Sagalassos VI: Geo- and Bio-Archaeology at Sagalassos and in Its Territory


Forty authors have in this volume produced 16 detailed papers on the geological, geomorphological, archaeometric, climatic, and bioarchaeological underpinnings of this extraordinary Graeco-Roman city and the region around it, excavated since 1990 by the Katholieke Universiteit Leuven under the direction of Marc Waelkens. Also included are chapters on their experience with various types of remote sensing techniques, analysis of resource exploitation, and identification of food remains and fishing practices.

Sagalassos has a big staff—currently 120 scientists and 80 local workers—and the scope of this research includes results from 1,200 km² in southwest Anatolia, 52 villages, and two regional districts, as well as from the city proper. Analyses are classed into regional (the whole of southwest Turkey), nearby (ca. 10–20 km), and local (the city site itself). Thus, the scope is simultaneously far-reaching and specific. Where a particular method of analysis is discussed, the whole story is presented: what hardware, software, and methodology were used; what worked; and what did not. If a dead end is reached with one analysis, subsequent alternative methods are set forth.

Not only does this book tell the Sagalassos story in detail, it sets an example for the rest of the archaeological family as to what can be extracted from a site and its environs by way of a congeries of evidence-gathering techniques. Copies of Sagalassos VI should be sitting on every excavation and survey bookshelf, even if only for the bibliographies, and the volume should be required reading not only for archaeometric staff but for excavators and surveyors as well. Noteworthy is that almost every chapter includes the work of both specialists and archaeologists working in tandem in the field and in writing up the results, so that where a chapter might drift off into an otherwise incomprehensible account (at least to a nonspecialist), the archaeologist is there to highlight the archaeological significance of particular observations.

After an overview by Waelkens, the first five chapters (pt. 1) deal with the geological setting from deep time (millions of years ago [Late Miocene]) to the relatively recent past (the last 2,000 years). The geology of the region is horrendously complicated, and the mere setting forth of the tectonic history of Sagalassos is a long and useful story in itself. Visitors to the site will have noticed substantial earthquake damage, but which of the earthquakes of the last two millennia did it? The best current estimate seems to be the sixth–seventh centuries C.E. from the so-called Sagalassos fault itself, but precursors are examined as well, and the alternative nearby possibilities for the damage are discarded as unlikely.

The foci of these chapters also include the petrography, mineralogy, and geochemistry of the rocks in the region; an interesting identification of so-called active faults (i.e., faults that shift once every 10,000 years); and the results of a series of remote sensing, surface-geological, and near-surface geophysical techniques (complete with an analytical account of false steps). The black-and-white photographs are at times opaque to a nonspecialist, but much more informative color versions are to be had on request over the Internet, and I was able to obtain excellent copies within 24 hours of asking. Some 100-odd typographical errors...
or grammatical infelicities mar the text. If a native speaker of English had gone through the manuscripts prior to publication, this kind of mild annoyance could have been avoided. The alternative—struggling through a text in Flemish—is not a serious option for most AJA readers. Another recommendation for future publications by this group would be to have nonspecialists look at each illustration to make sure that all the captions are comprehensible without the need for the reader to look up a reference (e.g., 161 [fig. 3]).

Five papers make up the geomorphological and climatic setting of Sagalassos (pts. 2 and 3, respectively). Turkey is a geomorphologist’s dream, especially when geomorphology comes into contact with history, the latter sometimes putting a time control of only centuries or even decades on an otherwise only vaguely datable phenomenon. For example, Holocene cool-water systems (fluvial-barrage and paludal) disappeared 1,350 years ago when graves were cut into the tuff walls at Başköy ca. 650 C.E. (120). The chapters on the geomorphological setting of Sagalassos include the finding of 2 cm of Santorini tephra, the first nonlacustrine Tharan tephra found in Turkey. Unfortunately, the radiocarbon dates from organics above and below the tephra at Sagalassos itself are not precise enough to help with the current dating debate. Better dates are available elsewhere, as noted in the text. However, that so much tephra from this unique marker event is visible at Sagalassos should serve as an encouragement to excavators all across at least the western half of the country to go and find some more.

