Abstract

In the last decade archaeological research has resulted in advances to our knowledge of Cypriot Prehistory. The results of recent excavations particularly corroded the thoughts and theories of the 1930’s. The former description of Cypro – Anatolian relations as a ‘slight possibility’ is no longer tenable. Two important sites which have played a role in this change are Parekklisha-Shillourokambos and Akanthou-Arkosykos (Tatlısu-Çiftlikdüzü) (Fig. 1). Both sites have exclusive discoveries: they are the first two sites where cattle bones and, more importantly, a large number of obsidian blades were found alongside particular styles of picrolite artefacts (Fig. 2). The geographical position of Akanthou/Tatlısu, the site with the largest number of obsidian blades so far discovered in Cyprus, on the northern coast proves to have played a very important role in Cypro-Anatolian relations during the 9th millennium BC.

Prehistoric Archaeology in Cyprus

The first scientific archaeological excavations to push the island’s historical past back before the Archaic Greeks to the Neolithic period, were carried out by Einar Gjerstad, the leader of the Swedish Cyprus Expedition in Cyprus between 1927-1931. This first scientific research project, a milestone in the history of archaeology on the island, included such sites and discoveries as the treasures of the Vouni palace; large human and animal terracotta figurines discovered at the temple of Ayia Irini; the Idalion excavations; the Enkomi Late Bronze Age tombs; the Nitovikla fortress; and the Lapithos Bronze Age cemetery. The Swedish Cyprus Expedition members, the first to investigate a Neolithic site on Cyprus, excavated two important Neolithic settlements. One of these sites is located off the western end of the Morphou bay, 100 metres from the coast on Petra tou Limniti (the Rock of Limniti), a small island 150 metres long, 30 metres wide and only 50 metres high. The island is clearly visible from the Vouni palace and attracted the attention of the team members during the excava-
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One Sunday morning, when the expected rental boat did not turn up for the appointment, team members swam to the island and discovered the Neolithic site. According to Gjerstad, the place was riddled with rats and dust so that in two weeks he concluded the excavation and returned to the civilisation of the Vouni palace.

*After two weeks of digging during which we fought against rats and Stone Age dust the work on Petra tou Limniti was finished. Alfiros put on a clean, white shirt. Lazaros sounded his shell for the last time and once again attached his whistle to his watch chain. We left Petra tou Limniti, pioneers in a prehistoric wilderness, and returned to the palatial civilisation of Vouni.*

Einar Gjerstad, in his book *Ages and Days* (1980) refers to the chapter on Petra tou Limniti as the ‘Awakening of the island.’ Yet, this work was not only the awakening of the island but also the awakening of the undiscovered Neolithic period and the prehistory of Cyprus. In 1924 Einar Gjerstad had excavated at Frenaros-Vounastiri, a site 10 km south of Famagusta, before the beginning of the Swedish Cyprus Expedition. Due to the lack of ceramic evidence and other artefact assemblages, Gjerstad dated both Petra tou Limniti and Frenaros to the Neolithic period. The only difference he discerned between the two sites was that although the same building materials and techniques were used, Vounastiri had longer and straight walls with right angled corners.

The printed results of the Swedish Expedition at the end of their excavations became the first scientific publication on the archaeology of Cyprus. The 12 volumes of this work span the long Cypriot chronology, from the Neolithic to the Roman period. The photographs, line drawings and reports set Cypriot archaeology on a solid foundation and contributed to the establishment of the expected high standards competing with today’s work. Although the Swedish Cyprus Expedition’s volumes have not been updated since their publication, they have never lost their undisputed importance and are still quoted as the core source for many other works. For these reasons they are regarded as the bible of Cypriot archaeology. Gjerstad was the first scholar to explain to his colleagues working in Cyprus that long before the Greek civilisation on the island there were Neolithic inhabitants, possibly arriving from Anatolia because of the obsidian of Anatolian origin he discovered at Petra tou Limniti. His pioneering work encouraged the beginning of serious excavations in the Neolithic period on the island, making Gjerstad the seminal scholar conducting research on prehistoric Cyprus.

