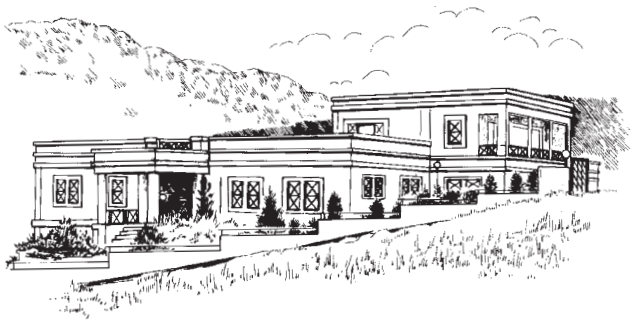
KENTRO
The Newsletter of the INSTAP Study Center for East Crete
Volume 26 (Fall 2023)



Archaeological Museum of Hagios Nikolaos Reopens

Klio Zervaki and Chrysa Sofianou

We want to encourage everyone to make plans to visit the new Archaeological Museum of Hagios Nikolaos, which will reopen to the public soon. Here we offer an overview of the renovation project and some hints of what will be on display (Figs. 1–3).

The design for the new museum by architect Michalis Doris was approved for construction in 2006. The plan retains the layout of the older museum designed by Patroclos Karantinos in 1968 and adds a substantial new wing with space for exhibition, offices, labs, and storage. Together the construction and installation of the museum were giant undertakings over 12 years that required funding from three European Support (ESPA) grants.

Figure 1. Tom Brogan, Klio Zervaki, and Chrysa Sofianou in the new Greek and Roman gallery. Photo E. Huffman.

The first step involved a study of the museum and the design of its new exhibitions plus plans for new equipment for the conservation laboratory and updates to storerooms. This study (i.e., philosophy and content) was undertaken by the permanent staff of the Ephorate of Antiquities of Lasithi (EFALAS), Vili Apostolakou, Klio Zervaki, and Vaso Zographaki, while the museographic study was designed by architect Antonis Manioudakis with a budget of €549,890.00. At the same time the Directorate of Studies and Execution of Museums and Cultural Buildings undertook the second phase of the project: construction of the new wing of the museum, including storerooms and offices of EFALAS and the refurbishing of the old museum. The total amount of built space is now 2,863 m², of which 1,045 m² is for exhibition (more than double the older space of 450 m²). Construction finished in 2016 with funding from the second ESPA grant of €5,931,000.00.

The final phase of the project involved the construction of the display cases, the conservation of all the objects and their placement and support, the completion of all the didactic material (e.g., labels, photographs, and drawings for rooms and objects), and the creation of digital applications including videos, three-dimensional models, interactive touch screens, and augmented reality. This work was covered by a third ESPA grant of €2,934,313.00, and it will be completed by the end of 2023 (Fig. 1). It was overseen by two members of the permanent staff of EFALAS, Klio Zervaki and Eleni Maniadaki, and their colleagues contracted for the project: Andreas Arvanitis, Manos Achladianakis, Sofia Grygoraki, Maria Kokkini, Maria Kyriakaki, Maria Moustakaki, Ioanna Papadimitriou, and Aredona Fostyropoulou. Finally, coordination of the installation and final editing of all texts was overseen by the director of EFALAS, Chrysa Sofianou.

The philosophy of the exhibition showcases specific functions of objects within larger thematic frameworks. Moreover, the exhibition follows two axes. The first is an introduction to archaeological research in East Crete, tracing the path an object takes from excavation to display in the museum. The second axis includes the main exhibition of the museum entitled “The

Figure 2. Pithoi and other pottery from Azoria on display in the new exhibition of the Hagios Nikolaos Museum. Photo T. Brogan.

Figure 3. Eleanor Huffman and the new display about East Cretan peak sanctuaries (note the reflected image of a Late Minoan IIIC goddess above her head). Photo T. Brogan.

Cycle of Life: Eastern Crete during Ancient Times," which is divided into three major chronological sections: The Life of People in the Bronze Age; East Crete from the First Millenium B.C. to the 4th Century A.D.; The End of the Ancient World, The Beginning of the Middle Ages. Within each of these sections, exhibits highlight aspects of daily life, the economy, religion, and burial.

There are 1,945 objects in the exhibition of which roughly 35% are new finds that have not been exhibited previously. This material showcases the most important results from excavations by the ephorate, Greek and foreign universities, and other institutions like the Archaeological Society at Athens and the foreign archaeological schools from sites like Zakros, Gournia, Mochlos, Chryssi, Sissi, Malia, Chalasmenos, Pacheia Ammos, and Azoria. Highlights include the copper ingots and bronze sistrum and trident from Mochlos, the olive oil workshop and kitchen equipment from Azoria (Fig. 2), the Linear A tablet from Gournia, the Late Minoan IIIC shrines from Vronda, Chalasmenos, and Kephala Vasiliki (Fig. 3), and the finds from the Late Minoan III tomb at Kaminaki.

New Publication of Poros

Philip P. Betancourt and Nota Dimopoulou

Tom Brogan, Phil Betancourt, and Nota Dimopoulou have established a new collaborative project with the goal of publishing the important excavations of Poros, the harbor town of Knossos. It involves the INSTAP Study Center for East Crete, the Archaeological Museum of Herakleion, and the Ephorate of Antiquities of Herakleion. Part of the pottery from the excavations has been sent to the Study Center for conservation and mending, beginning the preparation of this important material for publication. As another early step in this new project, in August of 2023, study and analysis of jewelry and seals from the Poros Cemetery was conducted at the Herakleion museum with Nota Dimopoulou and several members of the staff at the Study Center participating (Figs. 1–4): Doug Faulmann and Gabriella Lazoura (artists), Jeff Vanderpool (photographer), and the team of Susan Ferrence, Alessandra Giumlia-Mair, and Phil Betancourt (metals and beads study and analysis).

The archaeological site of Poros is one of two ancient towns on the seacoast to the east of the center of Herakleion. The other one is Katsambas, immediately to the east of Poros. The first of these two places may have been the more important of the two. Poros acted both as the seaport for Knossos and as the manufacturing center for the Palace of Minos at Knossos because of its geographically advantageous location on the northern coast of Crete. It was already a large town in Early Minoan I, and it was also already in contact with overseas locations by this early period, making metal implements with imported copper. Eventually,

Figure 1. A gold signet ring is one of the artifacts being photographed for the study. Photo J. Vanderpool.

there were many more royal workshops for metalworking and other industries such as manufacturing faience for use with many types of imported, semiprecious stones to make the beautiful jewelry that is depicted in Minoan wall paintings. The products of the workshops would have been used by Knossos to exchange for raw materials like copper, gold, and silver that were not available in large quantities in Crete except by importing them. The relationship of Poros with the palatial center would continue for several centuries as Knossos added to its territory and became more and more influential in Crete.

One of the types of items made at Poros was jewelry, including some of the most exquisite pieces known from Minoan Crete. Many of these items of jewelry were found in the tombs in the cemetery at Poros, excavated most recently by Nota Dimopoulou. The collaboration between the Study Center and the Poros excavations will focus first on the publication of the jewelry from the cemetery. Publishing the pottery and other objects is expected to take more time.

Nine tombs have been excavated from the Poros burial ground starting in the 1940s by Nikolaos Platon. Stylianos Alexiou, Yiannis Tzedakis, and Nota Dimopoulou would follow as successive directors of the Poros excavations. Only one tomb has been published (Tomb P 1967) by Polymnia Muhly in 1992. The entire cemetery is buried below the modern city of Herakleion, and the tombs are only preserved because they were underground chambers carved out of the bedrock. Their use began during the Middle Minoan period, and some of them were still receiving burials in Late Minoan III. Like most Minoan burial places, the tombs were communal, and many generations used them over a period of several centuries. Publishing their contents will tell us much about Minoan history because very few burials from Late Minoan I, the zenith of Knossian history, survive and have been excavated.

Figure 2. Joseph Mair monitors the computer of the transportable analysis instrument using X-ray fluorescence spectroscopy while Alessandra Giumlia-Mair places a necklace from Poros under the head of the system where the X-ray beam will analyze a selected bead. Photo S. Ferrence.

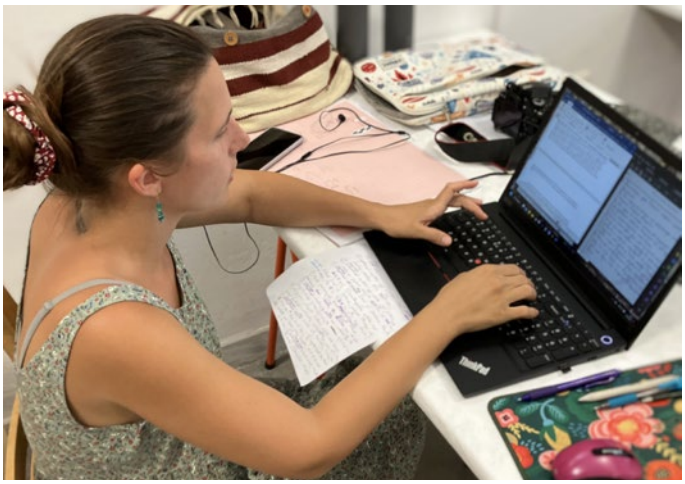


Figure 3. Gabriella Lazoura works on the catalog of the jewelry. Photo P. Betancourt.

At the museum, jewelry from the Poros cemetery was analyzed with nondestructive X-ray fluorescence spectroscopy by Alessandra Giumlia-Mair (Fig. 2), who brought her instrument for this work from Italy to Crete by car and ferryboat so that the artifacts would not have to leave the museum. This analysis is important for the study of the metal jewelry and the identification of the alloys.

Artifacts were cataloged, drawn, and photographed for publication (Fig. 3). The photography by Jeff Vanderpool (Fig. 4) uses a camera that takes several digital photographs with different angles of illumination and then combines the best portions of each to produce a final image of exceptionally fine quality with immense detail.

Figure 4. Jeff Vanderpool sets up his camera system in the Herakleion museum to photograph the objects from Poros. Photo P. Betancourt.

These recent studies conducted in the museum will form the basis for a volume on the jewelry from Poros. The book will be multi-authored, presenting the Poros excavation to both scholars and the general public.

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Canadians in East Crete: Exploration at Chavania

D. Matthew Buell, Rodney D. Fitzsimons, Jane Francis, and R. Angus K. Smith

In 2018 at the request of Chrysa Sofianou, προϊστάμενη (*proistameni,* director) of the Ephorate of Antiquities of Lasithi, two Canadian archaeologists, Matt Buell (Concordia University) and Rod Fitzsimons (Trent University), visited the site of Chavania and accepted her invitation to develop a plan of study.

The site of Chavania is situated on the western shore of the Mirabello Bay, a short distance north of the city of Hagios Nikolaos, where a small peninsula (ca. 9,000 m^2), flanked by good natural harbors to the north and south, rises ca. 16 m from the waters of the bay (Figs. 1, 2). The shores on either side of the peninsula are popular destinations for beachgoers, while several luxury hotels and pensions line the coastal highway leading north from Hagios Nikolaos. Across the bay, along and inland from its southern and eastern shores, stretches one of the most intensively explored areas of Crete, if not the entire Aegean. Over a century of exploration in the area—including large-scale excavations at major centers such as Pseira, Kastro, Azoria, Vronda, Chrysokamino, Chalasmenos, Katalimata, Vasiliki, Gournia, Vrokastro, and Priniatikos Pyrgos, limited-scale rescue excavations at smaller sites such as Pacheia Ammos and Kalo Chorio, and regional surveys in the hinterlands of Kavousi, Gournia, and Vrokastro—has produced an almost unparalleled body of evidence for cultural development in the region, spanning the Bronze Age through the modern era. This intense research activity stands in stark contrast to the almost total lack of interest that has been shown for the western shore of the bay, particularly the area around Hagios Nikolaos. Periodic rescue excavations undertaken throughout the town over the past half century, together with numerous chance finds recovered over the same period, have provided some understanding of the Hellenistic and Roman eras, but the pre-Classical (and particularly Bronze Age) remains that preceded them continue to elude detection for the most part. Perhaps the most substantial local Bronze Age remains came to light during the opening of the new road at Alevriko, about 1 km west from the center of Hagios Nikolaos (Zographaki 2005). Portions of three incomplete structures dated to the Middle and Late Minoan periods came to light during trial excavations conducted in 2005. This material is still under study.

Limited archaeological work, prompted by the threat of encroaching development, has also taken place in the immediate vicinity of Chavania. In 2004, for example, the local ephorate excavated several trenches north and west of the peninsula at Kephala Sarakinou (Zographaki 2001–2004). They brought to light the remains of fragmentary buildings dated to the Hellenistic and Roman eras. Associated with this material was a stratified deposit of Middle Minoan I–II pottery, as well as a collection of Late Minoan IIIC sherds. The absence of contemporary architectural remains, aside from a possible Middle Minoan wall fragment, and the combination of earlier and later pottery, led the excavator to suggest that the material either had been disturbed by later activity in the area or had been moved naturally or manually from the nearby hill at Chavania, the very site that

Figure 1. Map of eastern Crete with places mentioned in the text. Image D. Buell.

Figure 2. Aerial view of Chavania. Orthophoto R. Bieńkowski.

the present project is exploring. Finally, in 2016 the ephorate opened several additional trenches on the southwestern slope of Chavania, revealing substantial architectural remains belonging to two distinct phases, both apparently of Bronze Age date (Sofianou 2020). The results of these excavations, together with the numerous architectural features and portable objects observable across the Chavania peninsula, indicate that a substantial Bronze Age settlement must be located there. This is not surprising as Chavania occupies what must have been a key strategic position at the crossroads of several important communication routes. Indeed, the coastal road to the west of the peninsula was probably always the major north–south course along the western side of the bay, connecting it to the coastal plains around Milatos and Sissi and, farther afield, Malia, as well as the isthmus of Ierapetra to the southeast. Chavania is also well connected to the broader seascape in that it possesses good, natural harbors immediately on either side of the peninsula. It has clear lines of sight to the opposite side of the Mirabello Bay, including Pseira, and as far east as the Phaneromeni peninsula. Natural land routes, created by *ρεύματα* (*revmata*, streams) running from the Dicte massif, provide ease of communication leading westward to the interior of the island and the Lasithi plateau. Chavania therefore is well positioned to take advantage of both land and sea routes, which could have connected the settlement to other areas of Crete.

Considering the foregoing information, it was decided to conduct studies on the Chavania peninsula. Our primary directive is to fill the lacuna in data for past activity in this little studied part of the Mirabello region, especially given the rapidly disappearing archaeological landscape. We would suggest that like Mochlos, Pseira, Gournia, and Priniatikos Pyrgos, Chavania was a crucial hub through which goods, people, and ideas passed during the Bronze Age and beyond. Indeed, we hypothesize that the site was one node in the local Mirabello interaction network, which was itself linked to the broader Cretan and Aegean one. Like the other coastal sites in the Mirabello region, Chavania linked the outside world to the interior of the island through easily traversed overland routes. We thus believe that Chavania provides a good opportunity to study both intra- and inter-island connectivity and exchange.

To date, there have been two seasons of fieldwork (2019 and 2021) at Chavania and one study season (2022). The overall goals of the field seasons were to document all anthropogenic and natural features on the peninsula, to create a high-resolution topographic map of the peninsula, and to generate complementary information regarding settlement history, function, and use through the systematic collection of portable remains on the earth's surface. We documented the architectural features on the site using both traditional architectural recording techniques along with digital methods. After architectural features were identified and cleaned, they were drawn and photographed. Information such as dimensions, materials, fabrics, relationships, and associations was recorded on standardized field forms. It was then uploaded into a database. This database allows us to quickly compare categories of features across the site to see if there are meaningful patterns of distribution. We recognize that our plans do not provide a sense of buildings and features as three-dimensional structures built upon diverse topography. As a result, we supplemented our program of documentation with high-resolution, terrestrial-based photography and lower-resolution, drone-based photography. In doing so, we were able to create a series of orthophotos and three-dimensional photogrammetric models at multiple scales from the individual feature to the entire peninsula. Not only are these accurate, measurable images and models invaluable for visualization, documentation, and study, but they are also helpful for purposes of public interpretation, conservation, and historic preservation. The latter is an especially important point given the degradation of the area through development and coastal erosion. Finally, we systematically surveyed the site using a total station, graciously provided by the INSTAP Study Center for East Crete (INSTAP SCEC), to create a high-resolution topographic map and an accurate digital elevation model (DEM; Figs. 3, 4). The latter serves as the basis for additional analytical and visual applications (e.g., contour, slope and aspect maps, viewshed, and least-cost path analyses).

