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ECONOMY AND SOCIETY IN THE GOURNIA REGION OF CRETE
A PRELIMINARY REPORT ON THE 1992-1994 FIELD SEASONS OF THE GOURNIA PROJECT

The Gournia Project carried out three consecutive field seasons during 1992 through 1994 under the direction of Costis Davaras, the Ephor of East Crete, and Vance Watrous. Members of the field project also included Harriet Blitzer, our ethnographer, the geomorphologist Eberhard Zaengger, the archaeologist Donald Haggis as well as numerous students from the University of Crete and from America.

The Gournia Survey differed from other American field projects in that American students were required to learn modern Greek, and during the season we arranged seminars on historical and archaeological topics as well as travelling to archaeological sites, museums and churches. We did this because we think that a successful research project will necessarily involve an educational aspect to it. The best background to understanding the regional data we collect is an awareness of how traditional people live in our region. As archaeologists, the ultimate goal of our studies is to understand the ancient people and the systems –social, economic or political– whereby they lived. The artifacts are only means toward these goals; they are not ends in themselves.

In the early 1980s the Central Archaeological Council of the Ministry of Culture began to encourage the Foreign Archaeological Schools to refocus their archaeological fieldwork on their old excavation sites. One of the results of this was a renewal of American interest in East Crete in the area of the Mirabello Bay and the Isthmus of Ierapetra. Consequently, over the last fifteen years Americans have excavated at Kavousi and Vronda, Pseira, and Mochlos

and surveyed around Kavousi and Vrokastro (Figure 1). As of 1991, the part of this area that was not being investigated was the center of this entire region which included the Isthmus of Ierapetra, and the Minoan site of Gournia. For this reason it seemed to us that there was a need for an archaeological project centered around Gournia which could address certain larger problems which pertained to the region as a whole.

The Minoan site of Gournia, the largest known site in the Isthmus of Ierapetra, was excavated by Harriet Boyd between the years 1901 and 1904. In 1908 her final publication of the excavation appeared. It is fair to say that Boyd's work has provided us with the most detailed picture we have today of a Late Bronze Age town in the Aegean. However, during the last 30 some years the discipline of archaeology has changed considerably and we now are asking questions about Gournia and its region that Boyd's work cannot answer.

How, for instance, did the people of Gournia exploit the sourounding environment?

What was the population of Gournia and the settlements around it?

What kind of economic relations did Gournia have with the region?

And, finally, what was Gournia's role in the political organization of the region?

These, then, were our main reasons for approaching Costis Davaras with the idea of a survey around Gournia in preparation for reexcavation of that site.

Subsequently, the Gournia Project surveyed an area that includes the north coast of Crete and the Isthmus of Ierapetra, a valley that breaks the range of mountains that runs along the center of the island. The Isthmus is thus a natural corridor, only 12 kilometers in length, that joins the north and south coasts, and by extension, the worlds of the Aegean and North Africa (Figure 1). The Northern Isthmus is drained by two seasonal rivers, one from Vasiliki and the other from the Gorge of Cha.

Eberhard Zaengger examined the geomorphology, coastline and drainage systems in the region. He found that the most valley floors consist of the original Bronze Age surface which is bright red in color. Later erosion is limited to the marl slopes and watersheds. Around Gournia Zaengger's investigations revealed that the local tectonic uplift has been no more than one meter, so we are dealing with essentially the same coastline as existed in antiquity. Based on the size of the drainage basin of Gournia, he believes that the Gournia River was probably perennial in the Bronze Age. This may well explain why the site of Gournia was located where it is, rather than at the more

strategic mouth of the Isthmus. An additional geological feature of the region is the presence of a unique outcropping of grano-diorite, a black and white rock that looks like salt and pepper. Because grano-diorite is extremely friable, the local ancient potters used this rock as temper in their medium-sized and large pots such as jugs, amphorae and pithoi. This means that we have what amounts to a recognizable fingerprint for the ceramic production of the Gournia - Istron area, something that is useful for reconstructing Gournia's commercial connections as we shall see in a minute.

