

Addendum: 1996-1999

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To the memory of Maria Mangafa (1964-1998), friend and collaborator

In this update to our earlier review of the Neolithic and Bronze Age of northern Greece (RAP V), we focus on recent developments in Thessaly, Macedonia, and Thrace.⁴³⁸ Little new fieldwork has taken place in Epirus in the past few years and it is thus excluded from this brief discussion.

THESSALY

Large-scale public works in Thessaly during the last three years have prompted a campaign of extensive rescue excavations far surpassing in size and intensity any earlier archaeological project carried out in Thessaly. The Larisa area especially benefited from this opportunity, and archaeological work in that region is in progress. The immense quantity of material produced is only slowly entering the study phase and there are few concrete results to report as yet, although one can venture the prediction that the picture of Neolithic and Bronze Age Thessaly will change substantially when the new evidence becomes available in its totality. At present, preliminary reports permit a quick glance at this emerging picture.

Galini. Galini is a newly discovered site located east of Larisa near the homonymous village. It has been excavated to an extent of 0.17 ha.⁴³⁹ The site was buried under 0.80 m of alluvial deposit and consists of numerous pits of varying size and shape dug into the natural subsoil. The distribution of the pits varies from closely packed in the southern part to widely dispersed in the northern. All of the pits were dated on the basis of pottery to the "Arapi" phase of the Late Neolithic and Galini is described as a single-period site. Of prime importance here is the adoption of an extended and unbounded pattern of hab-

itation, a practice that expands our perception of Neolithic settlement in Thessaly. It is now clear that the extended settlement seen at Sesklo B does not represent an isolated case in Thessaly.⁴⁴⁰ As at Sesklo this pattern is coeval with the tell sites that abound in the vicinity of Galini.

Rachmani (fig. 1:16). Rachmani is a well-known site dug by Wace and Thompson in the early 20th century, which gave its name to the elusive Final Neolithic of Thessaly. Rescue excavation here did not offer fresh evidence on the stratigraphic position of the FN "Rachmani" phase, mainly because it was confined to the western edge of the mound. It did, however, offer new information on the relationship of the settlement to its surroundings and particularly to the Gyrtoni alluvium, which reaches the edges of the mound. The new evidence indicates that Rachmani was situated on an active floodplain, perhaps similar to the setting of Platia Magoula Zarkou.⁴⁴¹

Mandra. Mandra, with its concentric perimeter walls and ditches, is another previously known site that might have been excavated on a large scale.⁴⁴² The layout of the site recalls that of Dimini, with which Mandra is contemporary. Mandra's architecture indicates that the concentric pattern extends inland from the coastal area of eastern Thessaly and may represent a much more widespread practice of spatial organization among the Neolithic settlements of the region than had been previously realized.

Achilleion (fig. 1:18). A detailed study by Bjork of the Early Neolithic pottery from Achilleion has been added to the information published from the site.⁴⁴³ The author examines the technological and archaeological aspects of this pottery and discusses its possi-

⁴³⁸ This addendum to RAP V was a collaborative effort: Andreou was responsible for the discussion of the Bronze Age in central Macedonia; Fotiadis wrote the section on western Macedonia; and Kotsakis compiled the information for Thessaly, eastern Macedonia, and Thrace. For information on Kastanas and Ayios Mamas, we wish to thank R. Jung, I. Aslanis, and B. Hansel. We are also grateful to G. Toufexis for information on the new excavations in the Larisa region. Abbreviations used in RAP V above are also employed here.

⁴³⁹ G. Toufexis, "Recent Neolithic Research in the Eastern Thessalian Plain, Greece," in *International Symposium: The Aegean in the Neolithic, Chalcolithic, and Early Bronze Age*.

Municipality of Urla, 13-19 October 1997 (forthcoming).

⁴⁴⁰ Kotsakis (supra n. 15) 129; K. Kotsakis, "The Coastal Settlements of Thessaly," in G.A. Papathanassopoulos ed., *Neolithic Culture in Greece* (Athens 1996) 49-54; Kotsakis, "What Tells Can Tell: Social Space and Settlement in the Greek Neolithic," in P. Halstead ed., *Neolithic Society in Greece* (Sheffield Studies in Aegean Archaeology 2, Sheffield 1999) 66-76.

⁴⁴¹ Toufexis (supra n. 439).

⁴⁴² *Atlas* 145; Toufexis (supra n. 439).

