Kea Update

Research and publication of the University of Cincinnati excavations at Ayia Irini and Kephala, Kea, Greece

A Biennial Newsletter 2012

Up Next:

Keos XI

Keos XI: The Wall Paintings from the Northeast Bastion by Lyvia Morgan will form a significant addition to the corpus of Aegean painting. Fallen from their walls around three and a half thousand years ago, the wall paintings from Kea were found shattered, with many pieces missing. It is the aim of this book to present the extraordinary material from the Northeast Bastion at Ayia Irini, Kea as comprehensively as possible, both in terms of the details of the individual fragments and in visualizations of how the paintings may originally have looked.

Keos XI is arranged in four parts. Part I, ‘Place and Process: A Contextual Approach,’ introduces archaeological context and architectural space, and explains the process of reconstruction. Part II, ‘The Miniature Frieze and Plant Panels,’ is the core of the book, with analysis of the details of the Miniature Frieze (human figures, vehicles, buildings, animals, landscape and seascape) and Plant Panels, presentation of the reconstructions, and a proposal of an iconographic program for the two decorated rooms. Part III, ‘Technique and Color,’ presents the materials of the plaster and pigments and examines the process of painting. Part IV, ‘Paintings as Cultural Signifiers,’ discusses intercultural connections and the iconography and significance of the depiction of the preparations for the feast. The book therefore progresses from context, through presentation of the material, to analysis of its production, and culminates in broader cultural meanings of the paintings and their iconography.

The Cauldrons and Ships Scene

Lyvia Morgan’s new reconstruction of the Cauldrons and Ships Scene interprets the surviving fragments with intense observation, deep knowledge of the comparanda, and lucid visualization. This reconstruction centers on a large fragment with a unique scene of men bending over cauldrons, close to the shore of the sea; the legs of other men striding along the shore are preserved separately. In the background are fragments from buildings, while the blue sea is in the foreground; the sea is spotted with white spume, a detail not paralleled in other Aegean seascapes. Parts of at least two ships are preserved, including the top of a wooden post and awning or rolled sail, a similar awning with a patterned emblem and traces of seated passengers, part of a hide-covered stern cabin, and two hulls: one decorated with festoons and dolphins against the other. Lyvia has combined these small fragments into a vivid reconstruction of this section of the Miniature Frieze, which she argues was painted on the eastern part of the southern wall of room N.20 (see page 3).

The paintings originally adorned the walls of two upper-story rooms of the Northeast Bastion, located above N.18 and N.20 (see page 3). The walls of the narrower room, N.18, were decorated with life-size compositions of twining plants, the Bramble and Myrtle panels, and another painting of blue and yellow overlapping grasses. The Miniature Frieze encircled the broader room, N.20, above its doorways and (probable) windows. Keos XI publishes more than 1600 fragments from these wall paintings, illustrating about half with color photographs and drawings, and assembles approximately three quarters of those into 28 reconstructions, including the Cauldrons and Ships Scene above. Four additional drawings of the reconstructed rooms will allow the reader to visualize these fragmentary paintings in their original context. This volume will set a new standard in the publication of such fragmentary Aegean wall paintings, ensuring that they are accessible to present and future generations.
The Miniature Frieze once ran as a succession of scenes around the upper walls of the room above N.20 in the Northeast Bastion at Ayia Irini, Kea, which has been interpreted as part of a banquet complex (see page 3). Men (some shown in Kea Update 2010) gather in preparations for a feast associated with a festival; it is characteristic of Minoan/Cycladic art that the event is evoked through its preparations, rather than its culmination (eating and drinking). The men bring produce in containers, hunt, and cook outdoors in massive cauldrons. Ships emphasize affiliations overseas and highlight Kea’s strategic position as the northernmost of a network of islands between Crete and the Greek Mainland. Hunting dogs, horses, and a chariot (each the earliest known in Aegean painting) denote elite pursuits on land. While architectural façades in two scales provide the backdrop for some of these scenes (and for the far less numerous women in the Kea Miniature Frieze), the rest of this bustling activity takes place in a variety of land- and seascapes.

