



The 92nd Annual Meeting of the Archaeological Institute of America

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The 92nd Annual Meeting of the Archaeological Institute of America

The 92nd Annual Meeting of the Archaeological Institute of America was held in conjunction with the 122nd Annual Meeting of the American Philological Association in San Francisco, California, on 27–30 December 1990.

On 28 December Martha Sharp Joukowsky, President of the Archaeological Institute of America, presented the Institute's 26th annual Gold Medal for Distinguished Archaeological Achievement to John W. Hayes. George F. Bass, Vice-President of the Institute, presented the 11th annual Pomerance Award of the Archaeological Institute of America for Scientific Contributions to Archaeology to Robert H. Brill. The second annual James R. Wiseman Book Award was presented by President Joukowsky to Oscar White Muscarella for *Bronze and Iron: Ancient Near Eastern Artifacts in the Metropolitan Museum of Art*. Lloyd E. Cotsen was given the Institute's Volunteer Service Award by Past President James R. Wiseman.

On 29 December, at the 112th Meeting of the Council of the Archaeological Institute of America, the following were elected: Martha Sharp Joukowsky, President; James Russell, Vice-President; Joseph J. Bonsignore, Getzel M. Cohen, Daniel F. Morley, Andrew Oliver, Jr., and John J. Slocum, General Trustees; Clemency Chase Coggins, Timothy E. Gregory, and Karen D. Vitelli, Academic Trustees; and Raymond L. Den Adel, Society Trustee. Four members were also elected to the Nominating Committee: Nancy T. de Grummond, Charles La Follette, Anna Marguerite McCann, and G. Kenneth Sams. In addition, Vassos Karageorghis was elected as a Foreign Honorary Member. The AIA Council also adopted a Code of Ethics at the meeting.

The text of the Code of Ethics and the four award citations are printed here, followed by the abstracts of the papers delivered on 28–30 December.

ARCHAEOLOGICAL INSTITUTE OF AMERICA CODE OF ETHICS

The Archaeological Institute of America is dedicated to the greater understanding of archaeology, to the protection and preservation of the world's archaeological resources and the information they contain, and to the encouragement and support of archaeological research and publication.

In accordance with these principles, members of the AIA should:

- 1) Seek to ensure that the exploration of archaeological sites be conducted according to the highest standards under the direct supervision of qualified personnel, and that the results of such research be made public;
- 2) Refuse to participate in the illegal trade in antiquities derived from excavation in any country after 30 December 1970 when the AIA Council endorsed the UNESCO Convention on Cultural Property, and refrain from activities that enhance the commercial value of such objects;
- 3) Inform appropriate authorities of threats to, or plunder of, archaeological sites, and of the illegal import or export of archaeological material.

ARCHAEOLOGICAL INSTITUTE OF AMERICA
AWARD FOR DISTINGUISHED ARCHAEOLOGICAL ACHIEVEMENT

JOHN W. HAYES

The abiding impression that many of us must share of John Hayes is one of a thinnish figure, bending over a table strewn with pottery, his spectacles halfway down his nose and long slender fingers sorting with an amazing rapidity. This figure is to be seen in excavation houses throughout the Mediterranean and beyond. The pottery he examines at those tables is inscribed forever on his memory, not only the color and fabric, but profiles and shapes. During this process, Hayes's mind has counted the sherds and placed them in their appropriate categories, many of which he is the author. Whether it be the fragment of an 18th-century Turkish pipe, some roughly made Slavic vessel, or even Mycenaean coarse ware, it is all assigned to its proper date and place. Few men or women have both the visual memory and the facility to order what has been seen that John Hayes possesses.

To recount all the forms of pottery that Hayes has categorized definitively would produce a very long list. It is necessary, nevertheless, to provide some idea of the range of his achievements, both in the field and at the Royal Ontario Museum.

Even before John Hayes went up to Cambridge to take the Classical Tripos, his interest in archaeology showed itself with his participation in excavations at Verulamium. At Cambridge, in the second part of the Tripos, he devoted himself to Classical Archaeology and began his life's work in that field. After his undergraduate work, he spent four years abroad writing his dissertation on *Late Roman Pottery in the Mediterranean*. Then, in 1968 he came to the Royal Ontario Museum in Toronto, where he now resides as curator of the Classical collection.

It is now 18 years since the appearance of his ground-breaking *Late Roman Pottery* gave us a "Hayes type" for five centuries of Roman vases. Equally definitive for early Roman fine wares is his work on *Sigillate orientali* for the *Enciclopedia dell'arte antica* (1986). John Hayes's appetite for breaking new ground did not stop simply with Roman pottery. His forthcoming massive book on ceramics from Sarāḫane in Istanbul establishes ceramic categories and chronologies from antiquity to the modern era, much of which had not previously been systematically defined. His publications of the collections of the Royal Ontario Museum have also led him back in time to include Greek and Etruscan wares. Beyond the confines of pottery, he has published catalogues on glass, lamps, and metalwork in Toronto, with one on arms and armor in progress.

Each summer, however, John Hayes returns again to the field for several months, dividing his time among the several projects whose pottery he is studying. From surface survey on Crete, to Hvar off the coast of Yugoslavia, to the Isthmia Museum, to Cyprus, he covers a geographical breadth and chronological scope that few could hope to equal and none to surpass. All who excavate and carry on surveys in the Mediterranean area, or wherever potsherds are found, will ever be in his debt.

POMERANCE AWARD OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA
FOR SCIENTIFIC CONTRIBUTIONS TO ARCHAEOLOGY

ROBERT H. BRILL

Robert H. Brill has spent an enviable life as a productive scientist and administrator. He has been a pioneer in the application of many scientific techniques to the study and understanding of artifacts and the technologies behind their manufacture. His research, his field projects, his lectures, and his impact have extended throughout Europe, the Middle East, Africa, Central Asia, and the Far East.

Dr. Brill received all of his formal education in his native New Jersey including public schools in Newark, a B.S. in Chemistry from Upsala College in East Orange, and a Ph.D. in Physical Chemistry from Rutgers University in New Brunswick. After a six-year career as a chemistry professor at Upsala College in the 1950s, he embarked in 1960 on what can only be described as a wonderfully fruitful career at the Corning Museum of Glass where he continues to mix science and art in creative and prolific ways.

It has been from his perch at the Corning Museum of Glass that he has flown literally to exotic lands (that archaeologists usually consider their own) and, equally, has flown figuratively to heights of exotic science in the service of archaeology. (At least it was exotic when he first perceived that the technique—for example, lead isotope analysis for provenance studies—could help solve an archaeological problem.)

The archaeological community can well appreciate the significant administrative contribution Dr. Brill made when he took over the directorship at the Corning Museum of Glass and supervised the flood-recovery effort during the early 1970s. But his commanding love has remained archaeological chemistry and he returned to research in 1975.

Archaeologists who begin to explore what natural science can do to further explicate ancient lifeways from the study of limited physical remains soon become aware of Dr. Brill's seminal volume entitled *Science and Archaeology*. Published in 1971 it has inspired the whole current generation of those who practice or draw on the fruits of archaeometry. In the Introduction to this book Brill entered a plea—a plea for close cooperation between the archaeometrist and the archaeologist. He pinpointed the danger that the capability for analyzing much greater numbers of samples and making ever more complicated types of measurements could lead the laboratory scientist unwittingly into a preoccupation with numerical data and a tendency to lose direct contact with archaeologists and the archaeological component of the problem. His plea remains valid.

A good example of Dr. Brill's insights that have benefited archaeology is his early work on using lead isotope analysis to provenance Egyptian, Hellenistic, Roman, and Byzantine glass. His pioneering work helped develop the current rash of lead isotope studies to source the copper in Mediterranean bronzes.

Currently his research focus is early glassmaking in East Asia, particularly China. Again using chemical analysis and lead isotope analysis he is studying the origin and development of Chinese glass during the fifth and fourth centuries B.C. (the Warring States period).

Robert Brill has not ignored the educational aspects of his chosen field. In 1977 he directed the field expedition and wrote the story line and narration for *The Glassmakers of Herat*, a 30-minute film documenting a one-room glass factory in Afghanistan. More recently he has directed field expeditions to videotape traditional methods of glassmaking in India.

The breadth and depth of Brill's contributions to archaeometry lead the Archaeological Institute of America to follow in the footsteps of the American Chemical Society, which presented him with the Eugene C. Sullivan Award. The Pomerance Award is a fitting honor for a lifetime of significant research in archaeological chemistry.

ARCHAEOLOGICAL INSTITUTE OF AMERICA
JAMES R. WISEMAN BOOK AWARD

OSCAR WHITE MUSCARELLA

The Archaeological Institute of America is proud to honor Oscar White Muscarella as the second recipient of the James R. Wiseman Book Award for his outstanding recent publication, *Bronze and Iron: Ancient Near Eastern Artifacts in the Metropolitan Museum of Art*.

Oscar, Senior Research Fellow in the Department of Ancient Near Eastern Art in the Metropolitan Museum of Art, is internationally renowned for his scholarly contributions to the archaeology of the Iron Age in the Near East, particularly of Anatolia and Western Iran, and to our understanding of the cultural connections between the Near East and Greece in the eighth and seventh centuries B.C. Both inside and outside the community of scholars he has established a second reputation through his penetrating and forthright exposure of deception and forgery wherever it bears upon his primary research projects. He is one of that rare and valuable breed of scholars who are crusaders at heart. As a distinguished museum curator for many years it is inevitable that material culture should have always been his central interest, but never to the neglect of the wider perspectives revealed to him by initial training and experience as a field archaeologist.

Bronze and Iron epitomizes his outstanding contribution to ancient Near Eastern studies over the past 30 years during which the metalwork of the region has been his main concern. This is a *catalogue raisonné* in the great tradition of museum scholarship, in which the systematic study of objects is seen as a primary means for understanding not only the artistic achievement and craft skills of antiquity, but also the ideologies and values of the societies that created them. It illustrates how the best of such scholarship has always demanded a combination of the skills of the archaeologist with those of the historian of art and culture. Nor has Oscar, ably supported by colleagues past and present in the Metropolitan Museum Laboratory, not least Pieter Meyers, neglected the potential contribution now available through science for understanding composition, processes of manufacture, and authenticity. It is indeed a versatile performance, a major review of the subject, more than welcome after a century of widely scattered scholarship of very uneven quality. Oscar's knowledge of the existing literature is exhaustive, his critical analysis of it acute, his eye for significant details discriminating, and his judgments as firm as may be hoped in the complex world of ancient Near Eastern metallurgy. He sums up like the most learned of judges and gives his verdicts with the conviction of a sworn jury: the evidence is carefully mustered, thoroughly assessed, and rigorously clarified.

The combination of the typical and the outstanding, which distinguishes the Metropolitan Museum collection, has allowed Oscar to explore many aspects of his subject. Indeed, diversity is the hallmark of the ancient Near East, fascinating to those familiar with it, all too often dispiriting to those who encounter it for the first time; but never less than challenging to those who seek to write about it in a way that both the scholar and the general reader may appreciate. It is perhaps the best measure of Oscar's success that professional scholars and amateur connoisseurs will both find here a model of the way in which museum collections of antiquities of this caliber should be presented in print for their instruction and enjoyment.

There has been a tendency to marginalize the study of material culture and technology in archaeological and anthropological studies in our generation. There are signs that the tide is again turning and an aspect of scholarship once at the heart of our discipline is regaining something of its old status. In presenting the James R. Wiseman Book Award to *Bronze and Iron*, we honor an outstanding work of research, handsomely displayed to the world, which superbly illustrates the potential and vitality of archaeological scholarship practiced in and through our great museums.

ARCHAEOLOGICAL INSTITUTE OF AMERICA
1990 VOLUNTEER SERVICE AWARD

LLOYD E. COTSEN

The Archaeological Institute of America is honored to present its Volunteer Service Award to Lloyd E. Cotsen, who served as a dedicated and innovative Trustee from 1971 to 1988 and fortunately continues his participation as a member of several committees.

Lloyd Cotsen has brought to the Institute a unique blend of archaeological experience and entrepreneurial expertise. Initially educated as a historian and architect, he early on was awarded a fellowship to the American School of Classical Studies at Athens. His training subsequently was put to good use as an archaeological field architect on excavations at Lerna, Pylos, and Kea in Greece.

Running parallel to a lifelong fascination with archaeology has been an ever-escalating involvement in business. Following an MBA from Harvard Business School, he took control of a small manufacturing company whose success has been noteworthy. In a 15-year period, the product's distribution expanded to 40 countries worldwide and sales increased 30-fold. In the process of this expansion, Lloyd Cotsen's organizational and managerial skills were ever more sharply honed; these skills have been shared generously with the Institute.

In addition to a productive business career, as well as a continuing interest in archaeology and service on over a dozen civic boards, this remarkable man also has assembled outstanding collections of Japanese baskets, children's books, folk art, and non-industrial textiles. Viewing the wide range of Lloyd Cotsen's accomplishments, one might suspect that he is part magician. An argument can be made for this assumption if magic is defined as an extraordinary power or influence: several officers happily serve the Archaeological Institute of America today who never dreamed they could be cajoled into their present positions.

Lloyd Cotsen's refreshingly irreverent and disarmingly unorthodox approach to life has made him a memorable General Trustee. We are grateful not only for the 20 years of largess and guidance from this extraordinary man but also for the dynamic presence on our Board of one of nature's most beguiling noblemen.

ABSTRACTS OF PAPERS

The abstracts of the papers appear in the order of presentation and are followed by an alphabetical index of authors.

SESSION I: PLENARY

THE PROTECTION OF CULTURAL PATRIMONY: THE PRESIDENT'S CULTURAL PROPERTY ADVISORY COMMITTEE: *Leslie E. Wildesen*, United States Forest Service, Rocky Mountain Region

One tragic by-product of the internationalization of world culture is the serious increase in the amount of cultural property that is being traded without the knowledge or consent of the country of origin. This trade can be likened to the drug trade, with which it often shares the same cast of characters: suppliers tend to be poor, consumers tend to be rich, and smugglers and bagmen tend to be somewhere in the middle.

The United States' response to this worldwide tragedy is the Cultural Property Advisory Committee, created in 1982 to advise the President and others on ways to resolve this problem. In addition, the Committee reviews requests from other nations for the United States to close its borders to certain types of objects, to reduce demand and thereby help alleviate the destruction that accompanies creating the supply.

Other solutions, such as negotiated agreements, joint conservation and exhibit projects, and international training and technical assistance, are now being explored by museums, international agencies, and private parties. Archaeological Institute of America members can also take personal actions that will help to solve this problem.

SESSION II A: PREHISTORIC CRETE

THE NEOLITHIC COLONIZATION OF CRETE: *Thomas F. Strasser*, Indiana University, and *Cyprian Broodbank*, University of Cambridge

The southern tip of the Balkan peninsula and the islands of the eastern Mediterranean form a critical geographical region in the debate concerning the Neolithic transition in Europe. At present, no single explanation can unequivocally apply to all the Early Neolithic data from Europe. The traditional colonization model, defined as a direct and organized movement of people to a targeted area, has been abandoned by many scholars. Indeed, migrations in prehistory are now frequently postulated only in small and gradual terms, usually as a result of a contracting subsistence base. We propose that the faunal and floral evidence from the basal stratum at Knossos (Stratum X) indicates a highly organized and directional colonization of Crete late in the eighth millennium B.C. (calibrated).

J.D. Evans's excavations at Knossos uncovered abundant evidence of fully domesticated goat, sheep, pig, and cattle as

well as bread wheat in Stratum X. As the palaeo-faunal and -floral record now stands, no definitive evidence exists for the progenitors of these species on Crete. This strongly suggests that these domesticates were introduced to Crete by the inhabitants of Stratum X and, since Crete was an island throughout the Holocene, that humans brought these domesticates to Crete on seagoing crafts. Moreover, both the dearth of confirmed pre-Neolithic occupation of Crete and the unfiltered "package" of domesticates in Stratum X support the model of an exogenous population colonizing Crete, rather than a model of trade-networks exchanging domesticates with an as yet undiscovered Mesolithic population on the island.

The minimal size of a genetically viable founder population, as well as transportation restraints of macrofauna, suggests a precocious ability in seafaring and a highly organized replication of the mother settlement's economy. Though the origin and motivation of these colonists are unknown, the fact that colonizations did occur during the Neolithic transition on Crete is undeniable. This conclusion does not preclude the possibility elsewhere in Europe of an indigenous transition to agricultural subsistence, or the exchange of agricultural methods without the movement of people. We stress that many forms of the Neolithic transition probably occurred, and dogmatic adherence to one model will not explicate the process.

AN ARCHITECTURAL HISTORY OF THE OLD PALACE AT KNOSSOS: *Carol R. Hershenson*, Xavier University

New researches and analyses contribute not only to a clarification of the history of the palace at Knossos, but also to an understanding of the development of monumental Minoan architecture. The sequence of terracing, expansion, and alteration is particularly clear in the West Court; founded in Early Minoan IIA, this terrace grew by a series of extensions to the north and to the west. The Protopalatial western facade, which would have faced this western courtyard, is unclear; the line of stones conventionally identified as the plinth of that western facade is unlike any other plinth course in Minoan architecture. The Old Palace was little smaller on most sides than the preserved New Palace. The ground story floor elevations were not at all uniform in the Old Palace, groups of rooms apparently having been built on terraces that roughly followed the earlier slope of the tell; variations in ground story floor levels seem to have been less readily tolerated in the New Palace period, and the Protopalatial floors were apparently cut away by the leveling operations of the Neopalatial construction on the western side of the palace. In the plans of Protopalatial rooms on the eastern side of the palace, characteristic Minoan architectural morphology and syntax can be recognized. In other portions of the palace, where the dating of individual walls is unclear, it is possible to construct relative sequences of

building programs and alterations. A new understanding of the Old Palace at Knossos emerges from these investigations.

ARCHITECTURAL REPRESENTATION: A CLUE TO ITS PLACE IN MINOAN ICONOGRAPHY: *Kathleen Krattenmaker*, Bryn Mawr College

Architectural representation—from the “Grandstand” fresco and Zakro sanctuary rhyton to the cult scenes on rings and sealings—is an element of a figural iconography that has long been part of the visual understanding of Minoan Crete. It has not, however, entered into many discussions of the social organization of palatial Crete. I believe a second look at this iconography can add to our understanding in this realm.

There is no architectural representation in Crete, either two- or three-dimensional, prior to the Neopalatial period. This raises questions about the motives leading to the creation and use of architectural motifs. One answer is hinted at by the geographical distribution of architectural representation. Representations of architecture, in all media, are restricted to palaces or villas or to wealthy cemeteries connected with such sites. Roughly 50% come from Knossos itself. This would seem to indicate that the creators, if not the audience, of this iconography belonged to the elite, probably administrative class, residing in the palaces and villas.

Determining the reasons for the elite class's choice of motifs lies in an analysis of the type of architecture represented, and in the activities associated with the represented buildings. Represented architecture can be identified as palatial or cultic, and is shown as a setting for formal, often clearly ritual activity (with the possible exception of a class of architectural representations typical of inlays, including the Town Mosaic).

The connection between cult and palace in the formation and stabilization of a hierarchical social structure has been discussed by John Cherry in the context of Protopalatial Crete. The evidence of the iconography suggests this connection is stronger and more developed in the Neopalatial period, probably in response to the upheaval at the end of the preceding period.

CRETAN CYLINDRICAL MODELS: *Rebecca Mersereau*, Boston University

Architectural models were produced periodically in the Aegean from the Middle Neolithic period to the Roman era. These miniatures are often cited as evidence for the forms of contemporary architecture and cult practice. In the prehistoric era, definition of their archaeological contexts is often the greatest problem in working toward an understanding of their form and function.

This paper focuses on one particular group of models, the so-called hut urns produced on Crete between Late Minoan IIIA2 and the Orientalizing period. In previous literature these cylindrical models have been associated with the Italic hut urn tradition, representations on Minoan sealstones, hypothetical ephemeral rural shrines, granaries, and

tholos tombs. By analyzing their physical characteristics and establishing their chronological range, I am able to demonstrate that these models were creations of native Cretan inspiration and that their form is derived from the contemporary ceramic repertoire, not from architecture. Such an abstract form was acceptable because the intention of the representation was to symbolize an architectural space rather than to depict any specific architectural type.

There is a remarkable chronological correspondence between the rise, floruit, and decline of these cylindrical models and that of the “Minoan Goddess with the Upraised Arms” (MGUA). In LM III, however, the cylindrical models are not found in the shrines of the MGUA but rather in domestic contexts. Cross-cultural studies of individual religious behavior lead us to expect evidence in the home for private cult practice parallel to communal practice. I suggest that in LM III these models were used in the worship of the MGUA at the household level. The changes seen in the distribution and form of the models from the end of LM III through their final appearance in the seventh century B.C. are indicative of transformations in both the function of these models and the cult of the MGUA.

SURVEY AT KAVOUSI, CRETE: THE IRON AGE SETTLEMENTS: *Donald C. Haggis*, University of Minnesota, Twin Cities

Survey at Kavousi was completed in the fall of 1990. Preliminary results of the fieldwork are discussed and emphasis is on the Iron Age settlements. Work in 1990 was concentrated in the Avgo valley, the Thriphti highlands, and in the northeast Isthmus of Ierapetra, where evidence for Neopalatial and Early Iron Age remains had been discovered in 1989. Survey in 1988 and 1989 revealed dense Bronze Age settlement (EM I–LM IIIB) in the coastal plain and hills north and west of the modern village of Kavousi and in the Kavousi-Thriphti mountains. These sites, although numerous, are small isolated houses and hamlets. Iron Age sites are fewer in number, but are large settlements, certainly villages or small towns, and occupy new locations. Study and fieldwork in 1990 addressed the changes in settlement patterns in LM IIIC and the chronological ranges represented at these Early Iron Age sites. One question is whether there is a significant population decrease at the end of LM IIIB or rather, a nucleation of settlement in the Kavousi highlands in LM IIIC and subsequent population increase from LM IIIC to the Geometric period.

The Iron Age settlements are large in size, usually about 1 ha, and occupy locations in close proximity to arable soil and water supplies. Sites of particular interest are the neighboring settlements of Katalimata and Khalasmeno, located on the north and south sides of the Kha Gorge in the northeast Isthmus of Ierapetra. The sites are LM IIIC in date and perhaps represent a single settlement system in which the lower site of Khalasmeno is the permanent habitation location (associated with arable land, water, and transportation routes) and the upper settlement of Katalimata, built on the cliffs of the Kha Gorge, is a temporary place of refuge. This kind of dual settlement system, although not unknown in Crete, is unique among the Early Iron Age sites in the Kavousi area.

THE VROKASTRO SURVEY PROJECT, 1986–1990: *Barbara J. Hayden*, University Museum, University of Pennsylvania, and *Jennifer A. Moody*, Member-at-large

The Vrokastro Survey Project was initiated in 1986 with an extensive and intensive examination of a 50 km² region located on the Bay of Mirabello in eastern Crete. The study area extends from the villages of Kalo Chorio and Pyrgos in the west to the plain flanking Gournia on the east; and from the Bay of Mirabello in the north to the Meseleri Valley in the south. Topographically the area includes a coastal zone, river valleys, a heavily dissected upland region that is dry farmed, and an inland upland valley.

In addition to the intensive systematic survey, research programs include ethnographic, ecological, and historical studies that will provide a historical, environmental, and economic context for the settlement and land use systems discovered by the survey. Within the study area such systems range in date from the Neolithic to the early 20th century. The focus of the archaeological program has been the systematic survey and detailed study of the finds. The study area was divided into 13 zones based on geology, altitude, slope, and other factors. Every other 250 m-wide strip in each zone—except for zone 10: steep slopes, gorges, and cliffs—as been systematically walked and recorded.

Until analyses are complete, the patterns discussed should be considered tentative. If Neolithic material is present, it belongs to the Final Neolithic. The few sites that may date to this period are primarily coastal, with two possible inland exceptions near springs. Most of the Early Minoan sites are located between 0 and 200 masl, although settlement in Middle Minoan and Late Minoan I spreads inland to an altitude of about 700 masl. To date we have identified 100 sites dating to the Middle Minoan and Late Minoan I cultural periods. A slight withdrawal from the coastal area appears to begin in Late Minoan III, with the focus of occupation in the Early Iron Age occurring around the excavated settlement of Vrokastro. Some settlement activity continues on the coast, as evidenced by the site of Elias-to-Nisi on a coastal promontory at the foot of Vrokastro.

During the Orientalizing through Classical periods, coastal locations are again occupied and a string of settlements appears high on the Skinavria Ridge overlooking the Meseleri Valley to the south. The towns of Istron, on the coast, and Oleros, in the Meseleri Valley, were established after the Geometric period and flourished at least until the Early Hellenistic period. It is possible that a different pattern may exist for the Roman through Early Byzantine periods, as more sites occur in areas such as the Istron River valley, set back slightly from the coast. Only during the Byzantine through Turkish periods do overall site numbers approach those of the Late Minoan I period.

When all research programs are complete and their data integrated, the results should provide a thorough perspective on the development and use of the Vrokastro region through time. The significance of the project is twofold: it provides a framework for an important Early Iron Age

settlement, and it is one of the first detailed studies of a topographically varied, primarily rural area in Crete.

HUMAN SKELETONS FROM KAVOUSI, CRETE: FIELD AND LABORATORY ANALYSIS: *Maria A. Liston*, University of Tennessee, Knoxville

The American excavations at Kavousi, Crete have recovered two distinct samples of human remains. Associated with the Vronda settlement are eight tholos tombs containing human bone. While all of these were disturbed before excavation, enough bone remains to give some indication of the demographics of tholos tomb use.

A larger sample of skeletal material was recovered from a variety of Geometric grave types, built within the Vronda settlement after it ceased to be used for habitation. Most of these graves are cremations of both adults and children. There are also a number of inhumation burials, again of adults and children, often interred within the same grave as the cremation burials.

The excavation of these complex graves has recovered a considerable amount of information about Geometric burial practices. The careful plotting of burned bone fragments has indicated that many of the cremations found within cist graves are primary burials, not disturbed after cremation. In these graves it was possible to plot the orientation and position of the bodies when cremated. Other cremations were obviously redeposited in the corners and doorways of rooms or in amphora burials.

The laboratory analysis of the Kavousi skeletons has yielded sex and age identifications for many of the skeletons, including the cremations. In addition, rates of traumatic injury, infectious disease, and anemia have been determined for the population. Finally, the presence of genetically based skeletal anomalies provides an indication of the homogeneity of the Kavousi population.

DARK AGE SUBSISTENCE IN EAST CRETE: THE FAUNA FROM VRONDA AND THE KASTRO: *Lynn M. Snyder* and *Walter E. Klippel*, University of Tennessee, Knoxville

In four years of excavation, the Kavousi Project in East Crete has produced a major sample of faunal materials (ca. 40,000 specimens) from the Vronda (LM IIIC–SM) and Kastro (LM IIIC–LG) sites. While the remains of domestic animals (sheep, goat, pig, cow, and dog) dominate the recovered sample, wild species including fallow deer, agrimi, brown hare, hedgehog, badger, and minimal numbers of birds, fish, reptiles, and amphibians are also present. Preliminary analysis indicates that sheep outnumber goats in the assemblages by ca. 2 to 1, and that nearly 70% of these animals were slaughtered before the age of two years. This suggests that meat production, rather than wool, milk, or herd security, was the primary focus of herd maintenance. While pigs and cattle also were exploited for meat, it is

unusual that cattle occur in relatively greater abundance at the more inaccessible peak site of Kastro. Domestic dog elements occur in low numbers, and cut marks on recovered specimens suggest that dogs were at least occasionally being exploited as a food resource.

Although increasing attention is being focused on environmental context and settlement/subsistence practices in the ancient Aegean, there are at present relatively few substantial faunal assemblages appropriate for such investigations (cf. S. Payne in N.C. Wilkie and W.D.E. Coulson eds., *Contributions to Aegean Archaeology* [Minneapolis 1985] 211–44). The faunal assemblages from Vronta and the Kastro are large, and their contexts are well documented. In addition, these two sites span the entire period of the Late Bronze Age through Early Iron Age, and thus can contribute greatly to our understanding of Aegean Dark Age subsistence.

A CHRYSELEPHANTINE KOUROS FROM PALAIKASTRO—*DISIECTA MEMBRA* CONSERVED AND UNITED: THEIR PROVENIENCE AND STRATIGRAPHIC CONTEXTS: *L. Hugh Sackett*, Groton School

A major season of fieldwork at Palaikastro has completed the uncovering of Building 5 and two adjacent streets. The building has an interesting architectural history, with three phases identifiable within the LM I period, and limited LM III reoccupation in the northeast range of rooms, which had already been set apart for some purpose in the latest LM IB phase. It was there that we found the lower part of a chryselephantine statuette, the head and torso of which had been discovered previously in the "plateia" some 10 m away. Lying in a thin LM IB ashy layer with a cover of disintegrated red mudbrick, all that had been left after the later cleaning operations, were the fragments of the statuette's buttocks and legs from thigh to heel, with pegs for attaching to a stand. Two gold sandals were found nearby. Thus, apart from a section of the midriff and the fragments of the face, the statuette is complete, and stands some 50 cm high, in the walking pose of a kouros with left foot set slightly forward. The exquisite details of realistic carving previously noted on hands and arms are repeated on feet and ankles and at the knees. The new finds seem to confirm the suggestion already put forward that this is a cult figure, and that it may well represent the youthful male divinity later identified with Zeus at Palaikastro. Although it is difficult to reconstruct how the figure might have been placed on display in the room where these new fragments were found (the conservation of the left leg alone involved assembling 191 fragments!), there is some slight evidence that cult may have been a function of this part of the building. Interestingly, there is also some evidence suggesting that working in ivory was another activity in these or adjoining rooms. Food storage and preparation also took place in the building, which in its earliest phase seems to have been provided with a spacious pillar hall. We should ask whether we may connect with the building any of those activities such as hunting and initiation rites usually associated with the cult of this youthful male divinity.

SESSION II B: SCIENTIFIC APPLICATIONS IN CLASSICAL ARCHAEOLOGY

RECONSTRUCTION OF ANCIENT LANDSCAPES OF HISTORICAL AND ARCHAEOLOGICAL SITES IN ELIS, WESTERN PELOPONNESE: *John C. Kraft*, University of Delaware, *John A. Gifford*, University of Miami, *George Rapp, Jr.*, and *Stanley E. Aschenbrenner*, University of Minnesota, Duluth, and *Christos Tziavos*, National Center for Marine Research, Athens

By the mid-Holocene or 6000 B.P., long arcing strandlines were incised into older sediments along the coasts of Elis in the northwestern Peloponnese. Since then, sediments from the Alpheous and Peneus rivers have been entrained in longshore currents to be redeposited in delta-floodplains, coastal barrier ridges, lagoons, and marshes. Ultimately the lagoon-barrier systems prograded 2–3 km seaward to form the present coast. Some archaeological sites are undergoing coastal erosion and inundation by both wave and tectonic processes, others have been buried in the alluvium of the past five millennia. For example, near Katakalon ridge, the port of Pheia (with remains from Early Helladic through Roman) now lies partially submerged. Ancient Epitalion (Classical, Hellenistic, and Roman) lay on the delta of the Alpheous as a port city with adjacent fertile fields and lagoons. Homeric Thyron was on the hills just above, which then probably formed a strategic headland jutting into the sea as the Helladic delta and lagoons evolved. Further south at Kleidhi, now inland, was Homeric Arene on a fortified rocky outlier controlling a strategic pass by the sea. Just beyond, at the base of rocky cliffs adjacent to modern Kaiafa, lay the sea caves of the Anigris nymphs of Classical times, but by late Roman times these too were isolated from the Ionian Sea by a lagoon and barrier ridges. Evidence from sediments in drill cores, some with ¹⁴C dates, and coastal topography support these conclusions of how ever-changing coastal landforms played a dominant role in the loci of important archaeological and historical sites in western Elis.

CLASSICAL ARCHAEOLOGY AND BIOLOGICAL ANTHROPOLOGY: A CROSSDISCIPLINARY STUDY OF MORTUARY DATA FROM THE WEST CEMETERY AT ISTHMA: *Douglas O'Roark* and *Myra J. Giesen*, Ohio State University

This paper joins Classical archaeology and biological anthropology in order to examine mortuary data from the West Cemetery (sixth–fifth century B.C.) at Isthmia. This cemetery is presumably linked to the Panhellenic Sanctuary of Poseidon at Isthmia. The cultural and biological data were initially evaluated independently of each other for age and sex determination. The grave goods (pottery, jewelry, etc.) were analyzed with sex and age determinations based on the offerings. The skeletal remains from the cemetery were also

examined with sex and age determinations based on the osteological evidence. This paper presents a progressive methodological approach in evaluating Classical sites in which both cultural and biological data are evaluated in light of each other. The results of the separate approaches are merged in an effort to provide the best possible data base for interpretation. The final discussion presents the results of the combined approach, suggesting caution in accepting traditional interpretations, and raising new issues for investigation. A statement is made as to the utility of a crossdisciplinary approach to mortuary data at Classical sites.