Harriet Blitzer worked in Vasiliki, Monasteraki, Kavousi and the area of Episkopi with villagers in their 70's and 80's who knew what life was like in this part of Crete before 1920 and the advent of mechanization. Her work concentrated on local land use, agriculture, traditional industries and water management. She found that before 1920, villagers lived primarily on barley and legumes. Wheat was mostly a cash crop and olive cultivation was limited. Grain was taken to the Cha Gorge where four watermills ground the grain on millstones imported from the island of Milos. The seasonal waterflow that fed these mills was unavailable during the summer months and irrigation of any great extent was unknown prior to W W II. Thus the red soil of the floor of the Northern Isthmus was not cultivated because the soil there did not respond well to dry farming. The importance of this for the data of the past will become apparent below.

It is only the ethnographer that who deals directly with living people who can tell us explicitly about traditional practices and the use of materials which archaeologist often have to interpret through typologies or categorizations. We give two examples from our area.

First, it has recently been suggested by J. Moody and O. Rackham that agricultural terraces in our region and throughout Greece are mainly of two types: 1) large stepped terraces and 2) less solidly built open-ended terraces. The authors of this study interpreted the use of these terraces as being ecological structures built primarily to prevent erosion and they stated that the first, stepped variety were for vines and the second, open-ended type was for grains. Extended local interviews revealed a different story. Most families at the turn of this century were poor and subsistence agriculture required over 80% of their time. The building of terraces represented a major investment in time and energy, the construction of some single terraces taking up to a month. For this reason the decision to build terraces was directly related to the size of ones family and landholdings. Terraces did increase the yield per plot of land

but only those families under pressure to increase their yields and which had the available hands to build would undertake the time-consuming construction of the stepped terraces. Families with larger landholdings might build temporary, open-ended terraces as a minimum first investment which later generations could convert into the solid stepped terraces. Thus Blitzer's ethnographic research indicated that the terrace types had no relation to specific crops or even to environmental concerns but were mainly a result of the interaction of population and social pressures. These terraces, in other words, are primarily *social* artifacts.

Second, there has been much written recently among surveyers about the interpretation of the numerous Archaic-Hellenistic artifacts found across the landscape in places where there were no settlements. Are these artifacts the result of numerous ill defined rural activities, or primarily the product of manuring? In our area, off-site artifacts can be dated mainly to the Old and New Palace periods and to the Venetian – the 20th centuries. For the more recent periods at least, it is clear that the artifacts are the result of manuring because the villagers have described that practice in some detail.

The archaeological survey used intensive full-coverage methods with 100 meter transects and ten meter intervals (Figure 4). We differ from other surveys in Greece in that our fieldwalkers collect all artifacts they see, including post-Roman sherds and we have dated virtually all of the sherds we have picked up. In three seasons we have suveyed 24 square kilometers, walked 1.200 transects and discovered a total of 156 new archaeological sites in our area. The area covered included the valley of Gournia, the northern Isthmus of Ierapetra and most of the valley of Episkopi (Figure 1).

Prior to the survey, it was believed on the basis of the early archaeological reports of Boyd and Seager, that the earliest settlers in our area were limited to one Final Neolithic (FN) group whose burial was found near Gournia, and that from the EM II period Minoan civilization in the area developed steadily into a palatial society. Our work has shown that the local situation was considerably more complicated.

The earliest settlements discovered –three in all– date to the FN period. One was a cave above a perennial spring. By the EM I period there were some 25 sites in the region. Some are found on high, defensible or hidden spots. Others are near streams and good grazing land.

During the EM II period there was continued expansion of settlement. Several of these settlements were hamlet-sized communities, with perhaps 3-6

houses. Vasiliki at this time seems to have had 2-4 houses whose inhabitants farmed, kept livestock, wove textiles, and made their own bronze tools. Most of the EM II sites are the size of a single family farmstead. Other sites less than five meters square, may be seasonal camps.

The EM II pattern of settlement may also tell us something about the contemporary subsistence base. While FN and EM I sites are located exclusively near well-watered grazing land, some EM II settlements are established in locations that probably relied on dry farming. This new type of site may signal the appearance of an economy based on wider variety of crops, such as fruits, legumes and olives.

