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## THE EARLIEST CYPRIOTS

### Introduction

Recent and exciting discoveries have rewritten not only the earliest prehistory of Cyprus but have wider ranging implications throughout the Near East. This is particularly true for the Neolithic period, the economic and social transformation from mobile hunting and gathering to domestic food production and sedentary villages (Simmons 2007). While the Mediterranean islands produced some of the most sophisticated ancient cultures in the world (Patton 1996), our knowledge of these islands' earliest occupants has been relatively limited. There is, in fact, little evidence that most of the Mediterranean Islands were occupied prior to the Neolithic. The traditional paradigm was that the islands were late recipients of Neolithic colonists, who imported complete Neolithic packages but left few material linkages to their homelands. Many believed that the island Neolithic was little more than a footnote within the broader Neolithic world. For Cyprus at least, this is no longer the case. Studies over the past two decades have demonstrated that Cyprus had both a pre-Neolithic occupation as well as an earlier variant of the Neolithic that is contemporary with developments on the mainland. These new investigations are dramatically fueling the debate of when and why the island was occupied, and its role within a wider Neolithic world. So substantial have been these discoveries that no less than four recent volumes devoted to the early prehistory of Cyprus have been produced over the past few years (Guilaine and LeBrun 2003, Peltenburg and Wasse 2004, Steele 2004, Swiny 2001). In this contribution, I provide an overview of these developments, beginning with pre-Neolithic discoveries and concluding with those related to the Neolithic.

### Cyprus Before the Neolithic

Over the years, many claims have been made for pre-Neolithic remains on several Mediterranean Islands (summarized in Simmons 1999c:14-27). Critical examination of these, however, shows that they do not do not stand up to critical scrutiny. Many years ago, Stanley-Price (1977b:69) provided two simple criteria for evaluating such claims: 1) the materials must exhibit features exclusively characteristic of the Paleolithic or Mesolithic (Epipaleolithic) and 2) the materials' context must be clearly of Pleistocene age. Although a pre-Neolithic occupation must by definition be Epipaleolithic or earlier, it is conceivable that such materials, reflecting adaptations to islands, would not be directly comparable with Epipaleolithic (or earlier) remains from elsewhere. Basing cultural affiliations on artifact similarities alone can be misleading and dangerous, and may not account for functional, as opposed to chronological, differences in various technologies and typologies. Far more important is the need to obtain materials in good context that can be absolutely dated (e.g., by the radiocarbon method). In addition, depending upon where one draws the boundary line, pre-Neolithic material need not necessarily be "Pleistocene"--it could include

materials from the early Holocene. Stanley-Price's second criterion is equally significant. Context is all important, and a problem here is that many pre-Neolithic sites, usually reflecting the remains of hunters and gatherers, tend to be small and have a low archaeological "visibility." Oftentimes, this can be misleading, as even such sites can be more complex than they initially appear (Simmons 1998). Regardless, Stanley-Price's criteria are useful as general guidelines, and certainly any claims for pre-Neolithic materials must demonstrate both a chronological antecedence to the Neolithic and an artifact assemblage sufficiency distinct from the Neolithic to warrant separate cultural classification.

Additionally, one obvious aspect of proposing human visits to any island is the need for an adequate sea faring technology. Marine travel as early as ca. 12,000 B.P. already was known in the Mediterranean, based on obsidian from the island of Melos found at Frachthi Cave in mainland Greece (Perlès 2001:36). Melos, however, is not a great distance from the mainland, and several interspersed islands could have provided convenient "stepping stones." Voyaging to oceanic islands such as Cyprus was a more difficult task. Subsequent to the late Miocene, Cyprus always has been isolated by open sea. During the maximum sea-level recession, there was a gap of at least 30-60 km between Cyprus and Anatolia. Slightly over 100 km today separates Cyprus from Latakia in Syria and in clear weather, the island is visible from the mainland (Simmons 1999c:18-19 and citations therein). Despite modest distances, however, Held (1989a:15, 1989b:78-104) concludes that Cyprus was a rather difficult and isolated target, partially due to a lack of "stepping stone" islands.

Thus, given these comments, can a pre-Neolithic occupation in Cyprus be documented? As with other islands, there have been claims for such occurrences. Two widely cited ones are by Stockton (1968) and Vita-Finzi (1973). Critical examination of both shows them to be less than convincing. Slightly more convincing, yet still unverified, claims have been made by others but none of these meet the minimal criteria noted by Stanley-Price above, and upon careful examination, they do not stand up to critical scrutiny (Simmons 1999c:21-27).

There also are hints of early cultural materials from at least two paleontological sites containing the remains of the endemic and extinct Cypriot pygmy hippopotamus (*Phanourios minutus*) (Bate 1906; Boekschoten and Sondaar 1972). The first site is Xylophagou *Spilia tis Englezous*, in southeastern Cyprus, which contains *Phanourios* and some *Monodonta* shell. The cave, which is one of the original sites investigated by Dortha Bate, who first scientifically documented the pygmy hippopotamus of Cyprus. The other paleontological site that may contain both *Phanourios* and cultural remains is Akanthou *Arkhangelos Mikhail* in northern Cyprus (Reese 1995:86-131). While this site is slightly more convincing than the first, at present neither is particularly compelling in suggesting a cultural association, and thus presently must be considered solely as paleontological sites.

This negative assessment of a pre-Neolithic occupation of Cyprus changed dramatically with the documentation of the Akrotiri Phase, based on the discovery of Akrotiri *Aetokremnos* on the southern coast (Simmons and Associates 1999). This small, collapsed rock-shelter, ranks as one of the few earliest well-documented human presence on any of the insular Mediterranean islands. Not only is *Aetokremnos* the oldest site on Cyprus, dating to ca. 10,000 cal. B.C., based on over 30 radiocarbon determinations (Wigand and Simmons 1999), but more controversially, it is associated

with a huge assemblage pygmy hippopotami. Over 500 individual hippos are present, as are smaller amounts of other animals (including at least three dwarf elephants and numerous large birds).