ANTHROPOLOGY AND THE METAPONTINES: *Maciej Henneberg* and *Renata Henneberg*, University of Witwatersrand, and *Joseph C. Carter*, University of Texas at Austin

In a series of campaigns from 1982 to 1986 a major necropolis was excavated at Pantanello, 3.5 km from the urban center of colonial Metaponto. As reported earlier (*AJA* 91 [1987] 312–13), the 320 burials and 46 ceramic deposits cover three centuries from approximately 580 to 280 B.C. The tombs were essentially undisturbed and the whole area systematically searched, which makes the Pantanello necropolis an ideal subject for statistical studies.

Analysis of the skeletal material by a team of physical anthropologists has been an integral part of the excavation and study of the necropolis. Besides aging and sexing of over 240 skeletons, there has been a detailed analysis of pathologies using x-rays, and a successful blood typing of many individuals. Dental studies are currently underway.

This report focuses on the way in which the results of the physical anthropological study have led to a much fuller understanding of the organization of the necropolis. In lieu of epigraphic evidence we have blood types and other epigenetic traits. Analysis of this evidence using a computer-based statistical package has strongly indicated that kinship was the main organizing principle.

Since most of the burials are dated by grave goods (e.g., black-glazed and figured pottery), it has been possible, using data on sex and age at death, to reconstruct family trees for 50 groups within the necropolis. This has helped to clarify but not resolve the puzzle of the striking imbalance between females and males (who are outnumbered two to one).

The distribution of pathologies is also considered. They include a high incidence of hypoplasia and a variety of symptoms in certain individuals that point to malaria, and possibly syphilis.

PETROLOGICAL ANALYSIS OF GREEK TRANSPORT AMPHORAE: *Ian K. Whitbread*, Massachusetts Institute of Technology

Greek transport amphorae have traditionally been classified using stamps and vessel forms. Petrological analysis, however, provides an equally sensitive method of classification based on fabric composition. Samples of fabrics from

several transport amphora classes have been examined using this method. Results show that many of these classes can be characterized by fabric (in some cases improving on chemical results) and that several classes are represented by more than one type of fabric.

Although there are amphora classes that cannot always be distinguished using petrography (examples occur in the Dodecanese and northern Greece), this method of analysis, in combination with vessel form, does provide a means of characterizing vessels that are unstamped or for which the stamps provide no clue as to their origin. In fact, petrography has also been used to propose alternative provenances for particular classes of amphorae, e.g., certain Zenon jars.

Characterization of transport amphorae is usually regarded in the context of ancient commerce, but petrological analysis also addresses problems of amphora manufacture, particularly in its relationship to agricultural production. Availability of adequate resources is a major consideration in producing large quantities of amphorae, yet suitable raw materials were not always accessible to ancient potters; indeed, the black sand temper used in a number of amphorae made in Chersonesos, for example, appears to have been imported.

PETROGRAPHIC ANALYSIS OF DACIAN CERAMICS FROM EASTERN ROMANIA: *Linda Ellis*, San Francisco State University, and *Marius Tiberius Alexianu*, Muzeul de Istorie, Piatra Neamt

In Roman provincial archaeology, studies of ancient technology effectively document the rate of, and/or the resistance to, cultural change in autochthonous populations under colonial influence. To detect foreign elements and follow older traditions in pyrotechnological operations, a collaborative international program with Romanian scholars was established to analyze ceramic production from the pre-Roman to the post-Roman periods across eastern Romania. The ceramic collections chosen for this study come from 28 sites in "Free Dacia"—located between Roman Dacia, Moesia, and the migratory peoples to the northeast—and date from the first century B.C. to the fourth century A.C. Previous studies (cf. Alexianu and Ellis, *Memoria Antiquitatis* 15–17 [Piatra Neamt 1987] 127–49) concentrated on ceramics from the second to the fourth centuries A.C. This report presents the second stage of analyses, covers the entire period under consideration, and includes samples from 13 sites in Neamt County. Petrographic analyses have yielded extensive details on all phases of manufacturing techniques (clay and temper selection, forming processes, firing conditions). The results show two distinct technologies: 1) Roman-influenced pottery produced from highly micaceous, illitic clays without added temper, manufactured on a fast wheel, and fired in complex kilns surpassing 1000° C; 2) an older pottery tradition using similar clays but with up to 40% (volume) gravel temper, formed by hand or on a slow wheel, and pit-fired to 600–800° C. Despite powerful Roman influences, both wares coexisted on Dacian settlements and in burials, and older ethnic traditions in pyrotechnology were never replaced but persevered into the fourth century.

CONICAL GLASS VESSELS FROM KARANIS: FORM, FUNCTION, AND MEANING: *Elizabeth L. Higashi*, University of Michigan, Dearborn

This paper focuses on the over 600 conical glass vessels and fragments excavated at the Graeco-Roman site of Karanis, Egypt. It examines these vessels from an archaeological, textual, and art historical perspective. It studies their chronological limits, functions, and sites of production as well as their practical and symbolic importance in the Mediterranean milieu. Light emission studies compare the brightness of lighted conical glass vessels to that of terracotta lamps and explore possible economic factors related to their production.

Physical characteristics, dated coins, *ostraka*, papyri, pottery, and other objects found with each conical vessel, collated using computer data base systems, indicate that conical glass vessels appeared no earlier than the late third century at Karanis and were found into the mid- to late fifth century. Most of these vessels were probably produced locally. Neutron activation studies on the chemical composition of Karanis glass suggest that the composition differs from that of conical vessels found in Roman Syria.

Artistic representations, textual allusions to conical vessels, and archaeological contexts of similar vessels excavated at sites other than Karanis suggest that they served as oil lamps and as drinking beakers. The specific context of the finds at Karanis suggests the commingling of domestic life and religious ritual during the gradual shift from pagan to Christian beliefs.

AN INLAID FULCRUM PANEL FROM ROMAN CORINTH: *Carol C. Mattusch*, George Mason University

The bronze panel from a fulcrum was excavated in 1976 at Corinth in the so-called Roman Cellar Building, which was damaged by an earthquake in A.D. 22/23. The elaborate decoration on the panel consists of pairs of silver acanthus buds, each with a silver calyx and silver tendrils swirling outward to form volutes, which in turn encircle flowers made of silver, copper, and niello.

The acanthus, tendril, and flower motif is a popular decorative device from the fifth century B.C. onward, and this is by no means the only fulcrum panel so ornamented. The importance of this piece lies in the fact that it was found at Corinth, and was no doubt locally produced. The inlaid panel attests to the high degree of technical competence enjoyed by the craftsmen employed in Corinth's most renowned industry. It also provides a starting point for our consideration of the Corinthian alloys so greatly admired by ancient authors.

SESSION II C: GREEK SCULPTURE

EVIDENCE FOR PLANNING THE PARTHENON FRIEZE: *John G. Younger*, Duke University

The cavalcade of the Parthenon frieze exhibits a number of repeating patterns, either exactly or with minor variations.

A horse appears to nuzzle the ear of the rider in the next plane (N 32.99, 35.109; cf. the horse head at 38.118), bring his jaw parallel to the rider's shoulder (34.105, 37.114, 39.121; cf. N 31.95 and 35.108), or tuck his head down to block out a torso (N 39.120; S 11.31, 13.36). Horse forelegs usually are both lifted and separated in almost dance patterns; a few repeat exactly (e.g., the horses of riders N 29.88 and 38.118). Horse hindlegs also repeat: the rampant horses of riders N 37.115 and 39.121 and the balancing horses of W 2.2 and 4.8 and of 5.10 and 9.16.

These patterns emphasize the division of much of the west and north cavalcade into three horizontal registers. Few figures cut vertically across these registers and repeat in their entirety: the lower bodies of the men W 3.4 and 12.22 and the horses of riders N 34.106 and 39.122.

The south cavalcade emphasizes horse over rider and employs a clearer set of repeated patterns (cf. the heads of horses ridden by S 9.24, 10.27, and 11.29, or by 9.25, 11.29, and 12.32). This subtlety in variation gives a feeling of mass and order to the south cavalcade that is enhanced by the repetition of whole groups (S slabs 9, 11, and 12–13; partially repeated in slab 17).

The existence of these patterns indicates that when planning a length of frieze the designer(s) of the cavalcade used small cartoons for the placement of specific heads and legs and occasionally larger cartoons for entire figures; the assistants who cut the stone seem not to have been the ones responsible for the concept or organization of the figures.

WISE SILENOS: *Aileen Ajootian*, McMaster University

The sculptural type of a sleeping silen, bearded, balding, and paunchy, is known through at least 12 Roman replicas that are generally thought to have been inspired by a late Hellenistic original. The sleeper's head and left arm are supported by an amphora or a wineskin, and these containers frequently were pierced for use as fountains. Replicas and variants of the type have been found in Italy and France, and at least four examples have Greek findspots.

The sleeping silen has been interpreted by modern commentators as a generic, drunken member of Dionysos's retinue, and has not been assigned a more specific mythological identity. But these sculpted silenoi, like several other Hellenistic "genre" types, may actually have had a more precise meaning and function in antiquity. The story of King Midas's capture of Silenos, considered in antiquity to be a wise and prophetic figure, is first told by Herodotus (8.138) and may provide some clues to the ancient identity of these sleeping figures.

According to Herodotus and later authorities, Midas trapped Silenos by filling with wine the spring from which he was accustomed to drink. Once drunk, Silenos was led by Midas's soldiers to the king. Representations of this episode begin in mid-sixth century Attic vase painting, and also occur on non-Attic wares. Most frequently, Silenos is shown being captured by soldiers, or in chains as he approaches Midas. Such scenes continue in the fifth century on Attic vases, and the episode was also depicted on fourth-century South Italian vases. But there are few later representations of this scene in Greek art, and the Roman evidence is similarly scarce.

While the earlier sources do not describe precisely what happened at the wine-filled spring, some later writers specify that Silenos fell into a drunken sleep and thus was captured. The sculptural type of the sleeping silen who rests against an overturned amphora, instead of representing a generic member of the Dionysiac coterie, perhaps originally was intended to represent this moment in the story of Midas and Silenos—a Hellenistic version of the incident—when the wise creature, overcome by wine, fell asleep beside his spring. The Roman replicas of this type, often employed as fountains, would have been suitably placed in a garden setting beside a pool. All the essential narrative elements of the story, incorporated in an actual landscape setting, are present here in three dimensions: the amphora filling the spring with wine instead of water and the sleeper none other than the wise Silenos, thus making the Roman owner of the sculpture and its garden setting akin to Midas himself.

AGIAS AT DELPHI AND AT PHARSALOS: *Steven Lattimore*, University of California, Los Angeles

Epigraphical evidence indicates that Lysippos made a statue of the fifth-century pankratiast Agias for the athlete's hometown, Pharsalos. A statue of the same Agias formed part of a nine-figure family group commissioned for Delphi in the 330s by his great-grandson Daochos II. It is generally believed that the Pharsalos statue was part of a group by Lysippos and that at least the athletes of the Daochos dedication were fourth-century copies of the Lysippan works. The arguments from epigraphy, style, and sculptural technique used to support this relative chronology, however, have all been seriously questioned in recent scholarship. A new suggestion that an athlete on a Panathenaic vase dated 360/59 B.C. and resembling the preserved Delphi Agias reproduces Lysippos's statue for Pharsalos is implausible. Historical probability favors the priority of the Delphi commission. While the Delphi statues show the influence of the Argive-Sikyonian school, there is nothing unmistakably Lysippan about them. The choice of marble, expertly worked, argues against Peloponnesian artists and permits attribution to a Thessalian school; such an attribution can be supported by comparisons with stone sculpture discovered in Thessaly. If Lysippos's statue of Agias was made later than the group at Delphi, it is quite possible that a Roman copy survives: the Vatican *Apoxyomenos*, which is thought to be a copy of the Lysippan Scraper—never satisfactorily identified with any specific commission—placed by Agrippa in front of his baths in Rome.

BRONZE STATUES ON THE ATHENIAN ACROPOLIS: *Diane Harris*, Princeton University

During the massive reorganization of the sanctuaries and festivals of Athens in the 330s B.C., an inventory was made of the bronze statues that stood outside on the Acropolis. The resulting inventory list, now in at least five marble fragments, has received little attention since its publication (*IG II²*, 1498–1501). A new examination indicates, however, that the contents of the inventory may have important ramifications for the history of Greek sculpture.

More than 32 bronze statues are described in the inventory list. The stele originally must have catalogued many more

statues, since a large part of the stele is missing. Some of the statues are described as lacking toes, fingers, inlaid eyes, and tail feathers. These features apparently either deteriorated over a period of time or were stolen. Of the 12 names given on the inventory as dedicants of some of these statues, at least one can be identified as an Athenian citizen active in the 380s B.C. The prosopographical identification of the dedicants, combined with the deterioration of the statues, indicates that the statues may be considerably older than the date of the inventory. The statue types include children, youths, bearded and beardless males, and Palladia. Many of the statues should be considered as groups, since they are described as holding birds or animals. This epigraphical evidence for statue groups as early as the first quarter of the fourth century B.C. must lead to a reconsideration of the traditional Hellenistic dating for such groups. Furthermore, the Palladia mentioned in the inventory list are described in at least two poses, holding objects in one hand or in both. We must thus also reexamine our definition of a Palladian.

THE COMPOSITION OF ATTALOS'S VICTORY MONUMENTS AT PERGAMON: *John R. Marszal*, Bryn Mawr College

Three monuments were erected by or for Attalos I of Pergamon (241–197 B.C.) in the Sanctuary of Athena on the Pergamene Acropolis to commemorate his victories over the Gauls and Seleucids: the Round Monument (*IvP* 20), the Battle Monument (*IvP* 21–28), and the Epigenes Monument (*IvP* 29). Suggested reconstructions of the figural compositions have always proceeded from the assumption that two well-known statues, the Dying Trumpeter in the Capitoline Museum and the Suicidal Chieftain in the Terme, and associated others actually reproduce the lost bronze originals. The statues have been linked at some time with each of the three bases, although current scholarly opinion favors setting them on the Battle Monument, where they are isolated, one in each section, and displayed without opponents (most recently and including comments on earlier reconstructions, H.J. Schalles, *IstForsch* 36 [1985] 49–85).

Examination of the bases, their remains, inscriptions, and typology shows that they could not have supported the supposed bronze originals. Particularly important are two fragments of capping blocks from the Battle Monument (*Jdl* 53 [1938] 133, figs. 4–5) that show attachment traces for the original statues. The Round Monument's base once held a colossal image of Athena (as now broadly accepted); the Battle Monument comprised several approximately life-size battle groups, one in each section, with the victors on horseback and the defeated below them; and the Epigenes Monument held a probably heroically scaled image of Attalos, flanked by divinities.

RECURRING FIGURE-TYPES IN GRAVE STELAI: EVIDENCE FOR PATTERN-BOOKS?: *Carol A. Benson*, Princeton University

Many scholars have noted the phenomenon of recurring figure-types in Classical relief sculpture. Some consider these figures to be a product of the sculptor's visual memory, while

others have attributed the repetition to the use of pattern-books. The friezes of the Lycian heroon at Gjölbaschi-Trysa provide persuasive testimony in support of the latter explanation. The clearly regional sculptors have here in some sections employed the figures and compositions of the Classical Greek iconographic tradition, while in other sections the inspiration is purely Oriental. Scholars have speculated that pattern-books, possibly derived from monumental painting, are responsible for these "echoes" of major Greek monuments in remote places.

Descriptions of Classical grave stelai of the late fifth and fourth centuries B.C. commonly refer to their "stock" figures and "standard" compositions, but little notice has been given to the high degree of two-dimensional similarity in a few extremely popular figure-types. Significantly, in grave reliefs of the later fourth century in particular, the characteristics held in common seem to be the design, pose, and drapery arrangement of the primary figure(s), while details and ancillary figures are highly variant.

The testimony of findspots far outside Attica for a number of grave reliefs with the popular recurring figure-types supports the theory that an easily transportable medium might have assisted sculptors who worked abroad. The contrast between the conformity of the primary figures and the variety of the secondary ones additionally suggests, however, that patterns may have been used not because they were required by the sculptor, but because they contained the images preferred by the patron.

PROPORTIONS IN ACHAEMENID ART: *Jeannine Davis-Kimball*, University of California, Berkeley

The Achaemenid Persians, who dominated the world from India to Egypt between the sixth and fourth centuries B.C., imported foreign artisans to embellish architectural facades with glazed brick or carved stone images. In this paper I address the question of whether or not multiple canons of proportions existed during the Imperial Achaemenid period, and if so, whether or not a trend may be seen in any observable change.

Photogrammetry, adapted to bas-relief sculpture, is the principal methodology employed. A chronology was first assigned to images portraying kings, nobles, guards, and tribute bearers from Susa, Bisitun, Persepolis, and Naqsh-e Rostam. I then identified and measured the anatomical units and costume divisions. These data were entered into a prepared computer spreadsheet that generated proportional relationships. The images' ratios were compared within and between the chronological periods.

This study suggests that each king mandated a distinctive canon of proportions, and with only two exceptions, the king's face is always depicted proportionately much larger than that of any other personage in the same relief. The Treasury Relief reveals three distinct hierarchical systems. Using proportions, I have identified the portrayal of four social classes: the king, the heir apparent, the grand vizier, and guards and attendants. The deviations in the images' ratios suggest new aspects of the king's affiliation with his attendants and nobles. Furthermore, as the magnification of the royal face is dramatic, it emphasizes the king's powerful earthly position, and perhaps suggests more than temporal potency.

SESSION II D: COLLOQUIUM: GREEK ARCHAEOLOGY IN SOUTHERN ITALY AND SICILY

THE CAMPANIAN TRADITION IN ARCHAIC ARCHITECTURE: *Barbara A. Barletta*, University of Florida

The existence of a specifically local style of Archaic architectural terracottas in and around Campania has long been recognized. In the past, sources for this style were assumed to derive from the Italic cities of Campania, especially Capua. With the more complete publication of architectural terracottas from Cumae (L.A. Scatozza, *Klearchos* 13 [1971] 45–111), scholarly opinion has reversed itself, seeing instead a Greek background for this tradition. Yet because of the almost complete lack of stratigraphical evidence, such a view is based primarily on the similarity of types and the presumed priority of Greek over Italic terracotta decoration.

This paper examines the Campanian tradition in Archaic architecture, focusing especially on the terracotta decoration. It offers a stylistic analysis of the distinctive types of architectural terracottas (particularly antefixes and revetment plaques) that, although drawing upon the typology established by V. Kästner (*Archaische Baukeramik der Westgriechen*, Diss., Berlin 1982), differs in its interpretation by arguing a greater role for the Italic centers. The evidence from temple architecture is also discussed. Although such buildings are generally very fragmentary, in their plans or preserved elements of their entablatures, many reflect a similar mixture of styles. The paper thus argues that the Campanian architectural tradition results not simply from the dissemination of purely Greek ideas to Italic peoples, but from a more complex interaction of two important cultures.

REGIONAL SYSTEMS IN ARCHITECTURAL TERRACOTTA REVETMENTS IN SICILY IN THE ARCHAIC PERIOD: *Anna M. Moore*, Princeton University

Sicilian architectural terracotta revetments of the Archaic period represent one of the most distinctive artistic and technical achievements of Western Greek architecture. Sicilian revetments develop a large repertoire of decorative motifs and various combinations of elements (geisa, simae, antefixes) that are unequalled for their creativity and exuberance in the rest of the Greek world. These revetments have been largely ignored in recent scholarship; the last major study was by E. Van Buren in 1923 (*Archaic Fictile Revetments in Sicily and Magna Graecia*). The most recent study by C. Wikander in 1986 (*SkrRom* 8°, XV) was written in conjunction with her work on the terracottas from Acquarossa and was based solely on the published material. In these and other publications, Sicilian architectural terracottas have been grouped into three categories: Blatstabsima, Geloan, and Selinuntine. The results of this study have shown that this is an oversimplified schema that does not take into account the many local systems found in Sicily. A more comprehensive and detailed study is needed to define these systems and include the recent spectacular finds from such sites as Himera, Naxos, Morgantina, and Megara Hyblaea. This paper describes some of these local systems. One

surprising result of this study has been that the type of roofing system used is not related to the type of ground plan. In addition, an examination of the artistic and technical connections between mother colony and sub-colonies (e.g., Naxos, Leontinoi, and Catane) showed few similarities. Closer connections can be seen between politically unrelated cities such as Naxos and Agrigento, perhaps suggesting traveling workshops.

PANHellenic EXCHANGE OF ARCHITECTURAL IDEAS:

Margaret M. Miles, Institute for Advanced Study, Princeton

The battles of Himera and Plateia and the tyrannies of the Deinomenids in Syracuse ushered in a period of exchange between East and West in the arts and in architecture, conveyed through Panhellenic sanctuaries and migrant artisans and architects. By the fifth century B.C., the distinctive regional styles developed by temple-builders in Sicily and Southern Italy in the Archaic period were partially adapted to the "norms" established in mainland Greece. Already Western Greece had contributed architectural ideas to the mainland, such as the invention of carved metopes (most recently, G. Szeliga, *AJA* 90 [1986] 297–305), and now specific features of Western design entered into the architectural vocabulary in the mainland, especially Athens.

Central to the process of diffusion of architectural design in the second quarter of the fifth century was the Great Temple of Apollo on Delos. It must have been a major source of inspiration for the design of the Parthenon, as J.J. Coulton has observed (*Parthenon-Kongress Basel* [Mainz 1984] 40–44). This paper presents the evidence for the date ca. 475–430 B.C. for most of its superstructure, close to Courby's original date (*Délos XII* [Paris 1931] 97–106) rather than the early Hellenistic date proposed by Dinsmoor (*Architecture of Ancient Greece*³ [London 1950] 184), and its "Western" features, which were adapted in the Parthenon. Other Periclean buildings show borrowing from the West, such as the design of the pierced sima in the Temple of Poseidon at Sounion. In turn the Parthenon and its kin on Delos, the Temple of the Athenians, stimulated the use of fresh proportions in Sicily, as in the Temple at Segesta (D. Mertens, *Der Tempel von Segesta* [Mainz 1984] 220–27), and Temple A in Selinous. By the late fifth century, architects in both East and West combined traditional design reflecting regional identity with ideas developed in other cities: the cosmopolitan awareness in temple design characteristic of later periods had begun.

THE CHARIOTEER FROM MOTYA: *Malcolm Bell III*, University of Virginia

In 1979 a marble sculpture of a youthful, standing draped man was found in excavations on the island of Motya, the Punic stronghold off the western coast of Sicily. Generally accepted as an original Greek work of the fifth century B.C., the sculpture has been variously identified. Some have argued a Punic religious subject, associating the work with the place where it was found, while others have considered it to be a charioteer or figure from mythology, and to have ar-

rived on Motya as booty from some Greek city in Sicily. Proposals for dating have been widely divergent, ranging from the 470s to the period after the completion of the Parthenon.

The present paper argues that the subject of the sculpture is an Akragantine charioteer, that it was carved by a mainland master early in the second quarter of the fifth century B.C., and that it was taken to Motya after the Carthaginian sack of Akragas in 406 B.C. Literary evidence is brought to bear on the question of the specific identification of the subject of the sculpture. In this view the work belongs to the artistic culture of the era of tyranny in the second quarter of the fifth century B.C., when, as we know from the sources, many sculptors and poets from the mainland worked in Sicily. The Motya sculpture can be associated with other works that argue for the presence in Sicily of artists from the mainland. These can help to illuminate the heretofore somewhat obscure development of sculpture in the period between the Persian Wars and the Parthenon.

SESSION II E: COLLOQUIUM: TOWARD A DISCIPLINARY HISTORY OF CLASSICAL ARCHAEOLOGY

THE CONTRIBUTION OF PIRRO LIGORIO TO CLASSICAL ARCHAEOLOGY: *L. Richardson, jr*, Duke University

Pirro Ligorio appears as one of the greatest rogues in archaeological scholarship, a liar and a forger. That judgment needs revision. A Neapolitan nobleman trained as a painter, he emigrated to Rome in 1534, and soon made himself a name as a decorator and architect, as well as a collector of antiquities and authority on Roman institutions. An admired member of the intelligentsia of the day, he associated with men such as Antonio Agustín, Onofrio Panvinio, and Fulvio Orsini. In 1549, because of his eminence as an artist and scholar, he was charged by Cardinal Ippolito d'Este with designing the Villa d'Este at Tivoli, particularly the elaborate allegorical program of the decorations and fountains. His interest in architecture led him, while his workmen were ransacking Hadrian's Villa for building materials and antiquities that might be used decoratively, to attempt a comprehensive plan of that immense complex and reconstruction drawings of its pleasures and pavilions. This was so successful that when it came to designing the marvelous Rometta Fountain at Villa d'Este, Ligorio embarked on a project to reconstruct the plan of ancient Rome at the height of its glory. In this he was helped by the plan of Leonardo Bufalini published in 1551. Ligorio's two plans, the first a plan on which only the place designations he could identify were inscribed (1553), and then a grand plan on six large sheets on which he lavished everything he knew about the ancient city and its remains (1561), were a magnificent accomplishment, far ahead of every earlier effort. Had he refrained from filling the lacunae with flights of learned imagination, his work should rank with that of Lanciani. One has only to compare his map with that of Canina to see how much better Ligorio understood the remains and aesthetics of Roman art and architecture. And as for filling in

the lacunae, that criticism can be leveled with a vengeance against Gismondi. Ligorio paved the way for Du Pérac and Cartaro, who plundered his work and eclipsed him by being less perceptive and inventive. He is really the father of the study of ancient architecture, and his voluminous and long-neglected manuscripts on antiquities, in Paris, Oxford, Naples, and Turin, deserve study and publication.

THE ORIGINS OF THE MODERN TRADITION IN CLASSICAL PORTRAIT ICONOGRAPHY: FROM FULVIO ORSINI TO ENNIO QUIRINO VISCONTI: *Eugene Dwyer*, Kenyon College

The turn of the 19th century marks the end of one phase of the study of Classical portrait iconography and the beginning of another. The great work of E.Q. Visconti, *Iconographie ancienne* (Paris 1811–1829), references and sums up the work of Renaissance iconographers beginning with Fulvio Orsini, and continuing with the work of Canini, Bellori, Gronovius, and Winckelmann. By contrast, the next great critical synthesis of iconographic studies to appear, that of Bernoulli, utilizes Visconti as a repertory of earlier scholarship, and omits all but a few references to iconographers of the Renaissance. Hence, it is appropriate that we designate the work of Visconti as the terminus of the first period in the history of modern archaeological iconography.

In Visconti's estimation, the commencement of systematic iconographic studies should be attributed to Fulvio Orsini (d. 1600), librarian to the Farnese and a serious collector of antiquities in his own right. Orsini first applied the principles of historical criticism developed in the editing of texts to the rigorous study of iconography. (He should be contrasted with the humanist and falsifier of a generation earlier, Pirro Ligorio.) In his *Imagines et elogia virorum illustrium* (Rome 1570), Orsini sought to establish the iconography of famous Greeks and Romans, classifying his subject according to occupations, giving priority to numismatic evidence, and rejecting identifications unfounded in antique sources.

This paper surveys iconographic studies from Orsini to Visconti, with special attention to the role of numismatics.

ANCIENT VASES: 18TH-CENTURY APPROACHES TO PUBLICATION AND DISPLAY: *Nancy H. Ramage*, Ithaca College

The collector's interest in ancient vases lagged far behind his interest in sculpture or gems over a period of several centuries. Thus, throughout the Renaissance, despite the fascination with antiquity among the educated classes, there is only the occasional reference to antique pottery, and then it is more often to Arretine than to painted vases.

In the early 18th century, some of the pioneering archaeological books, such as those by Gori, Montfaucon, and Caylus, began to include Greek pottery (under the name of Etruscan vases), and each devised ways of depicting the painted vases in a readable way. Around the middle of the century, Mastrilli opened a "musaeum" in Naples, in which his pieces were exhibited to a selected public. But the biggest breakthrough came by way of Sir William Hamilton, whose

two great collections and the grand publications he sponsored of each of them made Europeans suddenly aware of the interest and value of Greek vases. His vase publications are examined in the light of those of his predecessors, and their impact is assessed.

New evidence for the ways in which Hamilton displayed his pieces, in the form of contemporary paintings and drawings, is compared with the sparse evidence for the way other collectors may have exhibited their pieces. The correspondence reveals precious glimpses into his thoughts on the display of antique pottery, including comments about crowding vases into small spaces, and on the storage of his collections in the "lumber room."

BOOKS ON TRAVEL IN GREECE: *Mortimer Chambers*, University of California, Los Angeles

Among the means by which the knowledge of archaeological and artistic finds in Greece are preserved, a major place must be assigned to the books on travel to Classical lands. After Pausanias, we must make a vast leap to the first voyagers of the Mediaeval and early modern periods. These early travelers, like Wheler and Spon, were fortunate enough to visit Greece before the period of destructive and deliberate spoliation—indeed, they preserve charming and valuable drawings of the monuments, such as "Temple of Minerva" before it was blown up in 1687. Their accounts served as personal recollections of the exotic lands they visited and helped to establish preferred itineraries of sites and monuments for those few who had the resources to make the trip.

The opening of Greece to foreign travelers after the War of Independence marked a distinct shift in the genre of travel literature and its intended audience. The first guidebook per se since Pausanias appears to be that of John Murray in 1840, which reached a seventh edition (1900). He was followed by the great house of Baedeker, which enlisted Habbo Lolling, the successor of Col. Leake as the connoisseur of the Greek landscape, to write its *Griechenland*. Lolling's first edition appeared in 1883; in subsequent editions, the firm enlisted other scholars such as A.J.B. Wace for special areas. Murray and Baedeker were followed by the "Guide Joanne," the forerunner of the French *Guide Bleu*. The German *Griechenlandkunde* of Kirsten and Kraiker, based on sheets distributed to German soldiers during the war, is more technical and omits all information about routes, customs, and daily life. In due course, the English *Blue Guide* split off from the French series; the *Blue Guide* of today is clearly the leading guide book for the general traveler.

This paper traces the development of the guidebook within the historical context of earlier travelers' accounts, and explores the genre as a reflection of changes in the European reception of Classical antiquity.

AESTHETIC GRACE: THE ROLE OF "ANTIQUITY" IN SHAPING ART HISTORICAL PRACTICE: *Donald Preziosi*, University of California, Los Angeles

This paper argues that the modern discipline of Art History, since the time of its academic institutionalization in

Europe and America a century and a half ago, has in large measure been a product of a certain aesthetic sensibility fabricated around an Enlightenment vision of the role of antiquity in the shaping of modern aesthetic taste. While visions of the Antique have of course explicitly and covertly shaped the development of modern artistic practice, little attention has been given to the ways in which the actual staging of academic Art History has itself been a simulacrum of a similar aesthetic sensibility.

Such a sensibility, termed here, after Winckelmann, "aesthetic grace," may be seen as a nexus of complementary attitudes toward order, harmony, and fittingness in the relationships between subjects and objects of study underlying the material organization and rhetorical protocols of disciplinary practice. It is argued here that in its finest details, the discursive apparatus of the modern discipline of Art History promotes a particular aesthetic sensibility under the guise of scientific perspectives on history and artistic or cultural evolution. The paper examines several facets of modern disciplinary practice in arguing its point, including: the formatting of archival materials and historical argumentation; the conceptualization and staging of research activity; the theoretical and methodological assumptions of ancillary enterprises such as museology and classical "archaeology"; and, not least of all, the fabrication of a certain epistemological domain of visibility and illumination in the physical staging of art historical education.

SESSION II F: WORKSHOP: ETRUSCAN MIRRORS

MIRRORS AND MANTEIA: THEMES OF PROPHECY ON ETRUSCAN MIRRORS: *Nancy T. de Grummond*, Florida State University

A surprisingly large number of scenes related to prophecy appear engraved on Etruscan mirrors. The Etruscan prophetic figures *Cacu*, *Pavata* (or *Teiresias*), and *Lasa Vecuvia* are all represented on mirrors; the Greek seers *Calchas*, *Teiresias*, and *Orpheus* also appear in scenes of prophecy, Etruscantized in varying degrees. In addition, a number of mythological scenes include a mask or bodiless head (comparable to the head of *Orpheus*, but bearded; perhaps at least sometimes it is *Silenus*) that seems to prophesy or narrate.