Signs of trade within the region are extensive. The community at Vasiliki imported copper, obsidian and gold probably from the Cyclades. Obsidian is present on most EM II sites in the area, especially on coastal sites. This distribution may suggest that the coastal settlements functioned as emporia for the region. The grano-diorite vases of the Gournia area were also exported to sites in the region; many, for instance, have been recently identified at Fournou Koriphi on the south coast. The communities in the area of Vasiliki were located two excellent natural sources of clay. It is likely that were producers of the so-called «Vasiliki» ware which has been found on many of the major settlements in the region and as far afield as Knossos and the Mesara.

During the EM III period, there appears to have been a sharp reduction in settlement. Vasiliki, for instance, was destroyed by fire toward the end of EM II. Only four sites in our region can be dated to EM III with some certainity: one was Vasiliki which according to Seager was occupied by hovels over an area of only eight by ten meters. These sites suggest the development toward palatial society in the region following EM II was not a steady and uninterrupted process.

Beginning in the MM IA period, the countryside is first resettled. Hamlets such as are established. Boyd's excavation indicatted that Gournia may have been fortified at this time.

The MM IB-II period is marked by a dramatic expansion of settlement (Figure 2). The inhabited area of Gournia now extends from the akropolis hill to the river and on the hill across from it, as well as down to the coast. Its total size then is in the area of four hectares, suggesting the settlement had a population of 300-400 people. Other village-sized communities as well as hamlets and farms existed along the coast and inland. The dry, central portion of the valley floor was unsettled, probably due to the agricultural restrictions

noted by Blitzer. Five houses are known at Vasiliki in this period. During this period the grano-diorite pottery of Gournia is found at virtually every site in the region. This, combined with evidence of extensive foreign contacts, suggests that this was period of prosperity for Gournia and its region.

The off-site densities of artifacts on the fields around Gournia in this period are quite high, indicating intensive use of the land. One of the most common of these artifacts is this kind of basin whose interior is scored. Classical and traditional 20th century parallels suggest that these basin were beehives. If so, the inhabitants of Gournia kept numerous apiaries.

During the MM IB-II period the tombs at Gournia, built in the shape of rectangular houses, contain wealthy objects, while at nearby Sphoungaras there are only simple pithos and larnax burials. As Jeff Soles has suggested, this disparity may indicate some form of local social hierarchy. At the palatial site of Mallia the great rectangular ashlar tomb at Chrysolakkos is constructed and is part of this same phenomomen. These tombs were intended as deliberate architectural symbols of a new social status. The differences between Mallia and Gournia are also instructive: the Gournia tombs are not monumental and the MM IB-II settlement lacks a palace, from which we might infer the existence of a central authority within our region. Nor is there any settlement known in the region whose size is so large relative to other sites that it might be identified as primary level center.

During the MM III-LM I period, the region experiences a slight drop in the number of settlements (Figure 3). The most striking change in the settlement pattern takes place in the imediate area of Gournia, where three large settlements disappear. In the Neopalatial period Gournia is reorganized with a system of streets and blocks of houses, and the so-called palace is constructed. It is possible that these two events were connected: in other words, that there was some sort of demographic consolidation at Gournia. However, the survey results suggest that Gournia actually shrunk slightly in size at this time. However, the coast of Gournia, located directly south of the island of Thera, must have been hit hard by the effects of the eruption, and this might explain the drop in the number of local settlements in the LM I period.

The survey also identified two new structures connected with Gournia. The first is a possible check dam in the riverbed of the Gournia River. Such a dam would have created a water reservoir for Gournia. The second is Boyd's so-called «Shore House». The recognition that this coastal building had two large galleys ca five meters in width and at least 16 meters in length opening

northward onto the sea means that it probably was a shipshed, like the larger but similar complex from Kommos.

It has been recently suggested that the construction of the palace at Gournia, with its storage wing and administrative system involving inscribed tablets and sealings, indicates the rise of an independent Minoan polity in area of the Mirabello Bay that was ruled by a central authority at Gournia. One fact revealed by the survey could be adduced to support this argument. The drop in the number of LM I settlements, especially those around Gournia, could be taken as a sign that Gournia had established a system of local tribute which required a more nucleated population farming relatively larger areas.

