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Abstract:

The Eastern Korinthia Archaeological Survey: Progress Report 1997–2000

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In antiquity, the eastern Korinthia was an important crossroads of the Mediterranean, uniquely situated to control passage by land and sea at the narrow Isthmus; a source of raw materials and manufactured goods exported throughout the Mediterranean; and a rich agricultural region. Despite more than 100 years of excavation and exploration in the territory of the ancient Korinthia, many basic historical questions remain unanswered. The Eastern Korinthia Archaeological Survey (EKAS) is a physical and social-cultural landscape study that seeks to elucidate the ways in which the region interacted: a) as a self-contained political and economic unit; b) as part of a larger region with Korinth as its center; and c) as part of pan-Mediterranean political and economic systems.

The EKAS study area comprises 200 square kilometers east of ancient Korinth, incorporating plains, uplands, and shorelines on the Korinthian and Saronic Gulfs. In 1997 and 1998, a geomorphological study and a comprehensive GIS were completed, permitting predictive modeling and assisting in sampling strategies. With these components in place, pedestrian survey in both intensive and extensive modes was begun in 1999 and will continue through 2001. In 1999 and 2000, survey was concentrated in the low-lying northern plain between Isthmia and Hexamilia; in 2000, attention was directed to the Saronic port at Kenchreai and upland locations in Mt. Oneion.

This report outlines our results to date and emphasizes EKAS' significant theoretical and methodological contributions to landscape archaeology.

The Eastern Korinthia Archaeological Survey: Progress Report 1997–2000

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The Eastern Korinthia Archaeological Survey (or EKAS) is a diachronic, interdisciplinary landscape archaeology program, co-directed by Timothy Gregory and Daniel Pullen, and sponsored by the American School of Classical Studies in Athens. We wish to thank the Greek Ministry of Culture for our permit and the 4th Ephoreia of Prehistoric and Classical Antiquities for their assistance. EKAS began background fieldwork in 1997, and in 1999 we held the first of a three-season archaeological surface survey, which we will complete in the summer of 2001. In this paper, we introduce the project and its goals, discuss specific methodological innovations, and provide a brief overview of some of the results obtained to date.

[SLIDE: MAP OF SURVEY AREA SHOWING BASINS]

For the purposes of the survey, the eastern Korinthia is defined as the land lying east of the ancient city of Korinth, to the Isthmus and the Saronic Gulf, and from the Korinthian Gulf in the north to Korphos Bay in the south; altogether, approximately 200 square kilometers. The survey area is subdivided into six natural drainage basins, which on a broad scale have determined the movement of soils and sediments over time.

[SLIDE: SATELLITE TOPO]

The advantages of the eastern Korinthia's geographical location are obvious: situated at the geographical crossroads of the entire Mediterranean, it was uniquely placed to control passage by land and sea at the narrow Isthmus. Korinth rose to prominence by controlling movement and trade through the Isthmus, and by exploiting a range of natural resources, particularly limestone and agricultural products, from the eastern Korinthia. Yet the eastern Korinthia has never been

explored systematically, and therefore the long-term development of the region could not be adequately assessed. EKAS provides a first opportunity to pose questions that can best be addressed by an interdisciplinary survey project.

The broad aim of EKAS is to investigate the issue of how the inhabitants of the region interacted with their immediate surroundings, with their neighbors in Greece, and with the wider Mediterranean world. A basic proposition is that the eastern Korinthia's political and economic relationship with Korinth oscillated between dependence and independence, and that the degree of integration of the eastern Korinthia into the wider Mediterranean economy also varied over time.

The methodology of EKAS is directed to achieving a truly interdisciplinary approach by integrating experts from numerous disciplines in all phases of the project, and in particular by bringing them together in the field.

[SLIDE: EKAS RESEARCH COMPONENTS + DATES]

These are the principal components of EKAS research. Before the archaeological survey took place, a geomorphological map was created through stratigraphic profiling of soils, sediments, slope, and landforms, which permitted spatial and chronological control over episodes of erosion, deposition, and landscape stability.

