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of Turkey (near modern Altınova). From early prehistory, the river's alluvial delta, lying opposite the island of Lesbos, formed a crucial frontier region between the cultures of the Aegean and mainland Anatolia. Almost nothing is known about this part of the coastline archaeologically, however, largely because of the depositional activity of the Madra Çay River, which has buried many of the cultural deposits and obscured their topographical and environmental context.

The survey employs an innovative, interdisciplinary approach to the special problems of conducting archaeological survey work on an alluvial shoreline. In examining the multi-period archaeological sites in the delta (many of which are small tells), a methodology combining collection of surface cultural material (drawn from intensive survey work) with geomorphological auger cores. The latter are of special value in the present context, using the subsurface stratigraphy to define the extent and environmental context of the sites, which cannot be gauged simply from examining the scatter on the present-day surface. From such cores, we can establish absolute dates for the earliest occupation and formation of the tells, and, through a reconstruction of the delta's palaeocoastlines and palaeoenvironment, shed light upon the reasons for the initial settlement—and later abandonment—of the sites.

#### AN ARTIFICIAL PORT IN MYCENAEAN GREECE: *Eberhard Zangger*, Geoarchäologische Rekonstruktionen, Zurich

Near the Palace of Nestor in western Messenia, the earliest known artificial port in continental Europe was discovered and investigated in the framework of the Pylos Regional Archaeological Project (PRAP). In 1992 a rectangular alluvial plain, 330 m × 230 m wide, was noticed in a fossil dune environment about 500 m inland of the Ionian coast. Since this plain appeared to represent a silted-up basin, a number of hand and power drill holes were sunk in 1993 and 1994 to determine the subsurface stratigraphy. A clay layer up to 6 m thick was found 6 m below the present surface, confirming the initial hypothesis that the plain used to be a basin filled with calm water. Microfossil analyses of the drill samples produced several hundred marine foraminiferas, thus providing evidence that the pond was filled with seawater. The position of the basin in a dune environment, its rectangular form, flat bottom, and steeply sloping walls, and the discovery of artifacts in the drill samples strongly argue in favor of a cothon-type port. Sedimentological investigations and radiocarbon dates show clearly that the operative phase of the port predated the end of the Bronze Age. While major hydraulic engineering feats have been identified at Tiryns, Gla, Stymphalos, and Tegea, the basin 5 km southwest of the Palace of Nestor is the first artificial port thus far discovered in Mycenaean Greece.

#### ANCIENT HELIKE IN THE LIGHT OF RECENT DISCOVERIES: *Dora Katsonopoulou*, American School of Classical Studies at Athens, and *Steven Soter*, Smithsonian Institution

Helike was the principal city in Achaia from its foundation in Mycenaean times until 373 B.C., when it was destroyed by an earthquake and submerged in the Gulf of Corinth. Attempts to locate the site between 1950 and 1975 were inconclusive. In 1988 we revived the search, under the auspices of the American School of Classical Studies. During the first campaign, we conducted an underwater sonar survey southeast of Aigion and concluded that the ruins of the city should be sought under the coastal plain. From 1991 to 1995, we carried out geophysical surveys and drilled boreholes on land to recover sediment cores. We found ceramic fragments that defined at least two occupational horizons concentrated in an area of about 1 km<sup>2</sup> between the modern villages of Eliki and Nikolaiika. In 1994 a magnetometry survey of a field (now called the Klonis site) in Eliki revealed structures buried about 2 m deep, which led us to begin excavation of the site in 1995 in cooperation with the local Ephoreia of Antiquities. We uncovered a large building of the Roman period with standing walls 2 m high, as well as a very significant group of potsherds dated to Mycenaean, Protogeometric, and Classical times. These are the first ancient buildings brought to light in the Helike plain, and the Classical potsherds suggest that remains of the lost city may lie below the Roman horizon in this area.

#### THE GREEK HARBORS OF THE CORINTHIA: GEOPHYSICAL AND ARCHAEOLOGICAL CONSIDERATIONS: *Richard M. Rothaus*, St. Cloud State University

The western harbor of Corinth at Lechaion has never been excavated. Romano has proposed the possibility that the Greek harbor of Lechaion was to the west of the harbor facilities now extant. Geophysical examinations and AMS radiocarbon dating of lithophagos shells (under the direction of Stathis Stiros) indicate repeated tectonic uplift in this area between 560 and 70 B.C. Several harbor structures were affected by this uplift, and there can be no doubt that this was the location of the Greek harbor. Combined historical and archaeological considerations suggest multiple construction dates with a major phase ca. 600 B.C.

The Greek harbor of Kenchreai has never been identified, although topographical considerations dictate that it is at the same location as the well-known Roman harbor. Just as Lechaion has been subject to repeated episodes of tectonic uplift, Kenchreai has suffered multiple incidents of subsidence. The tectonic motion seems to be related, and the entire Isthmus is gradually tilting, with Lechaion (on the Corinthian Gulf) "coming out" of the water, and Kenchreai (on the Saronic Gulf) "slipping into"