On the other hand, two other explanations for the palace's construction are possible. First, throughout recorded history Ierapetra was by far the most powerful settlement in the region and the polis or administrative center of this area of East Crete during the Classical, Hellenistic, Roman, Venetian and Ottoman periods. Thus while practically nothing is known about Minoan settlement in the Plain of Ierapetra, the palatial center of our region may have existed there. Second,the palace at Gournia may have been a second order center set up by a larger authority –at Ierapetra, Mallia or even Knossos– to administrate its immediate area. Gournia may have thus controlled the Northern Isthmus as Pyrgos/Myrtos oversaw the Myrtos valley and Mochlos its own coastal plain.

In the following LM IIIA-B period, there was a massive drop in the population of the region. Gournia continued to be occupied, but many settlements seem to have been abandoned after LM I. One exception is a large site located immediately east of Episkopi: this is probably the settlement associated with the cemetery excavated by Platon at Episkopi. By the end of the Bronze Age (LM IIIC), local settlements were situated exclusively at high, defensible locations away from the coast, such as Kavousi. At this time the largest settlement in the region was situated on the hilltop of Profitis Elias southeast of Episkopi. Profitis Elias continued to be the only villaged-sized (ca. 9.5 hectares in area) settlement in the Isthmus during the Early Iron Age (Protogeometric-Seventh Century). During the Arcaic and Classical period this large site was practically the only settlement in the region. The settlement at Profitis Elias is probably to be identified with the city-state of Larissa, whose citizens Strabo (IX 5, 19) records, were forced to resettle within the nearby polis of Ierapytna on the south coast.

During the Hellenistic period our survey region is almost completely unsettled. The coastal site at Chalepa, on the east end of the Pacheia Ammos bay, shows some signs of use, probably as a northern port for Ierapytna. This absence of local Hellenistic settlement could be explained if the northern Isthmus had been a contested border area. Certainly documents record that the Hellenistic period in East Crete was one of continuous warfare between rival city-states.

Immediately after the Roman conquest of East Crete in 67 B.C., our region is extensively resettled (Figure 5). Most of these Roman sites continue to be occupied through the ninth century A.D. Subsequently, during the Middle Byzantine period, local settlement is reduced and only picks up well into the Venetian period. By the seventeenth century, the region is heavily settled, a pattern that has persisted to the present day.

Finally, as a result of our survey, we have begun to formulate partial answers to the four questions posed at the beginning of this paper, about the environment, population, economic and political organization of the region around Gournia.