The project GIS is somewhat unusual in that it was fully functional and fully integrated into our research design before the archaeological fieldwork. The GIS was instrumental in developing predictive settlement models from our research questions, and thus in shaping our sampling strategy.

[SLIDE: DENSITY DATA MAP FROM 2000]

In the field, the GIS provides immediate analysis and visualization of spatial and quantitative

information such as this artifact density plot made for one of our weekly meetings.

The archaeological surface survey comprises a number of interrelated activities. The intensive, systematic survey investigates off-site locations in diverse environmental settings in a Discovery Phase, as well as sites and other concentrated remains of human activity in a more detailed way. Extensive mode survey was introduced in 2000 to explore widely in one of three ways: first, performance of less intensive, but no less systematic, survey in areas of extremely difficult access; second, field-checking of locations highlighted by predictive models; or third, scouting areas of interest for future investigation. The experimental survey of 1999 focused on the measurement of recovery rates of certain classes of artifacts under variable field conditions; this enabled us to better understand and measure the factors affecting artifact discovery. The modern period survey, utilizing historical, archival, and oral research along with the recording of modern sites and features, documents the gradual transformation of the eastern Korinthia after the establishment of an independent Greek state in 1830.

The coasts and harbors survey seeks to identify ancient harbor sites by a combination of predictive modeling, archaeological field survey, and analysis of sediment cores. An essential hypothesis is that numerous small, protected bays, many of which never possessed built structures, served as landing points and connected isolated communities with the outside world. In 2000, a study of the mortuary landscape of the eastern Korinthia was initiated, and dozens of tombs were carefully documented. Finally, we expect to undertake geophysical surveys at several of the sites we have identified in survey.

For the intensive survey, EKAS has developed an innovative conception of the acquisition of surface survey data. Our overarching concern is to enhance the quality of inferences we make from the surface record; first, by establishing closer control over the depositional contexts of

surface artifacts; and second, by bringing interdisciplinary discourse to the field in real time. The first step was to integrate geomorphology completely into the survey process. Natural and anthropogenic landscape processes confound our understanding of the surface record by moving materials from their primary contexts of deposition and mixing artifacts from different depositional contexts. Typical survey units, placed to conform to modern field boundaries, or long transects superimposed on a landscape without regard for topography or geomorphology, almost inevitably mix depositional contexts. Our response has been to divide up the intensive survey area into geomorphological units, or GUs, which we characterize as continuous spatial entities defined by a single dominant process, natural or anthropogenic, that is affecting artifact movement and location on the landscape. Once in place, the strict principle is that archaeological discovery units, or DUs, must not cross GU boundaries.

[SLIDE: SCHEMATIC OF RELATIONSHIP OF MU, GU, DU]

[EXPLAIN FIGURE]

To ensure the effectiveness of this system, each survey team includes one geomorphology intern, who makes a detailed geomorphological map of each survey unit, and consults continuously with the team leader. The result of this successful arrangement is that our interpretations of the surface record have a detailed geomorphological foundation.

[SLIDE: DU TEAM WALKING UNIT]

The methods of fieldwalking and data collection in DUs follow decades of successful practice in Mediterranean survey archaeology: team members walk in parallel lines at 10-meter intervals, and keep counts of all artifacts viewed in a two-meter-wide swath by means of two tally counters, or clickers. There are, however, significant differences. EKAS has developed a minimal collection strategy, prompted in part by recent advances in sampling techniques with the

Sydney Cyprus Survey Project, and in part responding to restrictions in our permit.