In addition to the huge faunal assemblage, the chipped stone from *Aetokremnos* is unique to Cyprus, consisting of a blade and bladelet dominated technology. The most distinctive and potentially diagnostic tool elements are small "thumbnail" scrapers. While such artifacts had not previously been documented in Cyprus (but see below), they are consistent with what would be found on the mainland during this time. *Aetokremnos* also contains several features, primarily hearths and "casual hearts." Stratigraphically, the bulk of the hippopotamus remains occurs in the lower stratum (Stratum 4), although approximately 12% of the chipped stone also is present in this stratum. The upper stratum (Stratum 2) contains most of the chipped stone and features, although approximately 4,000 hippopotamus bones also occur here. It is important to note that the stratigraphy is very "clean," with no evidence for the mixing of levels.

While there are numerous Pleistocene fossil sites in Cyprus and other Mediterranean islands (e.g., Sondaar 1986), these animals have not previously been associated with humans (although see the comments made earlier regarding Xylophagou *Spilia* and Akanthou *Arkhangelos Mikhail*). Skeptics of *Aetokremnos* dispute this connection (e.g., Ammerman and Noller 2005; Binford 2000; Bunimovitz and Barkai 1996), but a careful reading of the evidence strongly supports the direct association of pygmy hippopotami with cultural activities. When all aspects of *Aetokremnos* are examined, the most parsimonious explanation is cultural in nature. A small group of humans could have been the trigger to eradicate remnant hippopotami populations who were suffering ecological stress due to climatic change, and were thus on the verge of decimation. Thus, collectively, the evidence suggests that humans were at least partially instrumental in finalizing the extinction of these unique animals (Reese 1996; Simmons 1999a,b, 2001, 2004a).

*Aetokremnos* is significant for several reasons. First, it firmly establishes a human presence on Cyprus in the 11th millennium B.C., making it one of the earliest occupied Mediterranean islands. Here the distinction made by Cherry (1981, 1990) between "occupation" and "colonization" is important, as *Aetokremnos* appears to represent a relatively short-lived (ca. 500 years or less) occupation rather than an actual colonization episode. Second, *Aetokremnos* has ramifications for how islands are occupied, indicating that a Neolithic technology was not necessary. Third, *Aetokremnos* is one of the very few sites anywhere in the world dating to the Pleistocene/ Holocene boundary that shows a direct relationship between extinct megafauna and human hunters. Fourth, *Aetokremnos* challenges earlier suggestions that islands such as Cyprus could not have supported hunter/gatherer populations (e.g., Evans 1977:14-15; Cherry 1981:58-59). Cherry (1981:59), however, also notes that only with the inception of agriculture would the islands be perceived as appropriate places for permanent colonization, thereby leaving open the door for more temporary settlement. Finally, *Aetokremnos* also has challenged research paradigms that exist on many of the Mediterranean islands on the nature of archaeological data. The archaeological "signature" of non-sedentary peoples often is quite ephemeral, resulting in low-visibility sites, which have a history of not receiving much research attention on most of the islands (cf. Simmons 1991, 1998). *Aetokremnos* has demonstrated that such sites' small size can belie their significance.

Although *Aetokremnos* is thus far the sole well-defined representative of the Akrotiri Phase, recent investigations suggest the possibility of contemporary coastal sites located on aeolian dunes near Nissi Beach and north of Paphos (Ammerman et al. 2006; Sorabji and Ammerman 2005). Given these claims of contemporary sites and the support that *Aetokremnos* provides, it is curious that Ammerman and colleagues (e.g., Ammerman and Noller 2005, Ammerman et al. 2006:3-4) mischaracterize certain aspects of *Aetokremnos*. For example, they incorrectly state that we claimed that *Aetokremnos* was coastal when, in fact, we (Mandel 1999:68-69; Simmons 1999c:12-14, 1999b:315) concluded, as they do, that sea-level was lower at the time of occupation, thereby providing a wider coastal area than at present. In addition, while they question our claim of the association of pygmy hippopotami with cultural remains (from Level 4), they end their discussion with a scenario in which humans are indeed hunting these animals (Ammerman and Noller 2005: 540-541). Throughout, they provide misleading characterizations of our arguments (e.g., relating to cut-marks or chronology, or where they curiously omit radiocarbon dates from Level 4 [Ammerman et al. 2006:3], which show a close contemporaneity with Level 2).

Regardless, what is important in the context of this paper is the possibility of contemporary coastal sites. Bolstering this argument, there are additional suggestions of sites both contemporary to *Aetokremnos* and dating to the Pre-Pottery Neolithic A (PPNA) (McCartney et al. 2006) that, significantly, are inland rather than coastal. Thus far, the antiquity of all these sites is largely based on rather compelling technological and typological similarities to the chipped stone from *Aetokremnos*. I suspect that these claims of early sites will be proven correct, since logic dictates that *Aetokremnos* was not, in fact, the sole representative of the Akrotiri Phase. I do, however, urge interpretative caution. It should be recalled that the antiquity of *Aetokremnos*, a buried and intact site, was initially greeted with considerable skepticism that only was dispelled by the documentation of a large number of radiocarbon determinations from secure contexts. Thus, claims for early sites must be supported by rigorously defensible data sets that include, above all, solid radiocarbon dating as well as detailed and artifactual studies and systematic geomorphic investigation. It would be unfortunate for these sites to get into the literature as solid pre-Neolithic occurrences before careful analyses confirms this. On-going studies should clarify this situation.

In summary, we now know that Cyprus was, indeed, occupied prior to the Neolithic. The nature of this occupation, however, is still unclear. Did it consist of temporary visits from the mainland, or was it more substantial? If so, does the Akrotiri Phase represent the foundation for the subsequent colonization of the island?

