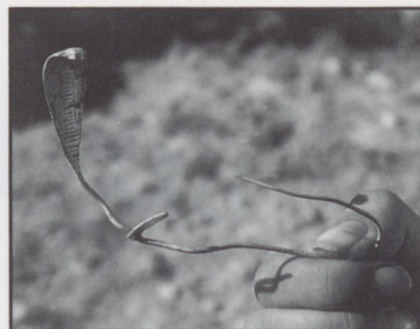
Sy Gitin of the Albright Institute and Trude Dothan of the Hebrew University of Jerusalem, field directors at Tel Migne, look forward to a very productive and exciting field season. For more information, you may contact Dr. Gitin at: Tel Migne-Ekron, Albright Institute, P.O.B. 19096, 91 190 Jerusalem, Israel.

The Tel Migne-Ekron excavations are sponsored by the Albright Institute of Archaeological Research and the Hebrew University along with 9 co-sponsoring and 12 supporting institutions. Andrews University has been a supporting institution since 1991. (Philip R. Drey) 

### Golden Cobra Diadem Found at Ekron


The most important find of the 1995 season at Tel Migne/Ekron was a spectacular golden cobra diadem, meant to be affixed to a statuette of an Egyptian goddess, dig directors Trude Dothan and Seymour Gitin announced recently. Egyptian-style scarab seals and amulets found in nearby rooms of the most extensive palace ever found in Israel dating from the late 7th century BC testify to the growing commercial and cultural links of biblical Ekron with Egypt, a diplomatic shift with ominous implications.

The multi-storied palace of Ekron is built in a Neo-Assyrian style with a throne room approached by a short flight of steps and what appears to be an Egyptian-style monumental, colonnaded entrance hall. Its tumbled columns, smashed pottery, and collapsed upper floors have provided a clear illustration of Zephaniah's prediction that "Ekron shall be uprooted" and Zechariah's



warning that Ekron's political hopes would soon be "confounded."

"We now have conclusive archaeological proof of the final days of the Philistines and the complete destruction of their national existence," noted Gitin.

A team of American and Israeli archaeologists excavated at the site which is located about 25 miles south of Tel Aviv. The Tel Migne-Ekron Excavation Project is sponsored by the W.F. Albright Institute of Archaeological Research and the Hebrew University of Jerusalem, and is supported by a consortium of American and Canadian universities, including Andrews University. The 1995 season team was comprised of 157 staff members and students. (Edited from the press release). 


### Canal Found

Archaeologists have found what they believe is the world's oldest paved canal, built about 4,500 years ago near the pyramids of Giza according to an Associated Press article Ben published in the *South Bend Herald Palladium*, Sunday on October 29, 1995 (p. 3B). It was found accidentally by workers tearing down an outdoor theater built about 30 years ago.

The canal was probably used to carry water from the Nile for the ritual bathing of the body of pharaoh Chephren, whose pyramid is the second largest of the three at Giza, said Zahi Hawass of the Egyptian Antiquities Authority. Chephren's pyramid is the most complete, and its associated temple complex includes the Sphinx. Hawass said the discovery of the canal and a nearby tunnel will broaden knowledge of how the pharaoh was prepared for burial. Chephren ruled from 2558 B.C. to 2532 B.C.

The archaeologist in charge of the Giza plateau for the Antiquities Authority said the canal's walls are lined with limestone, making it the oldest paved canal ever found. About 50 yards have been excavated so far.

Archaeologists have long theorized that such canals were used in connection with the burial of the pharaohs, but this is the first physical evidence for the theory, he said.

Excavators also found small holes and a basin indicating a tent may have been set up for purification rituals in front of the Valley Temple, which is connected by a causeway to Chephren's pyramid. The Valley Temple is located southwest of the Sphinx. (Edited by Philip R. Drey) 



## ARCHAEOLOGICAL NEWS

### Kerak Resources Project

Archaeological attention on the Kerak Plateau of south-central Transjordan is being focused by the newly-organized Kerak Resources Project (KRP). The main purpose of KRP is to document ways in which the region's inhabitants utilized available natural resources, including site location as well as access to local and long-distance trade goods.