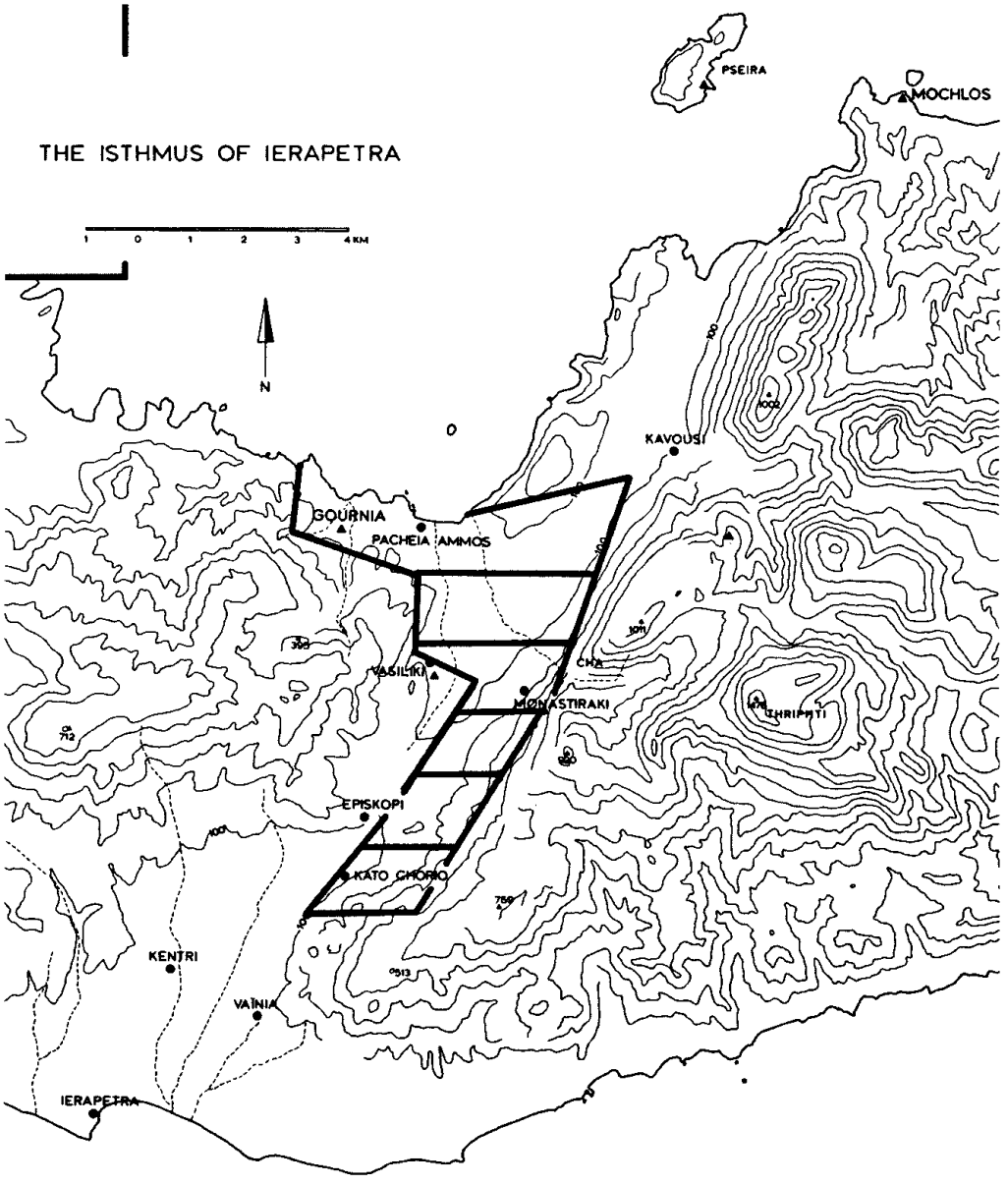

Fig. 1. Map of the Isthmus of Ierapetra. The boundary of the survey area is indicated by the dark line.