During the architectural study we identified and recorded 77 features, predominantly walls as well as some risers, portions of streets, and pavements (Fig. 3). We also recognized an additional 53 possible architectural features, but we did not record them because they either consisted of too few stones or they were minimally visible. Proper excavation is required to determine their true nature. Most extant features were identified on the western and northwestern slopes of the peninsula, while several others can be found on the southeastern slope. Few remains were found on the summit of the peninsula because it is heavily eroded. We

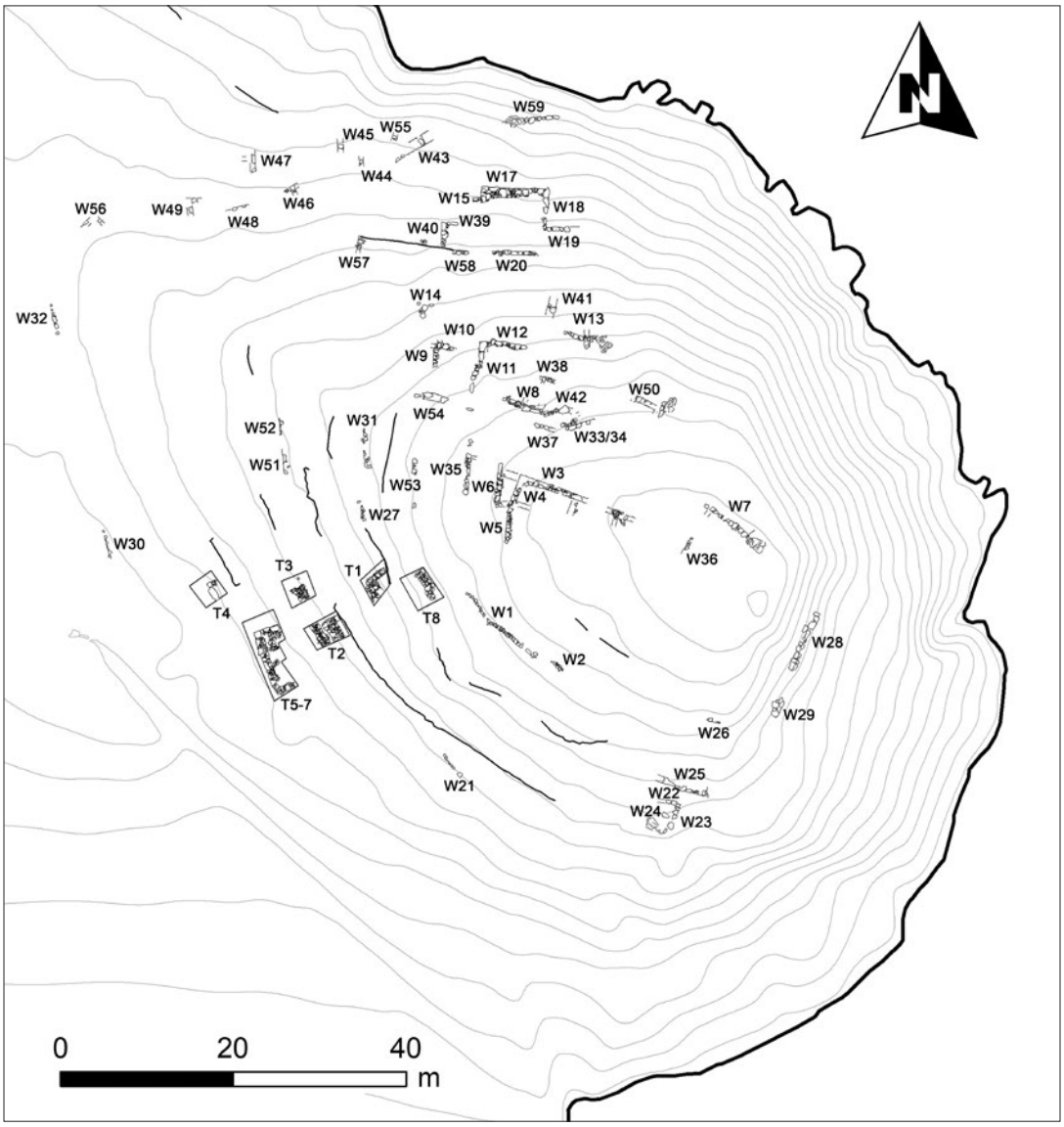

Figure 3. Contour map of the Chavania peninsula showing identified features. Image D. Buell.

believe archaeological features in the western flatland may be buried by deep deposits of sediments. While some of the documented features more likely represent multiple phases of occupation, the bulk of visible remains appear to be roughly contemporary, likely dating to the Neopalatial period. Of particular importance are the partial outlines of at least three large (>110 m^2 observable) independent buildings (Buildings A–C), which appear to be contemporary (Fig. 5). In each case, the buildings were constructed with imposing facade walls measuring up to 1.8 m in width. The northern facade of Building A is particularly impressive as the massive walls rest on a projecting plinth course (Figs. 6, 7). These buildings would have dominated the physical landscape of Chavania during their period of use.

The architectural remains identified by the survey and from the ephorate excavation certainly testify to the presence of several monumental buildings at the site, perhaps official community structures. Additionally, the dimensions and orientation of some walls suggest that they also served as retaining or terrace walls. Their presence indicates substantial effort to modify the local terrain. Indeed, as observed at other sites within the Mirabello region, such as Azoria and Gournia, their presence may also be taken as some degree of civic planning (Haggis 2012, 204; Buell and McEnroe 2018, 6–7). The remains of several portions of streets at the site corroborate this inference. That a settlement with such urban amenities and evidence for planning should be found here is of no surprise, given its advantageous location.

Concurrent with the architectural study, we undertook two pedestrian surveys, one extensive in 2019 and one more intensive in 2021, which together yielded 2,017 sherds, 14 chipped stone objects, and 12 groundstone objects (i.e., querns, hammerstones, and handstones). The objects were washed, cleaned, and

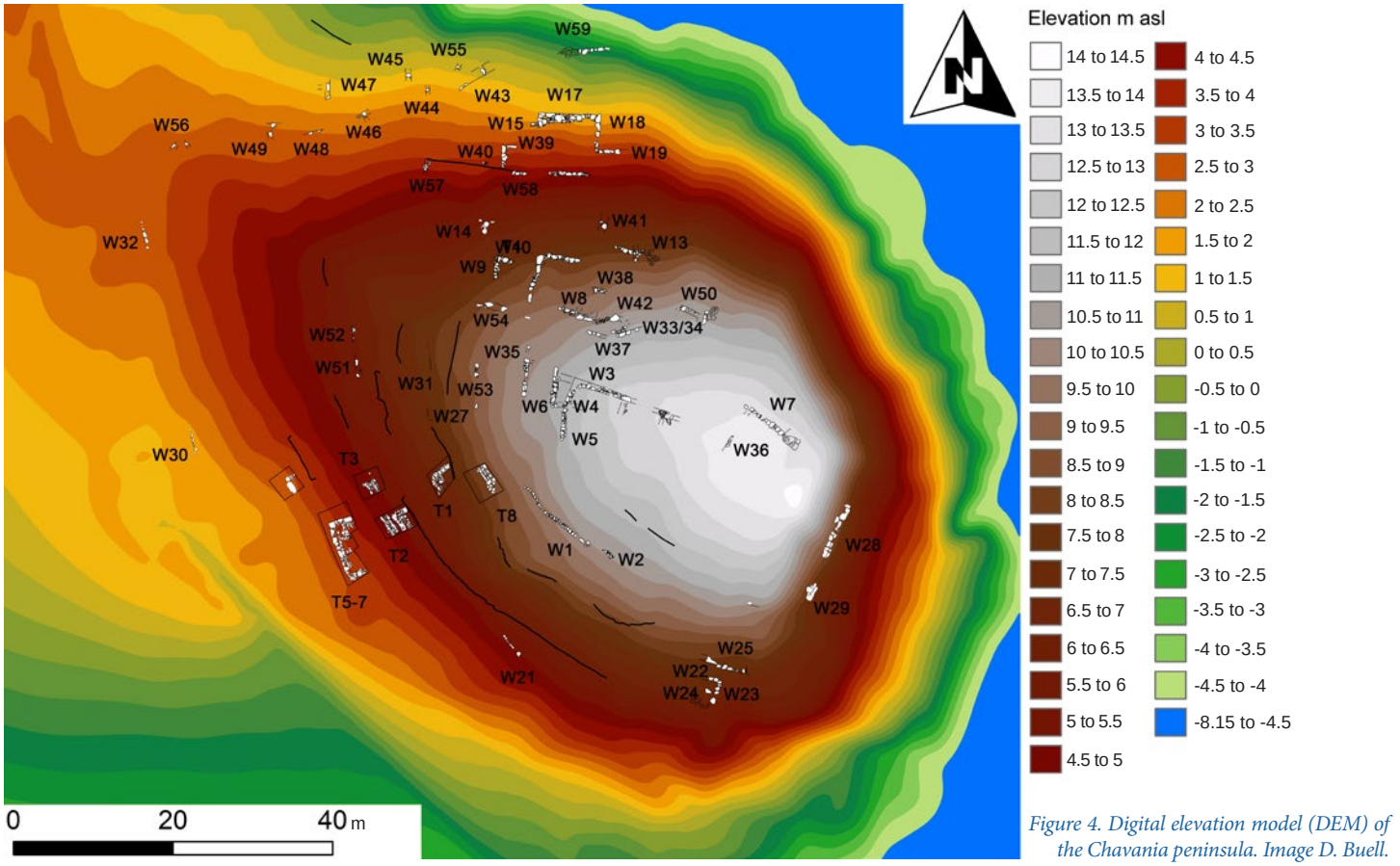

Figure 4. Digital elevation model (DEM) of the Chavania peninsula. Image D. Buell.

studied in 2022 at the Archaeological Museum of Hagios Nikolaos. The goals during that season were fourfold: (1) to create a refined site history; (2) to establish a ceramic profile for the site during various phases of occupation, one which is based on general morphology and fabric composition; (3) to provide a ceramic template for future studies in this part of Crete; and (4) to develop an understanding of both inter- and intra-island contact and exchange. Study of the ceramic assemblage was directed by Jane Francis (Concordia University; historic-era materials) and Angus Smith (Brock University; prehistoric-era materials), while Matt Buell was responsible for the lithic remains. They were assisted by undergraduate students from their respective universities.

Smith was able to assign 80 sherds to the prehistoric era, ranging from Late Prepalatial through Postpalatial. Only a single sherd was dated to the Prepalatial period, while identifiable Protopalatial sherds were limited to three Middle Minoan II cups and a scoop. Most diagnostic sherds fell into the Late Minoan category, among which 35% were assigned to Late Minoan I date and 28% were dated to Late Minoan III. Neopalatial shapes included several cups, bowls, jugs, juglets, cooking pots, and pithoi. Attested Postpalatial shapes included drinking and serving vessels, a stirrup jar imported from Central or West

Figure 5. Aerial view with Buildings A, B, and C identified. Image D. Buell.

Crete, a shallow and deep bowl, pithoi, and cooking pots. One Late Minoan II–IIIA:1 kylix stem, initially identified by Charles Sturge (Ph.D. student, University of Cincinnati), was discovered in the center of Building A, the large bastion, in 2021 (Fig. 8).

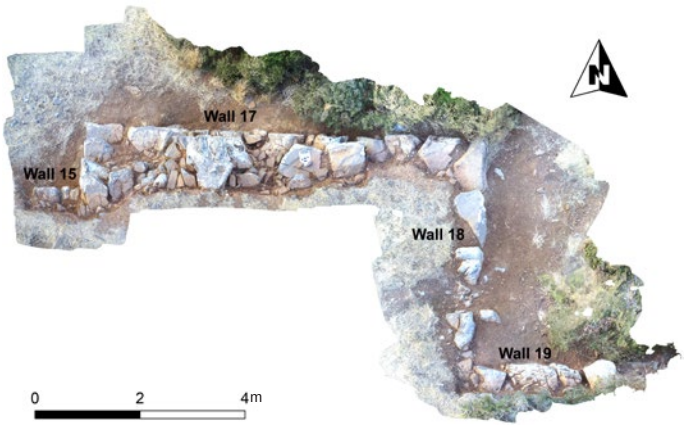

Figure 6. Building A: Walls 15 and 17–19. Orthophoto R. Bieńkowski.

Figure 7. Building A showing Wall 17. Photo D. Buell.

Based on macroscopic fabric analysis, there is little doubt that this piece was imported from Knossos. Most remarkable is the fact that this sherd represents the only Late Minoan II material yet discovered along the shores of the Mirabello Bay, though its true significance must await excavation of the site.

Due to the poor condition and fragmentary nature of our survey pottery, we placed special emphasis on macroscopic fabric analysis. While we identified known coarse fabrics, such as phyllite and granodiorite, we also observed that another coarse-ware fabric, tentatively called "Chavania ware," was present among the Neopalatial and Postpalatial sherds. This is a red coarse-ware fabric, so named because it seemed to be more frequently encountered than any other type of coarse-ware cooking fabric at Chavania and because it was unfamiliar compared to known fabrics from other sites around the Mirabello region. We therefore would suggest that this fabric is a locally produced coarse cooking ware, or at least one produced somewhere nearby in the western Mirabello.

Chavania ware is characterized by small to medium spherical to angular white and gray inclusions (perhaps quartz and chert). In addition to this fabric, 12 examples of phyllite fabric, with equal proportions coming from both Neopalatial and Postpalatial eras, were observed. While local manufacture of these wares cannot be ruled out, it is known that major production centers for phyllite fabric existed during the Neopalatial period at Mochlos, farther east of the bay, as well as sites even farther east, such as Palaikastro and Kato Zakros (Haggis and Mook 1993). It therefore seems probable, especially given Chavania's likely position on both east–west maritime and land trade routes, that during the Neopalatial and Postpalatial periods trade with sites in eastern Crete was thriving. Finally, four examples of granodiorite fabric were cataloged. The rarity of granodiorite fabrics compared to phyllite fabrics is unexpected because the primary source of granodiorite lies just to the east of Chavania along the southern shores of the Mirabello Bay (Day 1991, 91–101, 172; Nodarou and Moody 2014). Reasons for this disparity may lie in ancient trading connections and patterns, but given the nature of the sample, it is also possibly the result of unrepresentative patterns of selection.

Figure 8. Late Minoan II–IIIA:1 kylix stem. Photo R. Smith.

Francis cataloged 150 sherds dated from the post-prehistoric through Byzantine eras. Her study of the shapes of Roman pottery revealed an interesting pattern, one quite different from the prehistoric pottery: few fine decorated table wares (ca. 2–3%), of the type that typically characterize Roman pottery assemblages on Crete and elsewhere, were identified. The site, at present, therefore does not seem to have been the location for elite habitation or lifestyle, if imported fine wares can be taken as such an indicator. More frequent are fragments of coarse-ware utility vessels (e.g., jugs, jars, table amphorae, and large bowls/basins), which are multifunctional and could be used for the preparation, serving, and consumption of foods. Though specific shapes are not well represented, cooking vessels are more frequent at Chavania during the historic periods. The assemblage of Roman transport amphorae is particularly important (Fig. 9). Indeed, the finds from Chavania can now contribute to ongoing discussions concerning the production and trade in Cretan wine and other commodities during the Roman period. Specific shapes identified in the Chavania assemblage include ARC 1b, dating to the second century C.E., and MRC 2b, produced in the third century C.E. (Portale and Romeo 2000). Furthermore, three sherds parallel an amphora of unknown origin from the Sphakia Survey, while two ribbed body sherds likely belong to Cretan amphorae (pers. obs., J. Francis). Storage vessels, including jars, bins, dolia, and pithoi, are also well represented in Chavania's pottery assemblage. The need for storage may be tied to the use of Chavania as a harbor at this time. Finally, several other ceramic shapes are also present in very small numbers, including two or three fragments of

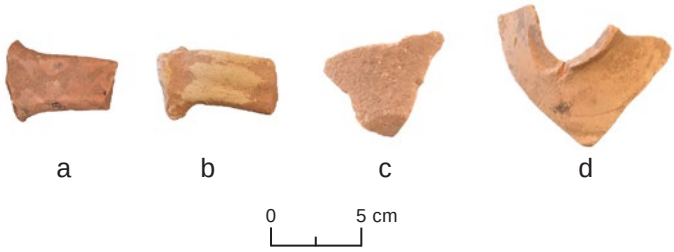

Figure 9. Roman transport amphorae, including ARC 1b (a, b), one of unknown type (c), and MRC 2b (d). Photo J. Francis.

Figure 10. Late Minoan I talismanic sealstone. Photo A. Kaliszewska and R. Bieńkowski.

Classical to Hellenistic lamps, two lids, two or three fragments of ceramic beekeeping equipment, and several examples of roof tiles.