This section also includes an analysis of paleoecological conditions over the last nine millennia. Stone selection from petrographic examination, both at the site and in nearby quarries, shows an awareness on the part of Roman builders of a given stone’s weathering properties. Analysis of the local faults with the Landsat 7 Enhanced Thematic Mapper (among many other tools used by the Leuven team) shows where they are, how much they are slipping (1 mm per year), and where they might be going. The 1995 Dinar earthquake is not the final story for Sagalassian tectonics. Another temblor is coming.

Part 4, which covers the exploitation of local resources and the import of subsistence goods, has chapters on the clays used for mass production of table and common wares, amphoras, and architectural ceramics; the provenance of the slip on the Sagalassos Red Slip Ware (SRSW); an analysis of all the local quarries as to what was brought in, for what, and from where; and, finally, two chapters on food remains and fish fauna. The quality of SRSW is high over a period of more than seven centuries from the Hellenistic well into the Byzantine period. Geochemical, petrographic, and mineralogical analysis of various classes of pottery, ceramic dumps in the potters’ quarter, and clay sources up to 15 km away shows that Sagalassian potters were choosy about their clays, mixing clays from different sources to achieve a quality result. A “Figure 1” cited on page 256, which purports to show the general chronological distribution of the types and variants of SRSW, is unfortunately missing from this volume.

The chapter titled “The Sagalassos Quarry Landscape: Bringing Quarries in Context” should be read by every first-year excavator-to-be in the Aegean. It shows how much can be learned about whether the stone on the site is local, regional, or imported; how knowledge of both the color and chemistry of the building stones and the nearby quarries can be used to analyze stone selection over time; and how much stone had to be extracted to make up the visible buildings and sarcophagi on the site. Readers who have seen the piles of unfinished marble in front of the museum at Roman Ostia are familiar with the richness of the imported material available to the builders of both Ostia and Rome. Pisidian Sagalassos, even in its mountain isolation, is similarly rich with—in addition to the varieties of local and regional limestones—imported Aphrodisian and Docimian marble, cipollino, porfido verde, porfido rosso, rosso antico, verde antico, Hierapolitan onyx, and even Trojan granite (269). The estimate of ashlars needed for what we see at monumental Sagalassos is up to 10,000 m³.

The chapter titled “Identifying Remains of Ancient Food in the Ceramics of Sagalassos: Developing a Method” is perhaps the weakest in this book—it is not up to the standards of the rest. Organic residue analysis on pottery is a legitimate exercise, but sometimes the chemists can get carried away (as all of us can) with the arcane details of their work. The need for careful proofreading was noted earlier in this review. Here, “triacylglycerols” is spelled at least four ways (easily fixed), but less easily fixed is the conclusion: “[b]y combining these sources of information it is possible to recognize the former contents of archaeological ceramic pots.” What contents? We are told that there are
cholesterol; beta-sitosterol and trimethylsilyl derivatives thereof; fatty acids; mono-, di-, and triacylglycerols; and the like. But what on earth were these people eating? (As someone who has been eating the antioxidants formerly known as blueberries all summer, I am unsympathetic.) Here, it would have been helpful to have a nonchemist standing by to convert chemistry-speak into English.

The final chapter of this section and of the book, a three-year survey on Anatolian fish fauna, provided a pleasant surprise. Mitochondrial DNA analysis shows that the Sagalassians seem to have had a taste for catfish imported from Egypt, of all places. But the Sagalassos team did not stop there. They sampled 129 or so rivers, streams, and lakes across southern Anatolia (as far north as the Gediz River and as far east as the Orontes), identifying some 30-odd species from game fish to coarse fish. Any ichthyologist or Anatolian excavator with as-yet-unidentified fish bones should delight in this broad and detailed base of information about what the bones might represent.

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