"There are many gaps in our understanding of this territory's history and culture," says Gerald L. (Jerry)

Mattingly, Professor of Biblical Studies, Johnson Bible College. Mattingly heads a consortium of universities and seminaries which have joined to form the KRP. "We already see the march of progress threatening much of the region's cultural heritage."

"I hope to act as a lightning rod to attract research to the tableland between the Mujib and Hesa—to live among these fine people and to study their ancient ancestors," Mattingly continues. "We had a pilot season in 1995 when we visited 19 of the more promising sites, did extensive photography and note-taking, and collected diagnostic sherds and geological samples." This preliminary work has resulted in the formulation of specific goals.

Initially, the KRP plans to (1) conduct a small-scale, problem-solving dig at the Iron Age fortress of Mdeibi, (2) continue the documentation on/around the 443 sites located by the

Miller-Pinkerton team, and (3) coordinate the on-site and regional research of several social and natural scientists.

The Kerak Plateau, located between the Wadi Mujib and the Wadi Hesa (roughly the area east of the southern half of the Dead Sea), provides a geographical, political, and cultural continuation to the Madaba Plains region to its immediate north.

The upper Madaba Plains (around Tell Hesban and Tell el-'Umeiri) has traditionally been seen as "Ammonite" country, while the middle and lower plains area (Tell Jalul and south) may present a transition between "Ammonite" and "Moabite" cultures.

The Kerak Plateau is traditionally considered "Moabite," and therefore the study of this region is elemental to putting MPP research in context.

Mattingly indicates, "We hope to emulate some of the approach developed by the MPP,

and contribute to the pool of knowledge for a large part of central Jordan—and do so in a way that makes the task of comparing data from both regions much easier."

For information regarding KRP, you may contact:

Gerald L. Mattingly  
7900 Johnson Drive  
Knoxville, TN 37998  
(Office phone, 423-579-2349; FAX, 423-579-2337; or email, jmattingly@ashley.jbc.edu).

KRP works in odd-numbered summers, and plans are to move ahead toward meeting the three initial objectives in the 1997, 1999, and 2001 field seasons. The KRP team expects to include specialists with skills in excavation, ceramic typology, architecture, anthropology, biology, cartography, ecology, agronomy, geology, and other technical fields that fit the objectives of the project. (Ralph E. Hendrix)

### ASOR News

Joe D. Seger, director of the Cobb Institute of Archaeology as well as professor of Religion and Anthropology and Middle Eastern Archaeology at Mississippi State University, has been elected ASOR president to succeed Eric M. Meyers on July 1, 1996. (Dr. Seger will be visiting Andrews University as part of the Horn Museum Lecture Series on February 12).

The ASOR web site at Scholars Press (<http://scholar.cc.emory.edu>) is "gradually filling out," according to the report submitted by R. Thomas Schaub in the Winter 1995 issue of the *ASOR Newsletter*.

An introduction to ASOR includes texts on the History and Purpose of ASOR, Organization and Program and a list of current officers. The ASOR E-mail address book is on-line. Segments of the most recent *Biblical Archaeologists* with photos, as well as the index to the most recent volumes of *BA* are available. Recent copies of *BA* and the *Newsletter* will be posted in the near future. A list of ASOR publications is now available with the addresses of the various publishers. Grant opportunities for ASOR Centers are available. Eventually, we would like the ASOR Publications Home Page to be used as a repository of archaeological data and information.

A bibliography of published Palestinian pottery from Neolithic to the Modern Age, edited by Larry G. Herr, has been submitted to ASOR for publication. (Edited from the *ASOR Newsletter*).





## Excavation Methods

Archaeologists are often asked how they go about excavating a site. Do they just go out and dig deep holes looking for silver and gold? Maybe some would like to, but excavation methods are actually very meticulous.

A hundred years ago, one or two archaeologists might direct hundreds of local laborers as they churned through tons of dirt searching for treasure which was then exported for museum collections in Europe and the United States. Not so today.