The macroscopic fabric analysis of historic-era pottery revealed fairly homogenous data. The main fabric used across multiple function and shape classes is not dissimilar to that identified by Jennifer Moody for the nearby Vrokastro Survey pottery (Matson 1984; Hayden, Moody, and Rackham 1992, 310; Moody 2005). This fabric is quartz based with both milky and glassy varieties, somewhat like the Chavania ware identified in the prehistoric era. Red serpentinite is present, as is hornblende, feldspar in varying colors, and quartz-feldspar. Granodiorite occurs, but the typical Chavania fabric in the historic era contains only small amounts, perhaps indicating a separate clay source on the border of the main granodiorite area. One significant feature of this fabric is that it lacks both calcareous grits and mica. Some of the quartz was angular, but it was set amid more rounded and thus worn inclusions. This is particularly the case with cooking fabrics and suggests quartz was broken during manufacture and added as a temper. Variations in the fabrics were observed, some of them significant enough to suggest separate clay sources, but further research is needed.

Finally, brief mention should be made of a sealstone, an incidental find discovered by Buell while tying his shoes (Fig. 10). This talismanic sealstone is an amygdaloid intaglio depicting a series of eight crescents, arranged in three rows, consisting of three, three, and two crescents, respectively. It is made from green jasper. A circular notch appears at the top of the rows of crescents. The notch and eight crescents represent the head and tentacles of a stylized octopus (for a discussion of the motif, see Onassoglou 1985, 68–75). The hole for suspension is drilled through the long axis of the sealstone. The object may be assigned a Late Minoan I date for three reasons: the general popularity of amygdaloid talismanic sealstones during that period, especially in East Crete, the fact that green jasper sealstones are generally rare in the succeeding Late Minoan II–III periods, and the existence of close iconographic parallels (Krzyszkowska 2005, 123–125, 196). Indeed, two similar sealstones come from the area of Chavania—one from the cemetery at Mochlos (*CMS* II.3, no. 263) and one from an unknown location near the Mirabello Bay (*CMS* II.3, no. 300)—while two such items from the Richard B. Seager Bequest at the New York Metropolitan Museum of Art (*CMS* XII, nos. 178, 179) must have had a similar provenience. Another close example comes from farther east at Siteia (*CMS* IV, no. 188), while comparable crescent motifs appear on sealstones from other sites in Central Crete, including Knossos (*CMS* II.3, nos. 26, 42), Episkopi Pediada (*CMS* II.3, no. 138), and Malia (*CMS* IV, no. 235). It thus would seem that some member of the community was keyed into broader East and Central Cretan networks of interaction, a situation supported by our prehistoric ceramic wares.

In the immediate future, team members will continue to work with and interpret the information we have collected, including further refining the chronology and working toward completing our research goals. As part of this work, a final phase of research on the Chavania ceramic fabrics, both prehistoric and historic, is a petrographic study conducted in association with Eleni Nodarou at the INSTAP SCEC. It is hoped that the results from both the macroscopic and microscopic investigations will establish a template for the site's ceramic fabrics and also will allow comparative analysis with samples in the INSTAP SCEC petrography database, enriching our knowledge about production centers, clay sources, chronologies, and inter-island contact and exchange. Our ultimate goals are twofold: the excavation and preservation of this incredibly intriguing (yet dangerously threatened) settlement and the completion of a regional survey designed to set it within its broader historical and geographic situation.

Acknowledgments

During both field seasons in 2019 and 2021, we were assisted by Rafal Bieńkowski, a Ph.D. candidate at the Polish Academy of Sciences in Warsaw, while three additional Ph.D. candidates—Alice Crowe and Charles Sturge, both of the University of Cincinnati, and Sara Hilker, of the University of North Carolina at Chapel Hill—joined the project during the 2021 field season. We would like to express our deepest gratitude to each of them for their exemplary and tireless work, their thoughtful insights, and their good company. Lily Bonga serves as the object artist and photographer. Konstantina Kokolaki and Sophiana Drakaki served as *epoptria* (supervisors) for the Hellenic Ministry of

Culture and Sports in 2019 and 2021, respectively. We thank them for their hard work, dedication, and logistical aid. We would also like to express our gratitude to Tom Brogan, Brendan Burke, Miriam Clinton, Donald Haggis, Eleanor Huffman, Kapua Iao, Agnieszka Kaliszewska, Jacques Perrault, Jonathan Tomlinson, Vance Watrous, and Klio Zervaki for their insight, advice, and support. And last but certainly not least, this project owes a debt of gratitude to Chrysa Sofianou, the director of the local ephorate in eastern Crete. Funding for both field seasons has been provided by the Bagnani Trust, the Institute for Aegean Prehistory, the Social Sciences and Humanities Research Council of Canada, Concordia University, and Brock University.

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Congratulations

On September 21, 2023, Sotiria Kiorpe successfully defended her doctoral dissertation entitled "Mortuary Practices in Eastern Crete in the 3rd and Early 2nd millennium B.C.: A Bioarchaeological Analysis of the Human Skeletal Remains at Kephala Petras Siteia" (in Greek). She was supervised by Sevi Triantaphyllou at Aristotle University of Thessaloniki. The staff at INSTAP SCEC are very pleased to have supported Ria and her research over the past few years.

Ria Kiorpe excavating in the cemetery at Petras in eastern Crete, summer 2018. Photo M. Tsipopoulou.

Next Generation of Bioarchaeologists Study Human Remains from the Cave of Hagios Charalambos

P.J.P. McGeorge

An international team of a dozen students from six different countries (Canada, China, Ireland, Romania, UK, and USA)—the next generation of archaeologists or potential bioarchaeologists ("new blood")—seized the opportunity to come to INSTAP SCEC to participate in the Hagios Charalambos Human Bone Project in June and July 2023 (Figs. 1–4). The majority came from University College, London, while one student was from Keble College, Oxford, and another was from the University of Pennsylvania. The Hagios Charalambos project attracted an exceptionally large number of student applicants of whom only a quarter could be accepted this year. We hope to also host new students seeking experience in this area of research next year.

While examining an abundance of loose teeth recovered from the excavations of the Hagios Charalambos Cave ossuary (2002–2003), the students developed skills in identification, observation, odontometry, and documentation of human dentition. Each student was given a prepared database in which to record at least 300 teeth. They then had the opportunity to stimulate their visual memory and develop their recognition of the characteristic diagnostic features that distinguish human teeth: incisors, canines, premolars, and molars; upper from lower, left from right, and deciduous from permanent dentition. Direct experience with such a large number and variety of teeth allows them to appreciate the considerable variability in size and shape within these categories. The students also were instructed on how to photograph the teeth in a uniform standardized presentation with an appropriate scale and provenance label. They found the work intellectually demanding because accurate identifications require careful and patient assessment of subtle differences in dental morphology, especially when teeth have suffered severe attrition or post-depositional damage. The considerable variation in size and morphology, which applies to all elements of the human anatomy, presented an additional challenge. Teeth may have diverse abnormalities such as accessory cusps, shovelling, taurodontism, and hypercementosis among other maladies. The students observed the significant incidence of dental decay, accretions of calculus, and various forms of enamel hypoplasia, as well as chipped enamel and curious wear that suggests people used their teeth for non-alimentary purposes (i.e., as tools). These details highlight the existence of unsuspected and as yet undetermined aspects of ancient livelihoods that may enhance our understanding of this

Figure 1. Students studying the human remains from the secondary burial cave of Hagios Charalambos in the courtyard of the Study Center, July 2023. From front to back: Abel Grigoras, Charlotte Crutcher, Gabrielle Faig, Shriya Amin, Arun Sharma, and Laetitia Walsh. Photo P. McGeorge.

Minoan Bronze Age community. Finally, the study also allows the students to fully understand the importance of the careful recovery of human remains during excavation, in which INSTAP has been a pioneer.

The focus is currently on teeth because within the last year there have been two very significant publications presenting new and exciting results from the ancient DNA analyses of teeth from Hagios Charalambos. The first in *Current Biology* verified the presence of *Yersinia pestis* (plague) and *Salmonella enterica* (paratyphoid fever) in samples from the Hagios Charalambos population (Neumann et al. 2022). The second in *Nature Ecology & Evolution* highlighted evidence for endogamy, or cousin marriages, a social practice long suspected in the Minoan Bronze Age but not previously verifiable in archaeological material without the aid of genomics (Skourtanioti et al. 2023). Hereditary diseases and genetically determined traits suggested that the Late Minoan III community at Armenoi was endogamous, perhaps dictated by

Figure 2. Members of the 2023 Hagios Charalambos team on a guided tour of the Palace of Minos at Knossos with Don Evely (back to the camera). Left to right: Rachael Stevens, Sarah Green, Becky Crass, Taylor Meisner, Imogen Ha, Chinglong Tse, Lauren Wilson, and Mike Armato. Photo P. McGeorge.

Figure 3. Members of the 2023 Hagios Charalambos team at dinner in Pacheia Ammos, July 2023. From left to right: Laetitia Walsh, Gabrielle Faig, Charlotte Crutcher, Abel Grigoras, and Shriya Amin. Photo P. McGeorge.

property considerations (McGeorge 1983, 219, 297). It is hoped that after the publication of the tantalizing results in the last year permission will be forthcoming for the analysis of further tooth samples from the excavation of Hagios Charalambos to broaden our knowledge of both pathogens and social practices.

The students were immersed in the work of the Study Center and the culture of the surrounding region of East Crete. They learned about the facilities of the Study Center: conservation, petrography, and digital illustration of architecture and artifacts from the array of research projects being conducted there and supported by INSTAP. In June, they attended the conference "Chryssi Island and the World of Littoral Archaeology" hosted in Pacheia Ammos, and they visited the local archaeological museums in Ierapetra and Hagios Nikolaos. The students enjoyed tours of nearby archaeological sites led by experts: Gournia with Matt Buell, Mochlos with George Doudalis, Kastelli Pediada with George Rethemiotakis (retired director of the Herakleion Archaeological Museum), the Palace of Minos at Knossos with Don Evely (retired Knossos Curator, British School at Athens), and the Stratigraphical Museum with Kostas Christakis (current Knossos Curator, British School at Athens).

Figure 4. Rachael Stevens and Rebecca Crass view exhibits in the new Archaeological Museum of Hagios Nikolaos. Photo P. McGeorge.

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A New Study of Carnelian in East Crete

Chrysa Sofianou, Susan C. Ferrence, and Philip P. Betancourt

Several carnelian beads from two Minoan sites in eastern Crete were examined in detail in June at the Study Center. The beads come from the Early to Middle Minoan secondary burial cave of Hagios Charalambos in the Lasithi Plain and the Late Minoan IB settlement on the island of Chryssi (Fig. 1; Betancourt 2014, 88, nos. 217–219; Sofianou 2020, 4–5). J. Mark Kenoyer (Dept. of Anthropology, University of Wisconsin) and Geoffrey Ludvik (Ambrose Academy) came to the Study Center and conducted their scientific analysis by permission of the Ephorate of Antiquities of Lasithi.

Kenoyer and Ludvik are specialists in the study of ancient carnelian bead manufacture, which originated in the Indus civilization of the Early Bronze Age. They have studied carnelian beads at many sites from India to mainland Greece (Ludvik et al. 2015; Ludvik 2023). This visit was the first time they had examined beads from Minoan Crete (Fig. 2).

They use nondestructive techniques to identify evidence of manufacturing techniques, usewear, and possible geological origins. Their methodology included digital microscopy to photograph and document surface modifications and surface treatment as well as drilling or pecking techniques of carnelian beads. Then they made casts of the exterior of the beads and also the interior of the holes. The casts also were documented microscopically, and they will be examined by scanning electron microscopy (SEM; for the methodology, see Kenoyer 2017). Different methods of pecking or drilling the holes are identified morphologically, which in turn helps to indicate the location of manufacture. Certain visual aspects of the nature of the carnelian itself also indicate a possible geographic source of the semiprecious stone.

One bead each from Hagios Charalambos and Chryssi was manufactured with the Indus style of stone drill for making the holes. Another bead from Chryssi is an heirloom dating to the beginning of the Early Bronze Age, but the origin is unknown. Its date is determined by the style of manufacture because the hole was made by pecking from both sides of the bead rather than by drilling.

The beads are on display in the local museums. The carnelian from Hagios Charalambos is exhibited among many other artifacts from the burial cave in the new Archaeological Museum of Hagios Nikolaos. The carnelian beads from Chryssi are shown in the new exhibition of the Archaeological Collection of Ierapetra with other items from the metal and jewelry hoards that were found at the site.

Figure 1. Carnelian beads from a jewelry hoard found in Building B.2 in the LM IB settlement on Chryssi Island. Photo S. Ferrence.

Figure 2. Geoffrey Ludvik and Mark Kenoyer use microscopy in the conservation lab of the Study Center to study and illustrate the ancient manufacturing techniques of carnelian beads. Photo S. Ferrence.

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Report from the Coulson Conservation Lab

Kathy Hall and Matina Tzari

We would like to thank our funded conservation interns Mathilde Van Dalen (ENSAV La Cambre, Brussels) and Mackenzie Fairchild (Winterthur/University of Delaware Program in Art Conservation) for their hard work and enthusiasm this summer (Figs. 1, 2). Mathilde and Mackenzie worked on a range of conservation projects over the summer, including sorting and reconstructing ceramic cups and jugs from a tomb at Poros Katsambas. Then, for a change of scale, they mended a large storage jar. They also cleaned and analyzed (portable X-ray fluorescence spectroscopy) Roman glass from Mochlos Loutres and carried out a series of tests to determine the most effective material for strengthening some very fragile loomweights and spools (in the end recommending an adhesive made from Funori seaweed).

Outside the lab, they visited many museums and sites including Mochlos, where Georgios Doudalis gave them an excellent guided tour. They also danced at a Cretan glendi in Myrsini, visited the pottery festival at Thrapsano (where they created Byzantine scraffito tiles), and took pottery classes in the evening taught by Study Center illustrator and potter Gabriella Lazoura, in which they made replicas of their favorite vessels in the Herakleion Museum.

In addition, Mathilde and Mackenzie were very helpful in introducing conservation to the other students at the Study Center this summer, giving many tours of the lab and their specific projects.

Figure 1. Mathilde Van Dalen reconstructing vessels from the cemetery at Poros, the harbor town of Knossos. Photo K. Hall.

Figure 2. Mackenzie Fairchild conserving and lifting a pottery vessel in a trench. Photo K. Hall.

THANK YOU TO OUR FRIENDS

As a private nonprofit organization, we rely on support from our friends, members, and patrons to provide essential archaeological services to international scholars working in Greece and to the local branch of the Hellenic Ministry of Culture and Sports. We are proud of our commitment to the future of the discipline in the form of conservation and petrography internships and research fellowships for doctoral students and post-doctoral scholars.

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We hope this is a complete list of our donors during our 2023 fiscal year, and we apologize for any inaccuracies or omissions that may have occurred during compilation. To learn more or to join the Friends of INSTAP SCEC, please contact Elizabeth Shank, US Coordinator, elizabethshank@hotmail.com. To have your name included in next year's issue of *KENTRO*, donate online by scanning this QR code:

Donor Spotlights

Supporting My Family's Legacy

Nick Ervin

Nick Ervin. Photo K. Ervin.

I was raised mostly in Denver, Colorado, where I developed my love for the outdoors and wilderness. A few years after receiving my baccalaureate from the University of Denver, I felt the need for new horizons and decided to move to San Diego, where I have lived since 1977. Ultimately I went back to graduate school and earned a Master's degree in Counseling Psychology. Later I became licensed in California as a psychotherapist. Meanwhile I met the girl of my dreams, Kathy. We married and raised two now-adult sons who are successful and happy. Plus I got the bonus of two wonderful grandchildren, Ella aged eight and Jack aged six.

Soon after moving to California I became heavily involved as a volunteer conservation activist, and I have sat on several boards of conservation organizations over many years. My passion is hiking in the deserts of the southwest, especially California, and I have worked hard to preserve wilderness there. My other passionate hobby has been collecting rare books on several topics.

As for my long interest in the Aegean Bronze Age, it just so happens that a first cousin of my late father was the future Miriam Ervin Caskey, a name familiar to many in the field. As Miriam Ervin she had moved to Greece initially circa 1955 with her young daughter. She eventually established herself as an archaeologist in her own right prior to marrying the noted figure of Jack Caskey in 1968. Over many years Miriam worked at Ayia Irini on the island of Kea, and later wrote a volume in the series of published books on that excavation. She died just this past June at age 100 in Athens, where she had long lived to be near her Greek family and to continue her archaeological work until well into her 90s.

Miriam was the main inspiration for my interest in Aegean Bronze Age archaeology. When I was 13 years old she sent me an inscribed copy of her first monograph, and I was hooked. My interest in ancient Greece and Rome flourished, and I studied Latin for five years in middle and high school (Greek was unavailable). In 1979 I took a leave of absence from my work and spent several months doing a grand archaeological tour of Greece, including to the site on Kea, where in those days you could wander around casually at will. I have followed that with three more extended trips to Greece.