In contrast to those serving as stage sets for the actions of men, however, some of the landscapes in the Miniature Frieze are devoid of human actors. Indeed, the two shorter walls of N.20 (east and west) may have focused on the natural world, while human activity was concentrated on the two longer walls. The landscapes of the Miniature Frieze, populated or uninhabited, are all coastal; the surviving fragments from its bottom and top, identified by a flattened edge from a framing beam, are blue, depicting the sky above and the sea at the bottom of every scene.

Lyvia Morgan has reconstructed an extended landscape scene with a marsh (above), which she believes stood on the eastern wall of N.20. In the foreground, as along the entire Miniature Frieze, is the sea, here flecked with white and spraying up into the air as it laps over the land along a curving shoreline; in the northernmost part is an inlet. Inland lies a marsh, penetrated by thinner and wider red lines of streams that separate and come together, interspersed and surrounded by ochre vegetation and blue-black grasses. Still further inland meanders a blue river, wider than any of the slow muddy marsh streams. On the far side of the river, multi-colored rocks descend from above, in characteristic Aegean idiom.

Lyvia’s reconstruction of Deer and Dogs in a Coastal Landscape (below) is from fragments fallen from the western wall of N.20. Three deer and two dogs have been assembled from the surviving fragments and a fourth deer added, providing prey for the white dog above the central deer. One deer, whose legs indicate he was standing alertly, is reconstructed across the river from the pursuit. This scene is framed at the top by sky transitioning from blue to subtle pink and at the bottom by a coastline with inlets.

These landscape paintings encapsulate the similarities and differences of the Miniature Frieze from Kea with other Aegean wall paintings. Rocky landscapes, seascapes, rivers, and animal hunts are paralleled especially in the famous miniature frieze from the West House at Akrotiri, Thera, whose plan mirrors that of the Northeast Bastion. Nevertheless, these elements in the Kea Miniature Frieze have a painterly quality not shared by their parallels elsewhere, and the depiction of the marshy landscape, not unlike the marshes at the eastern end of the Bay of Nikolaos adjacent to Ayia Irini, is at present unique in Aegean painting.
Evi and Rod have conducted a detailed analysis of the architecture and pottery of the Northeast Bastion. Lyvia Morgan had concluded that this was a dining complex based on the layout and on the iconographic program of the wall paintings from the rooms above N.18 and N.20, a finding confirmed by its pottery. The architecture, moreover, was designed to imitate Minoan buildings that housed dining.

The Northeast Bastion, added in Period VI (early Late Bronze Age) to the Period V (late Middle Bronze Age) fortification walls, was a two story building entered through Corridor N.16, which also led to Tower NE. Large storage jars occupied the ground story of the first room (N.18), indicating its use as a storeroom, while the larger inner room (N.20) may have been a kitchen. A stairway in the narrow corridors N.17 and N.19 provided convenient access to the upper story, so that the foodstuffs stored in the cellar and prepared in the kitchen could easily be carried to the elegant dining rooms above them.

The richly decorated rooms above these ground story service spaces may have repeated their plan - two communicating rooms of unequal size. In addition to the Bramble and Myrtle Panels on its walls, the room over N.18 had a plaster floor painted red; the floor of the upper story room above N.20, with the Miniature frieze on its walls, had a flagstone pavement with red plaster in the interstices.

The assemblage excavated in rooms N.18 and N.20 would have furnished the entire process of preparing, serving, and participating in a feast. The vases from these rooms included pithoi for bulk storage; cooking pots and more numerous baking trays to prepare food; various bowls to serve it; kraters, jugs, and spouted jars to mix and pour drinks; and a variety of cup shapes for drinking. The pouring and drinking vessels, which would have been seen most closely or handled by the participants in the feast, display the widest variety of wares and places of origin. Lamps and fireboxes provided lighting and aromatics, and rhyta or flowerpots completed the feasting assemblage.

The Northeast Bastion resembles the suites of rooms sometimes labeled “Banquet Halls” in the Neopalatial palaces on Crete, but does not mimic them slavishly; rather the Kean builders adopted, adapted, and integrated specific Minoan design features that suited their purposes. The analysis of the Northeast Bastion by AINSAP thus suggests heterarchical access to Minoan styles among the inhabitants at Ayia Irini, which had previously appeared concentrated in House A and to a lesser degree in Houses C and J, and strengthens the position of Ayia Irini as one of the primary conduits for the reception and transmission of Minoan and Minoanizing cultural traits throughout the region.
Dem Bones

What can different analytical methods reveal from the human skeletal material excavated by the University of Cincinnati at Kephala and Ayia Irini?