*Aetokremnos* seems to support a "two-stage" migration/colonization model, representing the first stage in which "explorers" or "scouts" assessed the suitability of colonizing pristine and unfamiliar landscapes (cf. Peltenburg et al. 2000; Rockman and Steele 2003). The second stage is effective colonization and settlement by a wider range of people (Fiedel and Anthony 2003:153). Those responsible for *Aetokremnos* could have been generalized Late Natufian or early Neolithic (PPNA) people who arrived on an unoccupied island, found residual herds of a unique fauna, hunted them into extinction, and then left. But they did not forget Cyprus. And it is here where exciting new research has added to the complexity of the Near Eastern Neolithic.

### Early Neolithic Farmers

Although many of the Mediterranean islands have Neolithic occupations, most archaeologists believed that these first colonists were relatively late, ceramic-bearing Neolithic peoples. They arrived from the mainland and developed relatively isolated and in many ways “impoverished” insular cultures compared to their Levantine or Anatolian neighbors (Cherry 1990; Broodbank 2000). Cyprus was little different, except that the Cypriot Neolithic is the most developed and oldest of any on the Mediterranean islands, and has an aceramic component (Knapp, Held, and Manning 1994). It likely was during the aceramic Neolithic that Cyprus was actually colonized.

This aceramic Neolithic is termed the “Khirokitia Culture” after the type site for the period, a large and substantial agricultural settlement. During the Khirokitia Culture, lasting from ca. 7000-5800 cal. B.C., there were few Levantine or Anatolian parallels, and overall it was often viewed as less sophisticated than its mainland counterparts. This is expressed by an unrefined chipped stone technology and typology, by the continuance of circular structures rather than a transformation to rectangular ones, and by limited evidence of substantial ritual or symbolic behavior. Khirokitian peoples settled in various locations, but major communities were situated within 10 km of the Mediterranean Sea (Knapp, Held, and Manning 1994:404-406; LeBrun et al. 1987; Stanley-Price 1977a,b, 1979; Todd 1987:186-188).

These colonists apparently arrived on an island with few resources; certainly the endemic fauna no longer existed. They introduced a limited number of domesticated plants and animals, including caprines and pigs, and, apparently, wild deer (presumably for hunting). Oddly, cattle were conspicuously absent until the Bronze Age (Croft 1991:63; Knapp, Held, and Manning 1994:418), despite their occurrence in Neolithic contexts on the mainland and on other Mediterranean islands. The Khirokitia Culture is followed, after an apparent chronological gap, by the Ceramic Neolithic (Sotira Culture). While this is a pattern similar to the mainland, the Sotira Culture also often is characterized as relatively nondescript.

Until the discovery of *Aetokremnos*, the Khirokitia Culture represented the first occupation of Cyprus. *Aetokremnos* presented a chronological dilemma in that it is some 3,000 years earlier and there is little evidence to suggest that it was ancestral to the Khirokitia Culture. Perhaps those responsible for *Aetokremnos* choose not to participate in the tumultuous changes associated with the Neolithic Revolution on the mainland and simply decided to leave for uncharted, but nearby, territory. These people arrived on an unoccupied island, found residual herds of a unique fauna, hunted them into extinction, and then left. But they did not forget Cyprus. It is here where exciting new research has both made *Aetokremnos* more plausible and added to the complexity of the Cypriot Neolithic. The perception that the Cypriot Neolithic was a late phenomenon has disappeared in light of these new data, which document an earlier component, usually termed the Cypro-PPNB (CPPNB) (Peltenburg et al. 2001b; Simmons 2007:232-245).

In this review, I will not discuss the Khirokitia or Sotira Cultures, as they are relatively well known and detailed summaries are available (e.g., Steel 2004:45-82). This omission here in no way diminishes the significance of both of these entities, and certainly the work of scholars such as P.

Dikaos, A. and O. LeBrun, and I. and A. Todd established the foundation for subsequent research on the Neolithic of Cyprus. These periods continue to address important research issues, one of which is that there is perhaps no gap, or at least a much shorter one, between the Khirokitia and the Sotira Cultures (Peltenberg 2004b:84-85). What I want to focus on here, however, is the significance of the CPPNB, as our knowledge of this important period is still in the formative stage.

The CPPNB suggests complex economic strategies utilizing a wide array of landscapes. These new discoveries must be evaluated not only in a Cypriot context, but also from a broader perspective assessing the transmission and subsequent interactions of a "Neolithic Package" from the mainland. They suggest much more complex economic strategies than previously believed. In particular, there is now evidence of cattle. This new research also repudiates earlier prejudices, demonstrating that the Cypriot Neolithic was more sophisticated and of a longer duration than previously believed. The CPPNB exhibits some similarities to mainland PPNB cultures, is roughly contemporary with the late Early PPNB and early Middle PPNB, and is at least 1,000 years older than the KC (Peltenburg et al. 2000, 2001a,b). The relationship of the Cypro-PPNB to the earlier Akrotiri Phase is still unclear, although new dates shorten the chronological gap between the two. These new studies have resulted in a substantially revised early chronology for Cyprus, with the earliest CPPNB dating to ca. cal. 8,500 B.C. (Simmons 2007:234).

The CPPNB presently consists of at least four newly investigated sites and an early component of Kalavassos *Tenta*, an important Khirokitia Culture site. Of these sites, Parekklisha *Shillourokambos* and Kissonerga *Mylouthkia* presently are the best documented. On-going excavations at *Ais Yiorkis* (Simmons 2005) also will contribute to a better understanding of the CPPNB, as will Akanthou *Arkoysko*, although few publications are yet available from the latter. A few additional sites also may date to the CPPNB. These are all located in the central portion of the island and include Ayia Vavara *Asprokremnos*, Politico *Kelaïdhoni* and Agrokipia *Palaeokamina*. These sites have not yet been thoroughly examined, but detailed analysis of chipped stone suggests the same kind of technological shift as seen from the CPPNB to the Khirokitia Culture (McCartney and Gratuze 2003:19; McCartney 2001:432, 2004; McCartney et al. 2006). It seems likely that additional systematic survey will record more early sites. In fact, recent surveys now hint at the presence of both PPNA sites that predate the CPPNB and sites that may be contemporary with *Aetokremnos* (McCartney 2005; McCartney et al. 2006). If these can be verified, and, again, solid radiocarbon determinations in good context are absolute requirements, this would indicate that there is, in fact, no gap between the Akrotiri Phase and the Neolithic. But, what I would like to focus on here is the CPPNB.