Each country now has its own Department of Antiquities which regulates the location and quality of excavation. All antiquities belong to the host country (except those which are graciously presented to the excavators for study and display in their home countries).

Not only has the process of receiving permission to dig and the subsequent allocation of the finds become more sophisticated, the actual process of recovering artifacts and data has become more scientific. As archaeology became oriented more to science than rummaging, the old field methods did not suffice.

At first, archaeologists thought they would "peel" dirt off in arbitrary layers (strata) as they dug long trenches across their sites. Some peeled off six-inch layers, others peeled off a foot-thick layer. This arbitrary peeling was a good step in the right direction, but they soon realized that real occupation layers varied in thickness, some merely millimeters thick and others a thousand times thicker.

Sir Mortimer Wheeler took a major step towards following the actual stratigraphy during his excavations in the 1930's. Wheeler stressed leaving a record of the actual earth layers in the side of his trenches. He was absolutely correct in believing that these "sections" would provide a convenient way to draw and photograph the various dirt layers.

While digging at Jericho in the 1950's, Kathleen Kenyon (a student of Wheeler) expanded on his idea and brought in the vertical dimension. She divided Wheeler's trench into compartments called "squares." The walls that were left between squares (called "balks") preserved the dirt strata on the two ends missed by Wheeler's trenching. This "Wheeler-Kenyon" method left a record of strata by maintaining a system of walls (balks) and pits (squares).

As more students gained field experience and more excavation reports were published, British and American archaeologists accepted the Wheeler-Kenyon method with very minor modification.

How did the Wheeler-Kenyon method find its way to Tell el-'Umeiri and Tell Jalul?

G. Ernest Wright employed this method at Shechem in the late 1950's and early 1960's where Siegfried Horn was a staff member. When Horn established the Heshbon Expedition, he and Roger Boraas applied this method.

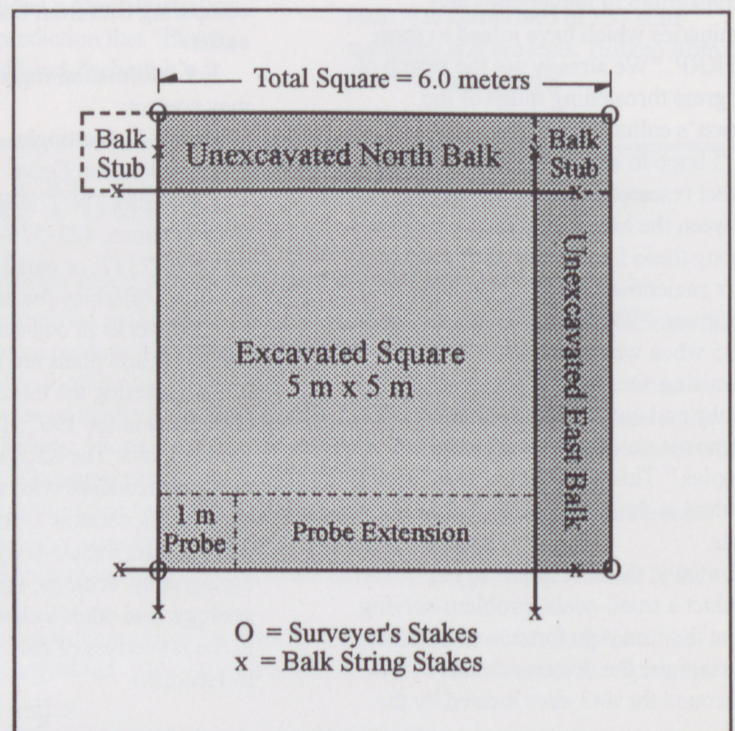
A host of archaeologists (including Geraty, Herr, Storfjell, and Merling) saw the method in practice.

Meanwhile, William Dever (also a staff member at Shechem) was excavating Tel Gezer using the method. His students (including Younker) learned the method from this parallel source.