The human skeletal collections from the University of Cincinnati excavations on Kea include individuals from cemeteries at Ayia Irini and Kephala. The Kephala burials, first published by J. Lawrence Angel in 1960 and since used as part of larger comparative studies, are Neolithic and represent the first known inhabitants of the island. Many of the crania are in good condition, and they provide important comparative materials for studies of Greek Neolithic populations. The Ayia Irini cemetery, which has not been comprehensively studied or published, is more complex, and includes burials from the Bronze Age, Late Roman, Byzantine, and even Modern periods.

An ancient headache: injury and healing

Lynne A. Schepartz (University of the Witwatersrand Medical School) and Anastasia Papathanasiou (Ephorate of Paleoenthropology and Speleology of Southern Greece) have completed their systematic study of the human burials from Ayia Irini and Kephala, begun in 2009. They focused on the age and sex distribution; the patterns of trauma, pathology, and general health indicators; and stable isotope indicators of dietary variation. Among their discoveries were three cases of cranial injury: two from the Kephala Neolithic burials, including the one depicted above, and the other from Late Roman Ayia Irini; all were injured in their mid-twenties. Such traumas are not unknown in the Neolithic and Bronze Age populations of Greece, and many individuals, such as this man, survived their injuries, since healing is evident. These injuries might result from interpersonal violence or warfare, although natural falls can also produce similar damage. In their paper, the authors present evidence for such injuries, as well as for healing, which might indicate that these individuals had some form of social support system in place. Finally, the authors note that these injuries are consistent with dietary strontium signatures of mainly marine origin, probably even with seafood consumption.

Paleoparasitology on Kea

Evilena Anastasiou (University of Cambridge) and Piers D. Mitchell (University of Cambridge) have conducted a paleoparasitological analysis on soil samples collected from the pelvic bones and the sacrum of nine burials from the Neolithic cemetery of Kephala and sixteen burials from the Bronze Age cemetery and the Roman occupation strata of Ayia Irini. These excavations include a Neolithic burial from Kephala, one Bronze Age burial from Ayia Irini, and two Roman burials from Ayia Irini were positive for parasite remains. Consisting of the eggs of two parasitic intestinal worms: roundworm (Ascaris lumbricoides - above) and whipworm (Trichuris trichiura - page 8). This is the first study to identify parasitic worms from ancient Greece, and it has thus enabled the identification at the species level of intestinal worms described in Hippocratic texts. Furthermore, the dates of the burials - from the Neolithic to the Roman period - provide a first indication of the wide temporal distribution of these species in the Cyclades. Finally, since both roundworms and whipworms are associated with poor hygiene, their presence on Kea indicates the sanitation levels that prevailed in the island during antiquity.

Kephala: strontium isotope analysis

Argyro Nafplioti (funded by the J.L. Angel Fellowship in Human Skeletal Studies at the American School, 2007-2008) has studied the Neolithic Kephala human skeletal collection using for the first time integrated biodistance and strontium isotope ratio ($^{87}$Sr/$^{86}$Sr) analyses as part of a broader project, focused on Manika, Evborea, that explored biological and cultural interactions and residential mobility in the Central Aegean during the Early Bronze Age. Certain aspects of this work, including $^{87}$Sr/$^{86}$Sr data from the Kephala animal collection, have already been published (Nafplioti 2011, with earlier references - see page 6), and one more article is currently in the final stages of preparation. In this article Argyro (shown above in the ultra-clean Isotope Geochemistry Lab, NOCS) discusses the first yet known $^{87}$Sr/$^{86}$Sr results from the Kephala human collection in relation to issues of past population residential mobility and diet. Perhaps unsurprisingly, these data are compatible with local bioavailable $^{87}$Sr/$^{86}$Sr signatures at Kephala and with an origin from a coastal site; they are consistent with dietary strontium of mainly marine origin, probably even with seafood consumption.