At two coastal sites, Parekklisha *Shillourokambos* (Guilaine et al. 1995, 2000; Guilaine and Briois 2001; Vigne et al. 2000) and Kissonerga *Mylouthkia* (Peltenburg 2003a), the earliest occupations have radiocarbon determinations of ca. 8000 cal. B.C. if not slightly earlier. Both sites share artifactual similarities with the Levant and contain complex features, including wells. Significantly, neither is a large village of the type typically associated with the Cypriot Neolithic. Of particular importance is the documentation of limited quantities of *bos* at *Shillourokambos*, thereby placing this important economic species firmly within the early Neolithic of Cyprus. Akantou *Arkoysko* also is coastal, and likely contains cattle as well (Frame 2002).

*Ais Yiorkis* is significant for several reasons, including its location in an upland rather than coastal setting, its early dates (the earliest is ca. 7,900 cal. B.C.), a technologically refined chipped stone assemblage, unusual architectural features, and, especially, its economic implications, since, like at Shillourokambos, limited amounts of bos have been found, as have well-preserved domestic plants (Simmons 2005, 2007:242). *Ais Yiorkis* also has yielded some radiocarbon determinations that date to the early Khirokitia Culture, although its material culture does not show a change to types commonly associated with Khirokitian assemblage. The site also contains plaster and stone circular structures unlike anything yet documented in the Cypriot Neolithic.

What can we say of the nature of the CPPNB, before the formation of the Khirokitia Culture, with its standardized patterns? Although baseline data are still being established, we know that CPPNB sites were relatively small, and that the economy was mixed, consisting of animal husbandry, farming, hunting and, in some cases, fishing (Peltenburg 2003b). What clearly stands out is that none of the CPPNB sites are similar. *Shillourokambos* appears to have been a small village with relatively ephemeral architecture, and *Mylouthkia* also may have functioned as a village, although supporting data are sparse. Early *Tenta* has some features similar to *Shillourokambos*, but we do not know its extent. *Ais Yiorkis* also may be a village, albeit an upland one. Akantou seems to represent a small settlement with sub rectangular architecture that does not fit into the Cyprus scheme at all. Other potential CPPNB sites appear not to contain architecture, although excavation could disprove this. While many sites are coastal, inland CPPNB localities also are known, but poorly investigated, excepting *Ais Yiorkis*.

Of particular importance are the economic implications of the CPPNB, and the new investigations have posed more questions than they answer. In particular, paleobotanical data from at least *Mylouthkia* and *Ais Yiorkis* have yielded dated domestic plants that are amongst some of the earliest in the Near East; the same is true for cattle. Thus, from a pan-Near Eastern perspective, Cyprus greatly complicates the matter by having both domesticated plants and animals during the CPPNB at a time when evidence of morphological domestication on the mainland is limited. It is unlikely that independent domestication occurred in Cyprus, since relevant species are not endemic (but see Willcox 2003:237). The only exception to this is the wild progenitor of domestic barley (Peltenburg et al. 2001a:71; Willcox 2003:234). It is clear that principal economic animals were under enough human control to be transported across the sea (Vigne 2001:57). Vigne (2001:57) has suggested that in light of the early Cypriot remains researchers must now re-evaluate the criteria for determining animal domestication, giving more importance to non-morphological criteria. More recently, Vigne et al. (2003:250-251) have noted that these animals were anthropologically domesticated even if morphological changes had not yet occurred.

The presence of cattle has added to the complexity of the early Neolithic on Cyprus, since these animals have very different herding requirements than caprines or pigs. Cattle have been found at sites that are not traditional villages. This may indicate an economic dichotomy selecting against keeping them in large "traditional" villages and hinting at different types of land use strategies in which herds were rotated to pastures, thus supporting the first model. Cattle may not have been compatible with villages, where forage could have been quickly depleted. On the other hand, most

of the limited cattle remains predate the establishment of large villages. Perhaps by the Khirokitia Culture, cattle simply were not part of the economic suite.

Cattle were common in mainland faunal Neolithic assemblages, and also occur during the Neolithic on other Mediterranean islands (Simmons 2007:258), albeit in later contexts. It seems that once established on these islands, cattle remained significant. In Cyprus, however, current data indicate an early withdrawal or die-off by the Khirokitia Culture. The timing and reasons for this are not clear: what mechanisms attributed to this apparent disappearance until the Bronze Age? The low numbers of cattle could be nothing more than a factor of their large size: one cow will provide more meat and secondary products such as milk, and thus feed more people than will several sheep. Issues relating to the relationship of cattle to other domesticates in terms of feeding and forage requirements, for example, may also be relevant and help explain why cattle apparently did not thrive on Cyprus after the CPPNB. Horwitz et al. (2004:39) suggest that perhaps not enough fresh stock was brought over from the mainland to replenish and maintain the founder herds.

In addition, one should consider that perhaps there were some ritual reasons for cattle's appearance and subsequent disappearance. After all, on the mainland, cattle figured prominently in ritual behavior. Perhaps the earliest colonizers of Cyprus were attempting to retreat from the formalized life that was becoming standardized on the mainland. This could well have included the avoidance of increasingly formalized religious activities. They chose to colonize a new geographic area where they could maintain their traditional lifestyles and ultimately establish their own unique identities. However, they may not have wished to entirely sever their mainland identities. Cattle could have been one ritual element, which also had economic benefits, that was imported to ensure some symbolic ties with the homeland. Once their island identity was established by the Khirokitia Culture, however, perhaps there no longer was a need to retain cattle as a material symbol of the ritual world. Such scenarios, of course, are speculative, and at this point, the role of cattle in Cyprus cannot be adequately evaluated.