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* All the earlier records and publications of the site uses the name of the village Akanthou. In order to avoid confusion the most commonly published and used name of the site is used here alongside its present name Tatlısu.

1 Gjerstad 1980, 16.
3 Frenaros is also written as Phenaros.
4 Gjerstad 1980, 22.

5 Recent research demonstrates that round houses in Neolithic Cyprus indeed had a rectangular ancestor as evidenced at Akanthou-Arkaşiko/Tatlısı-Ciftlikdüzü and Frenaros. The latter deserves to be investigated again under this light, since new evidence suggests that the early Cypriot architectural plan may not be round. The possibility of other early sites also having this type of architecture may result in the discovery of the original or the ancestor of Cypriot architectural form.
After Gjerstad, the second most important person undertaking research on the Cypriot Neolithic was Porphyrios Dikaios. Trained in France, a country where world prehistory was written, Dikaios was the discoverer and the first director of the excavations at Khirokitia. The site is now a UNESCO world heritage site, and his name is forever chiselled as one of the pioneers of research on the Aceramic Neolithic. His discoveries not only established Khirokitia as an important settlement of the Aceramic period, but also contributed the name ‘Khirokitia culture’ to the people of this era. Unlike Gjerstad, Dikaios claimed that the Khirokitia culture originated from the Levantine coast. He further claimed that the roofs of Khirokitia were domed (thus calling the buildings *tholoi*), similar to the cultures of various sites such as Tepe Gawra, Tell Halaf, Arpachiyah, Jericho and Byblos.

Results of the work carried out on the Neolithic and Chalcolithic periods between the dates of 1924 and 1936 reached us unchanged until the 1990’s. The changes were due to the new discoveries at the sites of Parekklisha-Shillourokambos located on the southern part and Akanthou-Arkassykk or Tatlisu-Çiftlikdüzü on the northern coast of the island. The excavation of these two sites unearthed new and important discoveries, pushing the evidence of settled human existence a thousand years earlier than previously thought and renewing the earliest prehistoric chronology of the island.

Khirokitia 7000 B.C.

Khirokitia culture, first dated to 3700-3400 B.C. and later to 7000 B.C., represents the developed culture, architecture, domesticated animal bones, plants, and representative stone tool assemblages of the Aceramic period. This assemblage indicates the possibility that the developed Khirokitia culture could have originated from the neighbouring countries of the Near East. The dozen obsidian blades discovered at Khirokitia were thought to be of Anatolian origin, arriving via an indirect route from Syria/Palestine to Cyprus, eliminating the possibility of direct contact with Anatolian Neolithic cultures. Comparisons were made between the architectural traditions of Khirokitia and Jericho and for 70 years the first Cypriot settlers were widely accepted to have come from the Levantine coast. During that time, the cultural differences between Anatolia and Cyprus were used as evidence against links and therefore origins; however, while the Anatolian differences were stressed, often the same valid cultural differences for the Near Eastern cultures were ignored. In the last 70 years there have been no discoveries to predate the Khirokitia culture. Because of this, the fully developed Khirokitia culture was thought to be a migrant arrival rather than a locally developed Cypriot Neolithic culture. This assumption has been dramatically altered by recent discoveries. The high interest in research of the rich cultural remains of the Bronze Age and the civilisations of later periods in Cy-

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6 Dikaios 1953, 339.
7 Dikaios 1953, 341.
9 Dikaios 1953, 339.
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prus, their temples, tombs (with their valuable contents), and above ground remains naturally attracted much more attention than these early settlers producing stone tools.

Akrotiri-Aetokremnos (9300 B.C.)