Why were Etruscan mirrors considered an appropriate medium for such themes? There is evidence that the Greeks and Romans practiced catoptromancy—gazing into a mirror or other shiny surface in order to foretell the future. *Pausanias* (7.21.12) reports that at *Patrai*, an oracle revealed whether a sick person would recover or not; a mirror was lowered into the water in a well and raised back up; the inquirer then looked into the mirror for a vision of the patient in the future, either alive or dead. The Roman emperor *Julian* employed a child to look into a mirror and foresee the future (*Did. Iul. Vita* 7.10). It has been argued that the painted cycle in the *Villa of the Mysteries* (Pompeii), showing a *Silenus* holding a silver bowl as a young satyr gazes into it, represents an oracular act, somehow related to the mysteries revealed to the bride in the paintings.

In this paper it is hypothesized that the Etruscans may have also thought of the reflecting surface as revealing hidden knowledge. Comparative anthropology shows that a mirror was sometimes consulted by an unmarried maiden in order to determine who her husband would be. This specific usage may be alluded to in the numerous engravings that show the bridal figure *Malavisch* gazing into a mirror. In addition, *Lasa Vecuvia*, generally acknowledged to be equivalent to the prophetic Nymph *Begoe* mentioned by Roman authors (e.g., *Serv. ad Aen.* 6.72), is shown gazing into a mirror on an Etruscan gold ring seal (*Villa Giulia*, Rome), perhaps in an act of foreseeing the future. A general usage of the mirror as instrument of vision may be implied by the popularity of the other engraved mythological scenes of prophecy.

PELEUS, THETIS, AND OTHERS IN THE METROPOLITAN MUSEUM: *Eleanor Earle*, Narragansett Society

The symbol of the *Corpus Speculorum Etruscorum* is, appropriately, a goddess holding a mirror in which her image is reflected. This symbol is taken from a fourth-century B.C. Etruscan mirror in the Metropolitan Museum collection. The scene shows *Peleus* surprising *Thetis*, accompanied by *Calaina*, at her toilette. Inscriptions identify them. In the light of recent publications, the time is appropriate for an examination of this and other mirrors in the collection.

ANALYSIS OF TWO ETRUSCAN MIRRORS IN THE SEATTLE ART MUSEUM: *Helen Nagy*, University of Puget Sound

The *Corpus Speculorum Etruscorum* project is providing a tremendous impetus for the study of Etruscan mirrors. Although *Gerhard's* monumental volumes offered a wealth of scholarly information and rich illustrations, the new fascicles' more scientific approach allows us to study these objects in new contexts.

The two mirrors under consideration are of the tanged type and bear incised decoration on their concave sides. They represent two diverse approaches to the decoration of mirrors. No. 48.23 may be dated to the fifth century B.C. on technical evidence. The style of the decoration supports this date. The single figure of a heavily draped maenad strides to her left as she pulls on the legs of a small doe (?). Her drapery billows around her and fills the circular field most effectively. The execution is bold; the lines are thick and simple. The effect is one of expressive energy with an emphasis on decoration rather than narrative. No. 48.36 belongs to a later group, probably the late fourth/early third century. The four-figured scene placed before a pedimented structure is complex, executed by a fine point. The figures' proportions are odd, their gestures frozen. The artist repeats a well-worn formula that the Etruscans adapted to a variety of iconographic situations. The theme here is probably the *Judgment of Paris*, but very similar compositions may represent different groups of mythological figures. From an iconographic point of view this mirror may deserve more

attention. The earlier example, however, is a far more successful decorative composition for a functional object.

This paper analyzes these objects primarily from the compositional and technical angles and places them in a larger cultural context by comparison with parallels of secure archaeological provenance to suggest a number of questions regarding the "taste" and social status of their owners.

THE ETRUSCAN BRONZE MIRRORS IN BERKELEY:

Evelyn E. Bell, San José State University

The Robert H. Lowie Museum of Anthropology at the University of California, Berkeley, has in its collection of ancient Mediterranean art 30 Etruscan bronze mirrors and fragments. These are being prepared for publication in a fascicle of the *Corpus Speculorum Etruscorum* by Evelyn Bell, of San José State University, and Helen Nagy, of the University of Puget Sound.

Seven of the Berkeley mirrors are engraved with figural scenes, while the remaining mirrors and fragments are undecorated. Of the engraved mirrors, six have a tang for insertion into a separate handle (none of the handles has been preserved), and one has a disc cast in one piece with its handle, which terminates in the head of a ram. This last mirror is engraved with a scene of four figures, two males dressed in tunics, one female in a Phrygian cap, and one nude male, set against an architectural backdrop. These figures are probably to be interpreted as the Dioscuri with Minerva and a nude hero (perhaps Menelaos). Two of the mirrors with tang depict a nude, winged female figure of Lasa type. Another mirror replaces the figure of Lasa with one of Minerva, winged and fully armed, moving, like Lasa, in a field of flowers. One of the Berkeley mirrors is said to represent a woman with two children; unfortunately, heavy corrosion allows only a tantalizing glimpse of the figures, which are accompanied by at least one inscription.

Stylistically the finest of the mirrors in Berkeley features Eros, who holds a dead hare, and a warrior in a rocky landscape. This mirror has been published by G. Matteucci, who attributes it to the same artist as two mirrors from the vicinity of Chiusi (*AJA* 50 [1946] 60–66).

ETRUSCAN RELIEF MIRRORS: A STYLISTIC AND ICONOGRAPHIC ANALYSIS: *Alexandra Carpino, University of Iowa*

A rare class of mirrors in the extant corpus of Etruscan metalwork is a type with the principal decoration on the reverse, cast in relief, and embellished with incisions, inlays, and/or punches. Antecedents for this type are difficult to find in Near Eastern or Classical art (the Greeks did not begin producing box mirrors in the relief technique until the Hellenistic period); Etruscan examples represent nearly unique prestige objects that speak of Etruscan wealth, creativity, and skill during the Archaic and Classical periods.

Viewed as a series, these relief mirrors present a progression of types that correspond to mirror production from the late sixth and early fifth centuries, when Etruscan society was politically and economically stable, to the third century, before the Romanization of the city-states had been com-

pleted. Given their heights (high in comparison to the weights of engraved mirrors) and relative rarity, relief mirrors must have functioned as prestige objects indicative of their owners' wealth and social status. The shapes and figural styles found on the relief mirrors closely correspond to those found on engraved mirrors, suggesting that the same craftspeople and workshops were responsible for both types.

The stories depicted on relief mirrors are unusual, unique, or infrequently portrayed. Yet similarities in shape, border decoration, and figural style among them and other objects in Greek and Etruscan art have enabled scholars to establish a relative chronology of types and to hypothesize on their place of manufacture. The earliest were traditionally placed in the Etruscan Proto-Classical period (480–450 B.C.): new chronological evidence suggests dates in the late sixth century B.C. The majority seem to date to the mid-fifth century B.C. The relief mirrors with known archaeological contexts come from the region surrounding Vulci. Given the stylistic and typological similarities between the Vulcian mirrors and those without proveniences, Vulcian workshops may have also been responsible for the production of the majority of the Etruscan relief mirrors.

SESSION III A: EXCAVATIONS IN GREECE AND CYPRUS

NEW DISCOVERIES IN THE ARCHAIC TEMPLE OF POSEIDON AT ISTHIA: *Frederick P. Hemans, Isthmia Excavation Project*

Since the appearance of Oscar Broneer's work on the Archaic temple at Isthmia (*Temple of Poseidon, Isthmia I*, 1971), his reconstruction of the remains as the earliest Doric temple on the mainland of Greece has been controversial. The reconstruction was admittedly conjectural in several key respects since very few remains were uncovered in situ. Broneer's proposed date for the temple, not long after 700 B.C., has also been questioned because the primary evidence he presented was the Daedalic style of the moveable, marble perirrhanterion, the base of which was discovered at the eastern end of the building. In 1989, the University of Chicago Excavations at Isthmia conducted new excavations at the sanctuary and uncovered evidence in situ that establishes the size and form of the temple's plan. Furthermore, floor deposits were excavated that yielded ceramic evidence for the construction date of the temple (690–650 B.C.).

Two new sections of the building were discovered that now allow an accurate reconstruction of the plan of the temple. At the west end of the building a long robbing trench was discovered that connects with previously known robbing trenches on the northern and eastern sides. These trenches mark the location of a continuous stylobate for three sides of the temple's peristyle and establish an overall east–west length of ca. 39.25 m.

On the south side of the temple the location of the south cella wall is also preserved by the fill from the robbing of its blocks. Excavation on the southern edge of this robbing trench exposed a series of 10 pits against the cella wall that are evenly spaced at intervals of 2.26 m. Based on the

relationship of their position to the stylobate and other evidence, these pits must be interpreted as the locations where the foundations of buttresses for the cella wall were removed. Furthermore, the position of the wall buttresses can be used to reconstruct the spacing of the columns on the stylobate, since the buttresses and columns supported the beams of the roof.

With the discovery of these two elements, the interpretation of the temple that seemed so enigmatic is now clear. The peristyle temple held seven columns on the ends and 18 on each flank spaced at intervals of ca. 2.21 and 2.26 m, respectively. Overall dimensions at the outside of the stylobate were ca. 39.25 × 14.10 m, and the cella was ca. 7.9 m wide with a single row of columns in the center.

Floors within the pteron are preserved on all four sides of the building and their excavation yielded ceramic evidence for the date of the construction and subsequent remodelings. The latest ceramics found in the construction layers and beneath the earliest floor are fragments of a Middle Protocorinthian aryballos and conical oinochoe, dated 690–650 B.C. The fill from two later floors shows that there were minor repairs made to the temple in the middle of the sixth century and again in the late sixth or early fifth century.

The new discoveries in the temple confirm its importance for understanding the early development of monumental Greek architecture. Although the temple at Isthmia is contemporary with the second Temple of Hera at Samos, the construction techniques of the latter are primitive in comparison. At Samos, a thatched roof was used and its stones are dressed only at the face. At Isthmia, the roof was made with a sophisticated system of large terracotta tiles and its walls were constructed of squared stone that employs an early form of anathyrosis. Study of the wall blocks is continuing and at the conclusion of this work a full reconstruction of the temple will be presented.

EXCAVATIONS AT PHALASARNA, WESTERN CRETE, 1989–1990: *Frank J. Frost*, University of California, Santa Barbara, and *Elpida Hadjidaki-Marder*, Archaeological Museum, Chania

During the short season of 1989, brush was cleared and an improved map was drawn of the visible fortifications. At the same time a team from the Geophysical Laboratory of the University of Patras conducted a magnetometer survey of the field north of the harbor perimeter walls with the goal of locating walls and buildings associated with a long ashlar wall excavated in 1988.

In 1990 the trench containing this ashlar wall was extended to find crosswalls indicated by the magnetometer survey. The major crosswall proved to be made of rubble and is possibly associated with the final siege of Phalasarna. Excavation in the area of the northern harbor tower continued, leading to the discovery of an earlier, well-constructed tower contemporary with the round tower at the southeast corner of the harbor. The later tower had been built against the western edge of the earlier one, probably in an attempt to improve the defenses in this sector. Associated pottery indicates a date in the second century B.C. for the rebuilding.

A test trench was started at the eastern edge of the enclosed harbor to locate the original water's edge. A quay built with massive blocks was discovered. Door sockets to the east probably led to a floored storage area.

Finally, the conservator continued the work of cleaning the cistern associated with the south tower and partially cleared the pebble mosaic floor. The silt trap and drain in the cistern now prove to have been made from one large sheet of lead.

KALAVASOS-KOPETRA, 1990: *Murray McClellan*, Boston University, and *Marcus Rautman*, University of Missouri–Columbia

The fourth season of the Kalavassos-Kopetra Project, conducted in May and June 1990, continued the examination of the late antiquity of the Vasilikos Valley on the southern coast of Cyprus. As in previous years, the Project concentrated on a sixth–seventh century A.C. agricultural and mining community that lies on a plateau just above the river valley, combining topographic reconnaissance of the site and its vicinity with excavation of different parts of the settlement area.

This season a limited set of sondages were conducted within the basilica and ecclesiastical complex on the hill of Sirmata (Area I), which had been nearly completely exposed in the 1988 and 1989 campaigns. Here the Project continued to reveal fugitive traces of a domestic and agricultural reoccupation of the area following a probable mid-seventh century A.C. destruction of the site by Arab invaders.

The main effort of the 1990 season was in Kopetra (Area II), where the Project has uncovered a contemporary Early Christian three-aisled basilica with an attached side chapel to the south. In its earliest phases, this basilica had been decorated with molded gypsum plaster architectural details, including a small relief sculpture of the *Theotokos*, and with elaborate wall mosaics over the apses. The wall mosaics are no longer in situ and are extremely fragmentary, although a few of the over 600 preserved fragments do show that it originally contained figural representations. The basilica apparently was abandoned for some period of time, perhaps as a result of incursions by Arabs in the mid-seventh century A.C., after which time small churches were built over the central bema of the basilica and over the eastern end of the southern chapel. The later church over the bema had benches running around the walls and the interior of the apse, and it was floored with a tessellated mosaic containing a geometric pattern of interlocking squares and circles. A stone-lined tomb, set up outside the southern wall of the later church, contained the skeletal remains of two adult males of advanced age.

1990 EXCAVATIONS AT MOCHLOS: *Jeffrey S. Soles*, University of North Carolina at Greensboro, and *Costis Davaras*, Archaeological Institute of Crete

The Greek-American excavations at Mochlos, begun in 1989 under the auspices of the American School of Classical Studies at Athens and the Archaeological Institute of Crete, continued in the summer of 1990. Excavations continued on

the island of Mochlos in the Prepalatial cemetery and in the settlement area along the south coast, where Richard Seager excavated in 1908, and began on the adjacent coastal plain in an area behind the village of Mochlos on the road leading to Limenari, and at Palia Vardia. Twenty new trenches were opened and remains of five different chronological periods were uncovered.

On the island a settlement of the Early Byzantine period, with some reoccupation in the 13th century, has been found to overlie much of the Neopalatial settlement, sometimes with walls of the seventh century A.C. resting directly on top of walls of the 16th century B.C. Parts of three seventh-century houses have now been excavated.

A roughly cobbled road found last year, dating to the LM III reoccupation of the site, was followed to its end this year. The road, which runs on top of the western facades of the Neopalatial houses in Seager's Block D, leads up from the coast to a large LM IIIA2 house extensively remodeled in the LM IIIB phase. It is the first house of this period found on the island and is contemporary with the chamber tombs excavated directly across from the island in 1986 by N. Papadakis.

Work continued on the two Neopalatial houses discovered last year and parts of four more houses and three streets of this date were exposed. The major discovery of this period, however, is a large LM IB settlement located across from the island behind the modern village. Four trenches opened here revealed an industrial establishment for the manufacture of bronze objects and stone vases in one area and a small bench shrine in another. This site represents a major expansion of the LM IB settlement at Mochlos and is apparently due to the arrival of new settlers.

Additional rooms of the Prepalatial house, partially exposed last summer beneath the Neopalatial settlement on the island, were uncovered, and a paved street with EM II/III pottery was found running behind the house.

THE 1990 EXCAVATIONS AT THE ATHENA ALEA SANCTUARY AT TEGEA: *Mary E. Voyatzis*, University of Arizona, and *Erik Østby*, Norwegian Institute of Archaeology at Athens

The first of five seasons of excavations at the Sanctuary of Athena Alea at Tegea began in 1990, directed by Erik Østby. The project is a cooperative effort of the Norwegian, French, Italian, and Swedish schools of archaeology in Athens, the Greek Archaeological Service, and the University of Arizona. The principal purpose of the program is to investigate the outlying regions of the Sanctuary, mainly in the northern part, with a particular emphasis on the Archaic period. A related long-term goal is to determine, by stratigraphical criteria, the date of the Archaic temple, argued by Østby to be late seventh century B.C. (*OpAth* 16 [1986] 75–102). A general topographical survey of the area of the Sanctuary is also underway.

In the 1990 preliminary season the surface of the northern area was cleared and excavation begun. Previous investigation in this region consisted of a small trial trench dug by the French in 1910 and a number of trenches excavated by G. Steinhauer, of the Greek Archaeological Service, in 1976

and 1977. This year, Steinhauer's trenches were cleared to uncover the stratigraphical sequence. Also, three new 5-m² trenches aligned with those of Steinhauer were opened.

In one of the trenches, below a layer containing skeletons of post-antique date and a Hellenistic layer, a stratum was found containing a mixture of fourth-century and Late Geometric material, indicating a dump created at the time of the building of the fourth-century temple. Further north, in two adjoining trenches, the unexpectedly deep foundations of relatively recent houses had destroyed the archaeological layers above the Archaic period. In a sixth-century stratum in this area, burned bones and stones (not in situ) were found with significant fragments of Archaic pottery, terracottas, and bronzes. These objects give hope of further finds in the earlier strata in future seasons.

In the process of cleaning a trench from Steinhauer's excavations, two large pieces of bronze slag were found in a stratigraphical context datable to the seventh century B.C., in a thick layer with much carbon, bronzes, and pottery. This find indicates that the working of bronze took place at Tegea at least as early as the seventh century B.C. It is hoped that in future seasons we may locate the bronze workshop.

THE RACHI SETTLEMENT AT ISTHMIA: REPORT ON THE 1989 EXCAVATIONS: *Virginia R. Anderson-Stojanović*, Wilson College

Under the auspices of the University of Chicago and the American School of Classical Studies at Athens, excavations were carried out by the author on the ridge known as the Rachi, south of the Sanctuary of Poseidon at Isthmia during the autumn of 1989. The long season of excavations revealed an extensive Early Hellenistic settlement along the south side of the hill, as well as additional structures at the top of the ridge, an area partly uncovered in earlier excavations by the University of Chicago (O. Broneer, *Hesperia* 24 [1955] 124ff., 27 [1958] 17–20, 31–32, 36; C. Kardara, *AJA* 65 [1961] 261–66). The remains of vats and working floors in those structures were interpreted by Kardara as part of a dyeing establishment.

Five new areas of the settlement were investigated, including several new workshops with cement-lined vats and tanks, and adjacent basement storerooms cut from bedrock; several of these chambers contained intact Corinthian pan tiles and architectural pieces, perhaps awaiting reuse. All contained great quantities of pottery and loomweights. One complete four-part structure, with steps cut into the rock connecting upper- and lower-level working areas, with living quarters perhaps above, was of particular interest.

The large public building on the north edge of the hill (the Poros Building) was fully excavated, revealing a fifth room at the east, and the line of the back wall at the north. The plan and its association with the workshops suggest that it housed shops for the products produced on the hill. Preliminary study of the pottery indicates a construction date for both in the second half of the fourth century B.C. The entire settlement was destroyed by fire in the last quarter of the third century B.C., and abandoned shortly afterward as suggested by the evidence of ceramics, coins, and stamped amphora handles. This destruction provides a significant

terminus ante quem for the broad range of Corinthian and Attic pottery types found in the debris.

The identification of the site as a center for processing textiles has not yet been substantiated by the 1989 excavations, but analysis of earth and residues in large vessels, as well as in the various vats and tanks, when completed should help to clarify the nature of the products manufactured in this unique settlement on the Rachi.

SESSION III B: ROMAN ART IN CONTEXT

PORTRAITS AND PORTRAIT STATUARY FROM COSA:

Jacquelyn Collins-Clinton, Wells College

The unpublished Roman imperial portraits from Cosa include two fragmentary male heads, one of which probably portrays Claudius, and two female heads, one of which is a bust of Agrippina Minor, the other a veiled head possibly of Octavia, Nero's first wife. A head of Hadrian is also said to have been found on the site. Among the headless statues four come from the forum and three from the arx. Most are Julio-Claudian, which accords well with the reconstruction and embellishment of the town beginning under Augustus after the disaster of the late Republic, when Cosa was severely damaged.

Three of the four statues from the forum decorated the *scenae frons* of the odeum near where they were found: a "hip-mantle," a *togatus*, and a draped female. The drapery style of the last two and the statuary type of the female are Neronian. Epigraphical evidence for the construction of the odeum by Nero just before he became emperor reinforces the Neronian date for these three. They must represent Nero, Octavia, and probably Augustus in the "hip-mantle." This group may be associated with similar statuary groups commemorating the Julio-Claudian dynasty that have been found all over the Mediterranean, but principally in Etruria and Umbria. These groups are often displayed in theaters, such as the well-known group from Caere.

The three statues from the arx include a seated Jupiter Capitolinus, a cuirassed figure, and a fragmentary *togatus*. The cuirassed statue may be Flavian, for the decoration on the cuirass seems to be Flavian. Moreover, Vespasian was reared on his grandmother's estate near Cosa (Suet. *Vesp.* 10.2); see also inscriptions naming Vespasian found near Cosa (*CIL* XI, 2632 and *Maremma* 8.3 [1933] 5). The statues were probably erected in the Capitolium.

THE ROMAN VILLA AT SPERLONGA: AN ARCHITECTURAL REEXAMINATION: *James Higginbotham, Bowdoin College*

Since the accidental discovery of many sculptural fragments in the grotto of Sperlonga in 1957, the site has been the center of scholarly debate over the dates and disposition of the restored sculptural groups. The architecture of the site has received less attention and its study may hold the key for the understanding of the context in which the groups are placed.

The littoral zone between Terracina and Formia was made more accessible after the construction of the coastal road by the censor Lucius Valerius Flaccus in 184 B.C. Shortly thereafter, remains associated with coastal villas appeared in this area. The promontory of Sperlonga, with its large grotto, became the site of a large *villa maritima*. During the first century B.C. the area around the grotto was modified. The cave was adapted to form part of an elaborate fishpond fed primarily by springs, emanating from the cave, and supplemented by salt water from the sea. In a pavilion located in the center of the pond, diners could recline surrounded by fish-filled waters, listening to the sea while enjoying a clear view of the grotto. The west side of the promontory, with its decorated grotto, fishpond, and dining places, formed only a small secluded portion of a much larger residence that extended to the east side of the hill. Close examination of the architecture associated with the fishpond and adjacent structures suggests that the grotto was the focus of one wing belonging to a large Republican villa. Subsequent phases placed more emphasis on the cave and the west side of the promontory.

This paper traces the chronological development of the villa at Sperlonga with particular attention to the structures in and around the grotto. The careful examination of these buildings provides an important basis for the understanding of this villa and its sculptural decor.

THE ESQUILINE HORTI IN ROME: NEW RESEARCH:

Ruth Christine Häuber, Museum Ludwig

Ten years ago I became interested in the statues that might be attributed to the Gardens of Maecenas on the Esquiline, and I have been studying them ever since. To attribute the statues I had first to establish precisely where they were found, and in order to do that, I had to tackle the difficult problem of the ancient topography of the Esquiline and its Horti. Helga Stöcker, of the Römisch-Germanisches Museum in Cologne, has drawn a new map, on which with the help of the original drawings of the 1866 Land Survey (the survey current at the time of the excavations) it has proved possible to locate about 40 of the ancient buildings recorded in sketches by the excavators. We paid particular attention to any evidence for ancient roads in the hope that they would reflect the boundaries of the Horti, and in this regard we also incorporated Emilio Rodríguez-Almeida's proposed positioning of some fragments of the Severan Marble Plan, which has been confirmed by recent excavations by the Soprintendenza of Rome. Consequently, we now have a much clearer picture of the Oppian as it was when Maecenas laid out his *novis hortis* (Horace). His Horti were bounded on the west by the *via in figlinis*, where no less than four compital shrines were located. Within his Horti, as we hear in *Elegy* I, Maecenas also revered Apollo, the Muses, and Minerva. On the new map I propose a reconstruction of the *Diaeta Apollinis* (described in some detail in a lost inscription) and would suggest that it was built by Maecenas, in imitation of the Museion in Alexandria, for the reception of his famous circle of poets. Lastly, because the ancient *Via Merulana*, which has long been thought to represent the eastern boundary of the Horti Maecenatis, appears to be a creation of the fourth century A.C., I propose that the

buildings hitherto believed to form part of the neighboring Horti Lamiani were in fact part of Maecenas's property. The location of the Horti Lamiani is unresolved.

**THEATRICAL TASTES IN TWO POMPEIAN HOUSES:
THE STAGING OF OWNERS AND EMPERORS:** *Ann
Olga Koloski-Ostrow*, Brandeis University

Two Pompeian houses, reputedly associated with the *gens Poppaea*, are unusually rich in the imagery of Hellenistic and Roman drama: I.10.4 (Casa del Menandro) and VI.16.7 (Casa degli Amorini dorati). Both of these houses are so physically and thematically theatrical that they immediately make us recall the description in the *Cena Trimalchionis* of Trimalchio's house and household as one long and noisy stage show. Why would private houses be so decorated, and what specifically might have been the inspiration for such tastes?

This paper suggests that the artistic fascinations of the Julio-Claudian emperors (my focus is on Nero, given the dating of the houses) had a rather more direct influence on house decor of the period than has previously been observed, and concurs with the work of A. Wallace-Hadrill (*BSR* 56 [1988] 43–97) that the Roman aristocratic house was a “stage” for the *patronus*—emulating the emperor's own policy of “staging” himself. Argument defends the claims from the inside out and back again. First there is consideration of stage-like architectural features, small paintings of masks, and Julio-Claudian symbolism (such as scenes with the Trojan theme or Venus and Amor) in the houses seen in connection with the broader issue of theater and entertainment in the context of the private house (Mart. 5.78; Petron. *Sat.* 31.4, 32.1, 33.4, etc.; Pliny *Ep.* 1.15, 3.19; Sen. *QNat.* 7.32.3). Suetonius (*Ner. passim*) provides the evidence for imperial taste, the theatricality of the emperor, and the emperor as a spreader of popular culture and imperial symbolism. In conclusion this Pompeian material reveals a more accurate measure of imperial influence on aristocratic tastes when viewed as a response to a whole cultural setting emanating from the Julio-Claudian court.

**A COMPUTER DATA BASE OF POMPEIAN HOUSE CON-
TENTS AND ITS APPLICATION:** *Penelope Allison*, Uni-
versity of Sydney

From my interest in the relationship between decoration and room function in Roman houses I have discovered that room function studies have traditionally depended on architectural and literary evidence, paying little heed to the house contents found in situ at Pompeii.

Using the unpublished excavation reports in the Pompeii archives and the extant remains in Pompeian houses, I have compiled a data base of the contents of some 40 Pompeian houses, to set up a sample from which to study artifact distribution. Even when one takes into consideration the inadequate excavation techniques and post-eruption looting, the emerging patterns of distribution throw new and interesting light not only on habitual room use but also on the state of the city immediately before the final volcanic eruption. The results support neither the current theories on the

process of the abandonment of Pompeii, which appears to be much more complex than generally believed, nor those on room identification and use in Roman houses, which have often relied on the interpretation of the archaeological data from the standpoint of Roman literature.

This study of artifact assemblages is providing a clearer picture of the chronology of the last years of Pompeii. It forms an excellent basis for questions relating to, e.g., disaster behavior; our capacity to determine depositional processes; and our ability to isolate “normal” and “abnormal” conditions in the archaeological record.

**SESSION III C: PREHISTORIC MEDITERRA-
NEAN I**

**MESOLITHIC CREMATION AT FRANCHTHI CAVE,
GREECE: EVIDENCE AND IMPLICATIONS:** *Tracey Cul-
len*, American Journal of Archaeology, and *Della
C. Cook*, Indiana University

The human remains discovered in Upper Palaeolithic levels at Franchthi Cave consist mainly of isolated teeth, some of which were shed naturally during childhood. The Mesolithic levels, by contrast, provide the earliest evidence at the site for formal treatment of the dead: a cluster of eight burials (seven adults, one infant) was discovered at the mouth of the Cave.

Recent reexamination of the excavated bones indicates that two of the adults (one male, one female) had been cremated. The scorched condition of the bones had been noticed earlier, but attributed to accidental burning. A comparison of human and animal bones from the relevant units, however, makes it clear that the human bones had been burned much more thoroughly—often totally calcined—probably at higher temperatures for a longer period than the animal bones, which are only superficially charred. Moreover, signs of differential burning suggest that the human bones were burned while encased in flesh. There is no evidence for cannibalism.

The discovery of cremated individuals at Franchthi, as well as the small cemetery at the Cave mouth, is unparalleled in the Mesolithic Aegean. The significance of mortuary ritual for hunter-gatherers using the Cave is explored by reference to other aspects of the archaeological context (e.g., contemporary interest in personal ornamentation, suggested by large numbers of pierced *Cyclope neritea* shells). Examples of Mesolithic cremation from Europe and the Middle East are briefly discussed.

**TECHNOLOGICAL AND CULTURAL ASPECTS OF LATE
NEOLITHIC POTTERY FROM KITRINI LIMNI (WEST-
ERN MACEDONIA):** *Alexandra Kalogirou*, Indiana
University

This paper deals with the manufacturing technology of excavated pottery from the Late Neolithic mound Megalo Nisi Galanis, one of 13 Neolithic mounds identified in the southern end of the Ptolemais basin (Kitrini Limni).

An international project of archaeological exploration in the basin, combining surface survey and excavation, was begun in the summer of 1987 under the direction of Mihalis Fotiadis (University of Michigan) and the auspices of the Greek Archaeological Service.

Given the geographic location of the Ptolemais basin and its probable ties with both the Balkan (present-day Albania, Yugoslavia, and Bulgaria) and the Aegean Neolithic cultures, questions of interaction and exchange during the Late Neolithic period are addressed on the basis of the ceramic evidence. The analysis is carried out on three levels: 1) local (the Ptolemais basin), 2) regional (Western Macedonia), and 3) interregional (Western Macedonia and the Aegean, Western Macedonia and the Balkans).

IF THE GREEK STONES SPEAK, WHAT ARE THEY SAYING? THE ANALYSIS OF STONE TOOLS: *P. Nick Kardulias*, Kenyon College

The analysis of flaked stone tools from various regions of Greece provides considerable information on site chronology, subsistence practices, exchange networks, and the evolution of technology. This report compares material from the Stanford University Southern Argolid Survey and the British School excavation at Agios Stefanos in Lakonia. Argolid sites give us a broad understanding of various trends that can be checked against individual sites with stratigraphic contexts, such as Agios Stefanos. A brief description of analytical techniques precedes discussion of the lithics as important cultural markers. Time periods represented by the lithics from the two regional projects cover the span from Middle Palaeolithic (ca. 55,000 B.P.) to Early Modern in the Argolid and Bronze Age to Late Byzantine at Agios Stefanos. Research has determined dates for the survey material by technological attributes, geological associations, and a chronometric method (Uranium-Thorium decay). Stratigraphic associations yield chronological data for the Agios Stefanos lithics. The type of material used in the two regions indicates the relative importance of lithic resources and ease of access to exotic sources. The thesis that acquisition of Melian obsidian was an adjunct to the procurement of other resources is supported by the results of this study. The skill exhibited by knappers and the quantity of material provide insights into the development of stone working techniques through time and the degree of craft specialization. This study suggests the presence of a specialized obsidian production center in the Southern Argolid, but not in Lakonia. The analysis indicates inhabitants in both regions manufactured similar tool types that reflect similar subsistence adaptations. The production of obsidian blades in both regions during the Bronze Age exhibits tight statistical clustering and indicates considerable sharing of technology between different sociopolitical units.

CHAERONEIA EXCAVATIONS, 1989: MIDDLE HELLADIC BURIAL PRACTICES: *Hara Tzavella-Evjen*, University of Colorado

The 1989 excavation of Chaeroneia, Greece, sponsored by the Archaeological Society of Athens, concentrated on

the southern part of the well-known Neolithic *toumba*. Part of an impressive Middle Helladic settlement was unearthed, the remains of which belong to houses and fortification walls. The ruins extend for over 50 m east–west along the south side of the *toumba*. A secondary burial was discovered within the foundations of a fortification wall. This calls for speculations regarding the importance of such practice, testimonies of which have survived in Classical literature. The cemetery of this MH community was located ca. 200 m east of the settlement.

The discovery of a new MH site in Boeotia, and not far away from Orchomenos, is of special interest, as is the first archaeologically attested secondary burial within the foundations of fortification walls.

CAPO ALFIERE 1990: CONTINUED EXPLORATION OF THE STENTINELLO NEOLITHIC IN EASTERN CALABRIA: *Jonathan Morter*, University of Texas at Austin

A first season in 1987 at the Neolithic site of Capo Alfiere, near Crotone, Calabria, uncovered part of an unusual large stone structure (see J. Morter, *AJA* 94 [1990] 328). Excavations by the Institute of Classical Archaeology of the University of Texas at Austin, resumed at Capo Alfiere during the summer of 1990, have revealed that the large walls were probably part of the third of five phases of Neolithic occupation at the site. Indeed, present data suggest that all five of these phases of occupation occurred within the Middle Neolithic period alone—a rare stratigraphic find for this area.