### Why Colonize Cyprus?

Why Cyprus was initially colonized may never be fully resolved. Finlayson (2004) urges that we now consider Cyprus as part of a wider PPNB interaction sphere, and that we stop seeing seafaring as an obstacle. As noted earlier, I have argued that those responsible for *Aetokremnos* may have been traditionalists not wishing to participate in the Neolithic Revolution (and by extension, the interaction sphere). Likewise, Ronen (1995), in a provocative article, refers to the early colonists of Cyprus as "Asprots," comparing them to modern and conservative Hutterites of North America. Indeed, he offers interesting reasons why cattle were absent during the Neolithic, although with the discovery of bos at some CPPNB sites, his argument would have to be modified.

Peltenburg (2003b:96-99) provides an alternative, noting that Early Holocene shorelines in the eastern Mediterranean were generally lower than today's. The diminishing littoral, he feels, ultimately had to be abandoned, and coastal Neolithic groups who subsisted on mixed farming, fishing, herding, and hunting economies may have been forced to move. Inland movement would

have been difficult due to the relatively high populations already living there. Hence, the alternate decision of colonizing Cyprus, already known from earlier visits, may have been attractive.

In this context Galili et al.'s (2004) discussion on the traditional "Mediterranean Fishing Village" (MFV) is relevant. This expands on the concept of the traditional Mediterranean subsistence system (cf. Butzer 1996) by incorporating marine resources. On the mainland, the MFV was not established until the PPNC and is, therefore, later than the CPPNB, which Galili et al. (2004:97) feel did not emphasize marine resources. They believe that the MFV did not develop on Cyprus until after the 8th millennium B.P., after its mainland appearance. They do allow, however, that local hunter-gatherers who used marine resources and lived on the Levantine shores could have served as "ferry-men" to transport Neolithic populations to Cyprus (Galili et al. 2004:97). The reasons for the late emergence of the MFV, in their view, is that fishing was a low mode of production, and was only turned to once terrestrial resources became restricted.

### Conclusions

The past several years of research on Cyprus have radically transformed the interpretative landscape of the Near Eastern Neolithic. New research has provided strong data to allow for many models to explain the initial colonization of Cyprus and the expansion of its Neolithic occupation. What then does the Cypriot Neolithic tell us of its role within the wider Neolithic world? By the Khirokitia and Sotira Cultures mainland contacts were minimized and the island assumed its uniquely island persona, but Cyprus was a Neolithic "colony" far earlier and longer than initially believed. This points to the island's role as part of the wider PPNB cultural expression and indeed, the concept of a Mediterranean interaction sphere (cf. Peltenburg 2004a; Simmons 2004b) should be seriously considered. It now seems likely that there also were multiple maritime journeys to Cyprus over a relatively long period of time that resulted in the establishment of a permanent Neolithic presence.

It is even conceivable that Cyprus was a staging ground for exploration further west, such as the Aegean islands or even the Greek mainland, although extremely early Neolithic manifestations in those regions remain elusive (Runnels 1995). Clearly, this new research requires a dramatic re-interpretation of the diffusion and migration of Neolithic peoples and ideas within a wide circum-Mediterranean region. There is no longer reason to believe in one vast Neolithic colonization attempt, and the concept of multiple "pioneer colonizers" (Perlès 2001:62) is more likely.

Neolithic Cyprus has shed its image as an isolated cultural backwater. The island's Neolithic can no longer be considered peripheral to the wider Neolithic world. Rather, from at least the late Epipaleolithic, it was part of the dynamic processes that were occurring over a huge geographic range during this tumultuous time. It is apparent that principal economic plants and animals were under enough human control to be successfully transported by sea to Cyprus during the Neolithic. Cyprus, with its strategic Mediterranean location, was a key component in a world on the cusp of the Neolithic Revolution (cf. Bar-Yosef 2001). These exciting new studies on the island has literally rewritten our understanding of the turbulent events defining the Neolithic. This research has greatly

expanded our understanding of the ways in which humans colonized the Mediterranean islands, ultimately developing some of the most unique cultural systems known in the ancient world.

#### ΠΕΡΙΛΗΨΗ

Η παλιά θεωρία πως η Κύπρος κατοικήθηκε αρκετά αργά τη νεολιθική περίοδο και πως οι κάτοικοι είχαν ελάχιστους δεσμούς με τις χώρες από τις οποίες προέρχονταν δεν φαίνεται πια να ευσταθεί. Σύμφωνα με τη νεότερη έρευνα :

1. Το νησί κατοικήθηκε τρεις χιλιετίες πριν από τη φάση της Χοιροκιτίας. Οι κάτοικοι ήταν ακόμη κυνηγοί και συνέβαλαν στην εξαφάνιση της ενδημικής πανίδας.
2. Τα όρια της προκεραμικής νεολιθικής επεκτάθηκαν και ελάττωσαν το χρονικό χάσμα μεταξύ της φάσης στο Ακρωτήρι και της προκεραμικής φάσης.
3. Η προκεραμική φάση παρουσιάζει δεσμούς με την ηπειρωτική περιοχή.
4. Η ίδια ανωτέρω φάση παρουσιάζει δημιουργία μικρών κοινοτήτων με αγροτικές και ποιμενικές δραστηριότητες.
5. Βοοειδή χρησιμοποιήθηκαν από μερικούς κατοίκους, αν και μέχρι πρόσφατα πιστευόταν ότι η εμφάνισή τους έγινε την πρώιμη εποχή του χαλκού. Η εξαφάνισή τους σε μεταγενέστερες εποχές είναι ανεξήγητη.
6. Κάποια από τα ζώα που εξημερώθηκαν ενωρίτερα στις γειτονικές ηπειρωτικές περιοχές δεν εντοπίστηκαν στην προκεραμική φάση της Κύπρου.
7. Το πιθανό χάσμα μεταξύ της προκεραμικής και της κεραμικής νεολιθικής είναι μάλλον φαινομενικό παρά πραγματικό.
8. Η Κύπρος πρέπει να θεωρηθεί ως μέρος μιας ευρύτερης σφαίρας αλληλεπίδρασης από ό,τι προηγουμένως πιστευόταν. Σ' αντίθεση, η φάση της Χοιροκιτίας παρουσιάζει λιγότερες επαφές και περιορίζεται στα νησιώτικά της χαρακτηριστικά.

