

ARCHAEOLOGICAL RECONNAISSANCE OF UNINVESTIGATED REMAINS OF AGRICULTURE (AROURA): REPORT OF LABORATORY STUDIES AT THE ARCHAEOLOGICAL MUSEUM OF THEBES IN JULY AND AUGUST, 2014

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Introduction

Between July 8 and August 5, 2014, the University of Maryland Baltimore County (UMBC) in official collaboration with the 9th Ephorate of Prehistoric and Classical Antiquities (IX EPCA) realized the final period of its post-fieldwork studies in the IX EPCA's laboratories in the Archaeological Museum of Thebes, Viotia, Greece. Michael F. Lane of UMBC was Co-Director on the part of American institutions, while Alexandra Charami of IX EPCA was Co-Director on the part of the Hellenic Republic. Athina Papadaki was the designated project Collaborator (Συνεργάτιδα). The American staff this year consisted of Weston Bittner, Sandra Gammon, Molly Greenhouse, and Evangelia Iliopoulou. Also participating were UMBC undergraduate students Cara McGraughan and Taylor Warthen. All staff members partook in work at the Museum, while Greenhouse, Iliopoulou, McGraughan, and Warthen assisted with pedological fieldwork. Bittner, as in previous years, was responsible for the majority of high-quality digital photographs, including macro-lens shots of pottery fabric samples. Bronze Age ceramic specialist Kalliope Sarri visited on July 18, in order to check the provisional identifications of pottery wares and chronologically diagnostic decorated types.

AROURA achieved its aims of marking all finds collected during fieldwork from 2010 through 2012 with a unique provenience and typological code; completing the catalogue of all such finds, describing the material, manufacture, and decoration of all ceramics in particular; recording further soil profiles from above magnetic anomalies detected in the period 2010–2012, as well as from background areas; and obtaining further test and control samples for radiocarbon dating from soil cores. In addition, Ms. Gammon, with the assistance of Ms. Greenhouse, created an Access® database form convenient also for the recordation of pottery in any future continuation of archaeology in the project area. Dr. Lane defined fabric groups and provisionally associated them with decorative types, which Mr. Bittner photographed.

Recordation and Analyses of Finds

Marking As planned, every find of each material class—the great majority ceramic—was marked with a unique code, consisting of the exact provenience—traverse in the case of field walking in the plain around Glas, collection unit in the case of the settlement site of Aghía Marína Pýrghos (AMP)—followed by a numeral indicating material class (e.g. ceramic pottery, other ceramic) and a serial number. Finds whose largest dimension was less than 1.5 cm did not receive a unique code, but rather they were put in a separate polythene bag with others of their size category that received a code, or they were left unmarked, their serial number being the last in any provenienced lot by implication. Marking was realized by creating a small writing surface with a quick-drying 20:80% Paraloid B-72–acetone solution, writing the code with a dip pen and India (pigment) ink, and protecting the dried ink with another coat of the B-72 solution. Dark or black surfaces received a commensurate background of titanium white acrylic paint first. Codes were written whenever possible on undecorated surfaces and never on broken edges. **Examples:** *H2.01.01.01* (potsherd from field walking traverse 01 in Transect H2); *2c2.0101.01.01* (potsherd from collection unit 0101 in AMP grid square 2c2).

Catalogue In the course of marking finds, the material of a few was discovered to have been misidentified, and so the catalogue had to be revised accordingly. Summary catalogues of finds of all classes were created in Excel® spreadsheets and exported comma-separated value (CSV) formats (importable to various databases) separately for AMP and field walking on traverses in the plain around Glas below AMP. More detailed descriptions of non-pottery finds were likewise recorded for AMP and field walking collections. Data recorded on pottery description forms were entered directly into an Access® database by means of a form, including options menus, created by Ms. Gammon. These data can be exported into several formats, including widely employed CSV.

Pottery Description and Fabrics Analysis All potsherds were described on forms, later entered into a database, in the following terms: part(s) represented; dimensions; Munsell color(s), later reclassified to color groups; hardness; fabric texture; fracture; rim, spout, handle, base shape and orientation, as applicable; surface decoration and treatment; temper; voids; and mineral inclusions. In the latter case, the no more than the first six inclusions by proportion were recorded in terms of size, color, shape, and percentage. When Late Helladic pottery was identified, Furumark shape and motif numbers were assigned whenever possible. Dr. Sarri checked these designations. On the basis of combinations of specific mineral inclusions, Dr. Lane created 22 provisional fabric groups, which in turn could be correlated with manufacture and decoration types from every period represented in the collections. Dr. Sarri confirmed that of those fabric types that she observed in Late Helladic specimens, all of them were consistent with Boiotian wares discovered at Thebes and Orkhomenos. Mr. Bittner photographed sample potsherds of each fabric group in all dimensions using a macro-lens and electronic flash—among over 700 finds photographs. **Example:** Collar-necked jar, deep bowl, and kylix fragments, ranging in date from LH IIB and IIIB2, characterized by singular, very fine, gray, subangular–subrounded inclusions making up under two percent of the fabric (**Figures 1 and 2**).