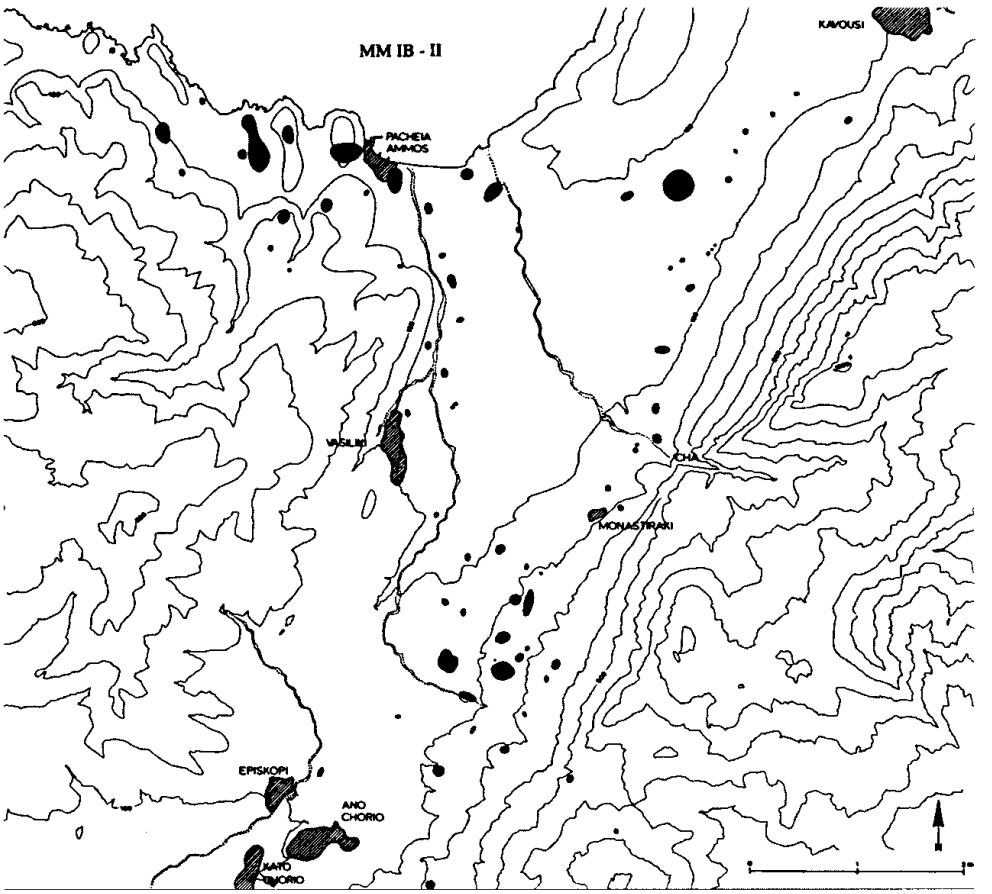

Fig. 2. Protopalatial (MM IB - II) Pattern of Settlement in the Survey Region.

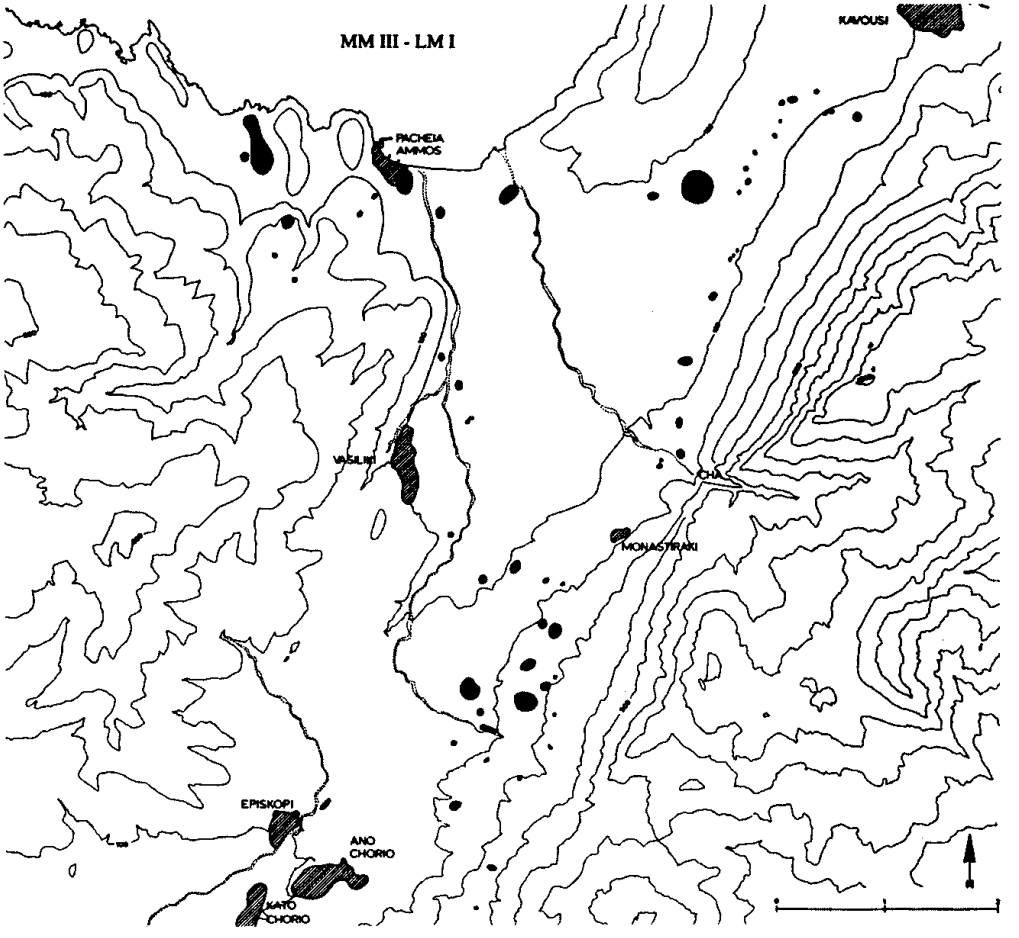

Fig. 3. Neopalatial (MM III - LM I) Pattern of Settlement in the Survey Region.