#### REFERENCES CITED

- AMMERMAN, ALBERT and JAY NOLLER 2005: "New Light on Aetokremnos", *World Archaeology*, vol. 37, 533-543.
- AMMERMAN, ALBERT, PAVLOS FLOURENTZOS, CAROLE MCCARTNEY, JAY NOLLER and DANIAL SORABJI 2006: "Two New Early Sites in Cyprus", *Report of the Department of Antiquities*, Cyprus, 1-22.
- BAR-YOSEF, OFER 2001: "The World Around Cyprus: From Epi-Paleolithic Foragers to the Collapse of the PPNB Civilization" in S. Swiny (ed.), *The Earliest Prehistory of Cyprus: From Colonization to Exploitation* (Boston: American Schools of Oriental Research), 129-164.

- BATE, DORTHEA 1906: "The Pygmy Hippopotamus of Cyprus", *Geological Magazine* (Decade 5) vol. 3, 241-245.
- BINFORD, LEWIS 2000: "Review of *Faunal Extinctions in an Island Society: Pygmy Hippopotamus Hunters of the Akrotiri Peninsula*, Cyprus by A. Simmons", *American Antiquity*, vol. 65, 771.
- BOEKSCHOTEN, G. and PAUL SONDAAR 1972: "On the Fossil Mammals of Cyprus", *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen, Series B*, 75:306-338.
- BROODBANK, CYPRIAN 2000 *An Island Archaeology of the Early Cyclades*. (Cambridge: Cambridge University Press).
- BUNIMOVITZ, SHLOMO AND RAM BARKAI 1996: "Ancient Bones and Modern Myths: Ninth Millennium BC Hippopotamus Hunters at Akrotiri 'etokremnos, Cyprus?'" *Journal of Mediterranean Archaeology* vol. 9, 85-96.
- BUTZER, KARL 1996: "Ecology in the Long View: Settlement Histories, Agrosystemic Strategies, and Ecological Performance." *Journal of Field Archaeology* vol. 23, 141-150.
- CHERRY, JOHN 1981: "Pattern and Process in the Earliest Colonisation of the Mediterranean Islands", *Proceedings of the Prehistoric Society* vol. 47, 41-68.
- 1990 "The First Colonization of the Mediterranean Islands: 'Review of Recent Research.'" *Journal of Mediterranean Archaeology* vol. 3, 145-221.
- CROFT, PAUL 1991: "Man and Beast in Chalcolithic Cyprus", *Bulletin of the American Schools of Oriental Research* vols. 282/283, 63-79.
- EVANS, JOHN 1977: "Island Archaeology in the Mediterranean: Problems and Opportunities", *World Archaeology* vol. 9, 12-26.
- FIEDEL, STUART and DAVID ANTHONY 2003: "Deerslayers, Pathfinders, and Icemen: Origins of the European Neolithic as Seen from the Frontier" in M. Rockman and J. Steele, (eds.) *Colonization of Unfamiliar Landscapes: the Archaeology of Adaptation* (London and New York: Routledge), 144-168.
- FINLAYSON, BILL 2004: "Island Colonization, Insularity of Mainstream?" in E. Peltenburg and A. Wasse (eds.) *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*, (Oxford: Oxbow Books), 15-22.
- FRAME, SHEILAGH 2002: "Island Neolithics: Animal Exploitation in the Aceramic Neolithic of Cyprus" in W. Waldren and J. Ensenyat (eds.) *World Islands in Prehistory* (Oxford: BAR International Series 1095), pp. 233-238.
- GALILI, EHUD, AVI GOPHER, BARUCH ROSEN, and LIORA KOLSKA HORWITZ 2004: "The Emergence of the Mediterranean Fishing Village in the Levant and the Anomaly of Neolithic Cyprus" in E. Peltenburg and A. Wasse (eds.) *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*, (Oxford: Oxbow Books), 91-101.
- GUILAINE, JEAN and FRANÇOIS BRIOIS 2001: "Parekklisha *Shillourokambos*: an Early Neolithic Site in Cyprus" in S. Swiny (ed.) *The Earliest Prehistory of Cyprus: From Colonization to Exploitation* (Boston: American Schools of Oriental Research), 37-53.