Because we cannot remove artifacts from the DU, we needed to standardize and maximize the information about them. We resolved the problem in two ways: first, the lab was essentially brought to the field, in the form of the Field Processing Team; and second, a system of collection and classification known as ChronoType was instituted. ChronoType as a collection system for ceramic objects provides a means to obtain a statistically valid sample of the range of material present in a unit through a small but careful collection of artifacts. In principle, every unique artifact in a walker's swath represents a distinct ChronoType, and should be bagged for examination at the conclusion of the unit. However, when a duplicate of any artifact type is encountered, it should be counted but not collected, with the important proviso that when in doubt, collect. Another important guideline is that new fabric types, sherds preserving decoration, and those representing different parts of the vessel (rim, neck, body, handle, base) are collected. Thus, it would not be impossible to collect up to five sherds from a single vessel in a given swath. Lithics and other materials are collected in their entirety. This process gives us a sample of finds that is not overwhelming in number, but still reflective of what was observed on the surface.

[SLIDE: FIELD PROCESSING TEAM AT WORK]

The Field Processing Team works behind the discovery teams to describe, measure, draw, and photograph the finds, and classify them using ChronoType in its guise as a classification system. For this purpose, ChronoType is a hierarchical and infinitely expandable means of identification and analysis that is based on the ability to assign a date, however broad, to each sherd or other class of material. The hierarchy for each object moves from general to specific, as the example on the slide shows.

[SLIDE: HIERARCHY FOR AFRICAN RED SLIP FORM 50B]

In this example, under the class “Pottery,” we find a subclass “Fineware,” subdivision “Roman Fineware,” type “Roman Red Slips,” subtype “African Red Slip,” form “Form 50,” and subform “Form 50B.” Other sherds for which we cannot work out all levels of the hierarchy will reside farther up the hierarchical tree, but all objects will have a place in the hierarchy that represents the most specific classification that is currently possible. Among the advantages of ChronoType are that it transcends the often incompatible classification systems that exist for different periods and among different scholars, and it provides a convenient and uniform standard for specialists to add information at any time in the future.

Anomalous concentrations of artifacts and features on the landscape are given by EKAS the neutral term *Localized Cultural Anomalies*, yielding the nice acronym *LOCA*. In 2000, we investigated 10 LOCAs in the following way.

[SLIDE: LOCA TEAM AT WORK]

A grid of 10 × 10 meter squares was superimposed over the LOCA. The number of squares actually sampled depended on artifact quantities, artifact densities, and the size of the LOCA. Within each sampled square, a 5-sq-m circle was marked out in the center. Artifacts within the circle were counted, and collections made according to the same ChronoType criteria as in DUs. A separate grab sample of artifacts within the square but outside the sampling circle was made of artifact types not found in the circle. A limited sample of ChronoTypes was removed from each LOCA.

[SLIDE: CCM IN ACTION]

Overall, our field methods are embodied in a concept we call Continuous Consultation Mode (or CCM) survey. The essence of CCM is to bring real-time interdisciplinary consultation to the

field by assembling experts to participate in the act of acquiring primary data. A critical mass of expertise is brought to bear on problems of density, chronology, and context, thus enhancing the reliability of these crucial determinations.

Moving now to a brief overview of our results to date, we may consider the areas surveyed.

[SLIDE: EKAS SURVEY AREA 1999 AND 2000]

In a three-week season in 1999 the survey units, shown in green, began from the foothills of Mt. Oneion and extended north into the heart of the lowland corridor between Korinth and the Saronic Gulf. In 2000, shown in blue, we continued our research in the lowland area with three blocks of survey units, one surrounding the prehistoric settlements of Gonia and Yiriza, one centered on the important crossroads where the town of Kromna and vast, ancient limestone quarries were located, and a third following the east–west route between Korinth and the sanctuary of Poseidon at Isthmia. Also in 2000, we began our investigation of coastal and upland settings, with survey on the coast near the ancient port at Kenchreai, and in the upland area above it. We also initiated extensive search on the passes and summits of Mt. Oneion.

