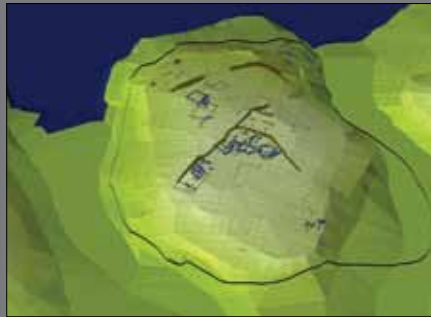


# Reviving the Past: Excavations at Sissi on Crete



**D**uring the third and second millennia BC, the Mediterranean island of Crete was home to one of the most remarkable ancient civilizations and the oldest European culture that knew how to write. Starting excavations at Knossos in 1900, British archaeologist Sir Arthur Evans called this culture the Minoans, after their legendary King Minos.

The Minoans were the first to construct monumental public buildings, traditionally called palaces, and decorate them with beautiful wall paintings, colorful stonework, light wells and porticoes; the Minoan culture often surprises archaeologists because of its freshness, beauty and sophistication.

Still, numerous excavations over the last 110 years have not succeeded in clarifying who the mysterious Minoans were and how their society was organized. Many of the early excavators were only interested in pretty objects and did not pay enough attention to contextual associations.

This is why a new archaeological project was initiated in 2007 at a place called Sissi, a village on Crete's north coast. The project is called Sarpedon (Sissi Archaeological Project: [www.sarpedon.be](http://www.sarpedon.be)) after the king who is said to have ruled this part of the island until he was exiled by his brother Minos.

During the last three years, excavations were conducted by an interdisciplinary team led by Prof. Jan Driessen, professor of Archaeology at the Université Catholique de Louvain (UCL) in Belgium. The team included archaeologists, anthropologists, topographers, paleobotanists, geoarchaeologists and other specialists from UCL, in collaboration with the Katholieke Universiteit Leuven, also in Belgium, and other researchers from France, Greece and Britain.

The project's target is the 3.5-hectare (8.7-acre) Kefali hill, 20 m (66 ft) high, situated on the coast about an hour's walk east of Malia, one of the major palace centers of Minoan Crete. The Minoans chose the hill at Sissi for strategic reasons. With steep slopes on three sides and the sea on the fourth, the hill could be defended easily. Its location on the only road between Malia, in central Crete, and the eastern regions of the island must also have given it specific commercial advantages. Three excavation campaigns have revealed an extensive cemetery, used between 2600 BC and 1750 BC, and a settlement, occupied between 2600 BC and 1250 BC.

Contextual association is everything in archaeology. In the old days, archaeologists mapped everything by hand, usually with a measuring tape that was often floating in the wind or stretched across irregular terrain. Errors were common and plans rarely fit together. In addition, the use of a separate level or even simpler means for absolute height measuring introduced mistakes and frustration.

The team's topographer, Nicolas Kress used a Trimble VX™ Spatial Station, supplied by Couderé Geo Services in Belgium. The Trimble VX is well suited to the needs of archaeological projects. With its Windows interface, it is simple to use. It can be used as a total station to provide the necessary coordinates (north, east, and elevation), allowing the rapid recording of both topographical and archaeological features, and to georeference plans and aerial photographs that are subsequently rectified and redrawn.



“The Trimble VX allows us to shoot numerous points very quickly and accurately and prepare a pre-contour plan of points of the excavations,” said Professor Driessen. It is easy to switch color codes for each encountered feature; the archaeologist can print out the pre-plan and easily complete it by hand afterwards by connecting the dots. These are then digitized and imported into a GIS environment and associated with the objects and features found during excavation.”

The team is also starting to use the 3D scanning function of the Trimble VX to cover the entire hill as well as specific rooms in which the architectural phases and archaeological stratigraphy are extremely complex. “A 3D visualization allows us to re-construct the sequence of excavation and to offer more convincing hypotheses as to the events that caused the complexity,” said Driessen. “We are also experimenting with 3D scans of some complex objects. Since all material remains in Greek museums, the 3D scans allow us to revisit the object and to better understand it afterwards.”

The quantity of data retrieved during an excavation is enormous: not only the composition and nature of the earth layers encountered are noted, but also all specific features and objects and their associations. “Using the Trimble VX, we can easily tie topographical work to a GIS environment in which all the data are integrated by our spatial data manager, Piraye Hacigüzeller,” said Driessen.

“All these data elements are entered in a database on our field computers.”

The actual work of digging is accompanied by taking copious notes, digital photographs, filming and drawing. Additionally, features encountered through surface reconnaissance before excavation, during the ground penetrating radar (GPR) survey or in aerial photographs all need to be integrated within a single GIS environment.

The link between all these data is their topographical association. This allows the team to create plans and to interpret the plans and hence the data. Behind each point is a feature or an object with photographs, drawings, descriptions, dates—a life. Simply entering a specific time frame within the search function allows the reconstruction of all features and objects that date to a particular period. This enables the team to identify concentrations of specific features and hence to suggest specializations or particular functions (such as workshops where specific objects were manufactured). For a functional reconstruction of the site, such work is of extreme value.

The assimilation of these data and their relationships provides a dynamic, diachronic view of life on this wind-swept hill some 4,500 years ago. Gradually, a Minoan landscape is being constructed in which nature-made and man-made features are integrated in ways that were not possible before.