Of particular interest are the first and third phases. The earliest level of occupation has produced pottery suggesting a transitional episode with Early Neolithic impressed motifs lingering alongside Stentinello impressed designs. The limited area exposed also demonstrated structural remains from this phase and different chipped stone raw materials usage.

The third phase, also of a Stentinello character, was the best preserved architecturally. The very large walls apparently represented an enclosure around a smaller structure with a cobble floor. A kitchen area with hearth and mortars survived in the smaller structure. Both of these finds are without immediate local parallels. Bone and seed materials were recovered from several levels and are now under analysis. ¹⁴C dates are expected.

LA MUCULUFA (LICATA, SICILY): THE 1989 AND 1990 FIELD SEASONS: *Brian E. McConnell*, Brown University

Continuing fieldwork at La Muculufa is widening our view of life during the Early Bronze Age in Sicily at the only Castelluccian village to be explored systematically since Piero Orlandini's pioneering research at Manfria near Gela in the 1950s. Excavation during the summer of 1989 by the Center for Old World Archaeology and Art (Brown University) for the Soprintendenza ai Beni Culturali ed Ambientali di Agrigento has completed the examination of four hut-structures at the center of the village (see *AJA* 93 [1989] 276–77). A

circular hut (6 m dia.) with an interior bench provides the earliest example of an indigenous architectural tradition that would last through the Sicilian Iron Age and the arrival of Greek colonists. A larger hut (9 m long) was found to have had terracotta phalli set around its stone wall-socle, probably for apotropaic protection. Rich ceramic and other finds, including a shell-and-pendant necklace, have been recovered from these structures. Bits of charred wood provide calibrated radiocarbon dates around 2000 B.C., as well as evidence for the presence of the olive tree in Early Bronze Age Sicily. Other botanical remains are currently under analysis.

The total area covered by the village is estimated to be at least 30,000 m². A geophysical survey performed by Bruce W. Bevan (Geosight) during the summer of 1990 identified electromagnetic anomalies, which may indicate the lines of terraces upon which the village was built.

Excavation near the prehistoric structures has revealed the presence of a single-room farmhouse of Hellenistic date, while continued exploration on the rocky crest above the village has produced evidence for the cremation of human remains during the Early Bronze Age, perhaps in relation to ritual caretaking that took place at the entrance to the site's prehistoric necropolis.

SESSION III D: AIA/APA JOINT SESSION: PERSPECTIVES ON THE PAST: PUTTING TOGETHER ARCHAEOLOGY, HISTORY, AND PHILOLOGY

CHALLENGES IN USING TEXTS AND ARCHAEOLOGICAL DATA TOGETHER: *Nancy Wilkie*, Carleton College

Archaeology in general, and prehistoric archaeology in particular, received much of its initial impetus from the study of ancient authors. The elucidation of our texts, therefore, owes a great deal to the work of archaeologists during the last century. The desire to confirm literary evidence with "on-the-ground reconnaissance" remains a strong motivating force in much archaeological research even today.

But have those archaeologists who are also trained in the Classics always been the best interpreters of the archaeological evidence? Several examples can be cited in which knowledge of Classical texts has led archaeologists astray in their interpretation of the data they have uncovered. Would it be preferable for archaeologists to devote their time to studying, for example, the scientific techniques underlying their discipline, making their interpretations solely on the basis of the archaeological evidence, while allowing those who are better grounded in the Classical tradition to find the relationships with ancient culture as we know it from the literature?

The so-called "New Archaeology," through its emphasis on the more mundane aspects of ancient life, has led archaeologists to consider aspects of the ancient world outside the "high art" that has been its focus for so long. But what in our ancient texts can lead us to a greater understanding of the daily lives of ancient people? In my work in the Nomos of Grevena, the ancient identity of the area is difficult to determine, even with the aid of ancient texts, since it was on

the fringes of both the Mycenaean and Classical worlds. Should we, therefore, abandon the ancient texts in interpreting the archaeological data from this region? Or should we attempt to relate fluctuating habitation patterns to the history of the better known regions beyond its borders? Or can an understanding of cultural change in areas beyond the frontiers of the Classical world help us understand the processes of cultural change in its core?

Such are the challenges that lie before us. If archaeologists working in the Classical world were to abandon the study of Classical literature, they would deprive themselves of evidence from which analogies for the interpretation of their archaeological data can be derived. Surely it is better to formulate these analogies on the basis of contemporary evidence than on the study of a modern culture that we assume to be similar to that of the Classical world. On the other hand, to use the ancient literary sources alone would also be foolish, as they do not provide a complete description of all aspects of ancient life.

THE WOMEN OF AETNA AND THE POETICS OF COLONIZATION: *Carol Dougherty-Glenn*, Wellesley College

When Hieron founded the city of Aetna, Aeschylus wrote the *Women of Aetna* as "an omen of good life for the settlers of the city." In this paper, I discuss the surviving fragment from the play *Women of Aetna* within the specific historical and cultural context of Hieron's city foundation, for it contains the kind of bilingual, etymological pun that is typical of Greek colonization literature.

Four lines remain from the *Women of Aetna* in which Aeschylus explains that Zeus established that mortals will now call certain deities the *Palikoi* ("the Returners") because "they have returned from the darkness to the light." Within the fragment, the name *Palikoi* is pointedly derived from the Greek phrase *palin hikousi*. Later sources explain that Aeschylus refers to an indigenous cult honoring twin gods called the *Palici*. Archaeological evidence confirms the existence of an important local cult site sacred to the *Palici*, dating back to the Bronze Age, and Diodorus provides a detailed description of the nature and history of the cult.

Providing a Greek etymology for elements of local topography or cult is common in the literary traditions of the Archaic colonization movement. Colonial oracles, in particular, take advantage of the ambiguity of Delphic language to incorporate bilingual puns into a colony's foundation tradition. Returning to the *Women of Aetna*, I argue that Aeschylus borrows from a rich tradition of colonial poetics. As the Greeks establish new cities amid foreign cultures in the Archaic and Early Classical periods, they take great pains to represent their colonial activity in civilized and civilizing terms. In particular, the myths and legends of colonization reinterpret what is native and local in terms that make sense in the Greek language. Aeschylus uses this same strategy to celebrate and legitimate Hieron's founding ambitions. Whatever the larger issues of the play, the colonization theme highlights the successful establishment of a Greek city on foreign land.

Putting the strategies of colonization literature together with the archaeological facts of Greek/native interaction pro-

duces a more comprehensive picture of the Archaic colonization movement. The myths and legends alone paint a deceptive picture of Greek colonists, sponsored by Apollo, settling unoccupied Golden-Age sites. The archaeological evidence points to contact between the Greeks and the indigenous peoples, but without the literary evidence, it is difficult to appreciate the context for that interaction. A synthesis of literary and physical evidence, however, suggests that the Greeks acknowledged the potentially hostile and imperialistic nature of their colonial activity. Through their myths and legends, they look for ways to validate their new city.

THE PRECINCT OF THE THREE GODS IN A FRAGMENT OF ALCAEUS: A CONVERGENCE OF PERSPECTIVES IN ARCHAEOLOGY, HISTORY, AND PHILOLOGY: *Gregory Nagy*, Harvard University

This presentation brings together a set of heretofore unconnected or only partly connected observations concerning a sacred precinct mentioned in the poetry of Alcaeus.

It has been argued by Louis Robert in *REA* 62 (1960) 300ff that the temenos mentioned in Alcaeus fr. 129.2 Voigt (also in 130b.13), described in the language of the poet as a great federal sacred space common to all the people of the island of Lesbos, can be identified with a sanctuary by the name of Messon, mentioned in two inscriptions dated to the second century B.C., which he equates with the name of present-day Mesa, excavated by R. Koldewey. The meaning of this sanctuary site, "the middle place," corresponds to its central location on the island. It also corresponds to the description of the sanctuary, in the words of Alcaeus himself, as *xunon* ("common ground") of the people of Lesbos (fr. 129.3).

Reinforcing the arguments of Robert, Marcel Detienne (*Maîtres de vérité*² [Paris 1973] 97) connects the name of Messon with the political expression *es meson*, which conveys the agonistic convergence of divergent interests at the center of a symmetrically visualized civic space. For comparison, he adduces a report by Herodotus 1.170.3 where we see Thales of Miletus offering to the Pan-Ionian general assembly a proposal to establish a single council for all Ionian cities, to be located centrally in Teos as the *meson* ("middle") of the Ionian world.

The perspective of archaeology, with help from the related discipline of epigraphy, makes it possible to locate the precinct mentioned by Alcaeus. The perspective of history sheds light on the political and religious reasons for the centralized location of this precinct on the island of Lesbos. What remains to be explained, however, is the actual reason for the reference to this precinct in the poetry of Alcaeus. Up to now it has generally been assumed that the reference is incidental: that Alcaeus refers to the precinct because he happens to be there. I propose, however, that this setting of a centralized sacred space is intrinsic to the message that is being delivered by the poetry. With the help of parallel passages taken from a variety of Archaic Greek poets, I argue that the words of Alcaeus, envisioned in fr. 129 and fr. 130 as speaking from the central precinct of Lesbos on the occasion of a choral performance at a festival of the

goddess Hera, presuppose a dramatized setting of authoritative speech intended for the community at large.

This argument draws not only on the philological perspective, by way of comparison with other passages from ancient Greek poetry: it depends also on the archaeological and historical perspectives, which illuminate the social context of this poetry. The mode of argumentation is meant to illustrate a fundamental point about method in philology: it is advocated that the primary empirical given should be not so much what the Archaic Greek poet says but rather the *tradition* in which he or she says what is being said.

HOW PALAEOGRAPHY CAN HELP: SOME INSTANCES:

Alan Boegehold, Brown University

The term "palaepigraphy" sometimes seems to refer primarily to the study and interpretation of manuscripts written on vellum, although it includes quite properly the study of texts written on stone, metal, and terracotta (epigraphy), on papyrus (papyrology), and on clay tablets (mycenology). The focus here will be on writing that was painted and baked onto artistically decorated terracotta vessels. There are illuminating instances in which a single letter or a word or two add substance to our understanding of the history of Athens.

The vessels in question are black-figure and red-figure cups and amphoras whose potters or painters added signatures or explanatory labels to their paintings. The dates conventionally assigned to these pots dispose them over a period of about 200 years. The earliest of them, the Nessos Amphora, seems to have been made around the beginning of the sixth century. Others are assigned dates from around the middle of the sixth century (viz., the Amasis Painter and the Princeton Painter), the early fifth century (the Brygos Painter), and the end of the fifth century (the Meidias Painter).

The data provided by these scraps of writing lead to varied observations. One is that odd, non-Athenian letters or spellings provide evidence for work of artisans who were brought up outside of Attica but nonetheless worked in an idiom that is now characterized as essentially Attic. Odd, foreign-sounding names, on the other hand, may be an index to an aspect of collegiality among artisans, rather than to foreign birth and upbringing. On one occasion an abstract word may signify popular recognition of an anti-war slogan. Such interpretative efforts have met with some success, but for the sake of contrast, an instance of wrong interpretation is analyzed to show how lack of attention to palaepigraphic detail leads to serious misconstruction.

To turn from particulars to general observations, a historian needs experts of every kind, students who are trained to see patterns and anomalies in all sorts of bodies of evidence—pollen counts on lake bottoms, tree rings, speech patterns, conceptions of heroism, and potters' signatures. If relevance to, e.g., social-economic history is not at a glance obvious, those students are nevertheless constantly finding new and illuminating bits of information. In the instances noted above, philology is very much to the point, for the crucial part of determining the use of vase inscriptions is in being able to read the writing and in having a wide capacity to understand the different sorts of things writing can convey.

SESSION III E: COLLOQUIUM: THE MEDITERRANEAN AND THE NORTH: ARCHAEOLOGY OF INTERACTION

MEDITERRANEAN CONTACT IN BRONZE- AND IRON-AGE EUROPE—THE LONG PERSPECTIVE: *Peter S. Wells*, University of Minnesota, Twin Cities

From the Late Bronze Age until the early Mediaeval period—a span of 1,500 years—there is abundant evidence for interaction between societies of temperate Europe and those of the Mediterranean world. Tens of thousands of Greek, Etruscan, and Roman imports provide the clearest indication of this interaction, but many other, more subtle, kinds of evidence are apparent in the archaeological record. Rather than viewing these indications as results of discrete contact events, we can understand them in terms of long-term processes at work in the ancient world.

The contacts can be examined in the context of commercial, political, military, and social patterns, but they can also be understood in terms of changing perceptions about the world, especially about relations between different societies. Evidence from burials in temperate Europe provides important information about such changes.

Three graves in temperate Europe that reflect contact with Mediterranean peoples, and show changes in attitudes toward that contact, are presented. They are from the Late Bronze, Early Iron, and Late Iron Age, respectively. The themes expressed in these burial assemblages illustrate long-term changes that took place in the character of the interactions, and in the participants' attitudes toward them.

COMMERCE AND COMPLEXITY: SLOVENIA AND THE MEDITERRANEAN IN THE EARLY IRON AGE: *Michael N. Geselowitz*, Massachusetts Institute of Technology

The eighth–sixth centuries B.C. were times of change in the ongoing interaction between the Mediterranean world and temperate Europe to the north. In temperate Europe during this period, called by archaeologists the Early Iron Age, societies achieved what was for them unprecedented levels of complexity that included the emergence of the first towns. The same period in the Mediterranean region saw the development and expansion of Classical Greek culture.

The new European towns were concentrated in three areas: Poland; west central Europe; and the southeast Alpine region, centered on what is today the Federal Republic of Slovenia in Yugoslavia. The towns were centers of manufacture and exchange, and are thought to have been tied into trade with the Greeks. This trade is, in fact, felt to have played a role in the origins of the towns.

The towns in Slovenia were the earliest and the largest, and Slovenia was the region in closest proximity by both land and sea routes to the centers of Greek culture. However, while the more western and northern towns show evidence of direct and extensive Greek contact, excavations in Slovenia have revealed relatively few Greek imports until somewhat later times. Instead, the evidence from the time of the

growth of the towns is for interaction with the adjacent peoples of northern Italy, who were in contact with the Etruscans, who were in turn in contact with the Greeks.

In order to understand the overall pattern of interaction between the Mediterranean and the North in the Early Iron Age, and how it fits into the ongoing developments of 1,500 years, it is necessary to examine the apparently deviant case of Slovenia. This paper summarizes the relevant archaeological data from Early Iron Age Slovenia and discusses the pros and cons of various models that could explain the evidence.

THE TRANSITION FROM HALLSTATT TO LA TÈNE IN EASTERN EUROPE AND THE BALKANS: *H.A. Bankoff* and *F.A. Winter*, Brooklyn College

The mid-first millennium B.C. transition from Hallstatt to La Tène in central and western Europe is marked by a number of changes in material culture. Major trading settlements of the final Hallstatt period, such as the ones at Mount Lassois and the Heuneburg, are abandoned. Rich, "princely" burials become much less frequent, and in those that do occur four-wheeled carts are replaced by two-wheeled chariots. The use of the potter's wheel, previously restricted to a few major European centers, becomes common.

Noteworthy in this environment of change is the archaeological perception of these transformations. In recent decades, scholars have explained these changes in terms of a variety of economic and social models, most of them focusing on mercantile interaction between the European populations and their Mediterranean neighbors to the south. Conspicuously absent have been explanations that utilize the traditional archaeological answer for changes in material culture: the replacement of populations. Relying on a number of continuities that establish links between the Hallstatt and La Tène eras, archaeologists have either implicitly or explicitly accepted the idea of population continuity in mid-first millennium B.C. central and western Europe.

The situation in eastern Europe and the Balkans is somewhat different. In these regions, the Classical literary sources indicate that the La Tène Celts were settlers from outside the region. Arriving as part of large-scale migrations, groups such as the Skordisci in Serbia established themselves in previously non-Celtic territories. Reviews of the patterns in the material assemblages from Hallstatt and La Tène eastern Europe suggest a standard by which the question of population continuity in the West may be reevaluated.

ROMANS AND THE NORTH: THE WINE TRADE: *Elizabeth Lyding Will*, Amherst College

Interactions between the Romans and distant markets in all directions, from northern Europe to India, were profoundly stimulated by Rome's victories over Carthage in the third and second centuries B.C. Finds of Roman wine amphoras in Germany and Switzerland, to consider just those two areas of temperate Europe, go back at least to the early second century B.C. Taken with the parallel finds from the lower Grand Congloué wine freighter, sunk off Marseilles about 200 B.C., and with the material from other Roman

shipwrecks in the western Mediterranean, the finds of early Roman amphoras from, for example, the great Celtic *oppidum* of Manching, north of Munich, reflect the energetic expansion of trade by sea and river between Italy and the peoples of the North as soon as Carthage had been temporarily removed as a trading competitor in the West at the end of the Second Punic War in 201 B.C. The Transalpine peoples became an insatiable market for Italian wine, and finds of later amphoras at Manching belong to the same type as the jars in the huge cargo of the upper Grand Congloué ship, wrecked in about 100 B.C. on its way from Cosa to Marseilles. Still later amphoras at Manching were of the same type as part of the cargo of Italian wine jars from the Spargi wreck, which met its fate off Sardinia in the 80s or 70s B.C. In the last part of the first century B.C., amphora finds at such Augustan camps as Oberaden, Haltern, and Hofheim show that the taste for Italian wines persisted in the North into the first century A.C. After that time, Italian vintages gradually gave place there to wines of the Roman provinces. Wine is a fragile and ephemeral commodity, but fragments of many of the Roman shipping amphoras and some of the wrecked Roman ships in which that wine was carried survive as testimony to its exportation to the North and to the interaction between temperate Europe and the Mediterranean world represented by that exportation.

NORTH–SOUTH CULTURAL INTERACTION IN THE OLD ROMAN WEST AND THE BIRTH OF THE MIDDLE AGES: SOME ARCHAEOLOGICAL RECONSIDERATIONS: *Bailey K. Young*, Assumption College

Over the past century archaeology has often been called upon to support a view of north–south cultural interaction in the Roman West between the fifth and eighth centuries, derived from literary sources, which can be caricatured as: North invades South; South Christianizes/civilizes(?) North. Recent research emphasizes that the interactions were more complex and subtle. This paper focuses on three aspects of the evidence: 1) Does funerary archaeology support the view of massive population movements (“barbarian invasions”) recognizable by distinct cultural markers (burial practices)? 2) Can the Christianization of northwest Europe in this period fairly be characterized as the imposition of Mediterranean religious models on pagan northern societies? 3) Does the evidence of goods-exchange during this period support the view that the North was increasingly cut off economically from the South over this period and developed economic autarchy in consequence? We suggest that, freed of preconceptions deriving from the literary sources, archaeology reveals a new cultural dynamic emerging in this period, centered in Merovingian Gaul, which laid the foundations of Mediaeval Europe.

ANCIENT IMPERIALISM AND MODERN NATIONALISM IN THE STUDY OF ROMANIZATION IN 19TH-CENTURY BRITAIN, FRANCE, AND GERMANY: *Stephen L. Dyson*, Wesleyan University

This paper reflects the thinking of the late Michael Foucault on the Archaeology of Knowledge. It argues that our

understanding of how we approach a field of knowledge can only come from a consideration of the intellectual and ideological forces that have shaped the study of the field. The Romanization of Western Europe is an especially rich area for such studies, since scholars in countries like Germany, France, and Britain had to combine a profound respect for Classical civilization, an enthusiasm for imperialism that led to a strong identity with Rome, and a growing sense of nationalism that forced the glorification of resistance to Rome.

The subject is vast and this paper focuses on only a few representative developments in the three countries. For France, the focus is on the archaeological policy of Napoleon III. In Germany it is on the complex intellectual and ideological forces that led, on the one hand, to pioneering archaeological work at Roman sites on the Rhine and Danube frontiers, yet also the promotion of the cult of Arminius as hero in the anti-Roman struggle. Britain had much less of a formal archaeological policy. Similar conflicts, however, were present in the popular imagination. This can be seen in the glorification of Boudicca and the depiction of Roman Britain in the writings of Kipling.

The paper concludes with some general considerations of how these attitudes continue to influence studies of contacts between the Mediterranean and the North today.

SESSION IV A: EXCAVATIONS IN ITALY AND THE WEST

EXCAVATIONS AT DYSART, COUNTY KILKENNY, IRELAND: *Mark E. Hall*, University of California, Berkeley

The above-ground ruins at Dysart, Thomastown, County Kilkenny, Ireland consist of a 13th-century church and a 15th-century tower house. In the summer of 1989, excavations were conducted at the site in advance of restoration work.

The excavations revealed a thriving Early Christian (ca. A.D. 450–1169) community at Dysart. A mass grave containing at least 12 individuals was discovered. The grave predates the 13th-century church since three of the bodies extended underneath its foundation. No grave goods were found and there are no visible signs as to the cause of death. Two Early Christian grave slabs, reused as building stones in the church and tower, and a Romanesque capital and window frame were also discovered.

Excavation yielded little information on the size of the Mediaeval community at Dysart. It does appear that the church had been abandoned before the tower house was built. Window frames and other pieces of Gothic stonework were recut and used in the construction of the tower house. Also, the architectural features of the tower indicate that it did not join the church.

From the archaeological and documentary evidence one can argue that Dysart was abandoned in the early 14th century and possibly taken over by a secular lord later in the 14th century. This challenges the traditional assumptions of Irish scholars on the seizure of monastic lands by King Henry VIII in 1540.

THE IDENTIFICATION OF LOCAL WARES AT PAESTUM:
THE EVIDENCE FROM SANTA VENERA: *Theresa D.
M. Menard*, University of Michigan

The identification of local wares produced in the Greek cities of Magna Graecia is an ongoing concern to excavators working in southern Italy. The potters in the Greek cities were similarly inspired by Corinthian and Attic models and thus shared similar shapes and decorative styles. Moreover, the natural clays of southern Italy are very homogenous and visually much alike.

No objective criteria yet exist to aid in the identification process. The pottery assemblage recovered from the 1982–1985 excavations jointly conducted by the Kelsey Museum of the University of Michigan and the Institute of Archaeology of the University of Perugia at the extramural sanctuary at *località* Santa Venera in Paestum is used as a sample from which to discuss the issue of local production.

Such criteria as homogeneity of fabric, shape, decoration, and quality as well as the quantity of examples are important. The excavations at Santa Venera produced numerous examples of vases dated to the Archaic period that fit the criteria for local production. Three pottery wares produced at this period in ancient Paestum—here named Paestan A, Paestan B, and Paestan C—were identified for the first time. Furthermore, several shapes apparently produced locally only for the sanctuary at Santa Venera were discovered.

RESEARCH AND EXCAVATION AT LA PIANA, 1987–
1990: *Jane K. Whitehead*, Cornell University

La Piana is an Etruscan settlement of the fourth to early first century B.C., located within the economic and cultural orbit of ancient Volterra. Previous reports (*AJA* 87 [1983] 268–69; 89 [1985] 355; 91 [1987] 311–12) have described the emerging structures, which are of monumental proportions with foundation walls almost a meter thick. Since then, two seasons of research and survey in 1987 and 1988 have explored the surrounding territory and the agricultural lands of the site, its road system and means of trade with other cities, the access to the site itself, the water supply, and the tombs. A coin, found on the ancient road at the base of the site, may be Celtic of the second century B.C.

Two seasons of excavation in 1989 and 1990 have concentrated on the larger of the two structures so far unearthed, that in Field A. It now appears that the buildings in Fields A and B are exactly aligned with each other along an axial road, and, thus, that the site is orthogonally planned. This fact suggests that La Piana is a more urban settlement than we had previously hypothesized it to be. The structure in Field A, then, may not be merely a single living unit, and we must no longer seek its prototype among Etruscan domestic typologies.

Finds within the individual rooms of this larger structure have shed light on the activities conducted there. Inscriptions on small vessels have given us the names of several of the inhabitants, and these names indicate a connection to Chiusi as well as to Volterra. A lead acorn missile, found in the 1990 season, is our first tenuous clue that the site was destroyed by foreign attackers.

EASTERN AND TUNISIAN AMPHORAS FROM A VANDAL
CEMETERY AT CARTHAGE: *Joann Freed*, Wilfrid
Laurier University

In 1987 to 1989, Mark Garrison, Susan Stevens, and John Humphrey, codirectors of the Michigan Cemetery Project, excavated a Vandal cemetery just outside the Theodosian Wall on the north side of the ancient city of Carthage. Among the more than 200 burials, 25 amphora burials were excavated. Most of these were infant burials in the relatively small imported late Eastern amphoras commonly designated by John Riley's Carthage classification. Of these, Late Roman Amphoras 1 (Antioch?), 4 (Gaza), and 5 (Palestine) were the most common. In addition, there were several restorable examples of new or rare Eastern imported types. One infant burial amphora copied Late Roman Amphora 1 in Tunisian fabric. A number of adult burials used Vandal types of Tunisian cylindrical amphoras, among which Keay Type 62 was the most common. The head of one adult burial was marked by a globular Tunisian amphora body of a new type, which can be seen as an imitation of the globular-bodied Eastern amphoras such as Late Roman Amphora 2, which appear in the Western Mediterranean as imports in the sixth century A.C.

This group of amphoras, though "selected" for the cemetery by appropriateness for the burial function, is nevertheless of great interest as an ensemble formed over a limited period within the Vandal era. This is the first context at Carthage for which it is possible to discuss Tunisian activity in the amphora production of the Vandal period. In this paper I analyze the group in terms of types, provenances, numbers, lines of trade, and the cross-cultural influences that appear most clearly in the copying of Eastern forms by Tunisian potters.

A NEW ITALIC TOWN IN MAGNA GRAECIA. EXCAVA-
TIONS AT OPPIDO MAMERTINA (CALABRIA) IN 1988
AND 1990: *Paolo Visonà*, University of Colorado

The fourth and fifth seasons of fieldwork at the Italic stronghold of the Tauriano, on a hill near the watershed between the Tyrrhenian and Ionian coasts, at the foot of the Aspromonte, were aimed at reconstructing the architectural history of the residential quarter located on a terrace on the western slope of the site, the area of which encompasses nearly 12 ha (for a previous report, see *AJA* 92 [1988] 264). Excavation uncovered portions of four houses separated by a narrow *ambitus* running at right angles to a paved street aligned with the main northeast–southwest axis of the terrace, and orthogonal to another street partially excavated on the hilltop in 1986, confirming that the settlement had a regular plan (comparanda for house plans and masonry techniques are found at Caulonia and Locri Epizephyrii: cf. M.T. Iannelli and S. Rizzi, in *Rivista storica calabrese* n.s. 6, nos. 1–4 [1985] 281–316; M. Barra Bagnasco, in *Locri Epizefiri* II [Florence 1989] 7–65). Following prehistoric occupation in the Early Iron Age, the earliest architectural phase can tentatively be assigned to the first half of the third century B.C. The internal organization of this sector of the site appears to date to the late third century, when the street

was laid out (Phase II). Subsequent architectural phases (III–V) are dated stratigraphically between the early second and the first half of the first century B.C., and prove that this settlement, unlike most Italic centers, flourished *after* 200 B.C. (presumably because the Taurianoi were Roman allies during the Hannibalic conflict: cf. Livy 25.1.2).

The destruction of the site may be related to the Social War, or to Spartacus's *bellum servile*. The discovery in 1988 of a concentration of Italian sigillata, however—including an inscribed fragment (CVA 2292d) datable to the early first century A.C.—with debris possibly representing slide from the collapse of a building overlooking the street, raises the possibility that life continued at the site even under the Empire (or that the street remained in use for some time after the destruction). Finds of roof tiles with Greek stamps, also known from Hellenistic tombs in the environs of Oppido Mamertina (cf. E. Galli, *NSc* 1929, 273), suggest that this Italic town may have had a mixed population. The large number of Mamertine bronzes found in 1988 and 1990 among the nearly 350 coins recovered to date—representing the largest concentration of these issues at any Mediterranean site outside Sicily—poses the question of the identification of the site with the city of Mamertion, which is reputed to have been located in this area of Bruttium in the Late Hellenistic period (Strab. 6.1.9).

THE MORGANTINA MASONRY CHAIN AND THE FORTIFICATIONS OF GREEK SICILY: *Lars Karlsson*, University of Göteborg

The fortifications at Morgantina were studied by Princeton University from 1955 to 1961 and by the University of Virginia from 1982 to 1985. Already in the '50s a series of wall features had been found, which the excavators later called Punic Chains. These chains are used in the face of a wall and are built up of headers and stretchers. A single stretcher is first placed on the projecting footing course. Upon it is placed a header, which, by penetrating into the rubble and earth behind the wall, anchors the entire face of the wall to the filling behind. The chain goes vertically for the entire height of the wall. At Morgantina we have been able to establish that these chains were located at intervals of approximately 3 m. This cannot be coincidental, but rather it must equal the length of 10 Doric feet. It should be added that the chains at Morgantina were used not only in public architecture, but also in private houses.

The original name Punic Chain has today been replaced with Masonry Chain. I have not been able to record a single instance of the Masonry Chain in a Punic context. The Carthaginians employed a similar wall building technique, the Loom Wall, but there the horizontal member is totally lacking. The chain does appear in Roman times in former Punic cities in North Africa. In these contexts the technique is called *Opus Africanum*. In the Hellenistic period the use of the Masonry Chain seems to be confined to the area of influence of Syracuse. The chain technique might be Phoenician in origin, but it was developed to perfection and employed extensively by the Greeks in Sicily (e.g., Megara Hyblaia, Kamarina, Tyndaris, Troina, Halaisa, and Heraklea Minoa).

THE *ISIS*: A LATE ROMAN SHIPWRECK SURVEYED BY ROBOTS: *Anna Marguerite McCann*, Woods Hole Oceanographic Institution

The discovery of an ancient Roman trade route and a late Roman shipwreck with a remotely operated vehicle (ROV) working at depths of over 800 m represents a first for underwater archaeology. This happened in May 1989 in international waters off Sicily where the first Jason Project took place especially for the education of American children in the sciences. Directed by Robert D. Ballard of the Woods Hole Oceanographic Institution, the Jason Projects combine the latest deep sea and communication technologies to produce the first live television broadcasts directly from the sea floor. Over 225,000 children in 14 museum sites in America and Canada saw on their television monitors exactly what Ballard and his team were seeing over 8,000 miles away and asked questions—in one half second—thanks to fiber optics, computers, and satellites.

It was shown that ROV Jason could work in a grid pattern at a speed of about 0.5 knots and cover an area of about 500 × 250 m as well as work precisely in a 10-m square where remains of a late Roman ship, christened the *Isis*, were found. Selected objects were successfully recovered with ROV Jason's manipulator arm to date the wreck probably in the late fourth century A.C. Besides amphoras, these include a North African lamp, commonware pottery, iron tools(?), a copper coin of Constantius II (A.D. 355–361), and wood samples yielding ¹⁴C dates of approximately A.D. 401. Found at a depth of 818 m, the *Isis* is the deepest ancient wreck found and one of the very few known from this period. The 1989 Jason Project received the American Association for the Advancement of Science (AAAS) Westinghouse Award and the Computerworld Smithsonian Award.

SESSION IV B: EXCAVATION AND SURVEY IN ASIA MINOR AND THE EAST

KAZAKH/AMERICAN RESEARCH PROJECT EXCAVATIONS IN KAZAKHSTAN: *Pia-Kristina Anderson* and *Jeannine Davis-Kimball*, University of California, Berkeley

In April to June 1990, the Kazakh/American Research Project, under the direction of Jeannine Davis-Kimball and archaeologists at the Institute of History, Ethnography, and Archaeology, Academy of Sciences, Kazakhstan, conducted joint archaeological excavations at two culturally distinct sites in Kazakhstan. Surveys were also made of ethnographic materials considered for research in subsequent seasons. The principal objectives of the project were to explore the cultural history and intercultural contacts of the area.

Before modern archaeological research began some 40 years ago in Kazakhstan, the Saka nomads who inhabited the steppes and mountain valleys of the region were known only through Achaemenid and Greek contemporary writings. Kurgans, the burial mounds constructed for the deceased Saka chieftains, are now the primary source of information on these nomads. At the Issyk II cemetery, North American volunteers excavated one of a group of

fifth–third century B.C. Saka kurgans. Among the finds are two silver plaques with a motif that attests to ancient Near Eastern contacts with the Semirechye region.

The group also excavated a Mediaeval settlement site. To provide for and maintain the ancient silk route, hundreds of fortified Mediaeval settlements lay stretched across southern Kazakhstan. Near Djambul, finds from cemeteries associated with the sixth–13th century A.C. walled citadel, Kos Tobe, reveal forms of Christianity, Zoroastrianism, and Buddhism, practiced simultaneously by indigenous inhabitants.

Finally, the group surveyed two petroglyph sites dating from the Neolithic through the Mediaeval period. The petroglyphs reveal not only fauna that had a direct bearing upon lifeways of these inhabitants, but also mythological beliefs and ritual practices of the times.