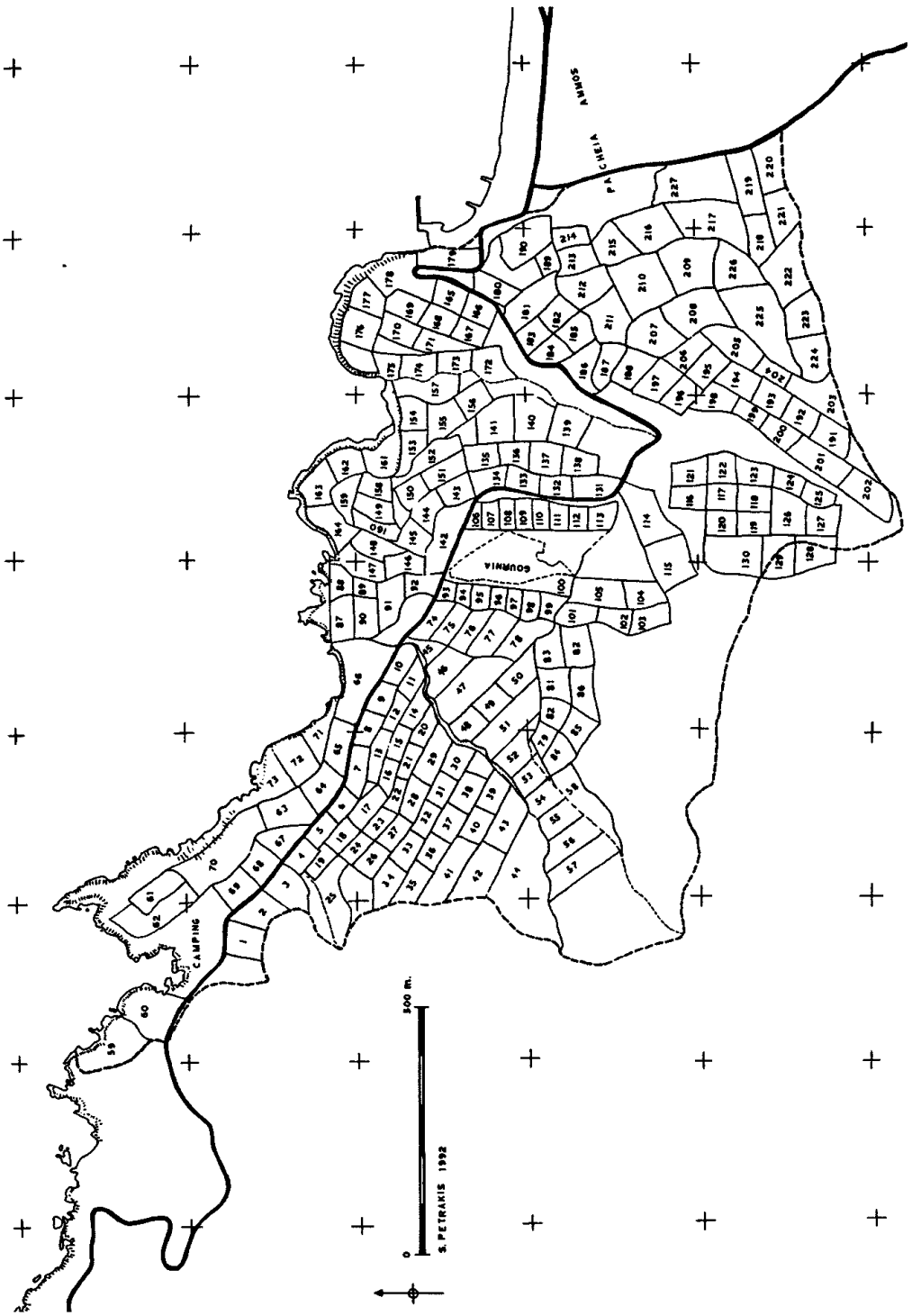

Fig. 4. Area Surveyed during 1992 by the Gournia Project. Survey Transects are marked by number.