Over the years I grew a substantial collection of pre–World War II books on the Aegean Bronze Age. After much thought, I decided this year that I wished to give that collection to a suitable library. Sounds good, but I had a devil of a time coming up with an appropriate institution. Out of the blue I contacted the renowned archaeologist Jack Davis asking for help. He kindly suggested the library at INSTAP SCEC as the best choice. After looking through the website about it and talking to Tom Brogan, I realized my problem was solved. This past summer I donated my collection, and I was so impressed with the organization that I decided to donate further on behalf of a Seager Fellowship for next season. Money well spent. And I expect to be involved in the future.

Ongoing Donations to INSTAP

John Seim

My charitable donations to INSTAP began when my wife and I were on a splendid archaeological tour of Crete that was hosted and guided in part by Tom Brogan. Anyone who knows the man will instantly appreciate his dedication, scholarship, and infectious enthusiasm and will find it hard not to offer support for this organization's ongoing work. My first series of monthly donations supported the purchase of a much-needed new vehicle (a SUV, which greatly helps the work of SCEC).

My formal educational background has nothing to do with the science of archaeology, anthropology, or paleoanthropology. Over the years I've worn many occupational hats. I was trained as a pharmacologist and physician, eventually specializing in Palliative Care Medicine. As part of this training much effort is devoted toward understanding trainees' spirituality. For me, understanding my own spirituality involved investigating my geneology. I had some DNA testing that identified that my maternal haplotype was extremely uncommon, indicating my antecedents were among the earliest Paleolithic hunter-gatherers in Ireland. This triggered a burgeoning interest in Irish prehistory that led me to better understand Neolithic and Bronze Age migration and trade and which prompted several archaeological tours to Greece, the Cyclades, and Asia Minor, ultimately ending in

Teaching students the arcane art of color case hardening of vintage gun parts illustrates my personal motto of "Experimental archaeology—learn one, do one, then teach one!" Photo courtesy author.

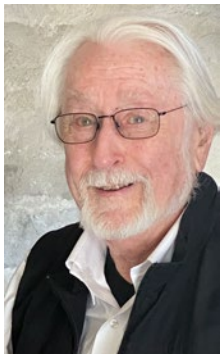
Cyprus (where I had spent some time with the United Nations as a peacekeeper) and then finally Crete. Minoan culture has held a special fascination for me since that time.

I have written several books about firearms-related topics, with restoration of vintage pieces being of special interest to me. I came to develop a very good understanding of metallurgy as the result, so it was natural that processes developed in antiquity were of interest. I began experimenting with iron and later with bronze, and I have made several bronze dagger replicas.

I continue my reading and experimentation with the added appreciation of how talented were Bronze Age craftspeople. So, even as a rank amateur, I continue to hold an interest in experimental archaeology and have an ongoing appreciation for the work accomplished at INSTAP SCEC. Thanks for sharing your knowledge!

25 Years of Success at the Study Center—with a Little Help from the Friends

Al Leonard



Al Leonard. Photo courtesy author.

Recently, while contemplating the tremendous success that the INSTAP SCEC has achieved during the first quarter century of its existence, I began "leafing through" back issues of *KENTRO*, all the way back to its initial appearance in the Spring of 1998. That issue was only eight pages long, just one third the length of issue 25, but it covered all the bases. Tom Brogan succinctly expressed the purpose of the new Center (the advancement of Cretan studies with access to all), Cheryl Floyd described the work of six excavation or survey projects, while Margaret Mook described how the Study Center had facilitated her work on the Kavousi pottery. There was even a "Thank You" piece to the scholars who participated in the fundraising tour that was organized by my late wife Mary and me, and timed to celebrate the opening of the Study Center.

The appearance of *KENTRO* 7 in 2004 saw the Study Center in full swing. It is amazing how much had been accomplished in such a short amount of time! So much, in fact, that Elizabeth Shank announced the formation of The Friends of The Study Center, geared "to support the facility and also raise money to . . . meet new challenges" (p. 11). By 2019, this group had morphed into The Friends of the INSTAP Study Center, designed to serve as a forum for anyone interested in learning about current research involving the Study Center in East Crete. I currently serve as its President. If you wish to receive our little e-newsletter, contact elizabethshank@hotmail.com. I think you will like it. Or join us on Facebook where over 400 Friends of the INSTAP Study Center learn the latest news and events.

The Study Center has now begun its second quarter century. To understand just how far we have come, we need only to look at the varied scope of the many projects that it has served, and the long list of publications from INSTAP Academic Press. Several of the specialty studies would have been inconceivable in 1997, yet they are here today, and they do cost money! To help in that endeavor, the Friends are planning another fundraising tour of Crete. This time we will highlight the 5,000 years of winemaking on this beautiful island. If the Study Center had not been there to help excavate and process the material from Aphrodite's Kephali, would we ever have learned that Cretan wine went back that far into the past? And simultaneously, Cretan winemakers have been identifying and replanting the legacy grapes that once brought their island praise in the taverns of Rome and along the canals of Venice. Many indigenous varieties have been saved from extinction by their work. It will be a win-win situation: those interested in history and archaeology will learn about viticulture from Cretan winemakers, while those that join us with more of a viticultural background will be introduced to what archaeology and history reveal about their interests. And, if you are neither or both, the tour will just be fun! We will all be learning from each other while supporting the important work of the Study Center. And, if you can't join us, please help us to pass the word along. For more information about the tour: https://instapstudycenter.net/2023/06/22/minotage-archaeological-wine-tour-on-crete-full-program-brochure-available/.

Supporting the Preservation of Cretan Heritage

Crawford "Chill" Hill

Chill and Suzie on a hike in Sierra Nevada, Andalucia, Spain in 2017. Photo by author.

I am a Philadelphian who attended the University of Pennsylvania and then taught high school biology for 35 years.

I have resided in Ardmore, PA for 30 years with my fellow teacher and wife Suzie. Our daughter Hadley is an Equine Facilitated Therapist who has lived in Austin, TX for 15 years, but she has recently decided to head back this way with her husband Devon and relocate her business. We are most excited! Our son Connor is a very fine musician, musical historian, and yoga instructor who resides in Ojai, CA.

I have spent a lot of time climbing, backpacking, cycling, and exploring remote regions in other ways around our planet. As a teacher I was always getting my students out of the classroom, and eventually in 2010 I retired from high school teaching and started an experiential learning expedition business for schools (Chill Expeditions). These experiences were customized, immersive opportunities in interesting locations around the world, including Crete. More so than location, however, it was always about what I call "local visionaries" who excel at sharing their

passion and facilitating learning experiences with young folks. We built these opportunities into each component of the expeditions. These relationships we forged and the experiences our local visionaries provided for our kids set our expeditions apart from most student travel, which is just tourism.

In 2021 after 46 years of teaching, I turned my business over to one of my colleagues, Sam Oziel (ee-expeditions.com), who resides in Spain. He continues to work mostly with US client schools, and he is building the business post pandemic.

I was fortunate to connect with Kostas Chalikias and his wife Ariel Pearce-Chalikias here in Philadelphia, and we collaborated on amazing Cretan expeditions. Kostas was both one of our guides and a local visionary! I was so impressed with their work in the field with students! Our unique experiential learning approach encompassed a 360° look at every situation encountered—agricultural, archeological, ecological, economic, artistic, political, entrepreneurial, cultural, and so on. They were exceptional at inspiring kids to fully embrace the wonders before them in Crete—whether we were high in the mountains with shepherds or musicians, on a field site with renowned archaeologists, hiking all over the place, or enjoying the tranquility of remote village life. The students always truly experienced history and the natural and cultural ecosystems as few travelers ever do. Kostas and Ariel provided an incredible platform for students—both informationally and more importantly experientially—to take full advantage of these unique opportunities. They had a huge impact on these young people.

When I learned of Kostas' work with this terrific institution, I was very motivated to donate in his and Ariel's honor!

Supporting the Study Center from the Beginning

Jennifer Moody

Jenny at Phalasarna, Crete, June 2023. Photo courtesy author.

I am an Aegean archaeologist, specializing in landscape and paleo-climate reconstruction and ceramic fabric analysis on the island of Crete. I have worked in Crete for over 40 years and have directed or codirected four archaeological surface surveys there (Chania, Vrokastro, Sphakia, and Hagios Vasilios) and consulted for many more. I have also been involved in environmental research projects on the island since the 1980s—pollen coring, vegetation recording, speleothem sampling, and studying tree-rings. In addition to Crete, I have worked in the Greek mainland (Messenia, Grevena, and Nemea), in the Cyclades (Melos and Kea), and on Kythera. I am an advocate for landscape conservation and the preservation of cultural heritage in Greece and elsewhere.

In 1989 I was awarded a MacArthur Fellowship for my research exploring the interface between environment, climate change, and culture in Cretan prehistory. From 1991 to 2001 I was Visiting Professor and Senior Lecturer in Anthropology and Environmental Studies at Baylor University (Waco, TX), and since 2006 I have been a Research Fellow in Classics at the University of Texas at Austin.

In 1996 Oliver Rackham and I published *The Making of the Cretan Landscape*, which won the Runciman Award. A translation of the book was published in Greek in 2004.

In 2002, I helped establish the William A. McDonald Ceramic Petrography Laboratory at the INSTAP Study Center for East Crete in Pacheia Ammos, Crete, and in 2004 I helped set up its associated internship, which has trained and sponsored many budding and established pottery specialists (https://instapstudycenter.net/archeological-science/ceramic-petrography/).

I have been a strong supporter of the INSTAP Study Center since it opened its doors in 1997. Archaeologists from all over the world interested in Cretan prehistory gather, work, and socialize at the Center. The facility promotes interdisciplinary scholarship, cutting-edge research, and an amazing publication team, and it houses invaluable reference collections for ceramic petrology, archaeozoology, and archaeobotany. Keeping the center's technical equipment up to date is a never-ending challenge, but it is critical to maintaining its high research standards. So, when the need arose to update and recalibrate the center's portable device for analysis using X-ray fluorescence spectroscopy (pXRF), I was glad to donate to the cause. Nondestructive techniques for analyzing antiquities, such as XRF, are the best way forward.

The Center has a vibrant outreach program, educating and demonstrating the importance of Crete's unique cultural heritage to the public, locally and abroad. School tours of the facility, lecture series, newsletters, and public demonstrations of experimental projects like Minoan potting and cooking have been part of this program. If archaeology is to have a positive impact on future generations, public appreciation of the field is critical. To this end I encourage fellow archaeologists, professional and amateur, to support the INSTAP Study Center for East Crete anyway they can.

The Study Center is a Network and Forum

Thomas Strasser

Tom Strasser in Mochlos, Crete. Photo courtesy author.

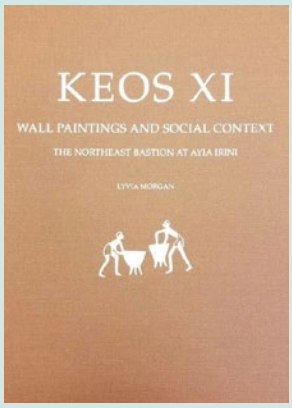
I am happy to support the INSTAP SCEC in offering fellowships and internships for graduate students. The Study Center's excellent facilities provide opportunities for students and members to see all the stages in the archaeological process, from fieldwork to conservation, to the preparation of research for dissemination through publication and lectures. The library holds the publications necessary, including very recondite volumes, for working on Crete and in the Aegean region. In addition, the Study Center provides an excellent forum to network with local and international scholars and facilitates a professional introduction to Cretan studies.

Keos XI by Lyvia Morgan Receives AIA Wiseman Book Award

We heartily congratulate Lyvia Morgan for being honored by the Archaeological Institute of America with the James R. Wiseman Book Award for her magnum opus, *Keos* XI: *Wall Paintings and Social Context. The Northeast Bastion at Ayia Irini* (INSTAP Academic Press, 2020, 648 pages). The prize is given annually to an academic work on an archaeological topic deemed most worthy of recognition. It will be given to Morgan during the annual meeting of the AIA on January 6, 2024, at the Hilton Chicago, IL.

This monumental book constitutes the primary publication of prehistoric wall paintings from Ayia Irini, Kea (contemporary with those of Akrotiri, Thera), set within the extraordinary context of a fortification wall. The book is a significant contribution to the field of Archaeology, ground-breaking both in its presentation of methodology and in its scholarship. The central precept is the symbiotic relationship between wall paintings, architecture, and human action and response. Through their structure and context, images play a role in sociocultural memory. In situating the paintings within the wider context of the times, the author explores the social implications of the iconography, deepening our understanding of the life and environment of the Aegean Bronze Age with far-reaching implications for intercultural relations.

The task was complex, as the paintings had collapsed into thousands of fragments. The author meticulously reconstructs a series of scenes, convincingly "visualizing the past." Fragoula Georma (*The Classical Review*, 2022) highlights the unique contributions of this monograph: "[the] recovery of fresco fragments in substantial enough quantities to become the exclusive subject of a monograph is rare. . . . [It] is extremely valuable for the study of prehistoric iconography and contributes immensely to our understanding of the period, the prevailing practices and ideology. It constitutes a reference point for scholars specialising in the iconography and art of the period." Oliver Dickinson (*Journal of Greek Archaeology*, 2022) concurs: "This massive volume by one of the leading experts on Aegean Bronze Age fresco painting represents the fruition of many years of work. . . . It contains within it an enormous amount of information and discussion concerning artistic themes and methods of representation on other Aegean frescoes and on different forms of Aegean Bronze Age art such as seals and precious vessels in metal and ivory, with references to contemporary Egyptian and Near Eastern artwork where this has relevance. . . . Overall, this book is a very valuable contribution not just to the study of Aegean fresco-painting, but to Aegean archaeology in general…" This magnum opus sets a high standard for the publication and illustration of prehistoric wall paintings and provides a methodological framework for reconstructing and interpreting fragmentary iconography. It will be very influential.



The book has received high praise from international scholars in the fields of Archaeology, Intellectual History, Philosophy, and Classics: "A huge beautifully produced book, full of wonderful content and equally wonderful writing" (Prof. Em. Peter Warren, Bristol), "a major accomplishment" (Prof. Em. Nanno Marinatos, Chicago), and a "tremendous work of scholarship" (Prof. Quentin Skinner, London), "beautifully and vividly written and illustrated" (Prof. Susan James, London). "It is a quite monumental achievement of precise, meticulous scholarship, illuminating the material from a variety of intellectual perspectives with imagination but also due methodological caution. It really is the fruit of the work of a lifetime." (Prof. Em. Malcolm Schofield, Cambridge).

Support the Future of Aegean Archaeology

We are seeking donations for internships and fellowships in the amount of $3,000 at the INSTAP SCEC in 2024. These initiatives include a Coulson Conservation Lab Internship, a Ceramic Petrography Internship, and the Seager and Hawes Fellowships.

Numerous graduate students, doctoral candidates, and postdoctoral researchers have used the facilities at the Study Center over the past several years with very rewarding results. They generate high-quality research that takes place at the Study Center and become acquainted with archaeological material and practices. Many of the fellows and interns have written peer-reviewed articles based on their work at SCEC, have launched academic careers, or have started their own research projects. These positions have become an integral part of the Study Center's mission, and we hope that you will help us support these initiatives.

Conservation Internships

Each summer the Study Center hosts international graduate students enrolled in conservation programs for eight-week internships that provide hands-on experience in the William Coulson Conservation Lab. Going forward we hope to provide funding for one internship per year. Without conservation, ancient objects cannot be properly studied and published, and some may not survive. Under the supervision of Kathy Hall, interns develop practical skills to conserve excavated artifacts, and they also use investigative tools such as microscopes, portable XRF, and radiography. Since 2000, the program has helped more than 40 interns gain experience in preserving the past.

Ceramic Petrography Internship

Graduate students complete a four-week internship under the tutelage of Dr. Eleni Nodarou, director of the McDonald Lab of Petrography, which was founded in 2002. Open to students and (post)graduate students of archaeology, geology, conservation, and related fields, the goal is to emphasize the archaeological component of the discipline, the criteria for grouping petrographic samples, and the methodology of describing thin sections. This scientific field uses state-of-the-art technology to enable petrographers to examine pottery production and distribution and to shed light on issues of technology of manufacture as well as trade and exchange of commodities.

Richard Seager Fellowship

The Richard Seager Fellowship helps doctoral candidates complete their Ph.D. dissertations. Established in 2009, each year one fellowship is awarded to a candidate working on a topic in the Aegean Bronze or Iron Age. Research subjects have included Minoan cooking wares, Prepalatial and Protopalatial pottery from Mochlos and Knossos, plant remains from Minoan ritual contexts, and human skeletons from prehistoric cemeteries. Since its inception, nine fellowship recipients have completed their dissertations, helping to ensure the continuation of Aegean Bronze Age scholarship.