Adventist excavations typically use 6-meter squares, leaving a 1-meter L-shaped balk on two sides and a 5 x 5 meter pit.

Other "schools" of archaeology developed other methods of excavation, each with strengths and weaknesses. No matter what method used, archaeology is a destructive practice. Once dug, the site is gone. It can never be dug again in the same place. For that reason, a site is never completely dug (on purpose) so there will be something left for future archaeologists with different methods and questions.

As excavators strain to get the most data possible, they use a variety of electronic sensing tools and sampling methods, post-field chemical and physical analyses, etc. These, combined with a meticulous excavation methodology such as the Wheeler-Kenyon method, help allow the most complete reconstruction of ancient life on the site that can be currently done. (Ralph E. Hendrix and Philip R. Drey)





## Current Period Terminology

### Conventional Archaeological Periods

Period Name	Approximate Date	Beginning Cultural Event in Syro-Palestine
<b>Stone Ages</b>		
Neolithic period	ca. 6000-4300 BC	Domestication of Plants and Animals
Chalcolithic period	ca. 4300-3300 BC	Rise of Villages
<b>Bronze Ages</b>		
Early Bronze Age		
Early Bronze I period	ca. 3300-3050 BC	Nomadic Transition
Early Bronze II period	ca. 3050-2700 BC	International Trade; Urbanization Begins
Early Bronze III period	ca. 2700-2300 BC	Indigenous Urbanization Continues
Early Bronze IV period	ca. 2300-1950 BC	Nomadic Interlude
Middle Bronze Age		
Middle Bronze IIA period	ca. 2000-1800 BC	Egyptian Influence: 12th Dynasty
Middle Bronze IIB period	ca. 1800-1650 BC	Indigenous Urbanization
Middle Bronze IIC period	ca. 1650-1550 BC	Hyksos period
Late Bronze Age		
Late Bronze IA period	ca. 1550-1500 BC	Egyptian Influence: early 18th Dynasty
Late Bronze IB period	ca. 1500-1400 BC	Egyptian Invasion: Thothmeside
Late Bronze IIA period	ca. 1400-1300 BC	Egyptian Dominance: Amarna period
Late Bronze IIB period	ca. 1300-1175 BC	Egyptian Dominance: Ramesside
<b>Iron Ages</b>		
Early Iron Age		
Iron IA period	ca. 1175-1150 BC	Sea Peoples Invasion
Iron IB period	ca. 1135-1000 BC	Egyptian Dominance Ends
Iron IC period	ca. 1000-920 BC	Israelite Monarchy Begins
Late Iron Age		
Iron IIA period	ca. 920-875 BC	Egyptian Invasion (Sheshonq I)
Iron IIB period	ca. 875-732 BC	Israel, Judah, Ammon, Moab, Edom
Iron IIC period	ca. 732-539 BC	Assyrian Invasion (Tiglath-Pileser III)
Iron II/Persian period	539-332 BC	Persian Invasion (Cyrus)
<b>Hellenistic periods</b>		
Early Hellenistic period		
Ptolemaic period	332-198 BC	Reign: Alexander-Ptolemy V
Late Hellenistic period		
Seleucid period	198-64 BC	Reign: Antiochus III-Philip II
Hasmonaean period	167-63 BC	Judas Maccabeus-Arist. II/Hyr. II
<b>Roman periods</b>		
Early Roman period		
Early Roman I period	63-37 BC	Roman Invasion (Pompey)
Early Roman II period	37-4 BC	Reign of Herod (the Great)
Early Roman III period	4 BC-AD 73	Post-Herod to 1st Revolt
Early Roman IV period	AD 73-135	Reign of Vespasian to 2nd Revolt
Late Roman period		
Late Roman I period	AD 135-193	Reign: Hadrian-Commodus ff.
Late Roman II period	AD 193-235	Reign: Sept. Sev.-Sev. Alexander
Late Roman III period	AD 235-284	Reign: Maximinus-Carinus/Numerianus
Late Roman IV period	AD 284-324	Reign: Diocletian-Lic. I/Constant. I
<b>Byzantine periods</b>		
Early Byzantine periods		
Early Byzantine I period	AD 324-363	Reign: Constantine I-Julian
Early Byzantine II period	AD 363-392	Reign: Jovian-Valent. II/Theo. I
Early Byzantine III period	AD 392-450	Reign: Theo. I-Theo. II/Valentinus III
Early Byzantine IV period	AD 450-491	Reign: Marcian-Zeno
Late Byzantine periods		
Late Byzantine I period	AD 491-527	Reign: Anastasius I-Justin I
Late Byzantine II period	AD 527-565	Reign: Justinian I
Late Byzantine III period	AD 565-614	Reign: Justin II-Heraclius
Late Byzantine IV period	AD 614-640	Reign: Chosroes II-Heraclius
<b>Islamic periods</b>		
Early Islamic periods		
Umayyad period	AD 630-750	Caliphate in Damascus
Abbasid period	AD 969-1071	Caliphate in Baghdad
Fatimid period	AD 1071-1171	Caliphate in Cairo
Seljuq-Zengid period	AD 1171-1174	
Late Islamic periods		
Ayyubid period	AD 1174-1263	
Mamluk period	AD 1250-1516	Caliphate in Damascus
Ottoman period	AD 1516-1918	Caliphate in Istanbul
<b>Modern periods</b>		
Early Modern period	AD 1918-1948	British Mandate period
Late Modern period	AD 1948-present	Post-British