- GUILAINE, JEAN, FRANÇOIS BRIOSIS, JACQUES COULAROU and ISABELLE CARR ÈRE 1995: "L'établissement Néolithique de Shillourokambos (Parekllisha, Chypre). Premiers Résultats." *Report of the Department of Antiquities, Cyprus*, 11-32.
- GUILAINE, JEAN, FRANÇOIS BRIOSIS, JEAN-DENIS VIGNE and ISABELLE CARR ÈRE 2000: "Découverte d'un Néolithique Précéramique Ancien Chypriote (Fin 9e, Debut 8e Millénaires cal.BC), Apparenté au PPNB Ancien/Moyen du Levant Nord", *Earth and Planetary Sciences* vol. 330, 75-82.
- GUILAINE, JEAN and ALAIN LEBRUN (eds.) 2003: *Le Néolithique de Chypre* (Athens: Bulletin de Correspondance Hellénique Supplement 4. École Française d'Athènes).
- HELD, STEVE 1989a: "Colonization Cycles on Cyprus, 1: the Biogeographic and Paleontological Foundations of Early Prehistoric Settlement", *Report of the Department of Antiquities, Cyprus*, 7-28.
- 1989b: *Early Prehistoric Island Archaeology in Cyprus: Configurations of Formative Culture Growth From the Pleistocene/Holocene Boundary to the Mid-3rd Millennium B.C.* (London: Unpublished PhD dissertation, Institute of Archaeology, University College, University of London).
- HORWITZ, LIORA, EITAN TCHERNOV, and HITOMI HONGO 2004: "The Domestic Status of the Early Neolithic Fauna of Cyprus: A View From the Mainland", in E. Peltenburg and A. Wasse (eds.) *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus* (Oxford: Oxbow Books), 35-48.
- KNAPP, A. BERNARD with STEVE HELD AND STURT MANNING 1994: "The Prehistory of Cyprus: Problems and Prospects." *Journal of World Prehistory* vol. 377, 377-453.
- LEBRUN, ALAIN, SOPHIE CLUZAN, SIMON DAVIS, JULIE HANSEN, and JOSETTE RENAULT-MISKOVSKY 1987: "Le Néolithique Précéramique de Chypre", *L'Anthropologie* vol. 91, 283-316.
- MANDEL, ROLFE 1999: "Stratigraphy and Sedimentology", In: A. Simmons and Associates *Faunal Extinction in an Island Society-Pygmy Hippopotamus Hunters of Cyprus* (New York: Kluwer Academic/Plenum Publishers), 49-69.
- MCCARTNEY, CAROLE 2001: "The Chipped Stone Assemblage from *Tenta* (Cyprus), Cultural and Chronological Implications", in I. Caneva, C. Lemorini, D. Zampetti, and P. Biagi (eds.) *Beyond Tools: Redefining the PPN Lithic Assemblages of the Levant* (Berlin: Ex Oriente, SENEPSE 9), 427-436.
- 2004: "Cypriot Neolithic Chipped Stone Industries and the Progress of Regionalization", in E. Peltenburg and A. Wasse, pp.103-122. *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*, (Oxford: Oxbow Books), 103-122.
- 2005: "Preliminary Report on the Re-Survey of Three Early Neolithic Sites in Cyprus", *Report of the Department of Antiquities, Cyprus*, 11-34.
- MCCARTNEY, CAROLE and BERNARD GRATUZE 2003: "The Chipped Stone", in E. Peltenburg (ed.) *The Colonisation and Settlement of Cyprus. Investigations at Kissonerga-Mylouthkia, 1976-1996* (Studies in Mediterranean Archaeology vol. 70:4, Sävedalen: Paul Aströms Förlag), 11-34.
- MCCARTNEY, CAROLE, STURT MANNING, DAVID SEWELL, and SARAH STEWART 2006: "Elaborating Early Neolithic Cyprus (EENC)", *Report of the Department of Antiquities, Cyprus*, 39-62.

- PATTON, MARK 1996: *Islands in Time: Island Sociogeography and Mediterranean Prehistory* (Routledge: London and New York).
- PELTENBURG, EDGAR (ed.) 2003a: *The Colonisation and Settlement of Cyprus. Investigations at Kissonerga-Mylouthkia, 1976-1996*. Studies in Mediterranean Archaeology vol. 70:4. Sävedalen: Paul Aströms Förlag)
- 2003b: "Conclusions: Mylouthkia I and the Early Colonists of Cyprus", in E. Peltenburg (ed.) *The Colonisation and Settlement of Cyprus. Investigations at Kissonerga-Mylouthkia, 1976-1996*. Studies in Mediterranean Archaeology vol. 70:4. Sävedalen: Paul Aströms Förlag, 83-103.
- 2004a: "CyprusBA Regional Component of the Levantine PPN", *Neolithics* vol 1, 3-7.
- 2004b: "Social Space in Early Sedentary Communities of Southwest Asia and Cyprus", in E. Peltenburg and A. Wasse (eds.) *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*. (Oxford: Oxbow Books), 71-89.
- PELTENBURG, EDGAR and ALEXANDER WASSE (eds.) 2004: *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*. (Oxford: Oxbow Books).
- PELTENBURG, EDGAR, SUSAN COLLEDGE, PAUL CROFT, ADAM JACKSON, CAROLE MCCARTNEY, AND MARY ANNE MURRAY 2000: "Agro-Pastoralist Colonization of Cyprus in the 10th Millennium BP: Initial Assessments", *Antiquity* vol. 74, 844-853.
- 2001a: "Neolithic Dispersals from the Levantine Corridor: A Mediterranean Perspective." *Levant* vol. 33, 35-64.
- PELTENBURG, EDGAR, PAUL CROFT, ADAM JACKSON, CAROLE MCCARTNEY, and MARY ANNE MURRAY 2001b: "Well-Established Colonists: Mylouthkia 1 and the Cypro-Pre-Pottery Neolithic B", in S. Swiny (ed.) *The Earliest Prehistory of Cyprus: From Colonization to Exploitation* (Boston: American Schools of Oriental Research.), 61-93.
- PERLÈS, CATHERINE 2001: *The Early Neolithic in Greece* (Cambridge: University Press).
- REESE, DAVID 1995: *The Pleistocene Vertebrate Sites and Fauna of Cyprus* (Nicosia: Geological Survey Department, Ministry of Agriculture, Natural Resources and Environment).
- 1996: "Cypriot Hippo Hunters No Myth." *Journal of Mediterranean Archaeology* vol. 9, 107-12.
- ROCKMAN, MARCY and JAMES STEELE (eds.) 2003: *Colonization of Unfamiliar Landscapes: the Archaeology of Adaptation* (London and New York: Routledge).
- RONEN, AVRAHAM 1995: "Core, Periphery and Ideology in Aceramic Cyprus", *Quartar* vols. 45-46, 178-206.
- RUNNELS, CURTIS 1995: "Review of Aegean Prehistory IV: the Stone Age of Greece from the Palaeolithic to the Advent of the Neolithic", *American Journal of Archaeology* vol. 99, 699-728.
- SIMMONS, ALAN 1998: "Exposed Fragments, Buried Hippos Assessing Surface Archaeology", in A. Sullivan (ed.) *Surface Archaeology* (Albuquerque: University of New Mexico Press), 159-167.