Joint American/Kazakh archaeological excavations and anthropological research will continue in 1991.

EXCAVATIONS AT NINEVEH, 1990: *David Stronach* and *Stephen Lumsden*, University of California, Berkeley

The past season at Nineveh took place between early April and early June, 1990. Following the pattern of the 1989 season, excavations were undertaken in five main areas (here labeled 1 to 5). In Area 1, a deep sounding on the southeast flank of the ancient core mound of Kuyunjik, the excavations revealed more of the character of the Akkadian city wall. In Area 2, within the limits of the Palace of Sennacherib, attention was concentrated on the western limits of the palace where a cache of glazed brick fragments was found in a sealed context. Within the northern sector of the Neo-Assyrian Lower Town, excavations in the vicinity of the Mashki Gate (Area 3) continued to document a seemingly elite quarter that appears to have been marked by substantial buildings and broad roadways; and a third successive season of work at the Northwest Mound (4) helped to expand what was already known of a densely occupied industrial quarter. In the meantime, work at the Halzi Gate (5), near the southeast corner of the city, saw the recovery of further evidence for events connected with the fall of Nineveh in 612 B.C. Here more skeletons—some of them severely charred and many lying in distinctly dramatic poses—were recovered from the excavated portion of the narrowed gateway. Last but not least, our newly instituted surface survey in the Lower Town was expanded to include a good part of the entire available area north of Kuyunjik. A topographic plan of the area was partly completed and, from such results as are to hand, it is now possible to begin to define the organization of the seventh-century city and to characterize the main patterns of settlement that existed in the Lower Town from the early first millennium B.C. onward.

THE FORT AT DEREĞZI AND OTHER REMAINS IN ITS VICINITY: *James Morganstern*, Ohio State University

In 1974 a survey of the unpublished fort at Dereğzi and the other remains near it in southwestern Anatolia was begun under the speaker's direction. Fieldwork was concluded in 1982, and the final report on this part of the site has just

been completed. This paper summarizes the evidence due to appear in the final report.

Pottery and coins indicate that the site has been inhabited since the Middle Iron Age, perhaps since the late ninth century B.C. and possibly continuously.

The earliest monumental remains include the important fort of the Lycian period, which was decorated with relief sculpture and probably was built by a landed nobleman in the first half of the fourth century B.C. Eleven rock-cut tombs and two sarcophagi found nearby appear to be contemporary or date to the late fifth century B.C.

Coins reveal that there was considerable activity at the site in the second to first century B.C., and the settlement was connected by a major (unpublished) road with the interior and Demre (Myra) during the Roman period. A water channel leading to Demre and Andriake, its port, was also built sometime in antiquity.

Coins and sherds suggest that the Roman or late Roman settlement at Dereğzi was substantial, and numerous fragments of Early Byzantine architectural sculpture establish a Christian presence by the fifth or sixth century A.C.

The final construction at this part of the site dates to the Middle Byzantine period, when the Lycian fort was rebuilt and considerably expanded, apparently in the last two-thirds of the ninth century or the early 10th. The neighboring church, which we have suggested previously was closely connected with Constantinople, was constructed around the same time.

SURVEY WORK AND EXCAVATIONS IN THE BAYBURT AND KELKIT VALLEYS, EASTERN TURKEY: *E.G. Pemberton* and *A.G. Sagona*, University of Melbourne, and *I.D. McPhee*, La Trobe University

In 1988, the University of Melbourne began a survey, under the direction of Antonio Sagona, of the province of Bayburt and part of the Gümüşhane province, in northeastern Turkey. Very little work has been carried out in this area of Anatolia, lying south of Trebizond and the Pontic ranges. The one site that has had some investigation, Satala (Sadak), lies southwest of the area of our current exploration.

For four weeks during August and September, 1988, the survey was concentrated in the wide Bayburt Plain, between the towns of Bayburt and Köse. The narrower upper Kelkit Valley, between Köse and Kelkit, was also explored but in comparison to the Bayburt Plain appears to have been sparsely populated in antiquity. The surface scatters indicated two chief periods of settlement in antiquity, the Early Bronze Age and later Hellenistic/Roman. In order to investigate this pattern, one site with significant remains of both periods was selected for excavation. It lies northeast of Bayburt: Büyüktepe Höyük, a large flat-topped outcrop, ca. 250 × 160 × 18 m, ascending to the north, with a saddle joining it with a second lower rise.

A five-week excavation was carried out during June and July, 1990. Trenches on the top of the site showed little depth of fill and much disturbance by intrusive burials and plowing. But a possible watchtower on the highest point of the rise and walls further to the south are provisionally dated to the Hellenistic period. A deep test to the west where the slope is more gradual showed an Early Bronze Age level below Hellenistic/Roman. Excavations in 1991 will be con-

centrated on this western slope where the settlement has greater depth of deposit. The first year's work has apparently confirmed the results of the survey, that there is a significant gap in the archaeological record between the Early Bronze Age and the last centuries of the first millennium.

Survey work also continued along the valleys of the Bayburt Plain. The number of sites now recorded is close to 80, ranging from Palaeolithic to Mediaeval. On the last day, the finding of a significant scatter of stone hand axes and scrapers indicated what appears to be a Middle Palaeolithic site, the first Palaeolithic remains recorded in this part of Anatolia.

The work was made possible by a grant from the Australian Research Council and was carried out in collaboration with the Museum at Erzerum.

THE THEATER AT ILION: PRELIMINARY INVESTIGATIONS: *C. Brian Rose*, University of Cincinnati

Although the theater of Ilion was partially excavated by Schliemann and Blegen, it has been discussed only briefly by scholars and it does not appear on most plans of the site. During the summer of 1989 five weeks were devoted to clearing the area of brush and removing the dumps of earlier excavators, and some preliminary conclusions concerning the theater's layout and chronology are now possible. Three different phases of construction can be identified based upon epigraphical evidence and the architectural blocks of the scaenae. The cavea and scaenae were under construction by the late fourth century B.C. and probably finished in the early third century. The building of the theater at this time seems to be related to the contemporaneous establishment of the *koinon* of Athena Ilias, which would have needed a large theater for the celebration of its "Panathenaic" festival at Ilion.

The theater was probably damaged in Fimbria's attack on the city in 85 B.C. and restored by Augustus. The renovations seem to have involved the construction of a new three-storied scaenae, with Doric, Ionic, and Corinthian aediculae, and perhaps the addition of a *velum* over the cavea. A medallion relief of Romulus and Remus was unearthed in the vicinity of the scaenae by Schliemann, and it is possible that this relief originally formed part of a series chronicling the early history of Rome. Ilion did not begin to exploit its legendary ties to Rome in coinage and inscriptions until the Augustan period, and the relief may have been set up at that time. At a later date in the Roman period, the theater was damaged by an earthquake, resulting in modifications in the water channel and the construction of a new wall with reused theater seats in front of the orchestra. Future work in the theater should provide a better perspective on the city's political and religious activities during the Hellenistic and Roman periods.

UNIVERSITY OF DELAWARE SURVEY AND EXCAVATIONS AT 'ABU SHA'AR, EGYPT 1990: *Steven E. Sidebotham*, University of Delaware

The 1990 season of survey and excavation in and around the fort at 'Abu Sha'ar (Red Sea coast), Egypt, expanded on

the first season of work conducted here in 1987 and complemented the survey of the 'Abu Sha'ar-Nile road and installations carried out in 1989.

Excavation this season concentrated on the west gate, two of the barracks in the northwest part of the fort, a section of the main east-west street, the apsed building, and the trash dump outside and north of the fort.

Dates for activity at the fort, originally established in 1987 as fifth to seventh century, were, based upon this season's work, expanded to include the late third and fourth centuries and, possibly, the Islamic period.

The discovery of fragments of two monumental Latin inscriptions at the west gate confirmed an initial foundation of the fort under Galerius (Augustus 305-311) with a rededication during the reigns of Licinius and Constantine I (313-324). Mention on the latter inscription of *LIMITIBUS NPTAIN LITQ[RUM]* leaves no doubt that the fort was an important coastal installation on the Roman *limes* in the desert east of the Nile in Upper Egypt by the early fourth century. It might be suggested that the establishment of this fort here was part of the Tetrarchic-Constantinian reorganization of the Egyptian *limes* after the abandonment of the Dodecaschoinos by Diocletian (cf. Procop. *De Bell. Pers.* 1.19.27-37).

Multiphase use was also suggested by three to four repavings of the east-west street, the addition of terracotta water pipes at a later date in the history of the fort, and renovation and repaving in the apsed building. The apsidal edifice may have been originally the headquarters, which was subsequently heavily remodeled and, perhaps, converted into a church.

Ceramic and numismatic evidence provided a late third to fourth century date for the trash dump outside the fort. However, questions about the location of the fifth to seventh century dumps remain; we tentatively suggest that these later dumps were inside the fort on the south side.

The survey located towers, cairns, installations, and stretches of road between the fort at 'Abu Sha'ar and the small fort at the juncture of the Wadi Belih and Wadi Umm Deheis. Clearly, the road bypassed this small fort and headed directly for the fort at Badia'.

THE 1990 ABILA OF THE DECAPOLIS EXCAVATION, NORTHERN JORDAN: *W. Harold Mare*, Covenant Theological Seminary

The sixth season of excavation at Abila of the Decapolis, northern Jordan, was conducted from 16 June to 4 August 1990. Excavation at this mile-long site was done on both tells, Tell Abila (north) and Umm el 'Amad (south), in the saddle between the two tells, and in the cemetery.

On Tell Abila excavation at the sixth-century A.C. basilica showed that this structure had been built on and used part of an earlier Roman/Byzantine temple or church; extensive mosaic floors were found in the atrium/plaza area. Further excavation just northeast of the basilica revealed further evidence of extensive Iron and Bronze Age habitation on the tell. The city wall on the north edge of the tell proved to have been constructed initially in the Iron Age and Hellenistic period. On Umm el 'Amad extensive mosaic floors

were found in rooms just beyond the south wall of the basilica, a structure that had a central external apse and two inscribed side aisle apses.

In the terraced civic center in the saddle, work at the theater cavea exposed more of the Islamic building, uncovered marble altar posts and a Naxian marble column of a church or ecclesiastical structure, a 160-ft section of a basalt street, and a lower earlier street/plaza with a threshold leading into the theater cavea. Just north of the theater work began on what is projected to be a bath/nymphaeum complex. Further to the northeast excavation was begun on a large basilica with basalt piers and Ionic capitals; evidence points to the church being of cruciform construction. In the Roman/Byzantine cemetery east of the site several graves and tomb complexes were excavated. Excavation shows a long history of habitation at Abila of the Decapolis, from the third millennium B.C. to A.D. 1500.

THE ASHKELON REGIONAL SURVEY: LOOKING FOR GOLIATH: *Mitchell Allen*, University of California, Los Angeles

The Ashkelon Survey is a full-coverage regional survey of the Philistine coastal plain of Israel east and southeast of the ancient city of Ascalon. Conducted between 1986 and 1990, it represents a regional complement to the current excavations of the Leon Levy Expedition to Ashkelon. To date, the Ashkelon Survey has identified over 150 pre-modern sites in the region, covering the span from Palaeolithic times to the 20th century. Notable among the trends in the settlement pattern are: 1) localized settlement during the Neolithic and Chalcolithic periods; 2) the almost complete absence of remains signifying Bronze or Iron Age settlement in the region; 3) a slow increase in the number of sites from the Persian period to late Roman times and a gradual decrease thereafter; 4) an elaborate system of wine production and distribution during late Roman times. In this presentation, I describe the palaeoenvironmental setting and its impact on patterns of settlement, and attempt to explain the absence of early remains and the factors that may have led to the increase in settlement after the middle of the first millennium B.C. Data from the survey are compared with findings of other regional surveys in southern Israel and with excavation data from urban Ashkelon.

EXCAVATIONS IN THE HARBORS AT CAESAREA MARITIMA: THE 1990 SEASON: *Robert L. Vann*, University of Maryland, and *Robert L. Hohlfelder*, University of Colorado

The 1990 season of underwater excavations in the harbors of Caesarea Maritima marked the last year of a second five-year program that has focused upon the exploration of the various harbors at Caesarea Maritima from the Hellenistic installations at Straton's Tower until the present time but with an emphasis upon the program of Herod the Great. During the months of May and June, work was undertaken in the following fields. Area H, south of the Northern Breakwater, was an experiment in caisson airlifting that—after

numerous early delays and a summer storm that closed down the work early—provided one of the best controlled trenches in the harbor excavations to date. Work continued in Areas F and N on the inside of the Southern Breakwater where large platforms extending from the principal jetty are yet unexplained. Area Q on the north side of the present breakwater was surveyed and drawn and excavations expanded in Area I, the silted inner harbor where a mooring stone was discovered in 1983. The most exciting news of the summer came from Area K-2 at the northern tip of the Southern Breakwater where, during a survey of what we believe was the lighthouse of the ancient harbor (the *Drusion* of Josephus), extensive remains of Herod's foundations came to light. A large block of concrete had been cleared of sand by heavy winter storms so that little excavation was necessary. Standing exposed was the upper level of a large wooden formwork 18 m wide (east–west) and of undetermined length. The structure into which concrete was poured was carefully built in mortise-and-tenon construction similar to parallels reported from North Africa and France. The only other well-preserved formwork discovered at Caesarea was in Area G on the western tip of the Northern Breakwater (see J.P. Oleson, *AJA* 87 [1983] 248). The same area was surveyed over a 20 × 40 m zone, mapping the spill of large concrete blocks that we believe is the collapsed *pharos*. Detailed plans and sections will, we hope, enable us to build a model of the area in order to determine the size and nature of collapse of this building. Additional excavation and survey are expected in Area K-2 in 1991.

A LATE ROMAN OIL FARM IN EASTERN CILICIA: *J.J. Rossiter*, University of Alberta

Excavations carried out in 1989 by a Canadian-Turkish archaeological team at the site of Domuz Tepe in the *territorium* of Castabala Hierapolis in eastern Cilicia produced new evidence for olive oil production at the site during the Late Roman and early Byzantine periods. Structural remains uncovered include a large cylindrical settling tank and associated press floors. The type of pressing apparatus employed can be paralleled by similar presses found in northern Syria (O. Callot, *Huileries antiques de Syrie du nord*, Paris 1984). Callot's analysis of these presses can now be supplemented by relevant information from recently published papyri that contain reference to oil processing facilities at farms in Late Roman Egypt (J. Rea, *Oxyrynchus Papyri* 55, London 1988). A tentative reconstruction of the Domuz Tepe oil presses is suggested, based on a comparative study of the newly found structural remains and previous recordings of scattered press- and millstones found at the site (H. Bossert et al., *Karatepe Kazilari*, Ankara 1950). Analysis of the pottery from the excavations, by Joann Freed of Wilfrid Laurier University, indicates a date of ca. 450–550 A.C. as the main period of occupation of the Domuz Tepe oil farm. Surface pottery collected from several other sites in the immediate vicinity of Domuz Tepe suggests that this area of the Ceyhan Valley was intensively farmed for oil production at this time. In terms of its agricultural economy, therefore, the region may be closely tied to patterns of oil and farming previously studied in parts of neighboring Syria (G. Tchalenko, *Villages antiques de la Syrie du nord*, Paris 1953).

SESSION IV C: PREHISTORIC MEDITERRANEAN II

RELIGION AND THE ROLE OF IDEOLOGY IN MYCENAEAN SOCIETY: *James C. Wright*, Bryn Mawr College

The study of Mycenaean religion has revolved around identifying individual deities and rituals, their places of worship, and the influence of Minoan religious belief and practice. Less attention has been placed upon religion as one subset of the ideology of a society and its role in the formation of the society. This paper examines those issues, with special focus on the establishment of formal centers of cult at Mycenaean sites and the use of religion as a way of reinforcing the ideology of Mycenaean palace society.

A methodological distinction in the study of ideology shows that symbols and icons may be used in three ways: as representations of supernatural belief, of attitudes toward death, and for membership in corporate groups. Evaluating the evidence from LH I through LH III according to these criteria, it is possible to clarify that virtually the entire corpus of artifacts from LH I–LH IIIA:1 derives from mortuary contexts and that, with few exceptions, there exist no formal places of worship until the developed palace period (LH IIIA:2–LH IIIB). From this it is hypothesized that the establishment of centers of cult and the standardization of ideology was an important component of palace formation. That this process is distinctly Mycenaean is seen in the evidence for the cult centers, which, although incorporating some elements of Minoan iconography, is Mycenaean in flavor.

Examination of the diversity of places advertising the ideology of the Mycenaean palaces shows that the major focus was on reinforcing the position of the ruling authority by emphasizing lineage, militaristic authority, and the locale of the palace and its extension into the territory controlled by the palace.

BRONZEWORERS AT PYLOS: THEIR PLACE IN MYCENAEAN ECONOMY AND INDUSTRY: *Joanna S. Smith*, Bryn Mawr College

Recent research has further clarified aspects of economic terminology and industrial organization found in the Linear B tablets. This paper focuses on the industrial activity recorded in the bronzeworking tablets from Pylos, the Jn series, an economic parallel for which is found at Knossos in the wool and cloth tablets, studied in detail by John Killen. Both of these series deal with complex branches of a multifaceted Mycenaean economy, which monitored raw materials and finished products of craft activities, both through a palace-controlled system of taxation, and an industrial system that was partially operated by the palace.

The industrial system functioned in two basic ways. One method operated on a redistributive basis under the palace organized *ta-ra-si-ja* system. Here the palace was in full control; consequently it was responsible for the allotment of raw materials to workers, and the finished products were the property of the palace. The other form of industrial

organization was based on an entrepreneurial system of individual obligations, or *o-pa*, in which raw materials were the responsibility of the craftsmen. The palace took on responsibility once it received the product of the craftsmen's labors, but the craftsmen's labor was not monitored by the palace directly.

Looking at the Jn series specifically, one sees the elaborate industrial *ta-ra-si-ja* system at work. Instead of reinforcing ideas about the uniform Jn groups often discussed, my study shows that these tablets are more diverse and reflect a more comprehensive view of the Mycenaean industrial economy than has been previously realized. Their diversity lies partly in their physical form. Some tablets are variously cut and riddled with erasures, while others are neater, showing that the scribe knew exactly what he needed to write in the space provided. There are also significant variations in the terminology used to define worker groups. This shows that different tablets concerned different stages in the bronzeworking activities. While a few tablets follow seemingly preset formulas as noted by Mabel Lang, others were written for special purposes.

Connections of the Jn series with other Linear B tablet series indicate how bronzeworkers functioned in the larger economic picture. References to specific craftsmen show that the palace administration supervised both part- and full-time bronzeworkers. General references to bronzeworkers reveal that they were freed from certain responsibilities in the country-wide system of taxation precisely because they were bronzesmiths. Overall, it is possible to place the Mycenaean bronzeworker within the broader context of what we understand about the economic and industrial systems of Mycenaean society.

ATHIENOU ARCHAEOLOGICAL PROJECT, 1990: EXCAVATIONS AT ATHIENOU-MALLOURA, CYPRUS: *Michael K. Toumazou*, Davidson College

The Athienou Archaeological Project, sponsored by Davidson College, completed its first season of investigations at the site of Athienou-Malloura. This is the first systematic archaeological undertaking in the area of Athienou since the summer of 1974 when a large portion of the village lands, including the site of Golgoi, came under Turkish occupation.

Malloura is situated 2 km south of the tiny village of Petrophani in south-central Cyprus, about halfway between Nicosia and Larnaka. Its location, at the confluence of two streams near the center of a small, fertile valley surrounded by hills, made *Malloura* ideal for habitation under most circumstances. This is confirmed by the long period of occupation ranging (intermittently?) from the sixth century B.C. to the early 18th century A.C.

A rural sanctuary of Archaic–Hellenistic (?) date, scores of rock-cut tombs of undetermined date, and the Byzantine/Mediaeval settlement in the area have been the target of extensive clandestine operations, especially in the 1930s and between 1963 and 1974. Most of the artifacts and statuary found their way to foreign museums and collections, reportedly in the United States and France.

The Project's objectives for the short first season were modest and were largely realized. AAP members completed a topographical survey of the area and excavated at three

localities, and geophysical mapping of portions of the site was carried out by a team from the University of Patras under S. Papamarinopoulos.

The excavations revealed portions of two structures dating to the Byzantine-Mediaeval period. The size and layout of one of the structures suggest that it may have been an industrial installation. Besides pottery, the excavation of this building yielded a substantial amount of animal bones, two iron knives, and a stone weight. Although the most diagnostic pottery recovered (*sgraffito* ware) can be dated to ca. 14th century, more precise dating for the construction and use of the building will have to be determined in future seasons.

Neither artifacts nor architectural remains from the Archaic-Hellenistic (?) sanctuary were encountered during this year's excavations. The sanctuary's presence in the immediate vicinity of investigations is virtually assured, however, by fragmentary votive statuettes and life-size statuary found on the surface. The results of the geophysical mapping and the presence of the above surface finds, corroborated by witness accounts of previous clandestine operations in the area, are reassuring and promise location of the sanctuary during next summer's campaign.

THE 1990 EXCAVATIONS AT LATE BRONZE AGE KALAVASOS-AYIOS DHIMITRIOS, CYPRUS: *Pamela Russell*, Harvard University, and *Alison South*, Brandeis University

The 1990 season of Brandeis University excavations at the Late Cypriot IIC (1300–1200 B.C.) town of Kalavassos-Ayios Dhimitrios, directed by Ian A. Todd, provided further evidence of complex organization requiring sophisticated town planning.

Further investigation in the palatial ashlar building (Building X) confirmed the existence of a second large storage magazine where additional capacity (rows of pithoi) was added in a late phase of use, bringing the total storage capacity of the building to at least 50,000 liters. Study of botanical remains from a deep shaft (found with animal bones and a rich group of ceramics) revealed new evidence of diet and suggests that the feature may have been used as a latrine.

Excavation in several new areas was aimed at exploring the architectural setting of Building X. A building in semi-official style to the west with a magnificent huge stone basin may have been the location of a specialized industrial process. Immediately south of Building X is another, badly robbed ashlar building at least 15 × 23 m in extent with stepped pillar bases. On the north and east, Building X was bounded by a large enclosure wall separating it from domestic style structures a little further east. A domestic or light industrial building to the southeast revealed a rich variety of finds including small pithoi, large stone weights, fine bronzes including a complete bowl, slag, and a tuyere fragment.

It is now clear that several specialized buildings were required for the administration of the town, and that they were separated from more domestic quarters by a massive wall. Further work is necessary to clarify the nature and relationship of these structures.

A REINTERPRETATION OF THE VOUNOUS BOWL MODEL: *Marcia K. Mogelonsky*, Cornell University

The judicious use of cross-cultural and ethnographic comparison offers the possibility of significant reinterpretation of well-known but incompletely understood artifacts. This paper discusses one case in point, the famous terracotta bowl model from Tomb 22 at Vounous, now on display at the Cyprus Museum, Nicosia. I argue that this object is not a shrine model, as is usually thought, but rather a representation of a burial or memorial ceremony taking place in a cemetery.

Dubbed a "sacred enclosure" since its publication by Dikaios (*Archaeologia* 88 [1938] 118–25), this model has become the prototype for sacred architecture from a period for which there are no extant remains of shrines or cult places. A more accurate interpretation of the model—that is, as a depiction of a funerary ceremony—can be derived from similarities found in works from other ancient cultures and ethnographic studies of Mediterranean rural societies. Material from Protogeometric Crete, Classical Athens, and modern Greece and Cyprus can be used to explain the significance of such elements as the small figure looking over the wall and the figures seated on a bench. Interpreted in this fashion, the Vounous bowl provides proof of organized ceremonies prior to the interment of the dead in tombs the contents of which suggest systematized burial practices.

TARSUS IN THE MIDDLE AND LATE BRONZE AGE: A REAPPRAISAL: *Bonnie S. Magness-Gardiner*, Bryn Mawr College, and *Dorothy Slane*, University of Maryland

Located on the coast of southern Turkey near the current Syrian border, the region of Cilicia is a natural frontier between the Central Anatolian Plateau and North Syria, Mesopotamia, and the Levant. A series of cuneiform letters and treaties suggests that this area (called Kizzuwatna during the Bronze Age) was important to the competing states of Western Asia, both for its good passes to the plateau, and for its other resources: good harbors, fertile plains, navigable rivers, and mines in the surrounding Taurus and Amanus mountains.

At the foot of the Taurus, guarding the road to the Cilician Gates, the town of Tarsus was a vital military and commercial center within Kizzuwatna. The archaeological investigations conducted by Hetty Goldman just before and after World War II reveal the material dimensions of those roles, but her publications are lacking in the stratigraphic precision necessary to a detailed evaluation of Tarsus's internal organization and development, as well as regional and international ties. In her recent dissertation (Bryn Mawr 1987), Slane reexamines the architectural sequence and associated stratified pottery from the Middle and Late Bronze Age levels, identifies major breaks and reorientation of architecture, and puts the pottery into its international context. Slane's analysis also provides the basis for Magness-Gardiner to construct a formal pottery typology for the site. The type series is used to illustrate both continuities and discontinuities in Tarsus's internal development in relation to architectural changes, and to assess the possible changes in function in various areas of the site over time.

SESSION IV D: WOMEN IN GREEK AND ETRUSCAN ART

THETIS, NEREIDS, AND DIONYSOS: *Judith M. Barringer*, Middlebury College

Thetis's abduction by Peleus was a popular narrative for Archaic and Classical Greek vase-painting. Although literary sources describing the myth do not mention accompanying figures, nearly 100 vase-painting depictions of the abduction include Nereids, the sisters of Thetis. These Nereids are usually interpreted as fleeing from the attack on Thetis, but a closer examination of the relevant literary and artistic evidence suggests that they are probably dancing. The closest artistic parallels for these depictions are not other abduction scenes, but Dionysiac reveling scenes. Literary evidence attests to a strong affiliation between Nereids and Dionysos, and the Peleus/Thetis abduction scenes and Dionysiac scenes may also be closely related.

Altars and palm trees in many of the Peleus/Thetis abduction scenes are references to a sanctuary setting, that is, one sacred to Artemis, protectress of *parthenoi* (C. Sourvinou-Inwood, *BICS* 32 [1985] 125–46; *JHS* 107 [1987] 145–46). If the images of the Nereids bear strong compositional similarities to those of Bacchae, and if the Nereids dance in a sanctuary of Artemis, what relationship, if any, is there between Artemis, protectress of *parthenoi*, and Dionysos, leader of Bacchae? R. Seaford (*JHS* 108 [1988] 125–28) posits a close relationship between the two deities, noting that their respective celebrations, the *arkteia* and Dionysiac revel, involve similar elements. Moreover, there is a close relationship between Nereids and Bacchae. Thetis is a wild virgin, who transforms herself into wild animals in an attempt to elude Peleus's grasp, and is finally domesticated by marriage. In dancing, the Nereids and Thetis, wild women because of their virginity, behave as Bacchae, who are wild women through the enchantment of Dionysos. Ino/Leukothea, a Dionysiac figure who jumps into the sea and becomes a Nereid, provides a further instance of the association of Nereid and Bacchae. The myth of the abduction should, therefore, be read as an abduction taking place in a sanctuary of Artemis, while Nereids, including Thetis, dance in celebration of some festival. The festival may celebrate the impending nuptials of Peleus and Thetis, and the Nereids thus serve as witnesses and escorts of Thetis during a critical life transition. Moreover, these abduction scenes borrow both imagery and meaning from Dionysiac depictions, and demonstrate a blurring of the distinction between Nereids and Bacchae.

FEMALE BATHERS ON ATTIC POTTERY: *Robert F. Sutton, Jr.*, Indiana University at Indianapolis

Scenes of bathing women on Attic vases, the first major group of female nudes in Greek art, are important artistic precursors to Praxiteles' Knidia and provide important evidence for new attitudes toward female sexuality during the fifth century B.C.

Feminine bathing is associated with sensuality as early as Hesiod. Over 100 Attic vases show female figures bathing alone and in groups. The subject is virtually restricted to

red-figure painters and appears almost exclusively in non-mythological contexts through the end of the fifth century B.C. The common view that these naked women are prostitutes (cf. L. Bonfante, *AJA* 93 [1989] 559), or at least intended to be understood in a pornographic sense, is probably valid through the end of the Archaic period: they occur almost exclusively on drinking cups, and occasionally appear with *olisboi* and other sexual signs.

During the Classical period, however, female bathers appear in respectable contexts. The subject now occurs commonly on cosmetic shapes designed for use by women. By the 420s B.C. the naked bather is explicitly identified as a bride on a pyxis in New York. This change accords well with the inclusion of Eros in contemporary wedding scenes and the rise of the sensuous Meidian style. In the fourth century B.C. topless women appear frequently on nuptial lekanides, and the bather moves to the mythological realm, e.g., Thetis captured by Peleus.

THE AMAZON MYTH IN ARCHAIC GREECE AND ITALY: *Marilyn Y. Goldberg*, University of Maryland, Baltimore County

Recent scholarship has again focused attention on the myth of the Amazons. Yet this research has dealt primarily with material from Athens and the episode of the myth in which the Amazons are defeated by either Herakles or Theseus, and it has not taken into account the significance of the different media in which the Amazons were depicted. Of crucial importance is the construction of at least 23 buildings in Greece and Italy between ca. 530 and 480 B.C. with Amazons in their sculptural decoration.

An examination of these depictions reveals that the figures were understood differently in Athens and in Etruria. In Caere and Veii, where Amazons on buildings were never shown in defeat, they were emblems of strong female divinities who had regenerative as well as warlike functions and were accompanied by a young male consort identified as Heracles. Their identification with these divinities explains their inclusion in the decorative schemes of cinerary urns in Capua and Etruria. In Athens the picture is more complex because the image of the Amazons is an ambiguous one; they are shown both victorious and defeated. The same pattern of ambiguity can also be detected in the image of Athena, as well as in the sexual asymmetry between upper class women and men at the end of the Archaic period. In Etruria, on the other hand, just as there is no ambiguity in the depiction of the Amazons, there seems to have been none in the position of the aristocratic women.

WEDDING DOLLS DEDICATED TO PERSEPHONE AND THE NYMPHS: *James Redfield*, University of Chicago

The naked figurines found at Locri and elsewhere, wearing an elaborate headdress and (often) jewelry but nothing else, have been taken as representations of temple prostitutes. We do not, however, find them associated with Aphrodite; early Locrian examples are dedicated to Persephone, later examples to the Nymphs. Probably these were dolls, and like other types of Greek dolls, were made naked so that

they could be dressed. These were peculiar in that each came with a separable stand; evidently they were not meant to be carried about and played with, but to be adorned and displayed. Their pose is characteristic of the bride being adorned; I suggest that children adorned them as brides.

The ancient Greeks did not make babydolls; the doll rather represented the adult life to come. At maturity dolls like other toys might be dedicated. To dedicate a toy bride would be a bride's proper farewell to childhood, most probably at the *proteleia*.

Nymphe, "bride," also means "doll." For the Greeks the bride is woman as decorated object; she is a kind of living doll, handed from father to son-in-law. Another word for "doll" (or "votive figurine," as in *koroplasthes*) is *kora*, "girl"; this is also a name of Persephone, the typical bride, snatched away by her husband. But *nymphe* is also a type of divinity, typically the object of personal rather than state cult; the nymphs are powerful figures who snatch away men. Persephone and the Nymphs can thus be seen as contrasting representations of marriage.

A FAMILY GATHERING AT RHAMNOUS? WHO'S WHO ON THE NEMESIS BASE: *Kenneth D. Shapiro Lapatin*, University of California, Berkeley

The recent physical reconstruction of the fragmentary marble base of Agorakritos's cult statue of Nemesis at Rhamnous has established that it was decorated with 14 human figures carved on three sides (B. Petrakos, *BCH* 105 [1981] 227–53 and *Archaische und klassische griechische Plastik* 2 [Mainz 1986] 89–107). These figures, however, are at variance with the 12 apparently named by Pausanias (1.33.7–8). Petrakos is unwilling to identify the figures on the reconstructed base precisely, but he does marshal arguments for their relative placement and proposes that the two figures not mentioned by Pausanias are Oinoe and perhaps Theseus.

I revise Petrakos's relative placement of the figures mentioned by Pausanias using a well-known Roman relief in Stockholm, which I identify as a copy of the left half of the front of the original base. Employing the evidence of contemporary vase-painting, I also propose that the newly discovered female figure positioned on the front of the base, alongside Nemesis herself, is not Oinoe, but Klytaimnestra, who should be counted among Pausanias's *Τυνδάρων τε καὶ τοῦ παῖδας* and is in no way out of place with the other members of her family whom Pausanias does name. This identification and the view that the other figure not explicitly named by Pausanias is Zeus support one another. Thus, I reconstruct Agorakritos's composition as follows: the members of Helen's family on the left half of the base (Zeus, Kastor, Helen, Leda = father, son, daughter, mother) mirror those on the right (Nemesis, Klytaimnestra, Polydeukes, Tyndareos) while the divine alternate with the mortal.