Harriet Boyd Hawes Fellowship

The Harriet Boyd Hawes Fellowship was created in 2017 to provide support to Ph.D. candidates or recent Ph.D. recipients for projects involving gender studies in Aegean Bronze Age archaeology. It is open to those in the fields of Anthropology, Art History, Ancient History, and Classics. Since its inception, five fellowships have been awarded and the field has benefited from such diverse topics as intergenderism on Minoan seals, the analysis of fingerprint patterns in determining age and sex, and the history of female archaeologists studying the Minoan civilization.

Donate Today

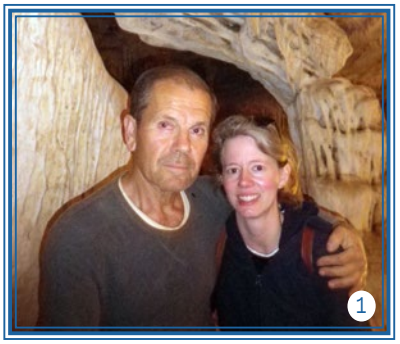
Please support the Study Center's interns and fellows online through PayPal at https://instapstudycenter.net/giving/ and click on the donate button. Be sure to indicate how you would like your donation applied.

If you prefer to send us a check, please make it out to the INSTAP Study Center and include in the memo portion how you would like your gift to be allocated. Mail it to INSTAP Study Center for East Crete, attn. Elizabeth Shank, P.O. Box 162, Rouzerville, PA 17250, USA.

If you would like to donate in euros, please contact Eleanor Huffman at the INSTAP Study Center (eleanorhuffman@instapstudycenter.net or tel. 30-28420-93027). If you wish to send a check in euros, make it out to the INSTAP Study Center and address it to Eleanor's attention at INSTAP SCEC, P.O. Box 364, Pacheia Ammos, Ierapetra, 72200, Crete, Greece. Make sure to note how you would like your donation applied.

The INSTAP SCEC is a nonprofit 501(c)3 charitable foundation, and our US tax identification number is 13-3832587. All donations are tax exempt to the fullest extent of the law.

In Memoriam
Vangelis Fiorakis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A dear friend and colleague to those associated with the Study Center suddenly passed away this summer. Vangelis Fiorakis (1955–2023) was a kind and gentle man and the hardest worker anyone could wish to have on their excavation team. We are deeply saddened for his loving wife, Melissa Eaby, who worked with him in countless trenches over the past two decades. Our hearts are heavy with the unexpected loss of Vangelis, whose legacy and contributions to the life and work of INSTAP SCEC will continue to inspire us all. Our lives are so much richer for having known such a caring and generous soul. He will be sorely missed.


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From Lily Bonga

Vangelis was a good friend of mine. He led an exemplary life, full of happiness, Kavousi quirks and stories, love, and passion—especially for Melissa. Memory eternal.


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From Thomas Brogan

Vangelis was a dear friend and role model: first in the field, last to leave, and always the most considerate team member. His unique physical strength was balanced by an infectious, silent smile that spoke volumes even to those who did not understand Greek. His company and character will be greatly missed, but his passion for Crete's past will never be forgotten.


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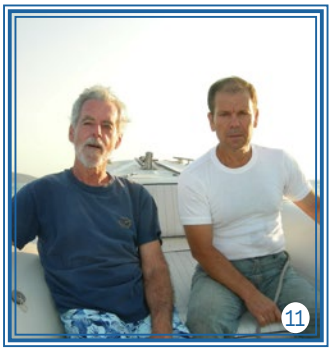
From D. Matthew Buell on Behalf of the Gournia Excavation Project

Vangelis was a much beloved member of the Gournia Excavation Project. We admired Vangelis for his astute excavation skills, his attention to detail, and his strong work ethic. With a quiet temperament and an imposing build, Vangelis was an intimidating figure at first glance. Indeed, after several students witnessed him pick up (what seemed like) a 500 kg boulder with his bare hands and throw it 50 m over a fence one summer, Chuck Norris-inspired Vangelis jokes

(1) Vangelis Fiorakis and Melissa Eaby in the Pelekita Cave, 2014. Photo L. Bonga. (2) Students and leaders on the American School trip to Vronda in East Crete, 2022. From left to right: Vangelis Fiorakis, Tom Brogan, Nick Winters, Joseph Frankl, Laurel Fricker, Allene Seet, Collin Moat, and Theo Nash. Photo N. Vogeikoff-Brogan. (3) Excavation team members at Gournia, 2014. From left to right: Micaela Allen, Maria-Marina Boukiou, David Bloom, Vangelis Fiorakis, Savannah Brantley, Kevin Glowaki, and Jorge Besadalombana. Photo J. Dills. (4) Vangelis Fiorakis excavating at Gournia, 2012. Photo J. Spiller. (5) Excavation team members at Gournia, 2013. From left to right: Megan Oehrlein, Jordan Dills, Emily Seunarine, Kevin Glowacki, Cody Haynes, Vangelis Fiorakis, and Evi Sikla. Photo J. Spiller. (6) Vangelis Fiorakis and Vasil Muçaj at Papadiokampos in eastern Crete, 2010. Photo M. Eaby. (7) Pelekita excavation team and guests, 2014. Back row from left: Susan Ferrence, Tom Brogan, Dimitris Sphakianakis, Vangelis Fiorakis, Eleanor Huffman, and Marinos Papadantonakis. Front row from left: Vasilis Chatzisavvas, Lily Bonga, Kostis Frangiadakis with Roxie, Vangelis Grammatakakis, Melissa Eaby, Jerolyn Morrison, and Manolis Vrachnakis with Theodora. Photo S. Chlouveraki.



became all the rage (e.g., Vangelis beat the sun in a staring contest, Vangelis makes onions cry, Vangelis doesn't sleep he waits, etc.). His quick smile and friendly temperament, however, always betrayed his true character. Vangelis was kind, patient, and honest. Despite language barriers, he was always willing to help our students and to teach them both excavation techniques and about Cretan life. For all these reasons, Vangelis was a favorite of our field school students. For those lucky enough to know him beyond the field, it was always clear that above all Vangelis was a loving husband to Melissa. We will all miss him dearly.

From Leslie Preston Day

It was my privilege and pleasure to have introduced Vangelis to archaeology. He came as a worker to the Kavousi excavations in the late 1980s, and of the many local people who worked with us, he was the quickest to learn and the most serious about his work. He cared about the work he was doing and about mastering archaeological techniques. There was an intelligence and a stillness about him that marked him as different. I can't explain it, but he had such depth to him. He was a pleasure to work with. I did not know him as well as I would have liked when we were digging, as he struck me as a very private person, and our interactions were all professional. But later, when he became a sought-after excavator with his beloved Melissa, I had an opportunity to get to know him better. He was so intelligent and discerning in his work and personal life. I feel that it was a privilege to know him, and thinking again about him brings me to tears. He left us too early, but I, like others, will never forget him.

From Susan Ferrence on Behalf of the Pelekita Cave Excavation Project

Vangelis was a very hard-working, pleasant, and quiet workman, and any excavation project would be happy and grateful to have him on their team. At Pelekita, he was paired in the trench with the most gregarious and talkative member of the group, Vasilis Chatzisavvas, who provided endless entertainment during the workday to Vangelis' chagrin. Even though the conditions in the cave were cold and damp, we had a cheerful *parea* with many laughs during our springtime season. Vangelis' quiet strength and good humor was an example for all of us.

From Kevin Glowacki

I first met Vangelis when we both worked on the excavations at Kavousi Vronda, which must have been around 1991. Kavousi was his first excavation. Little did we all

(8) Excavation team at Kavousi Vronda, 1990. Front row, left to right: Donna Bryant, Manolis Maniadakis, Nikolaos Poulis, and Deanne Dicer Toye. Middle row, left to right: Christopher Tillquist, Jane Carter, Vangelis Fiorakis with Lee Ann Turner on his shoulders, Steve Williamson, Leslie Day, Georgios Sekadakis, Liz Langridge, Kostis Grammatikakis, and Benjamin Venable. Back row: Nikolaos Kapetanakis and Giannis Lapokonstantakis. Photo courtesy Kavousi Project. (9) Doug Faulmann, Vangelis Fiorakis, and Jonathan Flood prepare to board the boat at Mochlos, 2010. Photo Margo Bender. (10) Pelekita team lunch at Zakros, 2014. From left to right: Vasilis Chatzisavvas, Lily Bonga, and Vangelis Fiorakis. Photo S. Ferrence. (11) Floyd McCoy and Vangelis Fiorakis on the way to Pseira from Tholos Beach, 2007. Photo S. Ferrence. (12) Vangelis Fiorakis, Andrea Zlotowitz, Britanny Hill, and Kevin Glowacki at Gournia, 2011. Photo J. Spiller. (13) Dancing at Gournia, 2014. From left to right: Diana Tanase, Olvia Holcombe, Jon Snyder, Dave Blome, Jorge Besadalombana, Maria-Marina Boukiou, Vangelis Fiorakis, Ianna Recco, Micaela Allen, and Savannah Brantley. Photo J. Dills.

know that he would go on to become one of the most experienced and talented excavators in Crete! I recall being impressed by his kind heart and work ethic. Years later, I was fortunate to dig with Vangelis again for several seasons at Gournia. He was a great colleague and partner who always taught the students proper excavation techniques and also shared his love of the work, of archaeology, of history, and of Crete. And sometimes how to do things like make *dakos* for *kolatso* and, on a rare occasion, even learn a traditional Greek dance (and yes, I have a video to prove it!). He was my brother, and I will miss him.

From Florence Gaignerot-Driessen

I will always remember Vangelis' extreme kindness and sweetness. I am very grateful for his dedicated and meticulous work and comforting presence in the field. His memory will remain inscribed in the Anavlochos tumulus that he contributed to patiently consolidate.

From Donald Haggis on Behalf of the Azoria Excavation Project

For some 35 years, Vangelis Fiorakis brought to the field an intuitive sense of stratigraphy and that delicate and uncommon balance of physical and intellectual skills required to shape and to visualize archaeological context. His calming demeanor, gentle and self-effacing humor, unassuming wisdom, and quiet dedication—to friends, colleagues, students, and specialists—contributed immeasurably to the success and sense of community that formed around countless field projects. His knowledge of the region, the site, the place, and the village were invaluable, as was his sensitivity to detail and to nuances of both physical and archaeological landscapes. His deep commitment to his work and his moral sense of personal responsibility were extensions of the way he lived. He brought a quiet dignity and grace to everything he did. To Vangelis, excavation was both an art and a skill. He taught many of our students to dig where we had failed, and he inspired us all to do the hard work, to do what it actually takes to excavate on a scale mostly unachievable today, and to do it well. With Vangelis' passing we lose a colleague and excavator—we will miss his subtle smile, his quiet wit and cogent counsel, and his carefully curated *skalistiri* and broom. Above all we lose a friend.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(14) Emergency consolidation of a tumulus at Anavlochos, Vrachasi, Crete, 2020. From left to right: Vangelis Fiorakis, Manolis Poulis, Stelios Pytharoulis, Manolis Kasotakis, Heidi Senn, and Florence Gainerot-Driessen. Photo J. Driessen. (15) Melissa Eaby and Vangelis Fiorakis having lunch in Trench A600 at Azoria, 2002. Photo courtesy Azoria Project. (16) West slope at Azoria, 2006. From left to right: Pantelis Hatzidakis, Manolis Kasotakis, Donald Haggis, Tassos Dantes, and Vangelis Fiorakis. Photo courtesy Azoria Project. (17) Vangelis and Melissa in the Mesara, 2010. Photo K. Hall. (18) Visiting the harbor of Chania, 2008. From left to right: Michel Roggenbucke, Vangelis Fiorakis, Melissa Eaby, Kathy Hall, and Rosie Faulmann. Photo D. Faulmann. (19) Vangelis and Melissa during their wedding in Kavousi, Crete, 2014. Photo K. Hall. (20) Hiking Richtis Gorge, 2019. From left to right: Eleanor Huffman, Evi Sikla, Tom Brogan, Melissa Eaby, and Vangelis Fiorakis. Photo courtesy E. Huffman.

From Jerolyn Morrison

While many people in our community have known and worked with Vangelis Fiorakis during many phases of his life, I had the honor to know him with Melissa Eaby. Together they formed a magnificent partnership in life that fully committed to living each day and season together. It was inspiring and beautiful. I met them in the early 2000s at the Study Center. In the off-season from excavations, like a clock he would drop Melissa off and pick her up from the library. Some days he would drop by with lunch or her favorite coffee. Years later they planned their wedding and from start to finish, it was gorgeous. My favorite memory of being with Vangelis and Melissa was after dinner that night in the lower room at the taverna that overlooked Pseira. It was late and only a handful of people were left. By now Melissa had on her boots, we all had kicked off our fancier shoes, and we were full of delicious Cretan food, wine, and raki. The music started to become more intimate, and those that have watched the sunrise in the Cretan landscape realize that dancing will start soon. We all danced, and danced, and danced. When we could catch our breaths, we laughed and toasted to fully committing to life! Vangelis' and Melissa's love for each other and friendship of 20 years teaches us the way to fully commit to life. It is beautiful and everlasting, and it was a true honor to know Vangelis and to know him with Melissa. I cherish this.

From Eleni Nodarou and Yiannis Papadatos

Having shared many excavations with Vangelis over the years, our favorite memory is the painstaking way in which he kept the trench clean and tidy at all times. The usual joke was that our house would never be that neat. We shall miss him.

From Metaxia Tsipopoulou and David Rupp

We remember Vangelis as a quiet but friendly individual who dug with us regularly at Chalasmenos and occasionally at Petras. He was a steady, hard-working member of our field crews. Around INSTAP SCEC and Kavousi, Vangelis was cheerful and engaging. We will miss him.

(21) First dinner together after the COVID-19 lockdown, Mochlos, May 2020. From left to right: Luke Kaiser, Tom Brogan, Melissa Eaby, Vangelis Fiorakis, and Lily Bonga. Photo E. Huffman. (22) Melissa Eaby and Vangelis Fiorakis watch Giorgos Frangiadakis cut their engagement cake at Ta Kochilia Taverna, Mochlos, July 29, 2013. Photo E. Huffman. (23) Tom Brogan and Gerry Gesell toast the wedding couple, Vangelis Fiorakis and Melissa Eaby, May 2014. Photo E. Huffman. (24) Easter in Mochlos, April 19, 2014. From left to right: Vangelis Fiorakis, Eleanor Huffman behind his shoulder, Melissa Eaby, Jerloyn Morrison, and Giorgos Zervakis. Photo S. Ferrence.

Studying Post-Abandonment Visitation in Early Iron Age Crete

Sarah Malik Bell

When I think of the INSTAP Study Center for East Crete, I think back to the place where I stood on the terrace this summer, looking out over Pacheia Ammos and the sea, watching the rising sun lift itself out of the water—watching the mountains turn to gold (Fig. 1). I think about the people that I worked with and laughed with and loved there, and the experiences that made the year I spent from September of 2022 to August of 2023 at the Study Center special to me. I think about going back. And perhaps that's fitting because it is the act of going back—of returning to places that have meaning and memory etched into them—that I spent my time studying at the Center.

The Early Iron Age was a period in which people throughout the Mediterranean were moving forward toward new futures. At the same time, it was a period associated with a great interest in what had come before. We find their interest materially manifested in evidence for post-abandonment visitation to Bronze Age sites (Fig. 2). The connection between these two seemingly contradictory foci—the creation of new identities and sociopolitical systems on the one hand, and the reclaiming of connections to a much earlier and very different past on the other—has been under theorized on Crete, and this is where I hope the work that I have done at the Center can contribute.

Neither the importance of the form that mnemonic practice occurring at the intersection between past and future takes, nor the ability of that practice to influence the direction in which society develops should be underestimated. We have a tendency to treat all episodes of revisitation to abandoned sites during the Early Iron Age as though they had the same meaning and intent—a desire to associate the visitors with the glorious ancestors of the Bronze Age monumental past, and a need to legitimize a rising elite identity. Post-abandonment visitation to Late Minoan IIIC defensive settlements in East Crete, however, does not look like what we see in Central Crete at sites like Knossos, Hagia Triada, and Kommos. The target of visitation, the intrinsic and extrinsic value of the deposits, and the cost of these practices in terms of the investment of labor and emotion all differ. As such, the shape of the social identity being strengthened through these practices and the direction in which they encouraged the participants to develop also differed.