- 1999a: "Bitter Hippos of Cyprus? (with Apologies to Lawrence Durrell)", in A. Simmons and Associates, *Faunal Extinction in an Island Society\_Pygmy Hippopotamus Hunters of Cyprus*, pp. 283-301. (New York: Kluwer Academic/Plenum Publishers), 283-301.
- 1999b: "The Function of Akrotiri *Aetokremnos* and Its Place in Colonization and Extinction Events", in A. Simmons and Associates, *Faunal Extinction in an Island Society-Pygmy Hippopotamus Hunters of Cyprus* (New York: Kluwer Academic/Plenum Publishers), 303-336.
- 2001: "The First Humans and Last Pygmy Hippopotami of Cyprus", in S. Swiny *The Earliest Prehistory of Cyprus: From Colonization to Exploitation* (Boston: American Schools of Oriental Research), 1-18.
- 2004a: "Bitter Hippos of Cyprus: The Island's First Occupants and Last Endemic Animals: Setting the Stage for Colonization", In E. Peltenburg and A. *Neolithic Revolution: New Perspectives on Southwest Asia in Light of Recent Discoveries on Cyprus*. (Oxford: Oxbow Books), 1-14.
- 2004b: "The Mediterranean PPNB Interaction Sphere?", *Neolithics* vol. 1, 16--18.
- 2005: "Ais Yiorkis, An Upland Aceramic Neolithic Site in Western Cyprus: Progress Report of the 2003 Excavations", *Reports of the Department of Antiquities of Cyprus*, 23-30.
- 2007: *The Neolithic Revolution in the Near East-Transforming the Human Landscape* (Tucson: University of Arizona Press).
- SIMMONS, ALAN and ASSOCIATES 1999: *Faunal extinctions in an Island Society: Pygmy Hippopotamus Hunters of Cyprus*. (New York: Kluwer Academic/Plenum Publishers).
- SONDAAR, PAUL, 1986: "The Island Sweepstakes", *Natural History* vol. 95, 50-57.
- STEEL, LOUISE 2004: *Cyprus Before History*. Duckworth, London.
- STANLEY-PRICE, NICOLAS 1977a "Colonisation and Continuity in the Early Prehistory of Cyprus", *World Archaeology* vol. 9, 27-41.
- 1977b: "Khirokitia and the Initial Settlement of Cyprus", *Levant* vol. 9, 66-9.
- 1979: *Early prehistoric Settlement in Cyprus: A Review and Gazetteer of Sites, c. 6500-3000 B.C.* (Oxford: BAR International Series 65).
- STOCKTON, E. 1968: "Pre-Neolithic Remains at Kyrenia, Cyprus", *Report of the Department of Antiquities, Cyprus*, 16-19.
- SWINY, STUART (ed.) 2001: *The Earliest Prehistory of Cyprus: From Colonization to Exploitation* (Boston: American Schools of Oriental Research).
- TODD, IAN (ed.) 1987: *Vasilikos Valley Project 6: Excavations at Kalavastos Tenta*, volume 1. (Studies in Mediterranean Archaeology, Vol. 71:6. Göteborg: Paul Åströms Förlag).
- VIGNE, JEAN-DENIS 2001: "Large Mammals of Early Aceramic Neolithic Cyprus: Preliminary Results from Parekklisha Shillourokambos", in S. Swiny (ed.) *The Earliest Prehistory of Cyprus: From Colonization to Exploitation* (Boston: American Schools of Oriental Research), 55-60.
- VIGNE, JEAN-DENIS, ISABELLE CARRÈRE, JEAN-FRANÇOIS SALIÉGE, ALAIN PERSON, HERVÉ BOCHERENS, JEAN GUILAINE, and FRANÇOIS BRIOSIS 2000:

"Predomestic Cattle, Sheep, Goat and Pig During the Late 9th and the 8th Millennium Cal. BC on Cyprus: Preliminary Results of *Shillourokambos* (Parekklisha, Limassol)", in M. Mashkour, A. Choyke, H. Buitenhuis, and F. Poplin (eds.) *Archaeozoology of the Near East IVA* (Groningen: ARC, Publicatie 32), 83-106.

VIGNE, JEAN-DENIS, ISABELLE CARRÈRE, and JEAN GUILAINE 2003: "Unstable Status of Early Domestic Ungulates in the Near East: The Example of Shillourokambos (Cyprus, IX-VIIIth Millennia Cal. B.C.)", in J. Guilaine and A. LeBrun, *Le Néolithique de Chypre* (Athens: Bulletin de Correspondance Hellénique Supplement 4. École Française d'Athènes), 239-251.

WIGAND, PETER and ALAN SIMMONS 1999: "The Dating of Akrotiri *Aetokremnos*", in A. Simmons and Associates, *Faunal Extinction in an Island Society-Pygmy Hippopotamus Hunters of Cyprus* (New York: Kluwer Academic/Plenum Publishers), 193-215.

VITA-FINZI, CLAUDIO 1973: "Paleolithic Finds from Cyprus?" *Proceedings of the Prehistoric Society* vol. 39, 453-454.

WILLCOX, GEORGE 2003: "The Origins of Cypriot Farming", in J. Guilaine and A. LeBrun (eds.) *Le Néolithique de Chypre* (Athens: Bulletin de Correspondance Hellénique Supplement 4. École Française d'Athènes), 231--238.