The system of naming archaeological periods may appear at first to be an odd collection of names based on materials (like "bronze"), empires ("Roman"), religions ("Islamic"), and times ("Modern"). This mixture reflects changes in the discipline.


In 1819, the Danish archaeologist C. J. Thomsen proposed a system divided into three major "ages": Stone, Bronze, and Iron. The names were meant to denote the primary industrial material in use at that ancient time.

Archaeologists later realized that stone was also used in the Early Bronze Age, bronze was used well into the Iron Age, and iron was first used in the Late Bronze Age. In addition, long "ages" of hundreds of years were not specific enough for stratigraphic archaeology.

**Periodization serves as the "common language" for archaeologists to compare their findings.**

Changes were made: a copper-stone age (Chalcolithic Age) was added after Neolithic. The Bronze Ages were separated into Early, Middle, and Late. All the "ages" were later subdivided. Political periods were added: Persian (modern Iraq), Hellenistic (Greek), and Roman. Next came religious periods: Byzantine (Christian) and Islamic (Muslim)—subdivided as well. The last periods were called "Modern" (1918-present). Surprise, YOU live in the "Late Modern period"!

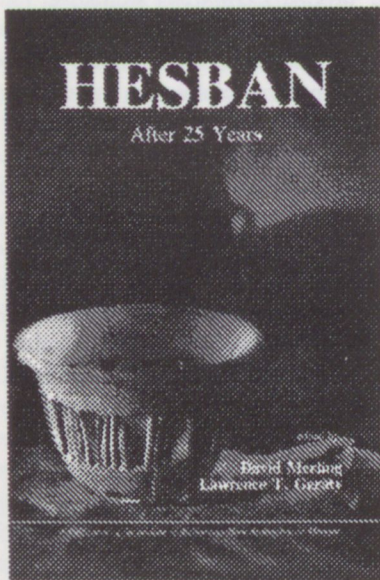
All of this was based on very narrow political or social events. However, archaeologists deal with material culture: pottery, jewelry, architecture, not just the reigns of kings.

Various new systems are being proposed based on changes in the material culture. The current system may be subject to major changes in the near future. (Ralph E. Hendrix and Philip R. Drey) 



## Publications Available

### From the Institute of Archaeology



### *Hesban After 25 Years*

edited by  
David Merling  
and Lawrence T. Geraty

The single-volume account of the history and finds of the Heshbon Expedition which initiated one of the most concentrated, longest-running continual research projects in the Middle East. Twenty contributors provide both a history of the excavations at Tell Hesban, Jordan, as well as summary and analysis of the data recovered through archaeological field excavation and regional surveys—data which is currently unavailable from any other published source.