With the generous help and contribution of Leslie Day, Donald Haggis, Metaxia Tsipopoulou, Saro Wallace, and countless others, I have spent my time at INSTAP SCEC studying and cataloging the deposits associated with these episodes of visitation. While my research is far from complete, preliminary results seem to show a distinct social identity operating in East Crete—one very different from the one connecting itself to Bronze Age monumental sites in the center of the island. This social identity

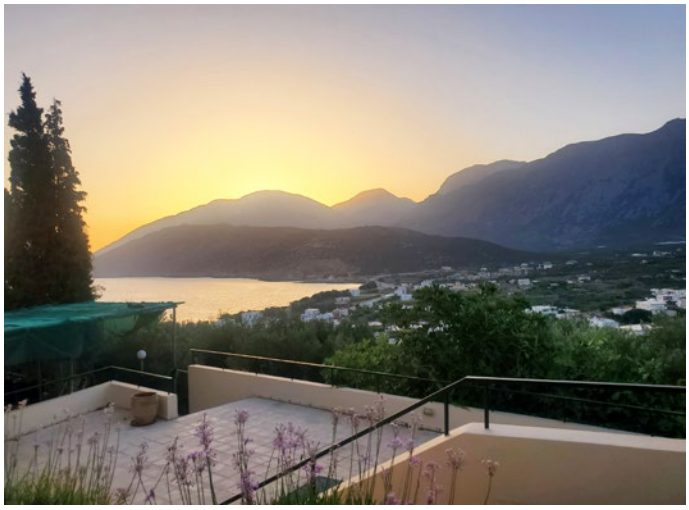

Figure 1. View of Pacheia Ammos and the Mirabello Bay at sunrise, summer 2023. Photo by author.

Figure 2. View of the Cretan landscape from the settlement at Karphi, summer 2023. Photo by author.

was connected with rites that were more extreme and costly in terms of labor and affective experience but less costly in terms of the intrinsic value of the deposits being made. Most importantly, it was a social identity that sought justification and reified itself through reference to a completely different past, and it thus turned its face toward a completely different future.

The question of how society in Crete moved toward the polis system must take the process of negotiation between these, and perhaps other, very different identities into account—how they contributed, how they clashed, how they staked their claim on both the past and the future. Applying theoretical frameworks related to the study of how the places of the past acquire and retain meaning and how those meanings are actively mobilized in different ways to reify identity and project it forward in time can contribute to our understanding of how these processes of sociopolitical change happened on the island. It is my hope that the study of these post-abandonment deposits will open a window onto that process of change.

The act of going back is rarely only an act of nostalgia. It is about remembering who we are, where we came from, and the parts of ourselves that we do not want to lose. It is about deciding what we are going to be in the future. The Early Iron Age inhabitants of Crete were in a state of transformation, and the practice of returning to sites of memory actively informed and contributed to that process. On a much smaller scale, when I stand again on the terrace at the Study Center overlooking the sea, I will remember the experiences I had and the work that I did there. I will remember how it shaped me as a scholar. I will appreciate the impact that these experiences have had on my work and will continue to have on my work as I move into my own future.

Sarah Malik Bell is a doctoral student at the Joukowsky Institute for Archaeology and the Ancient World at Brown University. She is working on her doctoral dissertation titled "Post-Abandonment Visitation to LM IIIC Defensive Settlements on the Island of Crete: Intergenerational Transmission of Social Identity through Memory Practice and its Effect on Long Term Social Change." Photo courtesy author.

Congratulations to the 2023 Seager Fellow

We would like to congratulate Thérèse Claeys, Ph.D. candidate at UCLouvain, Belgium, who is the recipient of the 2023 Richard Seager Fellowship. Thérèse specializes in the field of archaeological heritage management and conservation. She obtained a B.S. (2010) and M.A. (2012) in Archaeology and Art History from UCLouvain and also received an advanced M.S. in Conservation of Monuments and Sites (2015) from the Raymond Lemaire International Centre for Conservation (KU Leuven, Belgium).

Throughout her career, she has participated in several archaeological field projects in Belgium (Tournai), Cyprus (Pyla-*Kokkinokremos*), and Crete (Sissi and Malia) and has also acquired international hands-on experience in the field of cultural heritage preservation and management (UNESCO Headquarters in Paris, France; International Conservation Center–Citta di Roma in Acre, Israel). Thérèse has worked as a professional tour guide and exhibition curator in Belgium. In addition to research conducted in 2018 in the Laboratory of Geophysical-Satellite Remote Sensing and Archaeo-environment (GeoSat ReSeArch Lab) at the Institute for Mediterranean Studies of the Foundation for Research and Technology–Hellas (IMS-FORTH) in Rethymnon, Crete, Thérèse was also a visiting Ph.D. student in 2020 in the Digital Archaeology Research Laboratory (DigAR Lab) at the University of Washington in Seattle, USA, thanks to a Fulbright scholarship. During her time there, she began working on the development of a web-based GIS platform aimed at the digital display of her research outcome.

Her work focuses on the development of integrated planning tools aimed at informing recommendations to enhance the sustainable preservation of and the accessibility (both physical and intellectual) to Minoan sites. At the theoretical level, this cross-disciplinary research project addresses questions pertaining to heritage knowledge production, transmission, and reception.

Thérèse is grateful and very excited to join the INSTAP Study Center this fall in order to finalize her doctoral research in an ideal working environment. We look forward to her report on her work at the INSTAP SCEC in the 2024 issue of *KENTRO*.

Archaeologial Collection of Ierapetra Reopens

Thomas M. Brogan and Eleanor Huffman

On June 11, 2023, the mayor of Ierapetra, Theodosios Kalantzakis, and Chrysa Sofianou, the director of the Ephorate of Antiquities of Lasithi, hosted an event celebrating the reopening of the Archaeologial Collection of Ierapetra. A warm welcome from the mayor was followed by lectures highlighting material from recent excavations in the region, much of which is on display for the first time (Fig. 1). Topics included a review of the important Minoan remains at Myrtos Pyrgos, the Late Minoan IIIC to Hellenistic antiquities from Kastro, Vronda, and Azoria, the new metal hoards from the Late Minoan IB levels of Building B.2 on Chryssi, the monumental Late Minon I building at Gaidourofas, the Neopalatial peak sanctuary of Stavromenos, and the Late Minoan III chamber tomb at Kentri.

The Ierapetra collection is housed in a historical building, the Ottoman Commercial School, which originally opened in 1899 (Fig. 2). The Demos of Ierapetra provided funding to upgrade various parts of its infrastructure, including new lighting to enhance the presentation of the artifacts. The new displays showcase finds from sites presented in the lectures and old favorites including the Early Minoan site of Myrtos Phournou Korifi, the Late Minoan III site of Episkopi, and Classical pottery and Roman sculpture from Ierapetra. Display cases are also furnished with beautiful new information panels depicting site plans and color photos that were designed by Evi Saliaka and Garyfalia Kostopoulou (Fig. 3). True to its billing, the event was a feast for the archaeological senses flavored with a mix of new finds and insights. We want to congratulate the director of the ephorate, Chrysa Sofianou, and the conservation team led by Klio Zervaki who oversaw the reorganization of the exhibits.

Figure 1. Participants of the event celebrating the reopening of the collection, from left to right: Donald Haggis, Klio Zervaki, Gerald Cadogan, Melissa Eaby, Evi Saliaka, Tom Brogan, Theodosios Kalantzakis, Chrysa Sofianou, Yiannis Papadatos, and Bishop Kyrillos. Photo E. Huffman.

Figure 2. The new entrance to the Ierapetra Collection. Photo G. Kostopoulou.

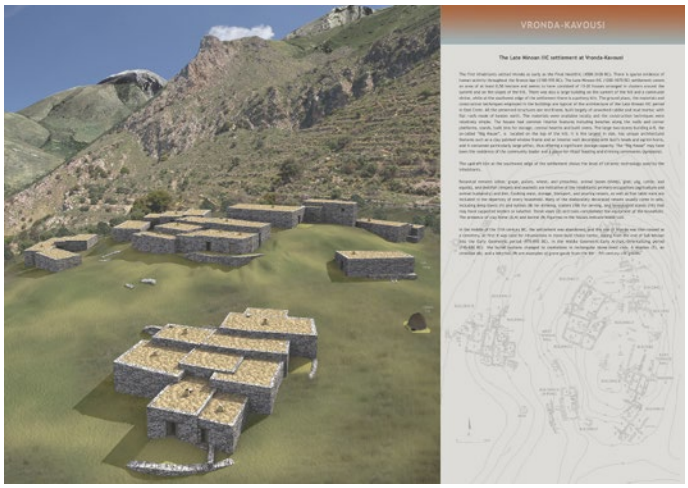

Figure 3. Information panel for the display of finds from Kavousi Vronda. Image by G. Kostopoulou and E. Saliaka after the digital reconstruction of the site by S. Dafedar published as the frontispiece in Kavousi *IIC:* The Late Minoan IIIC Settlement at Vronda. Specialist Reports and Analysis *(2016) by Leslie Preston Day and colleagues.*

Fishing, Sponge Diving, and Harvesting the Land of Chryssi Island Where Archaeology Meets Ethnography

Kostas Chalikias

Several interviews with fishermen from Ierapetra took place while researching my Ph.D. dissertation in 2009 and 2010, focusing on the study of the diachronic habitation on Chryssi Island and the settlement patterns of the opposite coast on the southeastern side of Crete (Chalikias 2013). This study, besides its archaeological focus, also provides a glimpse of the ways Chryssi Island has been exploited in the last 100 years by the nearby coastal Cretan settlements for its land and marine resources (Chalikias 2013, 45–46). The recent two-day conference that took place in Pacheia Ammos on June 9–10, 2023, titled "Chryssi Island and the World of Littoral Archaeology: Contextualizing Island Research around Crete," offered a renewed opportunity to visit old acquaintances at the harbor of Ierapetra to ask new questions that arose from recent excavations at the Minoan settlement on Chryssi.

Minoan Chryssi was a place where the famous marine purple dye was produced. In addition to the processing of purple shellfish, an abundance of stone tools, paved stone platforms, as well as animal bones and various carbonized plant remains begged the question as to what else was taking place in the buildings of the settlement (Apostolakou et al. 2016; Brogan et al. 2019; Mylona 2020). What type of pastoralism and farming, if any, was practiced on Chryssi Island during the Bronze Age? Could such practices from more recent times help us understand the past? Archaeology has addressed this question (e.g., Gould 1980; Wylie 1985). My own attempts to explore this type of ethnography were inspired by a discussion about sponges. It is well known in Ierapetra that sponge divers from the Kalymnos and Symi islands in the Dodecanese visited the southern coast of Crete for its sponges in the 1960s and 1970s. Is it possible that sponge diving and processing of the sponges was already taking place on Chryssi in Minoan times? This idea prompted a series of interviews with fishermen at the Ierapetra harbor. What I learned from them went beyond sponge harvesting and into insular living and the economy of Chryssi in the recent past.

I met with four fishermen at the harbor in Ierapetra in June and July 2023 (Fig. 1): Manolis Kornaros, Ioannis Kougioumoutzakis, Antonis Roubakis, and Lambis Tzarakis, the president of the Professional Fishermen Association of Ierapetra. Vagio Kornarou, spouse of Manolis, also offered valuable information on growing up in a fishing family in Ierapetra.

Figure 1. Fishermen at the harbor of Ierapetra, July 4, 2023. From left: Antonis Roubakis, Manolis Kornaros, and Ioannis Kougioumoutzakis. Photo by author.

All the men stated that fishing was their primary occupation. Some took part in agricultural activities in the Ierapetra area in order to supplement their income. Fishing was a major activity in the area also in the past. Based on the archaeological evidence from Chryssi it is suggested that the ancient inhabitants of the island specialized in fishing and caught and consumed a variety of fish and other marine creatures (pers. comm., D. Mylona; Mylona 2020). The fishermen confirmed that they also consumed a large variety of fish, especially when the southern coast had not been overfished. The notable absence of seal, sea turtle, and dolphin bones from the archaeological record on Chryssi is explained by the fishermen at Ierapetra: "This might be the case because the specific animals are very fatty and are not considered edible," reflecting current culinary practices as well. In terms of cooking practices, quite often the fishermen from Ierapetra cooked their catch on the sandy beaches of Chryssi Island, where they took a break from work, in the form of a κακαβιά (*kakavia*), a type of fish soup that included a variety of fish and shellfish, usually the items that could not be sold (Fig. 2). Their cooking vessels and utensils were usually stored on their fishing boats (Fig. 3). A simple open-air hearth on the beach with no other built structures was all that was required.

Figure 2. Preparing fish soup on Chryssi Island, ca. 1980. Photo courtesy Professional Fishermen Association of Ierapetra.

Figure 3. Feasting on the east coast of Chryssi Island, ca. 1980. Photo courtesy Professional Fishermen Association of Ierapetra.

All the fishermen, now in their 70s, 80s, and 90s, remember the use of the island for the seasonal cultivation of grains such as wheat and barley and also the production of honeydew and watermelons until at least the 1960s. Known landowners of Chryssi Island were the families of Gyalirakis and Kougioumoutzakis who, according to one of their descendants, Ioannis Kougioumoutzakis (Fig. 1), inherited the land from an Ottoman landowner in the early 20th century. According to the fishermen, land on the island was usually rented or exploited using the method of συμισακά (*simisaka*), where the landowner offers the land for cultivation in return for a percentage of the harvest. The island was also visited by shepherds from the opposite Cretan coast such as Yiannis Bekrakis from the village of Symi located on the mountainside northwest of Ierapetra and Manolis Stavrakakis from the area of Viannos north of Ierapetra. Asked about other activities that might have been practiced on Chryssi Island, the fishermen said that they occasionally collected sea salt found in the western part of the island, immediately west of the small harbor of Spilios. They also collected juniper berries (κεδροκούκουτσα, *kethrokoukoutsa*), which they often consumed raw. The juniper timber was rarely used as fuel because it is not considered very flammable, a fact that might also explain its absence from the archaeological record at the Minoan site. It is, however, possible that the island did not support a juniper population during the Bronze Age. Asked about the presence of pine wood found at the Minoan settlement, the fishermen suggested that it could have been the remains of an unsalvageable ship or boat. They claimed that fishing boats manufactured in the 20th century were known to come from a few shipyards elsewhere, namely in Herakleion and on the Dodecanese island of Kos, where pine wood was used as the primary construction material.

Sponge harvesting was one of the activities that the interviewees linked to Chryssi Island but not to the local fishing community. The fishermen recalled the annual visit by sponge divers who came from the islands of Symi and Kalymnos. Sponge divers used to visit the southern coast of Crete and the little offshore islands (Chryssi and Kouphonisi) from spring until late summer, and some crews would continue their trip to the coast of Libya in search of sponges (Figs. 4, 5; for sponge fishing by Kalymniot fishermen and their exploits in Crete, Libya, and elsewhere in the eastern Mediterranean, see Olympitou 2014). None of the fishermen from Ierapetra were actively involved in sponge diving, but,

Figure 4. Sponge divers at the harbor of Hagios Nikolaos, 1963. Photo K. Helbig, courtesy SLUB/Deutsche Fotothek.

Figure 5. Sponge divers at the harbor of Siteia, 1963. Photo K. Helbig, courtesy SLUB/Deutsche Fotothek.

having extensive local knowledge, they could point visitors to certain areas along the southern coast of Crete that used to host healthy marine sponge communities before a disease eradicated most of them in the 1980s and put an end to the native sponge economy. Asked whether they had considered participating in the business of sponge diving, they claimed it was a practice unfamiliar to most Cretan fishermen who never pursued it. Several people from the Ierapetra neighborhood, or Kato Mera, however, were indirectly involved by providing sponge diving parties with food and other supplies during their visits at the harbor of Ierapetra (pers. comm., V. Kornarou). The fishermen also remembered how the crews from Symi would clean and dry their sponges on the beach of Ierapetra. Unfortunately, the interviewees were not able to provide more information regarding the names of the sponge divers and their fleets that used to visit the south coast. In the future it is important to visit the islands from where these sponge divers originally came and to conduct archival and ethnographic research among the last surviving members who used to harvest sponges around Crete.

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Congratulations!

Among the exciting exhibits in the new Archaeological Museum of Chania, which opened in 2022, is a description of some of the earliest evidence for human occupation on the island of Crete. A large panel illustrates the first figural art in Greece dating to sometime in the Upper Paleolithic, 35,000–11,000 years before present. The work of a team led by Thomas Strasser (Providence College) at the Asphendou Cave in the mountains of the Sphakia region of western Crete shows that humans literally left their mark by carving petroglyphs of ships, geometric shapes, and an endemic species of dwarf deer (*Candiacervus ropalophorus*) on the cave floor. This evidence greatly expands the timeline of human artwork in Crete and the whole of Greece.

Sponges: An Invisible Side of Ancient Fisheries, with Special Reference to Bronze Age Crete

Dimitra Mylona

> "The softest of them [sponges] are whitened in the burning heat of summer, moistened with froth of salt, standing on the rocks, and placed in the sun. But take care that the hollow side of them faces upward and the cut side is underneath. If it is clear summer weather they are also moistened with froth of salt or seawater and set out under the moon. These are the whitest."
>
> Dioscorides, *De Materia Medica*, 5.138
> (Osbaldeston and Woods, eds., 2000, 815)

This is how Dioscorides—the most famous ancient Greek physician, pharmacologist, and botanist—described the processing of sponges. In his five-volume pharmacological encyclopedia *De Materia Medica*, written in the first century C.E., he described the use of sponges in medicine and also provided the above commentary. The freshly harvested sponges, the rocks on the shore, the froth of salt, the sun, and the moon are all that were needed to produce one useful, yet almost invisible marine product of antiquity.