Conservation Finds that had been re-bagged in 2013 had one or more one-teaspoon packets of silica gel pellets, depending on the size of the lot, placed with them as they were recorded. Because of the moist conditions of original collection and storage, as well as the humid atmosphere during most of July, all of these packets were replaced before the finds were re-created at the end of the study period.

Other Operations

Under the terms of a permit from the Hellenic Institute for Geology and Mineral Exploration (IGME), AROURA removed five soil cores in addition to those removed since 2010 (see **Figure 3**). Two of these were adjacent to Transect G1, one from above one of the negative linear anomalies making up the 30-m reticulate pattern there, and one from an adjoining background area. Three were from Transect A1, one from above the negative linear anomaly passing through its eastern corner (between Glas and the Melas River), and two from adjoining background areas. Once again, the profiles off all these cores were described according to the U.S. Department of Agriculture, Natural Resources Conservation Service's soil survey manual. All together, three further samples were taken from horizons in these profiles for accelerator mass spectrometry radiocarbon dating: one from the bottommost B2 horizon in 2014A1-01 (control sample), one from the A2 horizon of 2014A1-03, appearing to correspond uniquely to the anomaly (test sample); one from the E horizon of 2014G1-02 (background control), and one from each of the Ap (plow zone) and E horizons, which bracket the AB horizon in 2014G1-01 correlated to the anomaly (*terminus ante* and *post quem* controls). A letter requesting permission to export these, likely in January of 2015 if granted, has been submitted to the Central Archaeological Council of the Ministry of Culture and Sport via IX EPCA. All data, including geodetic, have been shared with IGME.

Work of Student Interns

Molly Greenhouse gave instruction to Cara McGraughan in technical drawing and hypothetical reconstruction of pottery. They both produced several drawing, two diagnostic examples of which are given here (**Figures 4 and 5**). Among others, these include also one of a fragment of what may be a vitrified Middle Helladic strap handle attachment with appliqué “button.” At the request of Dr. Dimitra Oikonomou of IX EPCA, Taylor Warthen produced an annotated bibliography and list of comparanda for black-figure ware kylikes found during ongoing excavation of an Archaic–Classical Period cemetery in ancient Thespiai.

Publication Schedule

AROURA has already published reports in the *Archaeological Bulletin* (*Αρχαιολογικόν Δελτίον*) of the Ministry of Culture and Sport and *Teiresias* (McGill University). Now that Dr. Lane has resumed lead authorship of the first peer-reviewed publication of the AROURA magnetometry, the planned article for the *Journal of Field Archaeology* is near completion, to be submitted before the deadline for excavation permit applications (see below). It includes 45 grayscale and color illustrations. AROURA has enjoyed a standing offer from Tracy Cullen, until lately managing editor of *Hesperia*, the journal of the American School of Classical Studies at Athens (ASCSA), for the publication of all AROURA results, including field walking and intensive surface collection, and results of flotation and wet-sieving (cf. Publications Report for the Year 2011, submitted to the ASCSA on November 11, 2011). The current editor, Susan Lupack, has extended this offer. AROURA anticipates future fieldwork (see below), the results of which would be suitable for a monograph published by INSTAP Academic Press.

Preparations for Future Fieldwork

During the spring of 2014, Dr. Lane concluded productive discussions with the Hellenic Forestry Service’s office in Thebes. The Forester (*Δασάρχης*), Mr. Amoiridis, and his assistant, Ms. Marinou, have issued very detailed and clear official declarations concerning the legal use and modification of lands that Dr. Lane and colleagues would like to investigate in continuance of AROURA research. They have supplemented the declarations with accurate and precise geographic information systems (GIS) and geo-referenced computer-aided design (CAD) files. These show that almost all of the upland areas that the applicant investigators would like to subject to test excavation are available for such—including crucially, the saddle landform between AMP and the promontory of Nisí, where several significant structures are extant. Some parts of AMP are unavailable for excavation. However, digital mapping and continuing intensive surface collection are permitted in them (confirmed by IX EPCA).

Just as importantly, after lengthy discussions of aims and methods, as well as site visits, Dr. Lane has received positive verbal agreements from four private property owners, on or *near* whose land he wishes to excavate test trenches («διερευνητικές τομές» in official terminology). “Near” is underscored because some, if not all, of the planned test trenches are plotted in “project zones” (ζώνες έργων) along rivers and canals, which belong to the Kopais Organization (Οργανισμός Κοπαϊδος). Dr. Lane has been in continual communication with the helpful staff of the Organization since January of 2014, and he expects the precise widths of the project zones in question to be forwarded to him once the Organization settles into its new offices in the Directorate of Peripheral Mainland Greece. He will apply for a further collaborative archaeology (συνεργασία) permit by November 15, 2014, for the period from 2016 to 2020.

AROURA 2014 STUDY SEASON SUMMARY REPORT