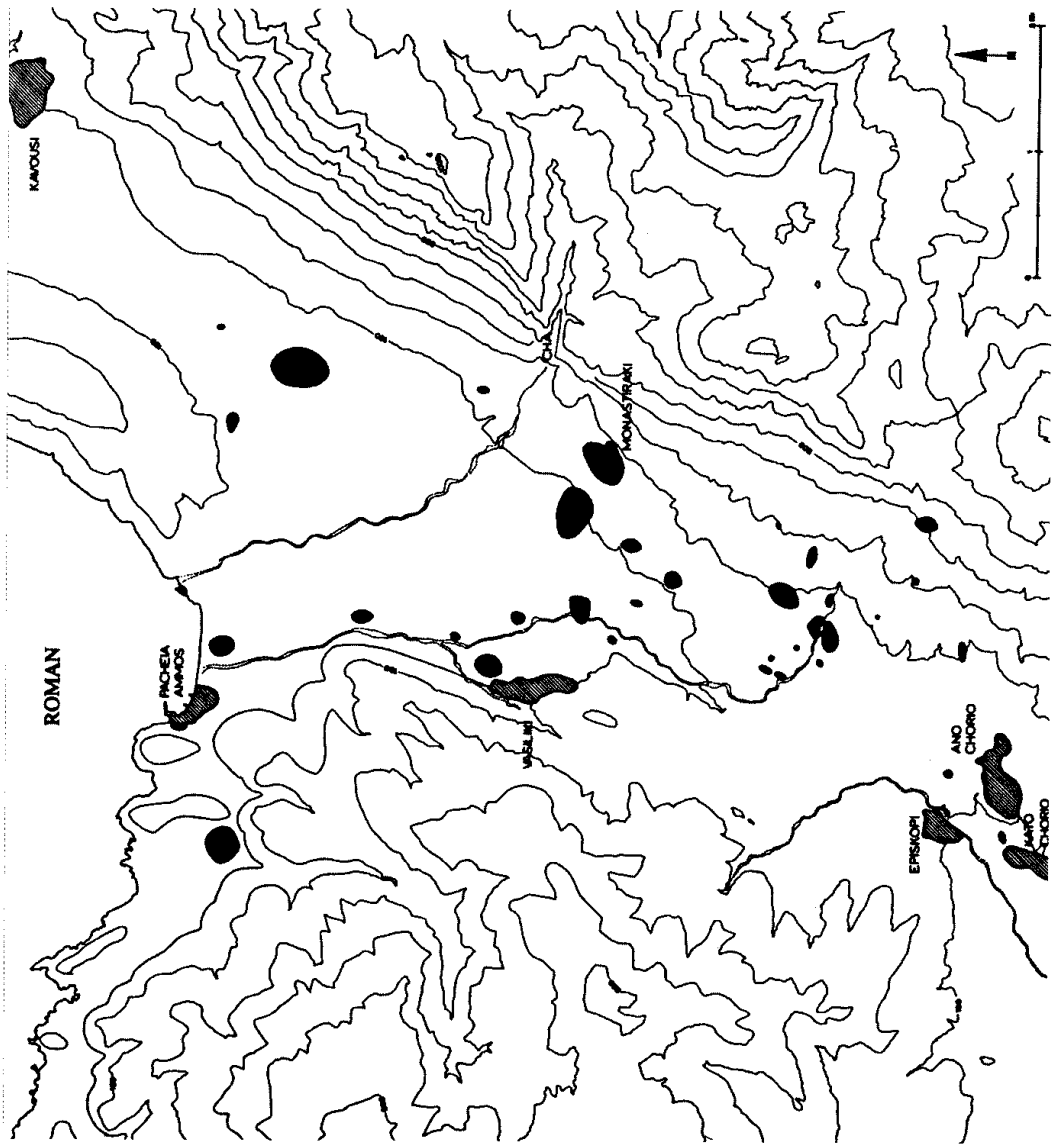

Fig. 5. Pattern of Roman Settlement in the Survey Region.