Although the use of sponges in the Aegean has been documented for the Bronze Age, and their use has become quite explicit for the eighth century B.C.E. onward (Voultsiadou 2007; Pronzato and Manconi 2008), very little is known from the archaeological record about their harvesting and processing. The incorporation of sponges in the discourse on marine economies of the past is also quite rudimentary. This paper aims to present the available evidence and discuss the possibility to detect sponge harvesting archaeologically. Additionally, an examination of this practice is necessary as part of a broader fishing domain where the exploitation of different marine species is interconnected. Special reference is made to Bronze Age Crete. The evidence is in most cases indirect, and it is based on inferences inspired by ethnography, which will not be presented in detail here, but glimpses of the recent history of sponge exploitation in southern Crete are discussed in more detail in the fascinating article by Kostas Chalikias in this issue (see pp. 29–31).

Where to Find and How to Harvest Sponges

The Aegean is home to a large number of sponge species (Voultsiadou, Vafidis, and Antoniadou 2008; Topaloğlu and Evcen 2014; Voultsiadou, Gerovasileiou, and Bailly 2016). The sea around Crete hosts several of them, and nowadays three of the five bath sponge species of the Mediterranean are found there in relative abundance, namely *Spongia officinalis* (Greek bathing sponge), *Spongia mollissima* (Turkey cup or Syrian sponge), and

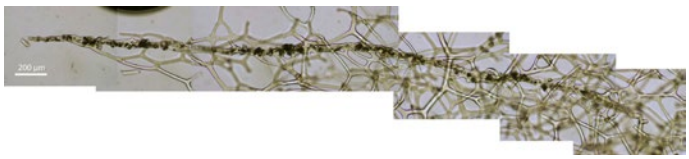

Figure 1. Network of spongin fibers of Spongia officinalis. *Collage of SEM microphotographs courtesy T. Dailianis, Hellenic Center of Marine Research.*

Hippospongia communis (honeycomb bath sponge; Pronzato and Manconi 2008). Other species are also present. The current distribution and density of sponges are heavily influenced by a series of recent epidemics that decimated whole sponge populations that only recently seem to be partly recovering (Dailianis 2011; Gerovasileiou et al. 2018). As a result, this distribution cannot be safely used as a guide to their dispersal and density in antiquity.

Sponges, members of the phylum Porifera (pore bearers), are among the most ancient of animals on earth, being the first to branch off the evolutionary tree (Feuda et al. 2017), and although most species are found in marine environments, there are some that live in freshwater bodies. They are sessile animals when adult (i.e., they remain fixed in place), and they lack true tissues and organs. They feed by filtering water that flows through their pores. Many sponge species have internal skeletons made of calcium carbonate or silicon dioxide, the spicules. Those are durable elements that, being inorganic, survive well over time. Most, however, are built around a softer scaffolding made of spongin, a modified type of collagen protein (Fig. 1; Dailianis 2011).

The association of the various sponge taxa to different depths, and their abundance or scarcity in certain depth zones, appears to be a complex phenomenon that depends on light, nutrient availability, and local adaptations. Their presence and abundance is a dynamic condition that changes over time for various reasons (for a detailed discussion of the available data from the central and eastern Mediterranean, see Voultsiadou, Vafidis, and Antoniadou 2008; Castritsi-Catharios et al. 2011, 12–15). Generally speaking, however, *Spongia officinalis* can grow in depths of as little as 5 m and as deep as 100 m, while *Spongia mollisssima* generally grows in deeper waters, except for the fields off southern Crete where they are found in shallower depths. *Hippospongia communis* are most abundant in depths around 15 m (Castritsi-Catharios et al. 2017, 75–76). All those bath sponge varieties thus could be reached during a simple dive with no breathing gear.

The Archaeological Visibility of Sponges: Direct and Indirect Evidence

Spicules form the most common direct archaeological evidence for ancient sponges, and their presence is often reported along with phytoliths (distinctive silica elements that are found in plants) because of their similar size and the recovery method that is common to both (e.g., Field et al. 2018). But not all sponge species have these hard structures, and in the case of bath sponges of the Aegean, none of them does, having a perishable collagen structure (spongin) instead (Fig. 1). The presence of sponges in an archaeological context therefore cannot be detected in that way. An intact ancient sponge recovered from first century C.E. Pompeii is a very rare occurrence, and it is not discussed here (Maeder and Médard 2018). Indirect evidence for the processing of sponges at a specific site might be the presence of a certain species of marine invertebrates. Sponges provide living space inside their canals for a large number of marine animals, and there is some research that documents the associations of various organisms with different species of sponge hosts (for a review and taxa lists, see Koukouras et al. 1996). In the process of cleaning the sponges, those other animals might end up on land at the location where cleaning took place (see Chalikias, this issue, p. 31, Fig. 5). Some of those taxa, especially mollusks such as the *Alvania* and *Bittium* sp., are common finds in coastal archaeological sites where water flotation is employed for the recovery of small animal remains. So far, there are not any studies that explore the potential of this line of research.

The use of sponges in Bronze Age Crete has been extensively discussed by Arthur Evans who recognized its use as a printing tool in the Middle Minoan II period. Fragments of wall stucco recovered during excavations in the area of the Northwest Portico were decorated with an organic design, in an orange ocher color against a dark ground, which was repeated on the wall surface. Based on some experimental reconstruction (Fig. 2), Evans suggested that the wall was decorated with images of sponges, imprints made by an actual piece of sponge periodically dipped in paint. He recognized the same technique in the decoration of a Middle Minoan II cup found in the so called Royal Pottery Stores. Evans also identified possible renderings of sponges on the rocky background of some marine style compositions, starting from a Middle Minoan example and moving on to a later date (Evans 1930, 361–365).

Ethnographic recordings about the harvesting of sponges, especially before the introduction of modern diving devises (Witzell 1998; Pronzato and Manconi 2008; Olympitou 2014, 97–105) are used as an analogy that could help understand ancient sponge exploitation (Rodríguez-Álvarez 2020; Erdan, Ersan and Güçlü 2021). It could also help us define, or at least hypothesize, the range of tools and skills required for it. Such works, however, are extremely scarce.

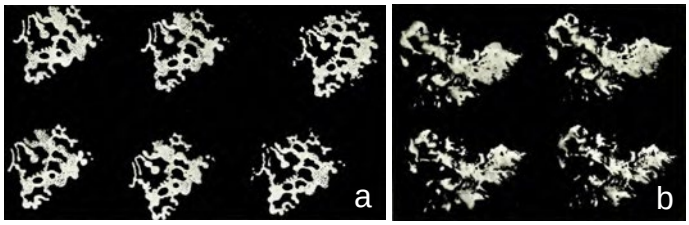

Figure 2. Sponge was used as a printing tool at Middle Minoan II Knossos: (a) reconstruction of the hypothetical arrangement of the sponge pattern recovered on a wall stucco fragment in the Northwest Portico of the palace; (b) experimental recreation of the same effect by Arthur Evans. Reprinted from Evans 1930, 362, 363.

Figure 3. Bath sponge fragments collected dead and clean from the beach near the Bronze Age fishing village at Pharos on the northeastern coast of Chryssi Island, May 2016. Photo by author.

The basic prerequisite for sponge fishing is diving! The fisher has to access the sessile sponges. Even though collecting small and fragmented sponges from the coast is possible (Fig. 3), the acquisition of larger and good quality sponges would probably require diving into the depths of the sea. In recent centuries specialized tools have been developed for the systematic harvesting of sponges without diving (Pronzato and Manconi 2008, 148–149, fig. 1; Olympitou 2014, 106–108), but there is no evidence whatsoever for the existence of such technology in the Bronze Age. Diving, on the other hand, is amply documented in an indirect, yet persistent and clear way. The artistic and quite naturalistic rendering of the rocky seabed and its marine plant and animal life with all its detail on the so-called Marine Style pottery (in the 15th century B.C.E.) suggests a familiarity with the underwater domain that is only possible through direct access to it (Mylona 2020). Additionally, the development of certain marine arts and industries, such as the systematic production of purple dye or the targeted harvesting and modification of certain molluskan species, such as triton shells (*Charonia* sp.), presupposes the

systematic practice of diving (for a full discussion, see Mylona 2020).

Good material evidence for the act of diving (and other sea related occupations) comes in the form of a pathology of the human ear, the external auricular exostosis, a condition also known as "diver's ear." It involves the gradual blockage of the outer ear canal by bone growth as a result of habitual exposure to cold water (e.g., Crowe et al. 2010; Angelarakis et al. 2014). Such a condition has not been identified on Bronze Age skeletons in Greece so far.

The technology required in sponge harvesting is rather basic. A knife is needed to remove the sponge from its substrate, a basket or net bag holds the sponges during the dive, and a stone weight of several kilograms may help the diver reach and stay at the bottom. The knife and the stone weight can be rather generic and not easily linked exclusively to this particular activity. Ancient knives similar in shape to the ones more recently used by sponge divers could also serve other purposes, while some Hellenistic and Roman stone ring objects found along the coast of Antalya, Turkey, have been interpreted as diving weights (Rodríguez-Álvarez 2020, 73–74; Oniz and Denker 2022). It could be suggested that some of the largest Bronze Age weights might have been used in this context, but such a link is very tenuous. The basket or net bag used in sponge harvesting not only probably would have had a generic form, but they would have been made of perishable materials that do not normally survive archaeologically.

Post-harvesting processing of sponges can be equally invisible archaeologically. After surfacing, sponges need to be cleaned: small invertebrates and sand particles or small stones that are trapped inside the sponge must be removed, and their dark external membrane as well as other soft elements need to be detached. This processing is done by repeated rubbing, squeezing, beating, and rinsing on a hard surface, in large shallow baskets (Fig. 4), or even, one might suggest, on specially constructed platforms (see Chalikias, this issue, p. 31, Fig. 5; for details on the traditional method of sponge processing in the regions of eastern Pilion and northern Euboia, see Castritsi-Catharios et al., 2017, 72).

Excavations at Chryssi Island in Buildings A.2 and A.3 have revealed a number of such features: raised platforms with a low raised edging and an arrangement that suggests the flow of small or moderate amounts of some liquid from the upper to the lower one and eventually to a receptacle. The use of those platforms remains, to date, unknown, and a number of tests performed on or near them (e.g., phytolith analysis, soil micromorphology, zooarchaeological and archaeobotanical analyses) did not produce any conclusive results (Brogan et al., forthcoming). Given the abundance of marine resources around Chryssi, which are richly documented archaeologically (Brogan et al. 2019; Mylona 2020), it could be suggested that the platforms served the sponge industry. This assertion, however, must remain a hypothesis until some suitable sponge detection method becomes available.

Figure 4. Processing of sponges, Aegina, ca. 1950–1955. None of the tangible or intangible elements of this picture would be preserved or identified archaeologically. Photo V. Theochari Papaionannou; reprinted by permission of Benaki Museum, Photographic Archive, no. Ph.A_6_B.8456.

It remains a fact, nevertheless, that all or part of the sponges' processing could take place on the rocks of the shore, out in the open, leaving no traces at all. The image drawn by Dioscorides in the first century C.E. (see above) is illuminating.

Conclusions

Sponges, one of the most ancient animals on earth, were used in antiquity for a wide variety of purposes (particularly as bath sponges), but they are especially difficult to detect archaeologically. They were certainly used in Bronze Age Crete, and various collaborating lines of evidence suggest that their harvesting was part of a broad, articulated marine economy of the time. The technology and skills required for their capture were available, but evidence for these, like processing locations and relevant wastes, as well as the remains of the sponges themselves, are elusive and ephemeral in the archaeological record. More focused and detailed research on coastal archaeological sites, however, increases our chances of finding concrete evidence for sponges.

Acknowledgments

I would like to thank Thanos Dailianis, senior researcher at the Hellenic Center of Marine Research, for discussing biological aspects of sponges with me and for generously offering Figure 1 to be reproduced here.

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Old Questions in a New Light: Change and Continuity in Peak Sanctuary Figurine Use between the Protopalatial and Neopalatial Periods

Céline Murphy

As the Protopalatial period of Minoan Crete came to an end and the Neopalatial period bloomed, activity in the island's mountainous regions underwent a number of significant changes. Among the most academically discussed is the transformation in the material character of the ritual practices held at highland sites of congregation more commonly known as peak sanctuaries. Consensus presently lies with the idea that the sites went from locally managed shrines serving small communities to institutionalized sanctuaries serving the elites. Prevalent in these discussions is the notable change in the appearance of the hundreds of deposited ceramic anthropomorphic and zoomorphic figurines: a phenomenon broadly regarded as indicative of a change in the artifacts' use and ultimately of a change in the rituals' scope. In what other capacities—in addition to their appearance and style—did Neopalatial peak sanctuary figurines differ from their Protopalatial predecessors? Are alterations observable in their numbers, gender ratios, species ratios, construction, moveability, fragmentation, or spatial distribution, and do these alterations factually indicate a shift in their function? Is observing changes between the figurines from both periods ultimately more significant than observing the similarities that the artifacts bore over time? A first attempt at tackling these wide-ranging questions is made through a comprehensive study of the figurine assemblages from the neighboring Protopalatial and Neopalatial peak sanctuaries of Pantotinou Koriphi and Stavromenos Anatoli, situated southwest of and above the plain of Ierapetra. Outlined below are a brief academic contextualization of the questions addressed above, a summarized articulation of the study's scope, and the presentation of some preliminary observations.

Existing Perspectives and New Questions

Figurines from Minoan peak sanctuaries were first introduced to academic audiences 120 years ago by John Myres in his publication of the east Cretan mountain site of Petsophas (Myres 1902–1903). He argued that these small ceramic artifacts—which he dated to the Protopalatial period—consisted of votive offerings representing the women and men who deposited them alongside images of their flocks or other animals that played an important role in their daily lives. He suggested that they were dedicated to a deity in plea or gratitude for protection and health, and thus they characterized the realities of rural cult practices in the Middle Bronze Age (Myres 1902–1903, 380–382). The long near-absence of published comparative assemblages led Myres' interpretation to become firmly embedded in general scholarship on Minoan Crete over the following nine decades and to

Céline Murphy was supported by the Harriet Boyd Hawes Fellowship. The first step of the research was undertaken at INSTAP SCEC in the fall of 2022 and spring of 2023.

subsequently be applied almost by default to the figurines from other Protopalatial peak sanctuaries (e.g., Platon 1951; Karetsou 1981; Peatfield 1990). The rise in academic interest in Neopalatial peak sanctuaries at the end of the 20th century, however, generated new debates on the chronological span of these mountain sites, on who visited and controlled them, and ultimately on the function of the artifacts deposited there. On account of the impressive anatomical accuracy and visual delicacy of many Neopalatial ceramic figurines—allowing for the immediate recognition of the animal species and the human female or male gender, age, posture, gesture, and costume, and ultimately of the representation of "characters" also apparent in other iconographic media—it was suggested that the figurines served less as directly personal items imbued with discrete meanings and more as social markers for the individuals who deposited them. Their interpretations as cult statues, as props for use in ceremonies sealing social integration and recognition, and as tools for social competition (Rethemiotakis 2001; Platon 2014; Haysom 2018; Sphakianakis 2023), moreover, collectively suggest that the cult activities held at peak sanctuaries in the Neopalatial period were more concerned with overtly negotiating wide-ranging sociopolitical matters than those held during the Protopalatial period.

Despite this scenario's generally convincing nature and its overall compatibility with traditional scholarly narratives on changes in the organization of Middle and Late Bronze Age Cretan society, freshly available archaeological evidence and recent theoretical developments presently invite the further articulation of some of its aspects. It is indeed time to reflect on existing conceptualizations of ritual continuation or discontinuation at peak sanctuaries and to consider not only the survival of certain features of Protopalatial ritual in the Neopalatial period, but also their potential active preservation and celebration despite a slightly different form of expression. Subsequently, the evolutionary and progressionist paradigm that tacitly underlies existing conceptualizations of Neopalatial peak sanctuary ritual as a refined and complexified version of simplistic Protopalatial rural folk religion warrants reevaluation. What is more deserving of further thought is the intricate link between the personal and communal dimensions of cult and the subtle means through which this connection is materialized at both Protopalatial and Neopalatial peak sanctuaries. Finally, a careful assessment of the present relevance of Myres's theory, of its Orthodox Christian roots, and of the implications that its wide application holds for current academic research is necessary.