[SLIDE: TABLES ON SURVEY UNITS AND ARTIFACT COUNTS]

In the two seasons of total NN field days combined, 1,055 DUs were walked, for a total coverage of 4.37 square kilometers, giving an average unit size of slightly more than 0.4 ha. More than 90,000 pottery sherds were counted, over 24,000 pieces of tile or brick, and much smaller quantities of stone and other materials. At least 30 LOCAs have been designated. Nearly 16,000 items have been described and documented by the Processing Teams in databases, photography, and drawings.

To highlight some significant discoveries, we begin with later prehistory. In the lowland zone, we surveyed the environs of the known prehistoric sites of Perdikaria and Gonia, both

investigated by Blegen in the early 20th century.

[SLIDE: SATELLITE/TOPO MAP WITH PERDIKARIA AND GONIA]

These settlements were founded on remnants of elevated fossil marine terraces that persist as east–west ridges.

[SLIDE: RACHI BOSKA OVERVIEW]

[SLIDE: CYCLOPEAN WALL, PERDIKARIA]

At Perdikaria, DUs and LOCA analysis enabled us to extend the occupation to phases not previously recognized; we can now identify with certainty Middle and Late Neolithic, EH I and II, Middle Helladic, early Mycenaean, and later Mycenaean. In addition, we were able to increase the known length of the cyclopean wall on the hill's northern face to at least 100 meters. The implication of the longevity and intensity of occupation is that Perdikaria should now be regarded as an important regional anchor perhaps as a peer of Gonia and Korakou.

A few kilometers to the north, we extended off-site survey to the terrain surrounding the well-known settlements of Gonia and Yiriza.

[SLIDE: GONIA OVERVIEW?]

[SLIDE: MYC TOMB CEMETERY]

We investigated a destroyed Mycenaean chamber tomb cemetery in a saddle between the two sites, which once comprised at least seven separate tombs cut into the soft marl. In the discovery units, we detected fine-grain patterns that indicate chronological and functional differentiation in land and material use. For example, the patterning of chert and obsidian objects suggests that the manipulation of chert was strongly focused at Yiriza, and that chert, unlike obsidian, is represented by all steps in the manufacturing process.

In the coastal zone, a prehistoric settlement near the small bay of Lychnari on the Saronic

Gulf coast was discovered by the Coasts and Harbors survey.

[SLIDE: AERIAL OF LYCHNARI, VAYIA: LOCATION]

[SLIDE: AERIAL OF BAY, AND SITE LOCATION]

The site consists of numerous rubble-walled structures and artifacts of multiple periods. One of the strongest artifact signatures emerges from Early Helladic II: among the sherds are many examples from sauceboats and coarse vessels decorated with taenia bands.

[SLIDE: TOPO WITH RYTO FOR LOCATION]

A fourth example comes from the rugged, inland region south of Mount Oneion. In 2000, EKAS investigated the environs of a recently discovered Mycenaean chamber tomb cemetery between the villages of Ryto and Athikia. *Point to location*

[SLIDE: AERIAL OF ENVIRONS OF ATHIKIA/RYTO SITE]

Point out cemetery, ridge, deep and precipitous stream valley to W

Below a highly eroded, acropolis-like promontory, a gentle slope spreads to the east toward a broad stream valley. In a brief inspection of this area, we found copious sherds of Mycenaean date. This peripheral location is intriguing, and such questions as the incentives for settlement here, or the possibility of passage from the Argive Plain to the Korinthiawe intend to take up with survey in 2001.

[SLIDE: LOWLANDS SHOWING ROUTES AND SITES]

To highlight the historical periods, we will focus on the Classical–Roman community at Kromna, situated at the crossroads of the east–west corridors between Korinth and the east. Wiseman’s Roads 3, 4, and 6 all passed by the settlement. *Point out on slide.*

The settlement of Kromna was founded among the extensive ancient quarries that supplied the great Korinthian industry in architectural limestone. Wiseman reported a number of

remains, most of which have since disappeared. Nevertheless, our intensive survey added many new discoveries, and the patterning of material imparts detailed information about the location, date, and range of activities that occurred there.