The striking presence of Klytaimnestra among the members of the Spartan ruling house suggests that this Athenian monument offered to Nemesis during the course of the Peloponnesian War carries an anti-Spartan rather than conciliatory message. In light of the calamitous plague of the early 420s, moreover, the monument should also be read as acknowledgment of the goddess's power, a warning to any overweening spirit, that of Athens included.

SESSION IV E: COLLOQUIUM: THE ROYAL TOMBS AT VERGINA: CONTINUING ISSUES

THE HUMAN REMAINS FROM VERGINA TOMBS I, II, AND III: AN OVERVIEW: *Jonathan H. Musgrave*, University of Bristol

Both Nikolaus Xiotiris and I have studied—independently—the bones from Tombs I, II, and III at Vergina (see Xiotiris, *ArchEph* 1981, 142–60; and Musgrave, *JHS* 104 [1984] 60–78; *Current Topics in Oral Biology* [Bristol 1985] 1–16; and *BSA* 85 [1990] in press). We are largely in agreement, but not entirely. My findings may be summarized as follows:

Tomb I contained the inhumed, unburned, and incomplete remains of: 1) an apparently well-built but not very tall (165–166 cm) man probably in the prime of life, 2) a young woman of ca. 25 years, and 3) a full-term fetus or neonate. I have not seen Xiotiris' report.

Tomb II contained: 1) in the main chamber, the almost complete, cremated skeleton of a quite lightly built man 160–170 cm tall and aged 35–55 years. Changes to the right side of his face and jaws—caused before death and not by fire—are clearly visible. Xiotiris does not agree with this finding. 2) In the antechamber: 1312 g of well-burned bone of a woman aged 20–30. No baby bones were found among the adult bones from the antechamber.

Tomb III contained 615 g of generally well-burned bone belonging to an adolescent male aged 13–16, probably nearer to 13–14.

The three collections of burned bone are very different in weight of bone recovered and skeletal distribution. These differences may reflect different attitudes to the status of the deceased, and should certainly be borne in mind in any attempt to identify the individuals. This is particularly important in the case of the occupants of Tomb II. Each received very different treatment indeed.

THE VERGINA FINDS AND PROBLEMS OF DATING: *Beryl Barr-Sharrar*, New York Society

The controversy over dating the grave finds from the three tombs in the Great Tumulus at Vergina has persisted throughout the 13 years since their discovery in 1977. This paper is a reexamination of a careful selection of the finds from these tombs with the purpose of reviewing the most important disagreements and problems, and examining closely some comparative material. Finds from Macedonian tombs discovered since 1977 are, for the most part, difficult to date precisely within the second half of the fourth century B.C., although recent publications of some of this material may be helpful.

THE FEMALE BURIAL IN THE ANTECHAMBER OF TOMB II AT VERGINA: *Elizabeth D. Carney*, Clemson University

The burial in the antechamber of Tomb II at Vergina raises three interlocking and yet separate issues: the iden-

tity of the woman buried there; the problem of the ownership of the objects found in the antechamber; what the contents of the tomb and the nature of the burial suggest about the role of royal women in Argead monarchy.

Anatomical evidence cannot resolve the problem of the identity of the occupant of the antechamber, granted our limited knowledge of the ages of the two most likely candidates, Cleopatra, the last wife of Philip II, and Adea-Eurydice, wife of Philip Arrhidaeus. A more fruitful approach lies in examining the physical evidence from the tomb in the light of the known circumstances surrounding each woman's burial.

Because the contents of the tomb include armor and weapons and yet very little jewelry, the excavator has suggested that the military equipment belongs to the occupant of the main chamber. Two other alternatives exist: the military equipment belonged to the woman or it belonged to neither occupant of Tomb II. Each possibility requires analysis.

The burial in the antechamber implies a certain amount of integration of royal women into the Macedonian monarchy: the construction of the tomb suggests that the double burial was planned and the somewhat parallel nature of the male and female burials (similar larnakes and iconography) also hints at some sharing, however unequal, of the image of *basileia*.

CASSANDER, ALEXANDER IV, AND THE TOMBS AT VERGINA: *Winthrop Lindsay Adams*, University of Utah

A dozen years later, the excavations of the Great Tumulus at Vergina (Aigai) pose as many questions as answers, and some surprisingly interesting possibilities. Two points, however, are beyond doubt. First, the three burials (and the heroon), although of different dates, were ultimately part of a single physical context provided by the Tumulus itself. Second, scholars immediately and unanimously identified the bones of the young boy in Tomb III as those of Alexander IV Aegis, the son of Alexander the Great and the last Argead monarch.

The debate has concerned the possible occupants of Tombs I and II, which present a bewildering display of choices. The archaeological evidence, thanks to the surprising lack of epigraphical or numismatic material, has proved inconclusive for identification, although subject to partisan debate, and therefore useful to virtually all the advocates. This paper argues that the two universally accepted points (on the complex itself and Alexander IV) are crucial and bound together in that the circumstances of the burial and presumably the erection of the Great Tumulus itself were the work of the same man: Cassander, the young boy's uncle and murderer. This provides two lines of interpretation out of the maze of possibilities for Tombs I and II that would link all three burials and explain the context as a whole: that these are the tombs of the last Argead monarchs buried at Aigai, or that they are Argeads somehow connected to Cassander himself. Archaeological evidence provides the possibilities, whereas art and Classical literary sources are the logical context to provide support for this contention.

SESSION V A: ARCHITECTURE IN ROME AND THE PROVINCES

A LATE ANTIQUE *DOMUS* ON THE PALATINE HILL, 1989–1990: *Eric Hostetter*, University of Illinois, Champaign-Urbana

In 1989 and 1990, the Soprintendenza Archeologica di Roma and the American Academy in Rome began large-scale excavations of an apsidal hall and associated structures on the northeast slope of the Palatine Hill, immediately southwest of the Arch of Constantine. This area is largely unexplored save for excavation/landscaping in the 1930s.

In the north half of the excavation area, the stratigraphy abutting and within the apsidal hall appears to be Mediaeval in date. In the southern half, several layers may be associated with the Vigna Barberini of the 17th century and later. Beneath these, sealing the south rooms of the complex, are fourth- and early fifth-century dump layers containing the products of a modest bone-working establishment.

The buildings under investigation include the apsidal hall, the smaller, often apsidal chambers to the south, and the large vaulted chambers built against the hillside to the west. It is still unclear whether these are associated parts of one or more complexes. There is evidence of marble revetment, hydraulic appurtenances, and frescoes, both Roman figural work and Mediaeval imitation marble paneling with Greek inscriptions. Pending study of the brickstamps, the technique of the brick-faced concrete construction suggests dates in the third and fourth centuries A.C. Certain underlying walls may date as early as the second century, while several later alterations are probably Mediaeval.

The character of the later Roman buildings suggests an aristocratic *domus* of the type represented by Santa Balbina, Sette Sale, and S. Lucia in Selcis. In the Mediaeval period, the complex may have become a church. It is hoped that future excavation will shed light on the area during the period of transformation from paganism to Christianity and will also reveal underlying Early Imperial predecessors on the site.

FORVM TRAIANI RESTITVTVM: NEW RECONSTRUCTIONS OF THE EXCAVATED BUILDINGS IN TRAJAN'S FORUM: *James Packer*, Northwestern University

Since 1973, I have reported on my studies of the Forum of Trajan in several papers: *AJA* 77 (1973) 223; 86 (1982) 280; 87 (1983) 165–72; 90 (1986) 189–90; 91 (1987) 303; 94 (1990) 313. That work has established the general outlines of the architecture of the various excavated buildings; and to announce the full publication of these materials in my monograph, *The Forum of Trajan in Rome: A Study of the Monuments* (Berkeley, forthcoming), this final paper on my research in Trajan's Forum from 1972 through 1989 presents new reconstructions of the excavated buildings.

From the open area of the Forum, three steps of Numidian marble led to a Corinthian portico with a high attic. In the

semicircular hemicycle behind the Colonnade, bays separated by pilasters flanked a central rectangular recess. The Basilica Ulpia had a two-storied columnar facade, Corinthian below, Ionic above. On a larger scale, the high attic reproduced the attics of the East and West Colonnades, and over-life-size statuary of gilt bronze crowned the three projecting porches. The Ionic portico served as a clerestory; and the two opposed apses had timber-truss roofs. Flanking the Column of Trajan, the West Library was a rectangular concrete pavilion roofed by high groin vaults. Inside, two superimposed Corinthian colonnades flanked book niches that housed about 22,000 scrolls. During the day, "thermal windows" in the vaults on all four sides of the building must have furnished the readers inside with ample natural light.

COLLIVIARIA AND SUTERAZIS: ISRAELI EVIDENCE ON ROMAN AQUEDUCT HYDRAULICS: *A. Trevor Hodge*, Carleton University

Since Vitruvius's (8.6) enigmatic remarks upon *colliviaria*, which he specified should be inserted into siphons to release the *vis spiritus*, much ingenuity has been expended trying to identify what they were; the two most popular explanations have been that they were some sort of pressure valves in the siphon pipe, and that they were raised open tanks like the "pressure towers" at Aspendos. Technically, the valves will not work, and the open tank, at least as exemplified at Aspendos, is something very much larger than what sounds like, in Vitruvius's text, a small, routine device.

In Ottoman hydraulics, the *suterazi*, or "water-balance," was a common feature, but one known to us almost entirely from the written descriptions, themselves rare, of 18th- or 19th-century travelers. Essentially, it was something like a small version of the Aspendos towers. Now, a study of a preserved (but later) *suterazi* tower at Akko (Israel) suggests that this may be something very like Vitruvius's *colliviaria*. The identification is supported by a series of *colliviaria*-type tanks, raised a meter or so above the main channel, on the northern aqueduct of Caesaraea (Israel), and is apparently confirmed by the discovery in 1989 of a series of tanks of an even more suitable type on the yet unpublished southern aqueduct at Caesaraea. These seem to meet Vitruvius's specification but the definitive identification must await the confirmation of similar discoveries elsewhere, for which this paper should provide an incentive. If they are forthcoming, then the long-standing mystery of the *colliviaria* can finally be declared solved.

In the meantime, it is also hard to resist seeing a parallel between the *suterazi* and the street-corner water towers at Pompeii, which, if they were served by the water mains on the *suterazi* principle in series and not in parallel, would acquire a new hydraulic purpose and significance.

THE FUNERARY MONUMENTS OF CILICIA TRACHEIA: *Yasemin Arnold*, Cornell University

This paper presents the results of fieldwork conducted by the author in Cilicia Tracheia in 1989–1990 to study the

funerary monuments of the region as evidence for interactions among Greek, Roman, and indigenous cultures and for external connections with the Near East. The study, conducted with the aid of Olivia James (AIA) and Albright (ASOR) fellowships, is the first comprehensive discussion of the funerary monuments of Cilicia Tracheia. Rock-cut tombs, tower tombs, temple tombs, and sarcophagi are all found in this region, which played an intermediary role between East and West due to its critical geographical location. Study of the history of the region and of the ruins in the area reveals influences from all directions from the earliest times, such as Syria and Egypt, as well as Greece. In spite of Hellenization, the indigenous population of the region retained its independence. A major aim of the study is to see how local traditions are affected by various external influences.

The region is divided into four areas in order to establish the regional distribution and chronology of the distinctive types of monuments. Tombs are classified as freestanding (tower tombs and temple tombs) and rock-cut tombs. The funerary monuments, ranging in date from the Classical to the Roman period, reflect a wide variety of burial customs. An attempt is made to examine different but connected aspects of the funerary traditions in the region. The extensive survey of the region has revealed distinctive regional variations in the architectural and decorative elements of tombs. External influences identified through a comparison with Near Eastern and Greek tombs of similar form are noted. There are close parallels, for example, between the tower tombs of Cilicia Tracheia and those of Syria, in particular the ones at Palmyra and Doura-Europos. Whether the types arose locally or were introduced from the Near East is discussed since it may provide us with a better understanding of the nature of interconnections between these regions.

This study can help to show that Cilicia Tracheia was not an isolated geographical unit cut off from the rest of Asia Minor but rather, that there were several routes of communication by which it held close ties with the Anatolian plateau. It can in addition aid in defining the cultural boundaries of this remote region and in shedding light on the true character of the land and its peoples.

AMPHITHEATERS IN THE ROMAN LANDSCAPE: *Alison Futrell*, University of California, Berkeley

The purpose of this paper is to define more clearly the placement of amphitheaters in the landscape of the western European provinces, as a means of gauging the impact of Roman civilization in terms of its ability to impose an urban institution on the countryside. Such analysis can be meaningfully done in reference to Central Place Theory (CPT), a model of urbanization initially developed by Walter Christaller in the 1930s. According to CPT, inhabited landscape consists of centers and their hinterlands. Centers perform specific services for those dwelling in the surrounding area, including administrative, judicial, commercial, and political functions. Higher order centers, those with a larger hinterland, would perform the same basic functions as lower order centers, but would have, in addition, specialized services that

might be utilized on a less frequent basis but by a larger segment of the regional population.

How does this relate to the amphitheater, in particular? As a typically Roman building type, the amphitheater is often cited as a standard component of the Roman urbanization package exported *in toto* to the provinces. If so, the amphitheater should prove a kind of "marker" for regional centers, as functional units of the Empire. I have compared the scatter of amphitheaters to that of urban centers in four major areas: Britain, the Iberian peninsula, Gaul, and the northeastern Rhine/Danube provinces. The specificity of the amphitheatrical pattern makes it clear that motivational factors other than simple urbanization determined the placement of these structures, factors such as traditional cultic necessity, imperial expediency, financial resources (or lack thereof), and the presence of a militarized frontier zone. The *interactive* nature of the Romanization process is once again made apparent. Rome provided technological sophistication and the catalyst for development, but the exchange produced a new creation of *interpretatio provincialis*.

THE LIFE OF THE SHRINE: THE MITHRAEUM OF THE
"PALAZZO IMPERIALE" AT OSTIA: *Joanne M. Spurza*,
Princeton University

Although the mithraeum of the "Palazzo Imperiale" is the most thoroughly studied feature of that little-known building complex at Ostia (G. Becatti, *Scavi di Ostia II: I Mitrei* [Rome 1954] 53–57), its chief attraction has been the wealth of small finds and artifacts found there. Since its excavation by P.E. and C.L. Visconti in 1860–1861, it has been celebrated as an especially rich source of Mithraic statuary and other cult furnishings. In particular, an inscribed Cautes base with the consular date of A.D. 162 (*CIL* XIV, 58, 59) makes it the earliest of the firmly dated mithraea at Ostia. Another Ostian inscription (*CIL* XIV, 66), referring to a *crypta* of a *palatium* reused as a Mithraic shrine, possibly in the time of Commodus, has long (and erroneously) been taken as evidence for the identification of this building complex as a whole.

It is argued in this paper that, on the contrary, what makes the mithraeum of the "Palazzo Imperiale" exceptional among Ostian examples is the fact that it does not make use of such a reworked space. Of the ca. 17 documented mithraea at Ostia, all but this one were installed in preexisting structures, as for example in the back rooms of *insulae* or *horrea*, or the subterranean service corridor of a public bath. A study of the Palazzo's building history shows that its mithraeum and connected antechambers were designed and built as a unit. They formed an integral part of the expansion program that incorporated nearby structures to create a large-scale multipurpose establishment on the riverside in the second half of the second century A.C. This included the well-appointed mithraeum with its unusually elaborate set of antechambers. As such, the Palazzo's Mithraic suite shows a more sophisticated system of controlled access from outside the building and from various points within than is found in the usual more makeshift arrangements. Further elaboration is seen in the presence of a secondary shrine to Silvanus, marked by a vivid polychrome niche mosaic depicting the deity (Helbig⁴ I, 1145), whose significance in this context has not been fully explored. The Palazzo's mithraeum is viewed here not as an isolated cultic unit, one of

many such distributed throughout the port city, but rather as a uniquely well-planned and architecturally well-integrated ensemble. On the basis of 19th-century excavation accounts and drawings, unpublished results of soundings made in the mithraeum area in the 1960s, structural analysis of the extant remains, and recent mythographic studies, this paper proposes to reconstruct the decorative program and the active life of the shrine in its architectural context.

SESSION V B: GREEK VASE PAINTING

ARCHONS' NAMES AND INSCRIPTIONS ON PANATHENAIC VASES: *Richard Hamilton*, Bryn Mawr College

For most of the fourth century B.C., names of eponymous archons were inscribed on Panathenaic amphorae. Extant amphorae, in almost every case, also bear the inscription "from the Games at Athens," considered by scholars the mark distinguishing Panathenaic amphorae given as prizes at the quadrennial Panathenaic games ("prize Panathenaics") from other similarly shaped and decorated black-figure amphorae. Remarkably, among the two dozen different archons' names appearing on over 60 vases, none certainly belongs to an archon in office during the Panathenaic games at which the vases, filled with olive oil, were awarded as prizes. A. Mommsen (*Feste der Stadt Athen im Altertum* [Leipzig 1898] 82) suggested that since the archons were responsible for collecting the prize oil, the inscriptions must mark each archon's quota and that the archon during a Great Panathenaia was exempted because his oil had not been harvested by the time of the games. This universally accepted theory rests on several untested assumptions, ignores the testimony of the Aristotelian *Constitution of the Athenians* (our best witness to the mechanics of the prize-giving), and raises a number of difficult questions, hitherto for the most part unformulated. Moreover, an amphora was recently excavated bearing the name of an archon probably in office during the Great Panathenaia. It seems more likely that the archons' names, like many eventually canonical elements of the standard Panathenaic iconography, were official only in the sense that they were part of that year's design selected by the *athlothetai* in awarding the contract for making the prize amphorae. The inscription "from the Games at Athens" is equally decorative and so should not be used as the criterion marking prize Panathenaics.

THE ORNAMENTALITY OF NATURE IN EARLY GREEK
ART: *Jeffrey M. Hurwit*, University of Oregon

The paper examines a series of Archaic and Early Classical vase paintings that seem to question (or wittily blur) the distinction between elements of landscape (such as the trees or vines often found within pictorial scenes) and ornament (such as the floral patterns often found at the boundaries of those scenes). There is, it is argued, a significant conceit in Archaic art that plays upon the ornamentality of nature and the naturalistic values of ornament.

On many vases (especially early ones, such as the Protoattic Eleusis amphora) the status of isolated floral motifs that

haphazardly fill pictorial fields around the figures hovers ambiguously between vegetation and “pure” ornament. On later vases (such as the “Northampton amphora” once in Castle Ashby) birds strut or rabbits run amid palmettes that were normally treated as purely formal, subsidiary motifs, transforming them into “real” vegetation by their very presence. On a black-figure amphora in Boston, a satyr, having climbed a great arbor within a Dionysiac vintage scene, probes the conventional lotus-palmette band that borders the top of the panel with his hand, testing its “nature.” On a red-figure krater by the Tyszkiewicz Painter in Boston, otherwise standard lotus-palmette patterns at the handles have been given sturdy tree trunks, rooting them to the groundline and thus transforming them from elements of ornament into elements of landscape.

The conceit—the purposeful fusion or nonfusion of nature and ornament—that plays on these and other works may be an important clue to the general Greek conception and representation of the natural world. But it is suggested as well that the phenomenon reveals as much about early Greek attitudes toward art as toward nature, and that the Archaic vase painter in particular was self-consciously arguing for the essential ornamentality of all art.

THE BOAR HUNT IN CORINTHIAN POTTERY: *Elizabeth Langridge*, Princeton University

The focus of this paper is Corinthian pottery from the middle of the seventh century B.C., when boar hunts first appear on Corinthian pottery, through the first quarter of the sixth century B.C., when Attic pottery begins to depict the boar hunt. There have been iconographic studies of the boar hunt, but these have concentrated primarily on the Attic material and have viewed other material only in its relationship to Attic pottery. The purpose of this paper is to demonstrate that the Corinthian pottery depicting the boar hunt springs from a different iconographic tradition.

A large amount of Attic pottery portrays the Calydonian Boar Hunt, often identified as such by inscriptions. The only boar hunt that we recognize on pottery, it is often assumed to appear on Attic and other vases with otherwise unidentifiable boar hunts. However, the Corinthian tradition of representing the boar hunt begins substantially earlier than the Attic tradition; inscriptions on Corinthian vases lack all the primary characters known to us from the Calydonian Hunt, both on vases and in literature; and the names that do appear are as frequently names that exist in the historical record as they are purely mythological. These all suggest strongly that Corinthian pottery does not portray the Calydonian Boar Hunt, but falls within a local tradition of representation. The paper ends with the exploration of the possibilities of identifying the boar hunt depicted on Corinthian pottery, by utilizing what we know of local taste and tradition.

ATHENS AND TROY: THE *ILIUPERSIS* IN ATTIC VASE-PAINTING: *Mary L. Hart*, University of California, Los Angeles

Why were Athenian vase-painters so fascinated by the legends of Troy? Fourteen years ago John Boardman opened the door to a new approach to narrative vase-paint-

ings (*AntK* 19 [1976] 3–18) when he observed a connection between epic history and contemporary Athenian politics. The Kleophrades Painter’s hydria in Naples stands at the apex of a long tradition of narrative expressions inspired by the Trojan War. But earlier painters were also captivated by the events in Troy and developed ingenious solutions to this complicated and significant narrative. Their interest in this violent theme had sharpened long before the sack of Athens, and the work of the Kleophrades Painter is only one manifestation of an Athenian artist intrigued by an ageless destruction.

Individual events from the Sack were combined into visual narratives as early as Lydos, but the most provocative treatment of the theme occurs within the Leagros Group and the red-figure painters who emerge from and follow it. Supported by a corpus of approximately 300 vases gathered as research for my dissertation on the treatment of *Iliupersis* themes in Attic vase-painting, I show that at least two other early red-figure painters, Oltos and Onesimos, dealt aggressively with this monumental theme in their own complex narratives. Yet these painters were surpassed in expression by certain members of the Leagros Group, whose fascination with the gruesome aspects of the story evokes a particular sensibility different from that of most painters who fell under the spell of the *Epic Cycle*. What accounts for these Late Archaic developments in iconography established outside of Athens? Why the emphasis upon dynastic imagery as expressed by the murders of Priam, Astyanax, and Troilos?

The vases show that unlike other myths popular in both legend and art (Theseus, for example), where Troy is concerned the visual evidence appears to diverge from corresponding textual developments. While the two were closely connected, they were not bound, and when it came to a choice of theme and presentation, the painters may have relied on each other more than on Calliope or Terpsichore.

VISUAL REDUNDANCY: REPEATED SUBJECTS ON ATHENIAN VASES: *Ann Steiner*, Franklin and Marshall College

The phenomenon of a single subject appearing on two or more fields of a vase is one that has received little scholarly attention. Yet it is a relatively common occurrence: of 3,700 attributed vases with figural representation dating to the early Archaic period (ca. 600–530 B.C.), J.D. Beazley lists nearly 600 with subjects repeated in more than one field. Some of these repeated subjects are individual figures, and others are apparently narrative scenes populated by anonymous figures. Still others are specific mythological episodes.

This paper attempts to ascertain what this sort of restatement means in the language of Athenian vase-painters. Discussion focuses on the mythological episodes. Examples demonstrate that there are three types of redundancy: that, very rare, where two or more scenes are completely identical; that which shows narrative progression, where two or more scenes depict earlier and later moments in a single event; and that which is comparative and is probably not, in fact, repetition of the same subject. The last examples couple an aggressively mythological event, complete with identifying attributes and even inscriptions, in one field with what are apparently non-divine and non-heroic protagonists engaged

in the same activity on the other. In these instances, the mythological version may serve as a paradigm for the actors in the more neutral scene (cf. C. Berard, "Iconographie-Iconologie-Iconologique," *Études des Lettres* [1983] 5–37 and I. Scheibler, "Bild und Gefäß," *Jdl* 102 [1987] 57–118).

This last category receives most extensive treatment here. I explore the broad implications that proper understanding of these examples has for understanding the entire visual corpus. Clearly scholars have tended to label some scenes as mythological when they are actually only very like mythological scenes. I contend that this mislabeling happens outside the realm of supposedly "redundant vases" as well. As a result, our mistaken overprecision has obscured for us the accessibility and paradigmatic value of many scenes to sixth-century Athenians. With recognition of the subtle distinctions between subjects on a single vase, we are better able to understand the underlying role of the implied-but-absent mythological paradigm in a great deal of Archaic Athenian iconography.

NARRATIVE STRATEGY IN EUPHRONIOS: *H. Alan Shapiro*, Stevens Institute of Technology

An exhibition of works by Euphronios, held during 1990 in Arezzo and Paris, offers an opportunity to reconsider aspects of iconography and narrative technique. It is striking how often Euphronios fills both sides of a vase with a single subject. Good examples are the Geryon cup in Munich (2620: ARV 16, 17) and the Acropolis cup (176: ARV 17, 18) with the Wedding of Peleus and Thetis. Of his large pots, the best example is the volute-krater in Arezzo (1465: ARV 15,6) with Herakles and Telamon fighting the Amazons.

This seemingly obvious device is in fact revolutionary. In all of black-figure there is only one real precedent, the central band on the François Vase with the Wedding of Peleus and Thetis. Significantly, Euphronios revived this outdated version of the Wedding with the chariots of the gods in procession, to fill both sides of his Acropolis cup.

Recent discussions of Archaic narrative have distinguished the "cyclical" (e.g., Theseus Cycle cups) from the "continuous," in which two moments in the same story are depicted on a single vase, with one major figure repeated (H. Froning, *Jdl* 103 [1988] 169–99). Euphronios's strategy is neither of these two, but another, called here "unified narrative." The two scenes take place simultaneously, but spatially a little apart (Amazon reinforcements running up, in Arezzo; Geryon's cattle grazing as their master dies, in Munich). Thus the architecture of the vase helps rather than hinders the telling of a complex story.

A SICILIAN PHORMISKOS FROM MORGANTINA: *Jenifer Neils*, Case Western Reserve University

At the end of the 1959 season of Princeton University's excavations at Morgantina, an unusual vase was found on the Cittadella, the site of the Archaic city. In shape, decoration, and function, it is thus far unique among the ceramic products of early Sicily.

Although fragmentary, the form can be restored as a pear-shaped vessel, variously known as a bottle (Payne) or phormiskos. A rare shape, the Morgantina example is even more distinctive in that it preserves a rectangular opening on the

front of the body. The closest parallel is a phormiskos from Metapontum published by R. Hampe (AA 1976, 192–202), which is now in the Tampa Museum of Art.

In style the decoration of the Morgantina vase is Middle Corinthian, but the fabric is definitely not. Its buff, semi-coarse clay is painted with a dark brown matt slip enlivened with incision. On the front encircling the opening is a writhing, scaly hydra with a minimum of six heads. It is confronted at the left by a sphinx, identifiable by her polos, sickle-shaped wing, and tail. On the other side of the hydra a deer (?) moves to the right. The back of the vase preserves a tall tree with luxuriant foliage at the edge of an oval blob too large to be a rosette and not incised like the others scattered over the vase's surface. Here we have a depiction, rare in Greek art, of a specific locale: the swamp of Lerna and the plane tree that served as the lair of the hydra (Paus. 2.37.4–5).

Such vases almost certainly served as containers for astragaloi, as Hampe has demonstrated. This function is related to funerary imagery often found on Attic black-figure phormiskoi (O. Touchefeu-Meynier, RA 1972, 93–102), since knucklebones were used not only in games but also in divination, and are found in tombs from Sicily to South Russia.

Since the site of Herakles' second labor was also one of the proverbial entrances to the Underworld, the Morgantina phormiskos represents a unique congruence of form, function, and decoration.

SESSION V C: PREHISTORIC MEDITERRANEAN TRADE

LINEAR B EVIDENCE FOR THE MYCENAEAN USE OF THE SEA: *Thomas G. Palaima*, University of Texas at Austin

In this paper I interpret the evidence in the Linear B tablets about how the Mycenaeans made use of the sea.

Positive evidence: **a)** Terms possibly connected with maritime matters: occupational designations *e-re-ta*, *e-re-e-u* (?), *na-u-do-mo*, *de-ku-tu-wo-ko*, *ta-ra-za-po-ro* (?), *po-ti-ro* (?) and materials: *ka-ko na-wi-jo* (?). **b)** Anthroponyms formed from roots pertaining to the sea or nautical activities: a mere seven names have been securely connected with maritime matters. **c)** Non-local ethnica (i.e., in texts of one region, but referring to places in other regions most likely to be reached by sea): *a3-ku-pt-ti-jo*, *ku-pi-ri-jo*, *mi-ra-ti-ja*, *ze-pu2-ra-o*, *ki-ni-di-ja*, *ki-si-wi-ja* (?), *ra-mi-ni-ja*, *ki-ra-di-ja* (?), *ku-pa-si-ja* (?), *ke-re-si-jo*, *te-qa-ja*, *za-ku-si-jal-jo*, *ku-te-ra3*. **d)** Foreign goods and materials (e.g., spices, ivory, *ku-wa-no*, bronze, etc.) often designated by loan words the source languages of which can be connected with overseas cultures.

Negative evidence: **a)** *Maritime trade*. The Mycenaean texts provide almost no direct evidence for the management of extra-regional trade whether by sea or land. The word *te-qa-de* on tablet X 508 from the House of the Shields at Mycenae may refer to Boeotian Thebes, but the cloth recorded as *te-qa-de* may have been transported at least partially over land via Mycenaean built road networks sufficiently attested in the Argolid and Boeotia. The most secure direct evidence for short-distance sea transport of

goods now seems to be the texts of the Thebes sealings that deal with livestock or livestock products and feature Euboean toponyms and references to Thebes, thereby seeming to indicate shipment of animals or materials across the water from Euboea to Boeotia. **b) Fishing.** There are no references to fish or fishermen. The term *de-ku-tu-wo-ko* on Un 1322.2 relates to the manufacture of nets. However, the context is ambiguous (entries of GRA, NI, and *146), and the first element can mean a net for fishing or for hunting (an activity with a relatively certain Mycenaean attestation: *ku-na-ke-ta-i* PY Na 248). **c) Organization of a military or commercial fleet.** We have no specific evidence regarding the building, maintenance, operation, or control of commercial ships. There are many series dealing with other military matters, but no texts deal with Mycenaean war-fleets, not even in the archives of the palace at Pylos, which controlled a region for which a naval defense presumably would have been vital. At Pylos secure information is provided by a few texts (PY An 1, An 610, An 724) that list large numbers of rowers (*e-re-ta*) with specific military, administrative, and geographical associations.

Ships may have been built and maintained in seaside areas (cf. Minoan Kommos) remote from the palatial workshops (Northeast Workshop at Pylos) and arsenals (the Arsenal at Knossos) that worked on or housed the military equipment recorded in the surviving tablets. Shipbuilders (*na-u-do-mo*) are listed on two fragmentary PY texts (Vn 865, Na 568), unfortunately without any extant place designation. Alternatively, the main season for centrally organized ship repair and maintenance may have passed. Compare references in the Pylos tablets to rowers, the month "of sailing" (PY Fr 1218, 1221, 1232, and Tn 316), and measures connected with a possible naval emergency at Pylos, which, taken together, imply that the sailing season was underway when the Pylos tablets were written. The KN V(5) set may offer evidence for a similar deduction regarding part of the Knossos archives.

BRONZE AGE SHIPS AND RIGGING: *H.S. Georgiou*, University of California, Irvine

Some well-ingrained misconceptions exist regarding sailing in the Bronze Age. These stem from both ancient literary sources and interpretations of naval technology predating the discovery of the ship procession fresco in the West House at Akrotiri, Thera. The ability of Bronze Age boats to sail to windward is analyzed here by examining the rigging. Descriptions in the *Odyssey* are matched with geographical factors. The goal is to shed some light on the ways in which maritime exchanges and passages could have been undertaken in the Aegean in the Late Bronze Age.

THE OBSIDIAN TRADE IN PREHISTORIC ITALY: RE-CONSTRUCTING SOCIAL AND ECONOMIC ORGANIZATION BY MODELING EXCHANGE: *Robert H. Tykot*, Harvard University

The analysis of several hundred pieces of archaeological obsidian by electron microprobe and by laser ablation mass spectrometry makes possible the reconstruction of socioeconomic organization in prehistoric Italy through the use of

trade models. Although it has been more than 25 years since Cann and Renfrew introduced the use of elemental analysis for determining the provenance of obsidian artifacts, the study presented here is the first major attempt to model obsidian exchange in the Western Mediterranean. The measurement of either minor or trace elements using minimally destructive techniques is sufficient to differentiate the island sources of Lipari, Palmarola, and Pantelleria, and the multiple flows of Monte Arci in Sardinia. The analysis of statistically significant samples from a large number of sites allows for the study of exchange systems in discrete spatial zones during specific time periods.