Kephala DNA: Neolithisation of Greece

Christina Papageorgopoulou (Demokritos University of Thrace) is attempting to retrieve DNA from four skeletons from Kephala, of which two have been analyzed to date, as part of a wider genetic study of the Neolithisation of Greece. This study, involving 95 Mesolithic and Neolithic samples from sites in northern and southern Greece with comparison from Turkey, the Balkans, and Central Europe, will contribute to the nuanced understanding of Neolithisation by reconstructing the genetic input of the local Mesolithic hunter-gatherer populations to the first farming societies, the possible influence of populations from Anatolia, and the population subdivision and population structure during the Neolithic period in Greece. Christina (working above in the laboratory of AG Palaeogenetik, Institut für Anthropologie, Johannes Gutenberg-Universität Mainz) has applied state-of-the-art classic PCR methodology and also next-generation sequencing methods, which permit parallel analysis of many markers with a small quantity of DNA; the first analysis retrieved whole mtDNA genomes, and current work attempts to acquire autosomal genomic DNA.
Research 2011-2012:

Brief notes on some of the studies of material from the University of Cincinnati excavations at Ayia Irini and Kephala on Kea.

Back to the EBA

Lithics: Final Neolithic and Early Bronze Age

Zarko Tankosic (Indiana University) studied the lithic material associated with the Early Bronze Age layers at Ayia Irini (Periods II and III) for his doctoral dissertation "Southern Euboea-northern Cyclades: An integrated analysis of Final Neolithic and Early Bronze Age interactions" (IU 2011), which examined the Final Neolithic and Early Bronze Age maritime connections between southern Euboea (the Karystia) and the rest of the Aegean. He compared the Ayia Irini lithics with similar material excavated or collected from the surface in southern Euboea. Obsidian was overwhelmingly the material of choice on Kea as well as in the rest of the southern Aegean during the Neolithic and the Bronze Age. The lithic assemblage from Ayia Irini was characterized by a large number of well preserved obsidian blades (such as those above) that showed no macroscopically visible signs of use, in comparison to the similar material from southern Euboea, where this assemblage composition is unknown. This indicates that lithics may have been obtained, knapped, used, and/or discarded in different ways at these two locations, and has possible implications for understanding the frequency of travel to Melos to obtain the raw material, the existence of specialized vs. non-specialized lithics production, and the role of both areas in the prehistoric Aegean obsidian trade/exchange.

Imported Pots

“Mainland Polychrome” pottery

Iro Mathioudaki (Greek Ministry of Culture) is studying the “Mainland Polychrome” pottery from Ayia Irini, the only Cycladic site with a significant quantity of this ware because of its proximity to Mainland Greece; almost all sectors of the excavation, including Houses A and F, Tower e and the North-eastern Tower, and Areas L, J, M, and N, produced examples of this ware. A full repertoire of wares of Helladic origin were found with “Mainland Polychrome” pots: Grey and Yellow Minyan, “Argive Light”, Aiginetan Late Matt-painted, Bichrome, and Solidly Painted wares. “Mainland Polychrome” pots are dated at A. Irini to local periods VI (Late Cycladic I) and VII (Late Cycladic II); a cup in the Alternating style, typical of the end of the LM IB period speaks for a date later than the phase VIIa at Ayia Irini for the accompanying “Mainland Polychrome” vase. These dates for “Mainland Polychrome” pottery on Kea are consistent with those in the Argolid and Boeotia, in advanced phases of the early Late Bronze Age period.

Cretan Connections

Natalie Abell (ABD, University of Cincinnati) has investigated the fabrics and shapes of Cretan vases found in House B at Ayia Irini, with comparanda from the rest of the site. During Period IV (earlier Middle Bronze Age) moderately coarse medium-sized jars and jugs predominated, in five macroscopically distinct fabric groups, indicating that the Keian-Cretan trade was then centered on the exchange of bulk products and that as many as five areas of Crete participated in this trade. Beginning in Period V (later Middle Bronze Age) and peaking in Periods VI and VII (Late Cycladic I and II), Natalie’s Group 5 fabrics (above), which were probably from Knossos and which had been relatively uncommon during Period IV, dominated Cretan coarse ware imports to Kea; at the same time, the percentage of coarse ware containers also decreased while fine ware decorated open shapes increased, presumably imported as valued objects rather than as containers for bulk goods. Similarly, on the other side of this exchange network, the quantities of Cycladic imports to Knossos increased dramatically in the later Middle Bronze Age, while those to other Cretan sites did not. Knossos thus became dominant in trade with Kea during the period when it is thought to have become the dominant center in Crete.
1960: Ayia Irini from the east

Publications


Reviews

Schofield, Elizabeth. 2011. Keos, Results of Excavations Conducted by the University of Cincinnati under the Auspices of the American School of Classical Studies at Athens X. Ayia Irini: The Western Sector.