In 1980, under the direction of Alan Simmons and with the financial support of the National Geographic Society, excavations on the Akrotiri peninsula revealed bones belonging to the first residents of the island: pigmy hippos and dwarf elephants. Thousands of bones belonging to pigmy hippos, together with man made flint tools, brought a different dimension to Cypriot prehistory. Lack of similar tools in the later periods gave rise to the thought that these hunter-gatherers dating approximately to 9000 B.C must have arrived on the island and caused the extinction of these slow moving mammals. Their arrival either resulted in the animals’ extinction for reasons unknown or that the settlers returned to their homeland after the easy hunt was over. At Akrotiri the evidence for the simultaneous existence of humans and pigmy mammals is still controversial, as is the 2000 year lacuna between Akrotiri and Khirokitia culture.

Kalavassos-Tenta (7600 B.C.) and Parekklisha-Shillourokambos (8200 B.C.)

During the last 15 years, excavation work on two sites in south Cyprus, Parekklisha-Shillourokambos, Kalavassos-Tenta, and one in north Cyprus, Akanthou/Tatlısu, are dated roughly to 8200 B.C. and have brought to light evidence that will close the gap between Akrotiri and Khirokitia. The early phase of Shillourokambos, dated to 8200 B.C., includes evidence for semi-domesticated pigs, goat, sheep, cattle and other animals, as well as over 400 obsidian blades. The existence of earlier sites, and particularly Shillourokambos, have shown that the Khirokitia culture could have indeed developed on the island and that hundreds of obsidian artefacts could only come directly from Anatolia, thereby initiating new discussion on the subject of origin and colonisation. However, many archaeologists continued to claim that hundreds of obsidian artefacts are insufficient in number and pointed out that the geographical location of Shillourokambos on the southern shores of Cyprus and its closeness to the Near Eastern shores provide a possible arrival route.

Akanthou-Arkosyko/Tatlısu-Çiftlikdüzü (8200 B.C.)

Akanthou is located on the north eastern coast on the edge of the Karpaz Peninsula. About fifty kilometres or so due north of Akanthou/Tatlısu is the Anatolian coast, on a very clear day these neighbours are visible to each other. Akanthou/Tatlısu is situated on a fifteen meter high cliff. Due north of the site at

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10 Dwarf hippopotamus bones representing 505+ MNI form 98.3 % of all the animal species discovered. (Simmons, 1999; 157).
11 Simmons 1999, 137-151.
12 Guillaine 2003, 92.
13 In 2004 carbonised seeds were sent to Oxford laboratories for C 14 analysis. The results demonstrate that the first phase of Akanthou/Tatlısu dates to 8200 BC.
the foot of the cliff, a perennial fresh water spring provided the settlement with water. On the west, is a dry river bed and to the south exists rich and fertile soils suitable for agriculture. Further to the south rises the forests of the Pentadaktylos/Besparmak mountain range.

Akanthou/Tatlısu was discovered in 1931 during the surveys conducted by the Cyprus Museum and was recorded as Akantho-Arkosykos. In 1996, during systematic field survey works in the area, the archaeological importance of Akanthou/Tatlısu was more fully recognised. In 1999 the Department of Archaeology and Art History of Eastern Mediterranean University started more detailed archaeological work in the area followed by rescue excavations\(^\text{14}\) (Fig. 3).

In 2003, geophysical survey work in the area confirmed that the spread of the settlement predicted by the 1996 survey work, based on surface artefacts, was a correct estimate of the settlement’s size. Based on anomalies revealed in the geophysical investigations, the settlement measures 140 by 280 metres. The successful geophysical survey with such a large settlement, and on a Neolithic site, was a first in Cyprus. Following excavation of a trench to test the resistivity readings, a magnetometry survey is planned in the area.

The Architecture of Akanthou/Tatlısu

Preliminary excavations revealed a total of six dwellings, all representing different shapes and construction material. They are approximately 5m in diameter and are either square or rounded. Although the houses represent the same phase, they were built at different times. The floors are plastered and the walls are of mud-brick on stone and mudbrick foundations. The exterior and interior of the houses are plastered with lime and painted with dark brown or dark red ochre. Some of the dwellings contain hearths and ovens. The walls of the houses abut each other.