ISBN 0-9642060-0-5

Paper; 6x9 inches; xxiv + 379 pages; 1994

**\$15.00 postpaid in US and Canada**

(\$13.00 + actual shipping for non-US/Canada orders)

### *Excavation Manual: Madaba Plains Project*

by  
Larry G. Herr  
with Randall W. Younker

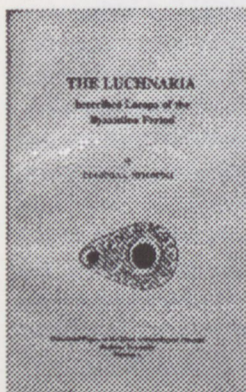
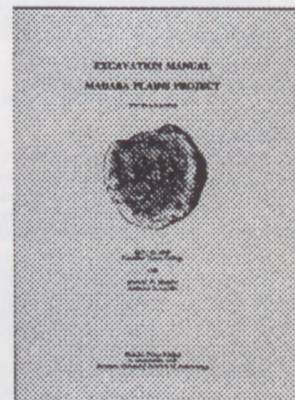
no ISBN

paper; 8.5x11 inches; 86 pages; 1994 Revised Edition

**\$5.00 postpaid in US and Canada**

(\$5.00 + actual shipping for non-US/Canada orders)

Procedures of Excavation and a handbook of recording principals used in the Madaba Plains Project. Complete with details of data collection and page-by-page explanation of data recording paperwork. Indexed, illustrated, glossary.



### *The Luchnaria: Inscribed Lamps of the Byzantine Period*

by  
Eugenia L. Nitowski

Early Christian lamps are described in detail: over a hundred are drawn, their inscriptions analyzed, a historical typology given. The book provides dramatic evidence of Early Christian faith-statements.

HAM occasional Papers, No. 4

Paper; 5x8 inches; 64 pages; 1986

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## Making Your Presence Felt

Many of you have recently received a letter describing our activities during 1995 and encouraging your financial support. We have already heard from some of you and your resounding response is YES! I want to make my presence felt.

But some of you may be asking "Why do they ask for financial support when they are part of a University?" The answer is simple. Andrews University only pays *part* of our operating costs. They expect us to raise \$5,000.00 toward our budget from outside sources such as donations.

In effect, we start out each fiscal year \$5,000.00 "in-the-hole." What happens if enough donations don't come in? Last year, for example, unrestricted donations accounted for only about one-third of the missing income. We have a problem. Somehow the books must balance, so every dollar we fall short in donations must be taken from some budget line. What do we cut? The *Newsletter*? Student services? Exhibits? It is a difficult problem. We want to let you know all of this so you can understand how truly important your support is. Thank you!



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# R A N D O M   S U R V E Y

Dave Merling is searching for a VHS-format video camera for use in taping the up-coming Tell Jalul excavations. If you would like to make such a donation to the Museum, please contact him here at the Institute.

**The Horn Museum Lecture Series brings visiting professionals into the community of Berrien Springs. Each presentation illuminates a specific aspect of the Bible, ancient history, or the relation of the two. The lectures are FREE; make plans to attend one soon.**

The Staff of the Institute of Archaeology wish to express their sorrow at the passing of Margaret Davis, Jan 2, 1996. Margaret was an avid supporter of archaeology—a gracious and fiesty friend. Our thoughts and prayers are with her husband Delmer, as well as her children and family. Margaret will ever be a part of us. REH

## Helpful Numbers:

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Two articles in the recent issue of *Bible and Spade* (Vol. 8.4, Autumn 1995) highlighted Adventist archaeology: "Andrews University Institute of Archaeology and the Horn Archaeological Museum" (p. 106-107) and "Tell el-'Umeiri" (p. 108-110), both by Gary Byers.

Sotheby's auction in late 1995, sold a T. E. Lawrence ("Lawrence of Arabia") robe for \$20,550.00.

# N E W S L E T T E R



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