Distribution patterns for six cultural periods, beginning about 6000 B.C., have been determined for Sardinia, Corsica, France, Italy, Sicily, and North Africa. These data are then tested using mathematical models developed by Hodder and Renfrew to determine fall-off rates of obsidian frequency in these regions. In addition to comparison with other prehistoric exchange systems, these models are used to infer diachronic changes in social organization and to test hypotheses regarding the development of politically constrained economic networks. The data are also used to indicate which sites may have served as redistributive centers, and to identify preferential trade routes between the island sources and mainland settlements.

LATE BRONZE AGE CONNECTIONS: A LOOK AT GOLD AND GLASS: *Christine Lilyquist*, Metropolitan Museum of Art

For a republication of the tomb of Tuthmosis III's three Asiatic wives at Thebes, the speaker has undertaken a broad survey of mid-second millennium B.C. luxury goods in Egypt, the Levant, and the Aegean. Two of the three major foci have been jewelry and glass, the latter in whatever format it can be recognized today. Personal examination of objects found in Mesopotamia and lands bordering or within the eastern Mediterranean have yielded the following observations: 1) glass occurs more widely from 1600–1300 B.C. in small objects than is generally recognized by archaeologists, and is used with considerable skill; 2) glass and gold objects found in disparate places sometimes exhibit such similar and unusual techniques or characteristics that one must conclude that they belong to a *koine* (following Maxwell-Hyslop), which does not, however, necessarily imply limited production centers (against Barag and Nolte). Whether the similarities observed indicate chronological contemporaneity as well as the closed nature of industries that produced expensive, status-giving objects is still being investigated, using both traditional dating and the new 1626 B.C. date for Thera.

LINEAR A AND THE MINOAN WINE TRADE: *Ruth Palmer*, College of Wooster

The appearance of Linear A in the Cyclades has been interpreted as a sign of direct Minoan control over these islands. But it is equally likely that the Linear A script spread from Crete through trade. A combination of epigraphical and archaeological evidence points to a trade in wine between Crete and the Cyclades.

The majority of Linear A inscriptions from the Cyclades are single words or ideograms incised into pottery. The wine ideogram appears on a storage vessel from Kea, and on pithoi from Crete itself. The Kea inscription consists of a compound sign based on the wine ideogram; this compound occurs elsewhere only at Zakros in East Crete. Finds from the palace and town at Zakros indicate that this center specialized in wine production. A large pithos in the palace magazines bears the wine ideogram and a numeral, followed by two long lines of text. In the nearby town, six houses contain wine-making installations consisting of a spouted tub set on a platform, and a vessel placed below it. The large villa at Ano Zakro has an elaborate series of tubs and tanks for large-scale production.

The evidence of production, storage, and recording of wine at Zakros, and of the compound sign for wine found at both Zakros and Kea, points to a trade in wine between Zakros and the Cyclades. Linear A words and ideograms describing wine and other commodities would have been transmitted through trade rather than through bureaucracy.

AEGEAN TEXTILES AND TEXTILE TRADE: *Elizabeth Barber*, Occidental College

The Aegean is a particularly bad place for the preservation of textiles—but that does not mean that interesting textiles were not produced there. My 15 years of research on the early textile industries of Europe and the Near East show that the Minoans and Mycenaeans had inherited a rich textile technology, and produced ornate textiles both for themselves and for a thriving trade to Egypt.

Evidence from numerous sites shows that Aegean textiles were regularly produced on a warp-weighted loom, and that the history of this mechanism goes back to the sixth millennium B.C. in south-central Europe, where people were producing elegantly decorated textiles already in the Neolithic. Troy, with its 10,000 spindle-whorls and its loom area full of tiny gold beads, was no less involved in textile-manufacture than the Minoan cities and villas, where loom weights have come to light by the hundreds.

A careful assessment of the Minoans' representations of their own cloth and clothing shows us their favorite types of textile patterns, and also demonstrates that these patterns are most easily woven by techniques developed in Europe (very different from those developed in Egypt and the Levant). Egyptian representations of imported Minoan textiles, both on "Keftiu" porters and on certain tomb ceilings that represent canopies of patterned rugs, correspond well to the native Minoan representations, and add much new information—about patterns, color schemes, trade, and the changes wrought by the Mycenaeans. The result of this analysis is a remarkably detailed picture showing the great importance of what once seemed to be a lost Bronze Age industry.

THE FAIENCE FIGURINES OF AMENHOTEP II AT TIRYNS AND MYCENAE: *Eric Cline*, University of Pennsylvania

A small blue faience monkey figurine bearing the cartouche of Amenhotep II (Aa-Kheperu-Re) was discovered

in 1977 within an LH IIIA context at Tiryns. In publishing the figurine, Haevernick concluded that it was of Syrian rather than Egyptian origin (AA 94 [1979] 405, 443, 447, figs. 30, 55a–c). This assignation has either not been questioned or has been ignored by subsequent researchers. Contra Haevernick, the Tiryns figurine is clearly an 18th-Dynasty Egyptian product. As such, it immediately gains an importance far greater than its minute size would indicate. It will be of primary interest to those following Betancourt's revised dating system for the LBA Aegean, which suggests that the LH/LM IIIA1 period lasted from Thutmose III's reign into Amenhotep III's reign (*Archaeometry* 29 [1987] 47).

A second small blue faience monkey or ape figurine bearing the cartouche of Amenhotep II (Aa-Kheperu-Re) was discovered by Tsountas somewhere on the acropolis at Mycenae. An Egyptian origin has never been doubted, but the figurine cannot be used for chronological purposes due to the uncertainty of its find context.

These two Egyptian figurines inscribed with a royal cartouche can be interpreted as votive objects, gaming pieces, or simple ornaments. They may be considered heirlooms, bric-a-brac, or concrete evidence of relations between Amenhotep II and the Aegean. They are certainly of prime importance to scholars studying the nature and extent of contacts between Egypt and the Aegean during the Late Bronze Age. The Tiryns figurine at least will be an integral part of future discussions on this topic.

SESSION V D: COLLOQUIUM: ARCHAEOLOGICAL RESEARCH AT THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

RECENT EXCAVATIONS AT CORINTH: *Charles K. Williams, II*, American School of Classical Studies at Athens

This paper covers the activities since 1980 of the American School of Classical Studies in ancient Corinth. The intent is to give an overview of the most recent scholarship involving Corinth. Because the focus of excavation in the recent past has been on Roman remains, the paper emphasizes the progress being made in the study of the Roman city and new insights thus achieved.

Of special interest are the Roman projects that individual scholars have undertaken. K. Slane has put precision into the Corinthian Roman pottery chronology with her manuscript on the material from the Acrocorinth Demeter sanctuary, and has further refined our understanding of Roman pottery by her work on the many tons from the theater area. In fact, the Demeter Sanctuary, now in its final stages of publication, should supply much new material as grist for the scholarly mill, including architectural and coroplastic, for both the Greek and the Roman periods. C. Edwards has identified a series of marble reliefs that show captives, trophies, and sacrifice as belonging to the main Roman arched entrance into the Corinthian forum, thus giving to it a triumphal iconography. D. Romano has delineated the Roman road plan of the city as a north-south/east-west grid,

despite the off-axis turn of the forum. A revamped chronology for the temples and associated structures at the west end of the forum now makes it easier to determine the significant building periods and programs in this area.

The excavations in the area immediately east of the theater have been a rich source of information about the domestic life of Roman colonists in Greece, the outstanding elements being the pottery, the figurines, and the wall frescoes. Of significance also is the new excavation around Temple E, the identification of which has been a major point of controversy both in the topography of the city and in the type of cult for which it was erected.

RECENT EXCAVATIONS IN THE ATHENIAN AGORA:

T. Leslie Shear, Jr., Princeton University and American School of Classical Studies at Athens

The American School of Classical Studies resumed excavations in 1989 and 1990 at the northwest corner of the Athenian Agora. Excavations were conducted on two properties lying just east and just west of the area exposed in the early 1980s. The Byzantine levels in the western section yielded the complete plans of two private houses, each consisting of several small rooms clustered about a central courtyard. Superimposed foundations on various different alignments suggest that both houses were rebuilt several times on the same sites. Three principal phases could be distinguished in the architectural remains, and by the use of numismatic evidence it was possible to chart the history of these phases from the ninth to the 13th century A.C. The courtyard well of one house produced a large quantity of household pottery of the 10th century, and a coin showed that the well had gone out of use about A.D. 1035.

Beneath the Byzantine levels parts of several Roman buildings have come to light. Most interesting is the small temple of Augustan date, and of Roman podium type, one corner of which had been uncovered in 1981. The heavy poros foundations for its prostyle porch and for its western flank wall are well preserved while other parts of the structure were rebuilt in late antiquity. Pieces of its marble Ionic colonnade show that the order was not only closely copied from the north porch of the Erechtheum, but the proportions of the columns and the width of the stylobate were evidently reproduced deliberately at about 75% the size of the original. The slightly earlier Temple of Roma and Augustus on the Acropolis forms an exact parallel, but the delicate carving of the anthemion at the top of the Ionic shaft compares more closely with the contemporary Roman repairs to the Erechtheum itself.

EXCAVATIONS AT HALAI IN LOKRIS: *John E. Coleman*, Cornell University

The Cornell Halai and East Lokris Project (CHELP) is a long-term investigation of an area of ca. 185 km² centered on ancient Halai, near modern Theologos. Initial surveys in 1988 and 1989, under the joint direction of William M. Murray, University of South Florida, and the speaker, produced, among other things, a collection of artifacts of different periods that are serving as a baseline for excavations at Halai and elsewhere.

The 1990 season of excavations at Halai, supported in part by grants from the National Endowment for the Humanities and the Institute for Aegean Prehistory, focused on the earliest and latest occupations of the site, the Neolithic and the Late Roman/Early Byzantine. The site was partly excavated by Goldman and Walker Kosmopoulos earlier in the century. Neolithic deposits are accessible in the temple area, our Area F, at the northwest side of the site because the earlier excavations removed later deposits from above them. In one 4 × 4 m trench we excavated an ashy deposit and cleared walls and an oven of an early stage of the Late Neolithic period. Two meters or more of deposit lie beneath this level. Other trenches probed the horizontal extent of the Neolithic deposits. To date, no prehistoric material has been recognized in survey or excavation from Halai that we would date later than the LN I phase.

In its latest periods, the town of Halai apparently followed the same rectangular grid originally laid out in Classical times. The latest occupation was tested in trenches in Areas C and H, near the center of the acropolis. Extensive remains of at least two houses were investigated, containing deposits primarily of Late Roman (350–650) and Middle Roman (150–350) date. Our current hypothesis, which will be tested in future seasons, is that all the domestic structures at Halai predate the earlier church, which, unlike them, makes use of concrete in its construction.

EXCAVATIONS AT NEMEA: *Stephen G. Miller*, University of California, Berkeley

Work at Nemea during 1989 and 1990 has focused upon the preparation of final publications of the results of excavations beginning in 1974. This has involved fieldwork which can be separated into two categories. The first of these consists of study of material and monuments found longer ago. The prime example is the series of marble and hard limestone blocks that were discovered in 1924 reused in various parts of the Early Christian Basilica south of the Temple of Zeus. The temporary removal of these blocks from their reused positions is allowing the careful measurement, drawing, and photographing that will enable a reconstruction of their original use in the early Hellenistic period as a massive base for a large group of bronze sculpture located on foundations at the southeast corner of the Temple of Zeus. During this work a part of the signature of the sculptor was discovered as well as an unassociated fragment of a sacrificial table bearing a dedicatory inscription.

The second category of fieldwork consists of the removal of earth in and around the stadium. Most of this was removed from beneath the modern road that had bisected the stadium's track until its closure in 1989. This work revealed few surprises, but the unification of the whole stadium, save for the eroded northern end that can never be recovered, with its curving sides justifies the effort.

At the western end of the entrance tunnel, landscaping work to arrange for the visitors' entrance to the site led to the discovery of the "Sacred Way," which must have connected the Sanctuary of Zeus with the stadium, separated by about 300 m, and approached the stadium from the north. At the head of this road, and just outside the entrance tunnel, lies a newly discovered building, dating to the last quarter of the fourth century B.C., and measuring about 13.50 ×

16 m. Although not yet fully uncovered, it certainly had at least 10 interior Doric columns and perhaps a central court. The Laconian tiles of its roof include two series stamped with the names of the manufacturers. Although the precise function of this building is not yet known, it is clear that no one could enter the tunnel without going through this building, and its intimate connection to the stadium and the games is clear. It is perhaps best understood as something like a locker room or *apodyterion*.

THE 1990 EXCAVATIONS AT KAVOUSI, CRETE: *William D.E. Coulson*, American School of Classical Studies at Athens, *Geraldine C. Gesell*, University of Tennessee, and *Leslie Preston Day*, Wabash College

The final season of excavations at Kavousi in east Crete took place in the summer of 1990 and concentrated upon the upper settlement on the Kastro and the lower settlement of Vronda. On the Kastro, work took place on the east, north, and west slopes, and in the area of the false peak. Excavations revealed a series of long, narrow rooms on terraces surrounding the building complexes on the peak excavated by Harriet Boyd in 1900. On the east slope, a large structure of five rooms was cleared. On the floor of the central room were found two column bases with a hearth between them and a bin in one corner. The room has a similar configuration to the so-called temples at Dreros and Prinias. To the north was found a narrow room with an oven in one corner, perhaps a kitchen. Rooms continued around to the north slope where a series of well-built stairs were found leading to a higher terrace. On the west slope, tests were made beneath the floors of rooms. In two areas, large deposits of LM IIIC pottery were found; one of these was associated with a thick destruction level. Chronologically, the Kastro can now be seen to have been occupied almost continuously from the LM IIIC to Early Orientalizing periods.

Excavations at Vronda revealed more of the LM IIIC settlement and graves of the Late Geometric period. On the summit of the hill, investigation of Buildings C and D showed more houses than originally thought, all with several building phases. One large rectangular room has a platform in the corner and stone supports for the roof. Remains of burned wooden beams near the supports reveal that this building, unlike the others at Vronda, suffered a fiery destruction. On and near the platform were found animal figurines and fine LM IIIC pottery. Another room had been disturbed by a Late Geometric cremation cist, which contained a splendid rock-crystal bead. Other cremation cists were found to the southwest, one with an Early Orientalizing aryballos, the other preserving the beams of the pyre at the bottom. West of the summit, Building I was further explored, and it is now clear that several structures with at least two phases are represented there. On a terrace to the west are three new rooms, all connected by doorways. The northern room has a hearth on the floor, and the presence of burned mudbricks suggests destruction by fire. The three rooms produced much fine LM IIIC pottery. Two more rooms were found on a lower terrace to the west. One of these rooms was entered by a staircase through the doorway, and on its floor were large fragments of the same krater found on the terrace above. Exploration north of Building I brought to light one of Boyd's missing tholos tombs buried under a rock pile.

EXCAVATIONS AT PSEIRA, 1990: *Philip P. Betancourt*, Temple University, *Costis Davaras*, Archaeological Institute of Crete, *Richard Hope Simpson*, Queen's University, and *John McEnroe*, Hamilton College

The 1990 season of excavations at Pseira took place in July and early August under the direction of Betancourt and Davaras. Work concentrated on the Minoan settlement and in the larger of two Minoan dams on Pseira Island.

In the settlement, the plan of the town square was revealed to the extent the surviving remains allow. On the north, the square is bounded by the Plateia House, the largest building in the town. Additional buildings front on the open area on the west and east. The square is much larger than originally thought, with set-backs along the eastern side expanding it to an east-west width of approximately 30 m. On the south, the facade was destroyed by building activity in the Byzantine period, but it was over 20 m long north to south. Finds show that the buildings here went out of use in LM IB.

A newly discovered house was partly explored, and its complete excavation awaits the project's final season next year. Among the finds of this rich building were the remains of an upstairs floor consisting of red-painted plaster strips forming a rectangular grid, with the central panels in some perishable material.

The largest of two dams on the island was excavated under the supervision of Hope Simpson. It was built in MM III to LM I, and it went out of use in LM IB. Built as a triple wall of large blocks with packing in between, the dam was capped with large stone slabs. It was still standing in Byzantine times, and its upper parts were reused at that time.

TERRA INCOGNITA NO LONGER: ARCHAEOLOGICAL SURVEY IN GREVENA: *Mary Savina*, Carleton College, *Stanley E. Aschenbrenner*, University of Minnesota, Duluth, and *Nancy Wilkie*, Carleton College

Until the Grevena Project began its survey of the nomos of Grevena in 1987, the area was properly called "Terra Incognita." Chance finds had revealed the existence of ancient occupation at a small number of sites in the nomos, but no systematic survey or excavation had been undertaken. In addition, the lack of references to the region in the ancient literature led modern scholars to ignore its ancient past. As a result the Grevena Project was designed as an all-period, interdisciplinary survey covering the entire nomos, an area of approximately 2,500 km² stretching from the Pindos Mountains on the east. The Aliakmon River, which drains the Grevena basin, runs through the dissected plains in the central part of the nomos.

In the course of their investigation, members of the Grevena Project have investigated more than 300 sites throughout the nomos. They range in date from Early Neolithic to Modern. The Early Neolithic sites are generally located on or near the major rivers in the nomos, which seem to have served as communication routes. Bronze Age sites, on the other hand, are in more diverse locations. Moreover, this is the earliest period for which there is any archaeological evidence that transhumant pastoralism may have been practiced.

In conjunction with the archaeological survey, members of the Grevena Project have also undertaken studies of the

geology, geomorphology, and palaeoecology of the nomos. Other studies have focused on agriculture, pastoralism, and demography. The interdisciplinary nature of the project combined with the study of the recent as well as ancient history of the nomos should help to reveal the way in which the inhabitants of Grevena have interacted with their landscape over the past 8,000 years.

TOPOGRAPHICAL RESEARCH AT THE AMERICAN SCHOOL OF CLASSICAL STUDIES: *John McK. Camp, II*, American School of Classical Studies at Athens

Topographical research has long been an area of particular strength at the American School of Classical Studies. This paper consists of a review of some of the recent work done under the auspices of the School, starting with the large-scale formal surveys. This is followed by an account of less formal topographical work carried out by individual members and students of the School. Among some of the results touched on are the discovery of new inscriptions from various parts of Greece, new light on the travels and work of Edward Dodwell, and a reexamination of the borders and defenses of Classical Boiotia.

SESSION V E: COLLOQUIUM: EXPLORATIONS IN ARABIA PETRAEA

HOUSEHOLD EXCAVATIONS AT PETRA: *Kenneth W. Russell*, American Center of Oriental Research, Amman

This presentation summarizes the results of archaeological excavations from 1974 through 1977 that uncovered household structures in the heart of ancient Petra. These excavations, conducted by the author as part of the American Expedition to Petra, directed by Philip C. Hammond, revealed a series of stratigraphically superimposed, freestanding domestic structures. These houses date to the late Nabataean through Byzantine periods, and overlie earlier non-architectural late Hellenistic domestic deposits. Coupled with the architectural and stratigraphic information recorded during excavation, the recovered material remains constitute a significant corpus of data on domestic affairs at Petra during its urban history, and have allowed for a more concise reconstruction of the culture-history of Petra from the Hellenistic period through its demise as an urban center prior to the Islamic conquest. The sequence of collapse and rebuilding apparent in these domestic structures, coupled with textual research, has also served to redefine and clarify the earthquake chronology of Late Roman/Byzantine Palestine and the Province of Arabia. Since earthquakes tend to affect extensive regions, the chronology established at Petra now allows for the temporal articulation of the depositional records of sites throughout Palestine and North Arabia on the basis of comparative archaeoseismic evidence.

THE NABATAEAN EXPANSION INTO SYRIA AND THE HAURAN: *Bert de Vries*, American Center of Oriental Research, Amman

The northern expansion of the Nabataeans into southern Syria in the first century B.C. and A.C., culminating in the

shift of their capital from Petra to Bostra, has long been known, but poorly understood. Recent analyses of numerous inscriptions from the lava lands of southern Syria, archaeological investigations at such important sites as Bostra, Si'a, Umm el-Jimal, and others throughout the Hauran, studies of the socioeconomic character of settlements in the region, and reexaminations of literary sources have shed new light on this historical event. This presentation synthesizes these new data in support of the thesis that the Nabataeans did not actually colonize southern Syria. Rather, their political presence in Bostra appears to have triggered a Graeco-Nabataean acculturation and concomitant sedentarization among the indigenous Arab tribes of the region.

NABATAEAN AND NORTH ARABIAN EPIGRAPHY: DIMENSIONS OF IDENTITY: *William J. Jobling*, University of Sydney

This presentation concerns the implications of newly recorded epigraphic data from southern Jordan and the Negev in better understanding the sociolinguistic identity of the Nabataeans. Early explorers and researchers of Nabataean history in Arabia Petraea defined Nabataean culture largely in terms of the ethnographies preserved in Graeco-Roman literary sources. To some extent, subsequent scholarship has tended to associate the linguistic diversity apparent in non-textual epigraphic sources in Arabia Petraea with actual ethnic variations within the Nabataean realm. More recent investigations of Nabataean inscriptions have revealed that both the language and its writing system were developments of the intrusive Aramaic language, which linguistically contrasted with the indigenous North Arabian dialects. Progressive fieldwork and research on Nabataean inscriptions found at urban centers, such as Petra in southern Jordan, and those found in the desert areas of the incense trade routes of northern Arabia provide convincing evidence that Nabataean Aramaic actually functioned side by side with indigenous North Arabian dialects and writing systems, suggesting conditions of bilingualism.

THE MANUFACTURE OF FINE NABATAEAN POTTERY: *Khairieh Amr*, Department of Antiquities, Hashemite Kingdom of Jordan, and *James R.B. Mason*, Yarmouk University

This presentation summarizes recent replication studies in the manufacturing of fine Nabataean pottery. The materials and techniques that ancient Nabataean potters used to produce the famous fine "egg-shell" ceramics characteristic of the Nabataean civilization have long been a matter of speculation among scholars. The authors have directly addressed this issue through replication studies. Earlier stages of this research were presented at the ARAM First International Conference, "The Nabataeans," held at Oxford, England, in September of 1989. It was demonstrated at that time that the specific clay local to the Petra area could indeed be used to produce bowls of over 17 cm in diameter with walls ca. 1–4 mm thick. Since then, further research has been conducted on the specific working properties of the clay and the finishing of the pottery. An experimental kiln, based on the plans of the Zurrabah kilns excavated near Petra in 1979–1981, has also been built to test the effects on pottery

of the different fuels available to Nabataean potters. The results of these experimental techniques have served to clarify and expand our understanding of this aspect of Nabataean technology.

NABATAEAN HYDRAULIC ENGINEERING: *John Peter Oleson*, University of Victoria

The most spectacular Nabataean accomplishment was occupation of the deserts of what is now southern Israel, southern Jordan, and northwestern Saudi Arabia. In these deserts they engaged in caravan management, stock raising, farming, and mining, and they founded a network of small settlements and modest cities to manage and profit from such activities. Simple survival in these deserts, even apart from prosperity, depended on extremely skillful management of local water resources. The Nabataeans knew how to find and trap the smallest trickle of spring or seepage water, and they were able to conduct it long distances (up to 18 km at Humeima/Auara) in characteristic ground-level aqueduct systems. They depended most, however, on cisterns and reservoirs that held water harvested from run-off following the infrequent desert rains. Dams were occasionally used to trap and hold large pools of water, but more often such barriers simply diverted water into rock-cut or built cisterns and reservoirs from which it was obtained by dipping. Local topography was often adjusted to increase the run-off to strategically placed cisterns. The same techniques were used to concentrate run-off water and alluvial soil on terraced fields built near or across natural water channels; with proper management and timing, the soil would hold sufficient moisture to sustain grain crops and fruit trees. Much of Nabataean hydraulic technology is an indigenous development based on Bronze Age and early Iron Age techniques, but some later developments were influenced by Hellenistic and Roman technology. Roofing cisterns with slabs carried on transverse arches is one technique obviously borrowed from the Aegean. Study of the water-supply system of ancient Auara (Humeima in southern Jordan) has revealed how the Nabataean King Aretas III used hydraulic technology to foster regional development and how patterns of water-use changed during the Roman occupation of Arabia. As with other ancient cultures, high-level political involvement was necessary to foster a more sophisticated, integrated approach to water management.

SESSION VI A: GREEK TOPOGRAPHY

A SANCTUARY OF HERAKLES ON THE SACRED WAY TO DELPHI: *Gretchen Umholtz* and *Jeremy McInerney*, University of California, Berkeley

The ancient Phokian border town of Panopeus was known in antiquity as the hometown of Epeios, builder of the Trojan horse (Hom. *Od.* 8.493; *Il.* 23.665). It was sacked by Philip II in 346 B.C. (Paus. 10.3.1), but survived and was still sending delegates to the Phokikon in the second century A.C. (Paus. 10.4.1). Today the most striking remains of ancient Panopeus are its fine fortification walls. On a visit to the site in the spring of 1990 we found a previously unre-

ported rock-cut sanctuary. One of the three inscriptions labeling the rock-cut niches of the sanctuary bears a dedication by an Athenian to Herakles; its letter forms appear to date to the fourth century B.C. The worship of Herakles is extremely sparsely attested for Phokis; it is noteworthy that this new example includes a link with Athens, where the worship of Herakles was extensive. Athenian women regularly stopped at Panopeus on their ceremonial journey to worship Dionysos on Parnassos (Paus. 10.4.3). In this paper we discuss the physical remains of the Herakles sanctuary and its place in the urban structure of ancient Panopeus. We also examine relationships between Athens and Phokis in the realm of cult.

A TROPHY FROM THE BATTLE OF CHAIRONEIA OF 86 B.C.: *Kathryn A. Morgan*, American School of Classical Studies at Athens, and *Michael Ierardi*, University of California, Berkeley

In 86 B.C., after his successful siege of Athens and the Piraeus, the Roman general Sulla moved northward into Boiotia to confront Archelaos, general of Mithridates' forces in Greece. A decisive engagement was fought near the town of Chaironeia in the Kephisos valley. Until now, no remains of this battle have been recognized.

In February 1990 five members of the American School of Classical Studies explored a hill west of Chaironeia on the south side of the plain. In a crude rubble construction just below its crest several worked fragments of whitish-gray marble were found. Most important was a large fragment of an inscribed base that carried one of the two trophies set up by Sulla after the battle (Plut. *Vit. Sull.* 19.10). The positive identification of the trophy permits us to specify the location of Plutarch's Mount Thourion and provides a secure fixed point for our understanding of the topography of the battle of Chaironeia. Further examination of the area allows us to report the discovery of an apparently unpublished site, which we consider to be the likeliest recognized thus far for the Temple of Apollo Thourios, and to propose a new candidate for the river Morios (Plut. *Vit. Sull.* 17.7).

THE SANCTUARY OF PAN AT THE SOURCES OF THE NEDA RIVER IN ARKADIA: *Pieter B. Broucke*, Yale University

A small sanctuary of Pan lies on a narrow ridge in the southern foothills of Mount Lykeion in Arkadia. The site is situated between the eastern sources of the Neda River, ca. 1.5 km to the north of the village of Neda, at an elevation of 960 m. It is not only the oldest excavated Pan sanctuary in all of Greece, with finds dating to the sixth century B.C., it also contains monumental architecture, so far a unique instance for Pan. This most important sanctuary, however, happens to be the least known. Its remote setting high in mountainous Arkadia, the land of Pan, makes a visit, even today, quite difficult and the single brief report by K. Kourouniotis (*Prakt* 1902, 72–75) adds to the sanctuary's undeserved obscurity.

This paper reappraises the sanctuary's physical remains, including the inscribed dedications to Pan (*IG* V², 556 and 557), many terracotta and bronze votive statuettes, a set of

foundations, and numerous fragments of ancient architecture, both limestone and marble, visible on the surface and built into the walls of the ruined chapel of Agios Strategos. Kourouniotis identified the architectural remains as coming from a temple, though he admitted that his study of the architecture was too partial to be conclusive. My investigations so far have led to the interpretation that the remains come from a stoa, 100 ft long (28.19 × 5.19 m), dated tentatively to the late fourth century B.C./early Hellenistic period.

TOPOGRAPHY AND HISTORY: THUCYDIDES 3.7, THE LOCATION OF NERIKOS, AND THE DEATH OF PHORMIO'S SON: *William M. Murray*, University of South Florida

In the summer of 428 B.C., the Athenians dispatched Asopios, son of Phormio, to the Greek northwest at the specific request of the Akarnanians. Thucydides (3.7) briefly describes what happens to Phormio's son, but fails to provide the motives behind his seemingly impulsive behavior. For example, Asopios gathered an army upon his arrival in Akarnania for an attack on Oiniadai. But when the city failed to fall, he disbanded the army and sailed northward to Leucas where he lost his life attacking a small place called Nerikos. Thucydides reports this event without comment and leaves the reader to ponder the senselessness of the attack and the impulsive incompetence of the attacker.

This paper argues that Thucydides had no firsthand knowledge of the region around Leucas and therefore did not know the significance of Asopios's attack. It integrates philological and topographical evidence to locate Nerikos in the Leucadian *peraia* of Akarnania and reconstructs the likely motives that drove Asopios to his doom. New evidence recorded by the author from Leucas's now submerged harbor supports Dörpfeld's identification of Nerikos (*Alt Ithaka* [Munich 1927] I, 269–71) with a fortified community opposite the city of Leucas on the Akarnanian shore. It would seem from the preserved remains that Nerikos was built to protect the Akarnanian side of a long two-armed harbor mole, constructed by the Leucadians in the sixth or fifth century to create a large commercial harbor next to their city. If this interpretation is correct, Asopios attempted a surprise attack whose successful outcome would have had wide repercussions. Leucas would have lost control of her harbor, the Akarnanians would have regained control of their side of the Leucas straits, and Asopios's initial failure at Oiniadai would have been completely forgotten. To change defeat into victory by means of a bold and unexpected action was a strategy used with great success by his father in the Corinthian Gulf. Asopios may have been trying something similar when he lost his life near Leucas in 428.

PAUSANIAS 3.19.6: THE SANCTUARY OF ALEXANDRA AT AMYKLAI: *Georgia Salapata*, University of Pennsylvania

Between 1956 and 1961 a votive deposit was excavated by the Greek Archaeological Service near the church of Ayia Paraskevi in modern Amyklai. It contained more than

10,000 objects, mostly unpublished, ranging in date from the Geometric to the Early Hellenistic period.

This deposit is undoubtedly associated with the sanctuary of Alexandra mentioned by Pausanias at Amyklai (3.19.6), which, although not discovered, must have been located nearby. The identification is supported by vase inscriptions from the deposit and two Hellenistic inscribed finds from the area: a marble throne with a dedicatory inscription to Alexandra and an honorary decree with a provision for its erection in the Alexandra sanctuary (*IG V 1.26*).

Alexandra seems to have been an old local goddess, her name appearing in Linear B, who at some point, as Pausanias's text makes clear, came to be identified with Kassandra.

Agamemnon was also associated with the sanctuary. Pausanias mentions a *mnema*, perhaps a grave, which would be consistent with a literary tradition going back to Stesichoros (fr. 39) in which the hero was murdered not at Mycenae but in Lakonia. Vase inscriptions recovered from the deposit show that the worship of Agamemnon began at least by Archaic times. Further evidence for his cult from Archaic times on is revealed through a large series of terracotta relief plaques depicting a seated man who holds a kantharos and is often accompanied by a snake. This motif had a generic quality and was appropriate for heroic figures.

PAUSANIAS, THE PHOKIKON, AND THE SHRINE OF THE HERO ARCHEGETES: *Jeremy McNerney*, University of California, Berkeley

This paper reconsiders the location, structure, and function of the Phokikon, the federal meeting place of the Phokian *koinon*, located on the Sacred Way between Daulis and Delphi. The first section examines all recorded finds from the so-called Phokikon field, including a recently discovered Archaic headstone, and suggests that this area originally served as an Archaic cemetery.

By the time of Pausanias, in the second century A.C., the burial ground had become the site of the Phokikon. To determine when this change took place, the second section of the paper concentrates on remains located 1 km to the northwest on Sanctuary Hill. French and Vanderpool suggested that these were the ruins of a shrine to the Hero Archegetes. This identification is unacceptable. An examination of Pausanias 10.5.1 shows that the shrine of the Hero Archegetes should not be associated with the Phokikon, while physical evidence from the site is incompatible with the chthonic cult described by Pausanias. A better solution suggests itself, that the building on Sanctuary Hill is a type of bouleuterion, not of the common π-shaped variety, but of an older, narrower style. There was no sanctuary on Sanctuary Hill. It was the site of the original Phokikon, and associated finds suggest a fifth-century B.C. date for its construction. The presence of a monumental Doric altar nearby accords with the association between major civic buildings and deities such as Zeus Horkios and Athena Polias.