Engagement with the matters outlined above is most effective when integrated with some recent methodological developments in the treatment of peak sanctuary figurines. Including analyses of elements other than the figurines' appearance—such as their modeling (Spiliotopoulou 2019; Morris, O'Neill, and Peatfield 2019), moveability (Sphakianakis 2016), and fragmentation (Murphy 2018)—alongside their spatial distribution, permits a systematic definition of each assemblage's material and functional profiles, which, in turn, allows for evidence-based observations of chronological changes or continuations in the artifacts' function and use. Moreover, sustained attention to the rendering of the studied items' sexual attributes, species indicators, and potential parallels with depictions of gendered, aged, clothed, and performing figures in other Minoan iconographic media (Tzachili 2011; Rethemiotakis 2014; Sphakianakis 2016) facilitates discussions on whom or what these small clay bodies represented that go beyond reading them as unmediated representations of past realities.

Figure 1. Figurine head from the Protopalatial peak sanctuary of Pantotinou Koriphi. Photo C. Murphy; courtesy Y. Papadatos and C. Sofianou.

Figure 2. Figurine head from the Neopalatial peak sanctuary of Stavromenos Anatoli. Photo C. Murphy; courtesy Y. Papadatos and C. Sofianou.

Figurines from Pantotinou Koriphi and Stavromenos Anatoli

The availability of two assemblages for study from the neighboring peak sanctuaries of Pantotinou Koriphi (Protopalatial; Fig. 1) and Stavromenos Anatoli (Neopalatial; Fig. 2), situated southwest of and above the plain of Ierapetra, presented the ideal opportunity to undertake a rigorous investigation on the aforementioned matters. The sites were excavated between 2014 and 2017 under the direction of Yiannis Papadatos (National and Kapodistrian University of Athens) and Chrysa Sofianou (Ephorate of Antiquities of Lasithi). The dating of both sites, established by the careful analysis of the pottery, was undertaken by Antigoni Kalara (National and Kapodistrian University of Athens) as part of her doctoral thesis (Kalara 2023), and it indicates a local continuation in ritual activity despite the island-wide upheavals provoked by the shifts in palatial organization at the end of the Middle Minoan period.

The presence at Stavromenos Anatoli of a selection of figurines that are highly characteristic of the Pantotinou Koriphi assemblage, moreover, suggests that a sudden relocation of the cult from one peak to the other occured prior to the full establishment of the Stavromenos Anatoli assemblage. The figurines from Pantotinou Koriphi are small, highly fragmentary, composed of similar fabrics, and, most noticeably, present heavily stylized faces. The figurines from Stavromenos Anatoli are on average larger in size and demonstrate higher material variations, and joins among fragments from this assemblage can be more easily recognized, thus allowing for the reconstruction of important portions of human and animal bodies. In addition, the Stavromenos Anatoli figurines are, for the most part, anatomically proportionate, and their facial features are naturalistic. A number of pieces in fact present direct parallels with figures depicted in Neopalatial wall paintings. Owing to these elements—which permit the clear recognition of gender, species, clothing, age, gesture, and posture—this assemblage is the first of the two to be examined. As well as keeping evolutionary biases in check, this chronologically reverted approach allows for the creation of a list of elements to look for in the slightly more opaque Pantotinou Koriphi material while nonetheless allowing the latter's idiosyncrasies to be carefully examined.

Preliminary Observations

Initiated in 2022, the study is still ongoing, but a few observations can presently be advanced. First, it is clear that despite their variations in visual appearance and size, several similarities—which may be considered as continuations—in construction and iconographic features exist between the figurines from Pantotinou Koriphi and Stavromenos Anatoli. It is also conspicuous that the appearances and construction methods in the Pantotinou Koriphi assemblage do not presently appear to be less conventionalized than those noted at Stavromenos Anatoli. Indeed, although the figurines from both peak sanctuaries differ in style, those deposited at the Protopalatial peak sanctuary present comparable uniformity and variation in gesture, clothing, and hairstyle to those deposited at the Neopalatial site. Second, it is possible to identify certain production hands among the assemblages from each site. While it appears that higher proportions of figurines were produced by the same person at Stavromenos Anatoli, the figurines from Pantotinou Koriphi were not all made by different individuals. Although modeling by the same hand certainly does not preclude the application of personal meaning to the figurines or their individual deposition when brought into the ritual context, the existence of production groups does nevertheless raise the possibility that these items, which were made in batches, were also designed to be used as sets, as was similarly proposed for Kophinas (Rethemiotakis 2014) and Vrysinas (Sphakianakis 2016). The presence at Pantotinou Koriphi of multiple small models containing figurines in architectural settings indeed further supports this possibility. Finally, although it presently remains unclear whether the figurines under study represent the possessions of individuals, families, or communities, and to what degree they were used personally or communally, no direct evidence for the representation of individual worshippers has yet been noted. Without negating the fact that a shift in ritual character certainly occurred between both palatial periods, thus marking the abandonment of Pantotinou Koriphi in favor of Stavromenos Anatoli, the study's preliminary results consequently suggest that unpacking and articulating its nature and material impact is a complex endeavour, which bears multiple methodological and theoretical implications, and which requires the devotion of equal amounts of attention to both the most visually appealing artifacts and to those that are less so.

These complex matters, which relate to the expression of identity, ritual practice, social organization, and the circulation of iconographic motifs, remain under continuing investigation. The next phase of this study will investigate the questions of whether the Pantotinou Koriphi figurines also represent specific figures in the same way as those from Stavromenos Anatoli (as is evidenced by their recurrence in other iconographic media), and whether the ritual practices at the Protopalatial peak sanctuary were indeed more personalized or locally focused than the overtly institutionalized ones at the neighboring Neopalatial site. Equally under scrutiny is the existence (or lack) of noticeably personal expression in the use of figurines at Stavromenos Anatoli. Ultimately, the systematic study of both datasets will permit the articulation of old questions in a new light: it will enable the formulation of up-to-date and evidence-based interpretations on the function of peak sanctuary figurines, while contributing to a collective effort to transcend the often reductive and essentialist perspectives that long underlay studies of Aegean Bronze Age representations of the human and animal bodies.

Acknowledgments

I wish to express my gratitude to Yiannis Papadatos and Chrysa Sofianou for entrusting me with the study of the figurines from both sites and for the inspiring discussions that have arisen from this collaboration. I also wish to thank all the staff at INSTAP and INSTAP SCEC for their warm welcome, support, and interest in the project. Eleni Nodarou and Matina Tzari deserve a special mention for their practical advice and help. I am also grateful to Alexia Spiliotopoulou, Danae Kontopodi, and Gabriella Lazoura for the fruitful exchanges that our common interest in peak sanctuary figurines has generated over the last years.

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Bestiario: A Theater/Archaeology Performance at the Prehistoric Settlement of Gournia, Crete

Efthimis Theou, Theano Metaxa, Thanasis Deligiannis, and Dimitra Mylona

Theater and archaeology, both significant agents in contemporary cultural production, would seem to be two distant fields. But they converge in a number of themes and ways that have influenced both theory and practice in recent decades. The importance of space and landscape, the body and senses as a fundamental means of conceiving the world, the function of memory, and the modes and politics of narration are but some.

At the beginning of our present millennium, the archaeologist Michael Shanks (Stanford University) and the performance artist (and archaeology graduate) Mike Pearson (Aberystwyth University) experimented with and proposed a new hybrid artistic and scientific genre. Archaeology and theater could have no distinct boundaries, they suggested, but rather shape "a mixture of narration and scientific practices, an integrated approach to

Figure 1. The audience watching the first performance in the central courtyard of Gournia. Photo V. Isaeva.

Figure 2. Theano Metaxa performing Bestiario at Gournia. Photo V. Isaeva.

Figure 3. Efthimis Theou performing Bestiario at Gournia. Photo V. Isaeva.

recording, writing and illustrating the material past" (Pearson and Shanks 2001, 131).

In this framework, in 2009 we began a series of theatrical/archaeological performances in Greece in the context of four excavation projects: the Sanctuary of Poseidon at Kalaureia, the Neolithic settlement at Koutroulou Magoula in Thessaly (Hamilakis and Theou 2013), the Bronze Age building complex at Katalymata on the island of Gavdos (Theou and Kopaka 2019), and the settlement of the same period at Koimisis on the island of Therasia (see also www.performance-archaeology.com).

The main questions we faced while planning and implementing these pieces have involved possible ways of using archaeological methodological tools (i.e., fieldwork and the study of the finds and related anthropological, literary, and other data) in the creation of a theatrical performance. We also examined ways of involving theater in order to aid in comprehending the material past and communicating archaeological results in new ways while engaging local communities as much as possible in the respective processes.

We worked on the theater/archaeology performance *Bestiario* with these issues in mind. We then presented the piece in August 2023 at the Bronze Age settlement of Gournia in East Crete, on the northern coast of the Isthmus of Ierapetra (Fig. 1–3) as part of the program "All of Greece One Culture" implemented by the Greek Ministry of Culture and Sports. The program has been in existence since 2020, and it aims to diffuse contemporary culture through the vast network of archaeological sites in Greece. This year it focused on climate change and its impact, among others, on biodiversity and animal lives (Digitalculture 2023; see also below, Credits).

Bestiario

The emblematic settlement of Gournia was first excavated at the very beginning of the 20th century by the pioneer American archaeologist Harriet Boyd Hawes—when the then male-dominated field of Minoan studies was taking its first steps (see note in Hawes et al. 1908). New investigations have been carried out in the last couple of decades, adding to the richness of the finds and our understanding of the significance of Gournia (see, e.g., Watrous et al. 2015).

The site lies in the vicinity of Pacheia Ammos, a village with about 500 inhabitants who come into contact with hundreds of summer visitors to the Gulf of Mirabello, mainly on their way to the far eastern part of Crete. Large numbers of visiting archaeologists and students who work at INSTAP SCEC are also present in the area during the summer months. Our performance sought to reintroduce Gournia to the locals and seasonal visitors: not through the previous human presence and actions, as is usually the case, but as the realm of other living beings too—in particular animals that dwelled there in the "longue durée" and/or that are inhabiting its domain today.

In the months of preparation for the play, our team of archaeologists and artists (Fig. 4) first studied the archaeology of Gournia and its broader region and also the zooarchaeology of

Figure 4. The creative team of the performance, from left to right: Theano Metaxa, Dimitra Mylona, and Efthimis Theou. Photo P. Stogiannos.

Minoan sites in East Crete together with the island's recent biodiversity. Additionally, we looked into the behavioral features of certain animals. A script resulted, in active collaboration with zooarchaeologist Dimitra Mylona.

Our first rehearsals were generously hosted by the Cultural Center Vitsentzos Kornaros in Siteia in a mutual effort to mobilize and involve wider regional agencies. We then moved to Pacheia Ammos for the last leg of preparations, which coincided with an extreme heat wave, but fortunately we were well sheltered in the INSTAP SCEC.

Bestiario was performed in the courtyard of the central building on top of the Gournia hill on the evenings of August 1st and 2nd. An audience of some 150 people—including inhabitants from the region, archaeologists, and visitors—watched the hour-long play surrounded by the architectural remains (Fig. 1). We used no artificial lighting, only the sun as it slowly set behind the Dicte Mountains.

During the course of the performance, Theano Metaxa and Efthimis Theou (Figs. 2–3) attempted a stream-of-consciousness, non-linear and, sometimes, dreamlike "journey" through different temporalities, following the trails of local animals—their species, attitudes, and lives. Starting with the deep past and pre-Holocene fossils of dwarf elephants and hippopotamuses, like those long known at the Katharo mountain plain in the (not so distant) domain of Lasithi (see also the recent—at the time of our rehearsals!—finds, e.g., *Χανιώτικα Νέα* 2023).

We continued with the abundant terrestrial and marine fauna of the Bronze Age preserved in excavation stratigraphies and represented in the art: from dogs and deer to octopuses and sea urchins; present-day species that roam freely when summer visitors are gone, like various insects, rodents, and reptiles; and even those that will "settle" in the place in the future—as conceived in a dystopian "reverie" of a (very possibly inundated) Mirabello region to come.

Speech and action and the whole dramaturgy were organized in collaboration with the composer Thanasis Deligiannis, whose musical material mainly drew from his earlier work *Yriaeas* (Deligiannis 2010) and functioned as an "environment" that could host the performative action on location and as a "sonic gate" between human perception and that of other beings. Through small "on-stage" experiments during the play, we tried to explore how this very music would have been heard by different animals, such as an eagle, a dog, or a mouse. We ponder thus, along with the audience, the countless ways in which our world is experienced by its various living creatures.

These viewpoints are in line with current theoretical (zoo-)archaeological discourse and the so-called multi-species archaeology (see, e.g., Pilaar Birch, ed., 2018). This contemporary approach goes beyond the anthropocentric lenses through which material past is constantly viewed, in scientific and artistic narratives and in public perception, and instead reflects on all life forms and their ways of coexisting.

After the performance, the audience remained at the powerful Minoan site of Gournia, discussing their experience and interacting with each other. This gathering confirmed in some way the site's efficiency in hosting a group in lively exchange, and in so doing, also the importance of the settlement's central court—the πλατεία (*plateia*, communal gathering place)—as a place where the group's members would gather and reinforce their community ties (see, e.g., Buell and McEnroe 2017).

Credits

Direction, dramaturgy: Efthimis Theou. Performance: Theano Metaxa, Efthimis Theou. Music: Thanasis Deligiannis. Costumes: Pavlos Thanopoulos. Movement: Nikoleta Xenariou. Special constructions: Alexandros Loggos. Scientific advisor: Dimitra Mylona. Communication: Marianna Papaki, Nondas Douzinas (Cont-Act). Production: VASISTAS/Maria Dourou.

Aknowledgements

The production was part of the program "All of Greece One Culture" 2023 of the Greek Ministry of Culture and Sports. With the support of the Ephorate of Antiquities of Lasithi, INSTAP Study Center for East Crete, and Stegi Vitsentzos Kornaros.

We thank Katerina Kopaka, Don Evely, and Susan Ferrence for their suggestions on our English text.

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January Meeting of the Friends of the INSTAP Study Center

The Friends of the INSTAP Study Center will host the second annual Malcolm H. Wiener Symposium at the annual meeting of the Archaeological Institute of America in Chicago at 5:00–6:30 pm local time on Saturday, January 6, 2024. This hybrid event honors the founder of the Institute for Aegean Prehistory and celebrates his legacy.

Tom Brogan will start the evening with a presentation of the work at the Study Center in 2023. In the second lecture, Leslie Day and Maria Liston will present their work on the two cemeteries at the site of Vronda, Kavousi. Their volume on the topic, *Kavousi* IV: *The Early Iron Age Cemeteries at Vronda*, was recently published by INSTAP Academic Press.

Look for more details about the symposium in the Friends' Facebook group (also use this QR code) as the date draws near. The event will be listed in the program of the annual meeting, and it is open to everyone.

Excavation of one of the Vronda enclosure graves. Photo courtesy Kavousi Archaeological Project.

"Fabulous Fragments: Excavations of the Early Iron Age Cemeteries at Kavousi, Crete"

Leslie P. Day and Maria A. Liston

The American excavations at the site of Vronda near Kavousi in East Crete revealed cemeteries of the Early Iron Age, including built tholos tombs of the 10th to 9th centuries B.C.E. and cremation enclosures of the 8th to 7th centuries B.C.E. Excavation of the cremation burials was challenging, and they were carefully uncovered by a joint team that included both archaeologists and physical anthropologists. Although fragmentary and often burned, the bones and objects recovered could be pieced together to tell us about the people, their burial customs, and their society in this important transitional period just before the rise of the Greek city-state.

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As a semi-retired archaeologist who has been a member of the Society of Wine Educators for over twenty years, I am eager to share my knowledge and passion with you along with my colleagues, archaeologists Tom Brogan and Kostas Chalikias, next spring.

- Enjoy structured tastings of legacy wines crafted where Minoan viticulture was born over 5,000 years ago.
- Savor excellent meals and wines at restaurants serving only the freshest, healthiest ingredients.
- Visit two of the most impressive Minoan sites, Phaistos and Knossos, the latter with the site's curator, and explore several less-visited archaeological sites with the very people who excavated them.
- Stay at two luxurious 5-star hotels. Travel with archaeologists and an expert tour manager/local guide who will accompany the group and handle all the logistics.
- All of this supports the archaeological and historical research of the Institute for Aegean Prehistory Study Center for East Crete.

- *Al Leonard*

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Matina Papadaki sorting residue from the excavation of the Petras cemetery, October 5, 2022, INSTAP SCEC. She has been an integral team member helping to revolutionize our understanding of Pre- and Protopalatial burial customs in Minoan Crete. Photo S. Ferrence.

Many blessings to Eleftheria Almasidou and Nikos Mavridis on the birth of their first child on July 8, 2023, in the hospital of Hagios Nikolaos, Crete. Their son will be named Kleon Mavridis after his grandfather. In ancient Greece Kleon was an Athenian general during the Peloponnesian War. Eleftheria is currently the SCEC librarian. The happy event coincided with the summer heat wave in Greece that meteorologists also named Kleon! Naturally, the baby's name in honor of his grandfather had already been decided before the birth and the heat wave. Photo E. Almasidou.

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