[SLIDE: KROMNA WITH AKROKORINTH IN BACKGROUND]

First, the density of the artifact concentrations, spread over approximately one-half square kilometer, leaves little doubt that a sizable community thrived here. This community may have been closely tied to the work at the quarries, although it was likely also an agricultural settlement, in view of the fertility of the adjacent land and the survey finds. The assemblage of tiles and coarse and fine ware sherds suggests domestic activities, as do various cuttings and agricultural installations for the processing of olives and grapes.

[SLIDE: OLIVE MILL / PRESS / BASIN]

[SLIDE: WHEEL RUTS]

Among the quarries, important finds included sets of in situ wheel ruts, running between the quarry and the road that presumably passed by Kromna just to the north, as well as others, not in situ, that may have connected the quarries to a southern road.

Perhaps the most significant discoveries at Kromna in 2000 involve the mortuary landscape and evidence for related ritual activity. Extensive cemeteries of Archaic to Roman date are known here, and we discovered several new tombs. We also discovered several fragments of limestone funerary monuments, some with finely carved decoration.

[SLIDE: DINING ROOM]

Of particular significance is evidence for ritual activity that took place at the crossroads adjacent to the quarry. Near the highest point on the ridge, two clear examples of ritual dining areas were discovered.

The ritual nature of these features is indicated by offset doorways, cuttings for kline, and in one case dislodged kline stones as well as perrirhanterion fragments within the room itself.

Finally, about 600 meters to the east, and still within the broad settlement scatter, a concentration of remains suggests a large, previously unknown ritual complex. These remains include masses of finely cut limestone blocks, and fragments of figurines and vessels having a votive character, such as perrirhanteria.

How then, might we assess the significance of the site of Kromna? From the perspective of landscape archaeology, at Kromna we witness the convergence of several landscapes, which in combination marked it out as a place of unique significance in the Korinthia. A model for the study of ancient landscapes might recognize the following types of landscapes.

[SLIDE: THE ARCHAEOLOGY OF ANCIENT LANDSCAPES]

The *Physical or Natural Landscape* refers to topography, geology, hydrology, and vegetation, and their impact in such expressions as the “visual landscape” or the “travel landscape.” The *Materially Modified Landscape* involves human modifications of the physical environment, including extractive practices, the built environment, and portable objects. The “extractive landscape” would include agriculture and quarrying. Finally, the *Cognitive Landscape* encompasses social and cultural perceptions and manipulations of the landscape; thus, the “sacred landscape” might comprise elements such as cemeteries, monuments, sanctuaries, and sacred topographies, while the “time-historical landscape” embodies feelings, memories, and traditions that people have about a place. The archaeological evidence suggests that Kromna held a distinctive place in the Korinthia because of a unique convergence of landscapes, where an auspicious natural landscape was augmented by material modification and the creation of important social landscapes. Thus, Kromna occupied a low elevation at the crossroads of the

main natural corridors of movement through the eastern Korinthia. With the increasing importance of the Isthmus, increasing traffic passed by the settlement, and Kromna took on an important role in the Korinthian economy as a primary producer of commodities, notably quarried stone, and as an employer of labor on a large scale. The association of crossroads and quarries at Kromna promoted the erection of tombs and funerary monuments, which were apparently placed to be visible from the roads. The remains of dining areas associated with funerary ritual, and a probable temple complex, point unambiguously to the creation of a sacred or memorial landscape. We may imagine that the conspicuous placement of a monument or family tomb group ensured maximum exposure to travelers, and the state too may have recognized the propaganda potential in erecting monuments and temples above the roads.

[SLIDE: SURVEY AREAS 2001]

In our final field season in 2001, we will move to the upland and coastal areas that will complement and round out the interesting results that we have obtained in the lowland zone. We will not find answers to all of our research questions, but we hope that EKAS will make a valuable contribution to the study of regional dynamics in the hinterland of a great urban center.