Structures built on posts are also evidenced by many postholes uncovered at the site. Some of these are very deep (Fig. 4). Postholes representing structures are also evident in the early Aceramic period in Cyprus at sites such as Tenta and Shilbourakambos as well as Akanthou/Tatlısu, and are a characteristic feature of the early Aceramic period in Cyprus.

The floors are repeatedly re-plastered, showing clear periodic renewal. A collapsed wall surface trapped between the floor and the mudbrick ensured the preservation of painted wall plaster. This evidence strongly suggests that the walls were also periodically re-plastered and repainted. A stone mortar discovered in one of the dwellings with colour stains on one side and a fragment of the same material (ochre) with rendered sides give us a very clear indication about the techniques used for painting.

Plastered Basins

A total of 7 plastered basins were discovered both inside and outside the dwellings. The basins are round or oval in shape, about 70 cm in diameter and 50 cm deep. Almost all of the basins were

\(^{14}\) Şevketoğlu 2000, 75-79, 117.
filled with rounded stones (Figs. 5, 6 and 7). Although first interpreted as pot boilers, there are no traces of burning or heat cracks in the stones. These forms are not known in the later periods and are so far not found in other contemporary sites in Cyprus, making them the first and only examples of such basins.

**Lime or gypsum plaster production**

The analysis of the plaster is not yet concluded; therefore it is not possible to say whether its components are gypsum or lime, although both materials are commonly used in prehistoric Cypriot sites.

At the south west corner of the excavation trench, a pit with brown colour plastering containing a pile of fire cracked chert was discovered. Around this pit there were four other smaller shallow round pits. These smaller pits were 40 to 60 cm in diameter and 2.50 metres apart from each other. Inside the pits several layers of white lime or possibly lime plaster was found. The regular distances between the pits and their uniform sizes seem to have a purpose so that they can only be interpreted by the excavators as lime mixing areas. Beside these pits, five other round, straight sided, flat bottomed pits, 80 cm in diameter, were found. The fill in these pits was light grey in colour and was made up of several layers. In one example there were 11 layers (Fig. 8). It is assumed that at the end of each mixing, a layer dried to create a solid deposit at the bottom of the pit, eventually filling it and destroying its function.

Three other pits of different sizes were purposefully placed in the ground and may have had functions related to mudbrick or plaster making. When compared with other sites in the neighbouring region, such as Ain Gzal15 in Jordan and Yiftahel16 in Israel, there is a very clear connection with Neolithic plaster production technology at other sites. Both in Israel and Jordan, these kinds of structures are interpreted as communal areas for mudbrick and lime plaster firing pits/ovens. Substantial amounts of plaster fragments applied on the exteriors of walls and on floors are also known from Çayönü17. The fragments discovered in Akanthou/Tatlısu in association with architecture demonstrate that lime was extensively used in architecture: on walls as fine smooth plaster, on the floors (with grains of sand and some larger grained inclusions), and between some mudbricks as mortar. Although visual and descriptive similarities match the material from Çayönü Tepesi, this comparison can not go further than speculation until the analyses of samples from Akanthou /Tatlısu are completed.

**Artefacts**

Due to their origin and quantity, obsidian artifacts form the most important group at Akanthou /Tatlısu (Figs. 9, 10, 11). The count of more than 4000 pieces is the largest number recorded from any site in Cyprus. Analysis has shown that the source of obsidian used at Akanthou was central Anatolia18. The second largest number of obsidian artifacts is known

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15 Rollefson 1990; Garfinkel 1987b.
17 Gourdin – Kingery 1975, 139.
18 Şevketoğlu, Herling and Karsper (forthcoming).
from *Shillourokambos*\(^{19}\), with 217 pieces and the third from Kalavassos-Tenta\(^{20}\) with 32 pieces.

The large amount of obsidian, discovered at all levels of the site, can only be interpreted as a sign of continuous contact with Anatolia. The blades are similar to the Kömürçü-Kaletpe types and due to the lack of flakes and cores at the Akanthou/Tatlısu, these tools were possibly imported as finished artefacts.