Section three presents arguments for assigning a terminus to this building before the end of the fourth century B.C., and argues that in the early Hellenistic period the Phokikon was not in use at all. The building blocks and scattered roof tiles found in the Phokikon field will have come from a later

rebuilding in the Hellenistic period, probably not earlier than the late third century B.C. and possibly later.

The paper concludes that the traditional identification of the Phokikon is only partly correct. Pausanias did see a Phokikon on the road to Delphi, but this was not the building used by the Phokians during the height of their power in the Classical period.

THE HISTORY OF HUMAN HABITATION IN NORTHEAST ATTICA: *Michael B. Cosmopoulos*, University of Manitoba

The second season of the University of Manitoba Oropos Survey Project was conducted in the summer of 1990 (cf. *AJA* 94 [1990] 328). An area of ca. 3 km² to the north of the sanctuary of Amphiaraos was investigated and 16 new sites were discovered, raising the number of new sites to 31 in a total area of approximately 6 km². Although a large part of the territory of ancient Oropos still remains unexplored, we now begin to have a relatively clear idea of the history of human habitation.

In the Bronze Age the area seems to have been quite densely populated and site selection was based on proximity to arable lands and marine resources. After a long gap there are slim indications for habitation in the Archaic period, and in the fifth century the area was still sparsely populated. A significant population increase took place in the fourth century and lasted throughout the Hellenistic period. This boom was caused by the economic growth of the sanctuary and the commercial development of the city of Oropos, which brought considerable prosperity to the area. The majority of the sites were farms or small villages located in the large valley to the northwest of the sanctuary and the hills between the sanctuary and the coast. Special mention should be made of the underwater site of Kamaraki, dated to the second century B.C. and identified as Delphinion, the sacred harbor of Oropos (cf. *IJNA* 18 [1989] 273).

The good relations of the sanctuary with Rome seem to have been the reason for the continuing prosperity of the area in the Late Republican and Early Imperial periods and the dense population up to the second century A.C. After that period the area seems to have been depopulated: a few Early Byzantine sherds indicate continuation of habitation at only two sites.

THE CULTURAL ECOLOGY OF THE ATTIC-BOIOTIAN FRONTIER: PRELIMINARY RESULTS OF THE STANFORD SKOURTA PLAIN PROJECT, 1985–1990: *Mark H. Munn* and *Mary Lou Zimmerman Munn*, Stanford University, *Allaire Chandor Brumfield* and *Eberhard Zangger*, University of Cambridge

Four seasons of archaeological survey in the Skourta plain have yielded a coherent picture of settlement history, from Early Neolithic through Early Modern, of this basin in the Parnes-Kithairon mountain massif. Aspects of the environmental setting have been established through study of the Late Quaternary deposits and soils of the area (Zangger).

Study of the modern population and economy (Brumfield) has outlined the character of the recent interaction of culture and environment. Because Classical settlement was the focus of an earlier report (Munn and Munn, *AJA* 93 [1989] 274–75), this report describes the salient features of the prehistoric (Neolithic through Early Iron Age) and Mediaeval settlement of this mountainous hinterland.

Two general characteristics of the settlement patterns of the Skourta plain are especially noteworthy. The first is the distinctive manner in which the area, in most periods dotted with sites, is devoid of permanent habitation during certain known periods of profound cultural transformation. This pattern occurs in EH II, and in the Geometric-Archaic period. Both periods saw the emergence of new and increasingly complex centers of sociopolitical organization in central and southern Greece. Arguably, both were periods in which regional states were divided by this mountain borderland. The second noteworthy characteristic is the specialized adaptation of settlement in the more remote parts of this upland environment during periods when a central authority outside of the area exerted control over its more accessible and desirable parts, namely, the central Skourta basin. Such adaptations can be recognized in the Mycenaean and in the Turkish eras. In the former case, remote settlements in the vicinity of steep and defensible strongholds suggest a population clinging to its autonomy in the face of Mycenaean domination of the plains and larger valleys; traditions local to the area allow the suggestion that these may have been Pelasgians. In the latter case, the population is known to have been Albanian, organized in a complex symbiotic relationship to Frankish and later Turkish overlords. Small settlements and extensive field systems in the more remote and rugged parts of the area, both abandoned in the Modern era, suggest that some measure of autonomy was eked out in these areas while the better land was controlled by absentee landlords.

SESSION VI B: RELIGION AND SACRED SPACE

SACRIFICIAL AND SECULAR SPACE AT THE ISTHMIAN SANCTUARY OF POSEIDON: *Elizabeth R. Gebhard*, University of Illinois at Chicago

The boundary markers that usually define the sacred space of large and small shrines are apparently absent in the early phases of the Isthmian sanctuary. They occur only when tension is felt between the sacrificial area and that devoted to other activities. The cult of Isthmian Poseidon received its first built altar and temple during the second quarter of the seventh century B.C. Although the altar stretched for about 100 ft along the east facade of the temple, there is evidence that sacrificial activities continued to follow an earlier pattern and took place largely around its south end. Following organization of panhellenic games in the sixth century, a stadium was built near the altar. The space for athletic contests was thus closely juxtaposed to that of the sacrifices, but no wall or other boundary marker separated them.

A century later the picture changed. Needs of the games apparently superseded those of the sacrifices, and a new, larger spectator embankment encroached well into the sacrificial space. Then, for the first time, a physical separation was made between the altar and the stadium. One portion of the boundary took the form of a series of posts at the east and south ends of the long altar; the other to the west was furnished by a ramp leading to the space behind the starting line. On the east side of the altar, bases for three large posts with the cutting for a fourth have been recovered, and four smaller bases occur toward the west. Since they appear to be part of the same system, we can restore a barrier of eight posts that separated the area belonging to the stadium from that devoted to ritual activities focused on the south end of the long altar. The posts constitute the only evidence of spatial definition so far recognized at the Isthmian sanctuary.

THE "PILLAR OF OINAMAOS" AND THE EARLY ARCHAIC STADIUM AT OLYMPIA: *Eric L. Brulotte*, University of Minnesota, Twin Cities

Venerable relics populated the site of ancient Olympia. Perhaps the most sacred of all was the "Pillar of Oinomaos." This paper proposes that this pillar was the turning-post for the *diaulos* and the *dialchos* races (races longer than one stade) held in the early Archaic stadium at Olympia at the time of the quadrennial Olympic games. Pausanias (5.20.6) provides a vivid description of the monument set up in the Altis between the Great Altar and the Temple of Zeus.

According to the tradition reported by Pausanias, the pillar was a remnant of the Palace of Oinomaos, ruler of Pisa and Elis. There is no evidence of such a complex in the Altis. Search for physical evidence began with the earliest excavations at Olympia, but all traces of it have been obliterated. Pausanias mentions a pillar with an inscribed plaque set up by the Eleans. In its content, the inscription has a claim to great antiquity, but its language (κοινή) reveals a date not earlier than the fourth century B.C. The reference to Oinomaos can be only an anachronism. The physical appearance of the pillar is that of a freestanding column independent of any architecture. Such columns began to appear in increasing numbers in Greek sanctuaries during the Archaic period, serving both as funerary and votive monuments. As argued by Elizabeth McGowan (*AJA* 94 [1990] 303), the inscriptions of some of these monuments had echoes from Homer. Moreover, in the funerary games of Patroclus (*Hom. Il.* 23.329–33), a grave-marker served as the turning-post for the chariot race commemorating the death of the hero. The use of this type of monument in the Archaic period represents a prime example of an imitation of the Homeric usage.

The location of the pillar of Oinomaos and the site of the early Archaic stadium are known only within approximate limits. Pausanias places the pillar between the Altar and the Temple of Zeus, somewhere east of that north–south axis; the position of the Archaic stadium is suggested archaeologically by the evidence of clusters of well-shafts. The placement of the two is coincidental. The identification of the pillar as the turning-post set at the western end of the early Olympic stadium contributes to a solution to the long-standing problem of the position of the early Archaic stadium.

THE ELEUSIS AMPHORA: MYTH, DEATH, AND RELIGION IN SEVENTH-CENTURY B.C. GREECE: *Christopher G. Simon*, College of the Holy Cross

Greek vase-painters of the seventh century B.C. commonly decorated their pottery with mythical scenes. Not enough attention, however, has been paid by scholars to the relationship between the artist's choice of myth and the function of the objects on which the myths appear. For example, the adventure of Odysseus with the Cyclops and the clash between Perseus and the Gorgons, two common episodes in seventh-century art, appear on vases found in cemeteries and made for funerary purposes. The two myths appear together on the so-called Eleusis amphora. These stories of heroic escape from danger served as comfort and consolation when, at the funeral, Greeks confronted the inevitability of death.

Such an interpretation is compatible with contemporary non-funerary uses of myth. Archaeological finds, especially votive offerings, suggest that many shrines in the seventh century B.C. played a major role in assisting worshippers in successful rites of passage. The myths decorating the metopes of seventh-century B.C. temples may have served a similar purpose, providing the example of the hero's own progress through life's obstacles.

In conclusion, seventh-century B.C. myth played an important and active part in serving the well-being of the community and reinforcing its values. The special use of myth in this period is inseparable from the social changes accompanying the rise of the tyrannies, the growth of literacy, and the continued contacts with the East. Study of the Eleusis amphora and related vases thus helps provide new perspectives on the social history of early Greece.

MUSICAL VICTORIES IN EARLY CLASSICAL VASE PAINTING: *Debra Schafter*, University of Texas at Austin

Evidence that musical competitions were held at the Panathenaic Festival from the mid-sixth through the fourth century B.C. exists in the decoration of two groups of pseudo-Panathenaic amphorae dating between ca. 550 and 490 B.C., and to a period after 430 B.C. The existence of these Panathenaic contests is confirmed by literary references dated ca. 490 B.C. (*Pind. Pyth.* 12) and the mid-fifth century (*Schol. Ar. Av.* 11; *Schol. Ar. Nub.* 969; *Plut. Vit. Per.* 13.6–7).

The conspicuous absence of material pertaining to musical contests at the Panathenaia from the second quarter of the fifth century B.C. has led scholars to conclude that musical performances may have been temporarily eliminated from the event during that span (*J.A. Davison, JHS* 78 [1958] 23–41; *M.A. Vos, CVA Leiden* 31). A series of vases, unrelated to the Panathenaic amphora, appear at this same time decorated with Nike accompanying a musician or the solo figure of Nike carrying a musical instrument (usually, a kithara). As the personification of victory, Nike's presence signifies a success for the musician with whom she is represented, or she replaces the victor himself. The radically simplified iconography on these Early Classical vases, by

which is signified a musical success, originates with the Berlin Painter. An examination of this new iconography in the context of the artistic practices of the Berlin Painter during his latest period, and the function of the vases on which it appears, disproves the notion that musical contests were ever eliminated from the Panathenaia, while positing that the Berlin Painter invented a new iconography for the representation of musical victories at the Panathenaic Festival.

MONUMENTAL TOMBS AND HEROA IN SOUTHWEST TURKEY AND THE ISLAND OF RHODES: *E.E. Rice*, Oxford University

In the fourth century B.C., the western satrapies of the Persian Empire had distinctive types of monumental tombs and heroa that combined local features with Greek artistic elements. The Carian Mausoleum of Halicarnassus, the Nereid Tomb at Xanthus (Lycia), and the Heroon at Limyra (Lycia) have the form of a Greek temple but stand on high podia with sculpted reliefs; the Mausoleum also has a pyramidal roof and freestanding sculptures of men and animals. A different type of tomb is the contemporary Heroon at Trysa in Lycia, which consists of a rock-cut sarcophagus inside a temenos precinct adorned with friezes.

Various features of both types of tomb appear in Greek monuments in the East in the early Hellenistic period. Alexander the Great built an immense stepped pyramidal tomb for Hephaestion with statues on each tier, a type of tomb markedly different from Macedonian custom. Similarly, the Lion Tomb at Cnidus and the Mausoleum at Belevi near Ephesus are Greek tombs with a podium, pyramidal roof, and statues of animals. On the other hand, the sculpted temenos precinct at Trysa is reflected in the so-called Alcetas Tomb, built probably in honor of one of Alexander's commanders in the city of Termessus in Pisidia; it likewise has reliefs sculpted on a precinct surrounding a rock-cut sarcophagus.

Strong evidence suggests that adaptations of both types of monument spread into Aegean Greece via the island of Rhodes and her territory on the mainland. A highly unusual square tomb with a steep pyramidal roof is found near the village of Turgut in the Rhodian Peraea; its epitaph refers to a pair of lions beside the entrance and a statue of the deceased on top. On the island itself, a remarkable tomb consists of a huge rectangular rock-cut structure with a podium, engaged colonnade, and pyramidal roof. The form also of the sculpted temenos is seen in the unique rock-cut courtyard decorated with a complex sculpted scene at the urban necropolis at Cova. These architectural influences on Rhodian tombs bear witness to the island's strong contacts with Caria and Lycia at this period, but attest intriguing cross-cultural currents absent from ancient literary accounts of Rhodian political domination in the area.

NAMES, DATES, AND PLACES IN THE ETRUSCAN RELIGIOUS CALENDAR: *Ingrid E.M. Edlund-Berry*, University of Texas at Austin

Careful studies of Etruscan texts such as the Zagreb mummy wrapping (*TLE* 1) and the Capua tile (*TLE* 2) have

allowed linguists (Olzscha, Pallottino, Pfiffig) to determine the names of the divinities worshipped. More controversial is the question of the extent to which the Etruscan sacred year influenced the Roman calendar (Heurgon, Holleman, Whatmough). While more inscriptions are needed to resolve those problems, archaeological evidence can be used to identify places referred to in the preserved texts.

The location of the rituals described in Etruscan texts is often vague, and scholars (Olzscha, Pfiffig) have attempted to determine whether words such as UNIALOI (*TLE* 2.13) should be interpreted as a locative, indicating specifically the temple of Uni/Juno, or more generally a sacred area. Pfiffig interprets the term *sacnicler* in *TLE* 1.VIII.11 as "the cella of the temple," and other forms of the word (1.VII.6; 1.VII.18), coupled with *cilθ*, have been taken to refer to the Etruscan three-cella temple.

By analyzing the location of known Etruscan temples and other sacred spaces, it is possible to demonstrate that the rituals described in the texts were held in sacred spaces not connected with buildings. Instead, it was the type of sacrifice and the divinity worshipped that determined the Etruscan place of worship, and its relation to the city boundaries and gates in a system comparable to that described in the Iguvine tablets. As in other aspects of Etruscan religion, the concept of sacred spaces preceded those of architecture and man-made manifestations of worship.

INSCRIBED BYZANTINE OIL LAMPS FROM JERUSALEM: *Jodi Magness*, Brown University

A series of oil lamps bearing inscriptions in Greek was produced in Palestine during the early Byzantine period (sixth and seventh centuries A.C.). The four most common formulae represented among the inscriptions on the lamps are: 1) "The light of Christ shines for all"; 2) "of the Mother of God"; 3) "of Saint Elias"; 4) "good oil lamps."

Most of the discussions of these lamps until now have focused on the corrupt nature of the Greek script and have ignored the significance and meaning of the formulae. This paper demonstrates that each formula was associated with a specific Christian church or sanctuary in Jerusalem, and that these lamps were purchased by Byzantine pilgrims as holy souvenirs, or "eulogiae," when they visited these sites. For example, liturgical evidence indicates that lamps bearing the formula "the light of Christ shines for all" were associated with the Church of the Holy Sepulchre in Jerusalem. Thus, these oil lamps are the products of a local Judaeo-ceramic industry that catered to the Byzantine Christian pilgrim trade.

SESSION VI C: GREEK AND ROMAN ATHENS

ARCHAIC WELL DEPOSITS ON THE NORTH SLOPE OF THE ACROPOLIS: *Kevin Glowacki*, Bryn Mawr College

Excavations on the North Slope of the Athenian Acropolis by Oscar Broneer and the American School of Classical Studies (1931–1939) discovered numerous wells, pits, and

other closed deposits that provide important information about the use of the North Slope area. These deposits fall into three distinct periods (Prehistoric, Archaic, and Byzantine). This paper considers in detail the nature, composition, and distribution of the Late Archaic deposits from Broneer's excavations on the North Slope.

These deposits consist of nine wells and cuttings, all of which went out of use in the late sixth/early fifth centuries B.C. Five deposits seem to go out of use ca. 510–490 B.C. and may represent a program of reorganization on the Acropolis and the North Slope. Four other deposits go out of use and are filled up slightly later and may represent the cleanup of the Persian destruction of the Acropolis in 480/79 B.C. The latter wells contain a greater percentage of figured pottery with definite joins with material found on the Acropolis, as well as an inscribed poros block, fragments of pedimental and votive sculpture, terracotta figurines, roof tiles, wood, etc. The pottery is mostly black-figure, predominantly of the mid- to late sixth century B.C., with only a very few pieces providing the actual terminus post quem for the filling up of the wells. Red-figure pottery is extremely rare and, when present, is not the latest datable material.

A RECONSIDERATION OF THE SMALL POROS BUILDINGS ON THE ATHENIAN ACROPOLIS: *Nancy L. Klein*, Bryn Mawr College

The excavations of the Athenian Acropolis in the 19th century brought to light the remains of several small poros buildings. The material was first studied in detail by Theodor Wiegand (1904) and Rudolf Heberdey (1919). Despite the care and detail with which the architecture was published, there is at present no consensus on the number, form, or date of the buildings represented. Following a reexamination of the poros geisa on the Athenian Acropolis, it has been possible to distinguish more clearly between different buildings on the basis of scale, workmanship, and technical details. This paper discusses the evidence for dividing the small poros elements among three buildings in addition to the accepted B, C, D, and E, thus arguing for at least seven small poros buildings on the Acropolis dating from the second quarter of the sixth to the early part of the fifth century B.C.

The architectural elements traditionally assigned to the various buildings A, Aa, A1, A2, and A3 can now be divided into three distinct groups. The first (A) had pediments at both ends and was constructed slightly before the middle of the sixth century. The presence of claw chisel marks on some tops and one joint of the geisa, together with several repairs, suggests that the building was later damaged, but stood until the destruction of the Acropolis in 480 B.C. A second building (Dinsmoor's Aa), built along similar proportions but at a slightly different scale, is attested by two horizontal geisa and perhaps a single lateral geison block. The extensive use of the claw chisel suggests a date of construction in the third quarter of the sixth century. Two geison blocks without guttae, of a completely different scale and design than the others, attest to a third building. Although carefully worked, the lack of detail suggests that the blocks may have been located at the back of a building or possibly belonged to a less important structure.

These preserved architectural fragments do not provide any further insight into the function or placement of the buildings on the Archaic Acropolis. They do suggest, however, a considerable amount of building activity on the Acropolis beginning in the second quarter of the sixth century and continuing into the first decades of the fifth.

THE SQUARE PERISTYLE IN THE ATHENIAN AGORA: ITS IDENTIFICATION AND USE AS A LAW COURT: *Rhys F. Townsend*, Clark University

Scholars have long suspected that a large structure built in the northeast quadrant of the Athenian Agora at the close of the fourth century B.C. may have served as a law court (H.A. Thompson and R.E. Wycherley, *Agora XIV: The Agora of Athens* [Princeton 1972] 61). Known as the Square Peristyle, this building consisted of a central square courtyard surrounded by four Doric colonnades, deep porticos uninterrupted either by internal supports or rooms. Two entrances, a large one in the middle of the west side and a smaller one opposite it on the east, afforded access into the building. With outer dimensions measuring some 58.56 m on a side, the Square Peristyle encompassed a total area of 3,429 m², over three-quarters of an acre.

The identification of the Square Peristyle as a law court has rested largely on the discovery of dikastic equipment found in the area and associated primarily with a series of buildings that preceded it. It has always been difficult, however, to imagine in any detail how the building may have accommodated the court system as described by Aristotle (*Ath. Pol.* 63–65.1). It is now possible to show that the architect of the Square Peristyle appears deliberately to have designed both the plan and dimensions of his entire structure to manage the complex distribution and seating arrangement of the dikasts allotted to the courts each day. He even selected a building module expressly for this purpose. Furthermore, letters inscribed on the steps of the colonnade may be explained specifically in terms of the building's function as a court. With this new evidence of the Square Peristyle in front of us, we may now picture the architecture of an Athenian court more concretely than ever before.

ATTIC BLACK WARE AND CULTURAL RECEPTIVITY: *Margaret C. Miller*, University of Toronto

When B.A. Sparkes published the Attic black ware of the Athenian Agora, he cautiously accepted suggestions that some Classical Attic vessels reflect Achaemenid Persian metalware (*Agora* XII, 15, 105). Others have since addressed some aspects of the question on the basis of museum collections (B.B. Shefton, *AArchSyr* 21 [1971] 109–11) but the extensive and datable ceramic corpus from the Agora remains the most reliable starting-point for study of the process and analysis of its significance.

Classical ceramics reveal a complex response to Achaemenid metalware, ranging from actual imitation as in the "Achaemenid phialai," through adaptation of Achaemenid forms by the addition of handle and foot/base, to the more limited application of generic effects to traditional Greek forms. Others have argued a close connection between Attic

ceramic and toreutic in the fifth century; receptivity in ceramic may reflect a prior receptivity in metalware. In any event the most important aspect is the fact of adoption with its proof of Athenian receptivity to Achaemenid material culture.

Does the receptivity to Achaemenid forms in Attic pottery betray the impact of the Persian War spoils? The view requires modification. The chronology of the ceramics indicates a response to Achaemenid toreutic as early as the later sixth century. The greater volume of imitation and experimentation (particularly in cup shapes) in the post-war period possibly reveals the role of the spoils in shaping Athenian taste and desires. Yet a third stage in the development is reached after mid-fifth century, reflecting other social factors such as greater personal wealth in Athens and the aristocratic search for new means of ostentatious display.

POPULARITY OF KNIDIAN WINE AT CORINTH: *Carolyn G. Koehler*, University of Maryland, Baltimore County, and *Philippa M.W. Matheson*, University of Toronto

Stamped amphora handles provide a means of quantifying ancient trade and can also illuminate historical problems. One of the classes of wine jars in the Hellenistic period for which Virginia Grace has established the chronology is the Knidian, of which several hundred stamped jars and fragments have been excavated at Corinth and several thousand at the Athenian Agora; for each city the number of Knidian jars represented attests to its largest single source of imported wine. This paper compares the proportions of Knidian stamps found at Corinth with those of Athens from the late third to late first century B.C., basing the analysis upon statistics in the computerized data base that is being created from Grace's files.

These figures would be expected to reflect the written sources about Corinth, which describe its sack by the Romans under Mummius in 146 B.C. and its refounding as a Roman colony by Julius Caesar a century later. At first glance the drop in the number of stamped Knidian handles at Corinth during this interim period seems to be in accordance with the historical record. Seen as a percentage of all the dated handles from Knidos at Corinth, it appears to show significantly reduced imports of Knidian wine. But comparison of the percentages of Knidian amphoras at Corinth with similar data from Athens for the same periods shows a reduction in imports from Knidos in both places. These figures documenting the commercial relations of individual cities such as Corinth and Athens with Knidos must be viewed in relation to the general picture of overall exports of Knidian wine in the final two centuries before Christ.

THE HERMS OF HERODES ATTICUS: THREATS, CURSES, AND VANDALISM: *Jennifer Tobin*, University of Pennsylvania

Philostratus (VS 2.559) mentions that Herodes Atticus erected statues of his dead *trophimoi* (Achilleus, Memnon, and Polydeukion) in rural settings. The monuments were inscribed with curses against anyone damaging them, and

the sculptures were censured by the Quintilii, the proconsuls of Achaia. Twenty-seven such monuments have been found in Attica mainly in the form of portrait herms. The text begins with the name of the one honored followed by a three-clause curse. A. Wilhelm (*ÖJh* 28 [1933] 167–82) noticed that in some cases the second and third clauses were added in a different hand from the first. W. Ameling (*Herodes Atticus* 2 [1983] 23–29) attempted to connect the sequence of clauses to the deaths of the *trophimoi*, postulating that for the death of each a series of monuments was set up with a new clause, and this clause was appended to the existing monuments. From a study of the findspots and an analysis of the inscriptions, this paper proves that Ameling's system is not correct. These monuments were conceived as a unit with the three *trophimoi* set up together. The curses on the herms are carved in a different hand from that of the identifying names, and since there is also a series of herms of the *trophimoi* bearing no curses at all, the herms must have stood uninscribed with curses before Herodes felt the need to place threats over them. The career of Herodes was troubled by friction with the Athenians that culminated during the rule of the Quintilii. It would seem that the criticism of these officials and the resentment of the Athenians may have sparked acts of vandalism against the monuments of Herodes Atticus, which he attempted to protect with the addition of curses.

SESSION VI D: COLLOQUIUM: ROMANIZATION IN THE IBERIAN PENINSULA: FIVE CASE STUDIES

THE ROMANIZATION OF TOWNS IN BAETICA: THE DEVELOPMENT OF CELTI (PEÑAFLORE): *Simon J. Keay*, University of Southampton

Roman towns are among the more characteristic symbols of the Romanization of the provinces. This was no less true in Iberia and archaeological work at sites like Italica, Emporion, and Conimbriga has at least revealed the great potential of towns for future study. Still far from clear, however, are the many processes behind their emergence. The archaeological work at Celti is attempting to unravel the development of a major town in the lower Guadalquivir valley, heartland of Roman Baetica. To date, field-survey and excavation have started to reveal the complexity of urban developments in the area, underlining the persistence of pre-Roman traditions well into the Republican period (third to first centuries B.C.). Celti was well located for the exploitation of metal and agricultural resources and appears to have undergone little Romanization prior to the end of the Republican period. This accords with recent discoveries at other neighboring towns like Carmo and Italica and raises questions about the character and lateness of Romanization in central Baetica. In the early Imperial period there seems to be a clear link with the Romanization of the town and the emergence of the Baetican olive oil industry for the first three centuries A.C. Work is also showing that towns like Celti persisted well into the later fifth and sixth centuries A.C.

ALTARS ON THE VIA AUGUSTA: THE STATIONS *AD ARAS* OF THE VICARELLO CUPS: *Philip O. Spann*, University of Florida

One of the chief agents of Romanization in the western provinces of the empire was the Roman road system, and the Roman character of that system was nowhere more manifest than in the *mansiones* or stations established by Rome between indigenous cities and towns.

Some of the most interesting and indeed puzzling such stations in the Roman Empire are found in Iberia. Stations designated *AD ARAS* on surviving Roman itineraries are, with one exception, found only in Roman Spain and only on the Via Augusta between Astigis and Saetabis, where three are listed. The *AD ARAS* between Astigis and Corduba is named on three of the four Vicarello Cups (*CIL XI*, 3281–83) as well as on the *Antonine Itinerary* (413,4). The other two mark the beginning and the end of that desolate stretch of the Via Augusta from Castulo to Saetabis, which only the Vicarello Cups describe in detail.

In the summer of 1988, near the village of El Garabato, I found what I thought were ruins of the *AD ARAS* between Astigis and Corduba. Last summer, Fernando Fernández Gómez, Director of the Archaeological Museum of Seville, confirmed that the ruins were Roman (publication of the previously unnoticed find is forthcoming in *RArg*). Application was made to the Junta de Andalucía to do a survey there during the summer of 1990.

In my paper, I discuss the find at El Garabato and propose probable locations for the stations under discussion that do no violence to the evidence of the Cups or the integrity of the Roman mile, and that, in conjunction with the Alexandrian pretensions of Augustus, may explain the function and frequency on the Via Augusta of stations designated as "Altars."

THE SANCTUARY AND THEATER AT BILBILIS: THE DEVELOPMENT OF HISPANO-ROMAN ARCHITECTURE: *William E. Mierse*, University of Vermont

In the reign of the Emperor Tiberius (A.D. 14–37), a new sanctuary was designed and built at the small Roman-Spanish town of Bilbilis in the province of Tarraconensis. Bilbilis was an unimportant outpost in the old Celtiberian territory of western Iberia. The sanctuary that its citizens decided to build, however, represented one of the most impressive and sophisticated designs to be undertaken in the western provinces during the century.

The sanctuary consists of a theater built into the natural cleft of the rock face, a great tongue of land reinforced with buttresses to hold the temple platform, and perhaps a forum area behind. The entire complex was perched high up on a cliff face, and from it were dramatic views of the river valley below. The combination of theater and temple was not new, but it had not been used before on the Iberian peninsula. The type of plan that both exploits the natural setting to support the structures while at the same time using the high vantage point to allow for the view to be part of the composition was a design concept most fully developed in the Greek East during the Hellenistic period.

The decision on the part of architect and patron to adapt freely an eastern Greek type of model for the site of Bilbilis and to employ it in an area with no prior exposure to such a novel design must be seen as daring. It suggests that by the end of the first quarter of the first century A.C. the Romanization process in some regions of the Iberian peninsula had reached a point where the Romanized native population felt comfortable enough to make their own artistic statements. The work at Bilbilis does not show evidence of a revival of older, indigenous traits. Rather, it bears witness to the full flowering of a local Roman sensibility that permitted artists and patrons to express themselves in Graeco-Roman forms. The experiments at Bilbilis were not isolated; they can be paralleled by architectural developments at Tarraco and later at Munigua. Equally important, Bilbilis shows that provincials were not slavishly copying models from Rome. They were freely taking their ideas from those parts of the Empire that offered possible solutions to specific problems.

ROMANIZATION IN SOUTHERN PORTUGAL AS REPRESENTED BY THE VILLA OF TORRE DE PALMA: *Stephanie J. Maloney*, University of Louisville

Epigraphic, toponymic, and archaeological evidence suggests the process of Romanization was not uniformly effective throughout Portugal. North of the Tagus River most of the native population continued to live in the pre-Roman *castra*. Roman culture and agricultural systems appear to have remained essentially a veneer imposed upon a resistant native population. South of the Tagus, in Alentejo and the Algarve, the situation was completely different.

Constructed in the shadow of a major Celtic *oppidum*, the villa of Torre de Palma is a representative example of the fundamental nature of Romanization in Alentejo. Certainly in existence in the second century A.C., the villa may have been established as early as the first. It continued to thrive into the fourth century and to function through the so-called Visigothic period. Buildings associated with the villa, which were uncovered in excavations in the late 1940s and 1950s, cover approximately 12.5 acres (5 ha). Reexcavation of the villa has permitted the identification of various phases of growth and development including the addition of an elaborate *pars urbana* during the third century and the construction in the second half of the fourth century of one of the most Roman of all the Early Christian churches so far discovered in Iberia. That the Roman villa represents a change so fundamental and so effective that it survived 600 years of Moslem domination is acutely apparent when one compares it with the post-reconquest farm of Torre de Palma.

ROMAN LUSITANIA: DICHOTOMY, ASYMMETRY, OR "BACKWATER" PROVINCIALISM: *Farland H. Stanley, Jr.*, University of Oklahoma

Situated on the periphery of the Roman Empire, the remoteness of Roman Lusitania (Portugal) has caused its image to suffer from ambiguities. On one hand, the development of the several sophisticated towns (Conimbriga, Augusta Emerita, Ebora, and Pax Iulia, etc.), as well as an

extensive villa system, suggests a high degree of receptivity to the various aspects of Roman influence. On the other hand, the paucity of ancient literary references, the survival of earlier portrayals, and the greater attention given to the other two more highly Romanized Iberian provinces, Baetica and Tarraconensis, have added to its image as a "backwater," underdeveloped, and robber-infested province.

However, with recent accumulation of archaeological data (principally due to Jorge Alarcão, José D'Encarnação, and Jean Gérard Gorges), resolution of the conflicting imagery is coming more into focus. Utilizing their data, and my own from research trips to Portugal, this paper considers three specific categories of Roman influence that I believe especially demonstrate the ambiguities concerning the effects of Roman influence throughout the province. Specifically, dis-

cussion is given to Roman onomastic influence, patterns of demographic movement suggested by the epigraphical evidence, and the difference in levels of sophistication of towns and villas that developed in northern and southern Lusitania.

This paper concludes that there was a sharp dichotomy in the effects of Romanization in some zones, whereas in other regions that experience is better explained as asymmetrical. Dichotomous effects are evident in certain regions of northern Lusitania, some of which continued to warrant a "backwater" description even during the Imperial period. Furthermore, comparisons of other regions, especially coastal versus interior and southern versus northern Lusitania, demonstrate that despite a broad exposure to Romanization, dissimilarities continued.

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