Lectures

January 2011


March 2011

Overbeck, J. C. and D. M. Crego: “The elements of their style: design and innovation on Kea in the Middle Bronze Age,” Albany chapter of the Archaeological Institute of America, March 22, 2011.

July 2011

September 2011
Galanaki, I. and E. Gorogianni: “Crete and the Cyclades reconsidered; communication networks and processes during the Middle Bronze and the beginning of the Late Bronze Ages in the light of new evidence from Lefkandi and Keos,” the 11th International Cretological Congress, Rethymnon, Greece, 21-27 October, 2011.

January 2012


April 2012

January 2013


Grants


Natalie Abell 2012. University of Cincinnati Research Council Graduate Student Research Fellowship.

The UC Excavation of Ayia Irini at 50

On 5 August 2012 Miriam Caskey, Evi Gorogianni, Rodney D. Fitzsimons, and Natalie Abell hosted a celebration of a half century of archaeological research at Ayia Irini with a program of site tours (in Greek and English), followed by lectures and a reception.
Remembrance

Aliki Halepa Bikaki

We note with great sorrow the passing of Aliki Bikaki. Aliki participated in the excavation of Ayia Irini from 1961, the first full season of excavation, through the last formal study season in 1987. She excavated much of Area B, and her publication of the potter’s marks from Ayia Irini (1984 Keos. Results of Excavations Conducted by the University of Cincinnati under the Auspices of the American School of Classical Studies at Athens IV: Ayia Irini: The Potters’ Marks) was the first of the Keos volumes to sell out. Cheerful, kind, wise - she was patient and welcoming to me when I arrived on the island as a young student in 1982, and she continued to nurture the work of students, including that of Natalie Abell (ABD, University of Cincinnati), to whom she gave her publication rights and all her notes concerning House B.

Carol Hershenson

Seeking

We are seeking contact information for Albert E. and Rachel Osborne, who worked at the University of Cincinnati excavations on Kea in 1964 and 1966-1969. If you have any information, please send it to hershecr@ucmail.uc.edu.
**AINSAP: The Ayia Irini Northern Sector Archaeological Project**

Evi Gorogianni (PhD UC 2008) and Rodney Fitzsimons (PhD UC 2006) present preliminary conclusions from AINSAP, their study for publication of the Northern Sector of Ayia Irini. Their detailed analysis of the pottery and architecture confirms that the Northeast Bastion was a dining complex of Minoan style.

Page 3

**The Human Bones**

**Trichuris trichiura egg**

Four projects have analyzed the human skeletal material from the UC excavations at Kephala and Ayia Irini - systematic study of both cemeteries (the first for the bones from Ayia Irini); paleoparasitology (above) for insight into the health and hygiene of the ancient population; strontium isotope ratios from Kephala to explore residential mobility; and DNA from Kephala in a study of the Neolithisation of Greece.

Page 4

**Research 2011-2012**

Progress on four research projects at the UC excavations on Kea is briefly outlined.

Page 5

**News**

The UC excavations on Kea in publications, lectures, and grants - and the first reviews of Keos X are in! 50 years of excavation.

Page 6

**Remembrance**

Aliki Halepa Bikaki

**Seeking**

Albert E. Osborne
Rachel Osborne

Page 7

**Keos XI**

**Rocky Landscape 3**

Keos XI: The Wall Paintings of the Northeast Bastion, by Lyvia Morgan is nearly complete. The contents of this publication are outlined and landscape paintings from the Miniature Frieze in room N.20 are presented briefly as a sample of this stunningly comprehensive study.

Pages 1-2

**Notes**

The UC excavations on Kea in publications, lectures, and grants - and the first reviews of Keos X are in! 50 years of excavation.

Page 6

**Kea Update**

We look forward to the publications that will result from the research reported above and from other studies of material excavated by the University of Cincinnati on Kea; write to us about your progress in Kean studies in the coming years.

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