Chert, however, is local and could have come from two different parts of the island. The first source is near Kantara mountains to east of the site\(^{21}\) and the second area is in the Troodos mountains, an area known for fine chert (Figs. 12, 13, 14). Unlike obsidian, the chert assemblage of Akanthou/Tatlısu, along with blades and scrapers, included the rare discovery of an arrowhead\(^{22}\). Polished axes (Fig. 15) and chisels, as well as hatched tokens made of picrolite (Fig. 16) from Troodos mountains were found, along with limestone grinders and querns (Fig. 17). One pumice piece could have been brought to the island with the obsidian, as both are commonly found in central Anatolia. Evidence of flattening on one side of the pumice stone suggests that it may have been used for polishing bone tools and/or for smoothing plastered surfaces. Pendants (Fig. 18) and fragments of stone vessels (Fig. 19) display evidence of repairs in antiquity by means of drilling opposing holes for doweling. A chunk of dark red/brown ochre also displays clear evidence of rubbing on its sides.\(^{23}\) Bone tools, such as needles (Figs. 20, 21), awls, fish hooks (Fig. 22), beads from variety of shells (Fig. 23) and stone can also be counted among the small finds discovered at Akanthou/Tatlısu.

**Animal Bones**

The study of animal bones\(^{24}\) found at Akanthou/Tatlısu has shown that the animals were semi-domesticated and similar to those discovered at *Shillourokambos*. The existence of moufflon in particular, and the presence of cattle, although in very small numbers, are significant. Previously the earliest evidence of cattle bones were dated to the Early Bronze Age (2500 BC). Fallow deer, with fundamental size differences between male and female, pig, dog and fox (the latter of a smaller size than the known modern types) are some of the other animals discovered at Akanthou/Tatlısu. The fallow deer is thought to be one of the animals which may have been brought to the island by these early colonists. The fish vertebrae represent deep sea fish, like tuna and shark, as well as small fish from coastal habitats. The unique discovery of almost complete (due to the excellent preservation environment) carcasses belonging to marine turtles (Fig. 24) adds further interest to the investigation of the relationship between ancient marine life and humans.

\(^{19}\) Briois et al. 1997, 104

\(^{20}\) Todd 1986, 15.

\(^{21}\) Personal communication from Lother Herling, Akanthou/Tatulu chipped stone specialist.

\(^{22}\) Arrow heads are very rare in Cyprus.

\(^{23}\) A similar example was also found at Kalavassos - Tenta

\(^{24}\) Frame 2003.
Conclusion
Field walking and geophysical surveys carried out on the site have demonstrated that the settlement spread over a large area and represents a more extensive settlement when compared to other known contemporary prehistoric sites of the Aceramic period. The site was occupied over an extended period and changed with time. Both the surface finds and the sieving of the spoil heaps in 1999 left by a chicken farmer’s excavations, together with the geophysical results, point to some kind of ancient human activity across the entire site. The well preserved architecture and the varied construction materials and techniques represent the earliest examples of this type of architecture in Cyprus. During the 2002 season, under a collapsed wall, approximately 400 carbonised seeds were discovered next to a hearth. These well preserved seeds will throw light on the vegetation of the period, as they did with the dating of the site. Equally significant, well preserved animal bones will guide us in understanding more about the domestication of animals and the subsistence economy of Cyprus’ early settlers. Forthcoming excavation seasons will provide more substantial evidence and contribute further to our understanding of the site. Future analyses of obsidian, plaster, mudbrick, and botanical remains, C14 dating, and the study of chert and obsidian artefacts will bring us closer to more definite conclusions and to a better understanding of Cypro-Anatolian relations.

The richness of natural resources in Cyprus and at Akanthou/Tatlısu ten thousand years ago laid a path for an uninterrupted cultural development at the site for at least a thousand years. We will continue to ask ourselves whether the Akanthou/Tatlısu culture continued its contact with Anatolia, and used obsidian, or if they forgot this link over time and started to use chert instead, as at Khirokitia. Just as there was 70 years of adventure and research before the discovery of Shillourokambos, it may be that there are many more sites waiting to be discovered which patiently hold the answer to this question.

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