⁴⁴³ C. Bjork, *Early Pottery in Greece: A Technological Functional Analysis of the Evidence from Neolithic Thessaly* (SIMA 115, Jonsered 1995).

ble functional range. She suggests that the pottery was not used for storage and cooking and, following Vitelli's lead for the EN pottery from Franchthi Cave,⁴⁴⁴ she favors a "symbolic" use. The distinction drawn between "domestic" and "symbolic" adopted in this study is debatable, however, and the contrast need not be as clear-cut as the author perceives.⁴⁴⁵

Theopetra Cave (fig. 1:21). Substantial work has been carried out in Theopetra Cave, which has clarified some aspects of the transition to the Neolithic. The preliminary results of this effort were presented in a conference held at Trikala in 1998. A series of ¹⁴C dates bridges what had been thought to be a gap in occupation and it is now clear that the cave was used from the Middle Palaeolithic to the Final Neolithic. A closer look at lithics and other classes of archaeological evidence seems consistent with this scenario. There are still problems, however, with the stratigraphy of the cave, which, according to detailed lithostratigraphic analysis, shows substantial gaps and hiatuses. Nevertheless, the potential of the cave to increase our understanding of this crucial transitional phase remains considerable.⁴⁴⁶

WESTERN MACEDONIA

Middle Aliakmon valley: riverine zone. Excavations and surveys have continued at a fast pace. At the site of Aiani-Polemistra (on the left bank of the Aliakmon), a burnt building yielded a date (DEM-555) in the 19th-17th centuries B.C. associated with pottery comparable to that of the Thessalian Middle Bronze Age. The building was part of a sizable and long-lived settlement, founded in the Early Bronze Age. It was replaced by a new building, some walls of which were constructed of fieldstones set in the herringbone pattern familiar from sites along the Aegean coast but not previously attested in inland Macedonia.⁴⁴⁷

A number of burial grounds have also been excavated and preliminarily reported.⁴⁴⁸ The earliest burial is an intramural cremation, with remains in an urn

dated to the Late Neolithic. Most important, however, is the Bronze Age cemetery at Goules-Tourla (mentioned above, RAP V, 288). The dead, always single, were interred either in cists or, more often, in large pithoi, but two cremations were also identified. The bodies were placed in sharply contracted positions, those in pithoi being deposited through an opening in the belly of the vessel. One individual had been decapitated. Care was taken in closing all graves and, possibly, marking their location. Most of the dead were supplied with a used or "killed" cup (handles broken off), and a fifth of them were decorated with bronze jewelry. A triangular bronze dagger was also found. In short, the cemetery of Goules-Tourla is characterized by both orderliness (also reflected in the nearly uniform orientation of the graves) and variation. The date may well be in the very late third or early second millennium B.C. Some of the other cemeteries and isolated burials found in the area are dated to the very end of the Bronze Age, as indicated by the presence of matt-painted and Mycenaean III C pots. From one such grave, gold and bronze jewelry is reported, as well as an amber bead.⁴⁴⁹

Grevena area. A small excavation at Kremastos (670 masl) has demonstrated the permanent, agricultural nature of the EN sites first discovered in this area in the late 1980s. Substantial house remains (including evidence for ceilings or walls constructed with wooden planks), storage pits and jars, and charred seeds of emmer and pulses are among the finds from the site. Animal bone has not been preserved. Chipped stone tools were made of quartz. Pot profiles, fabrics, and decorative modes place the thin occupation horizon at a time near the end of the Early Neolithic. The site was briefly reoccupied in the Late Neolithic.⁴³⁰

Kremastos need not, of course, be representative of all 18 EN sites currently known in the upper Aliakmon catchment. Nor does the evidence answer the questions we raised earlier concerning the choice of settlement area and the reasons for abandonment

⁴⁴⁴ K.D. Vitelli, *Franchthi Neolithic Pottery 1: Classification and Ceramic Phases 1 and 2* (Franchthi 8, Bloomington 1993) 213-18.

⁴⁴⁻⁵ Bjork (supra n. 443) 113-35.

⁴⁴⁶ N. Kyparissi-Apostolika, "The Significance of Theopetra Cave for Greek Prehistory," in M. Otte ed., *Prehistoire d'Anatolie: Genese des deux mondes I. Actes du Colloque internationale, Liege, 28 avril-3 mat 1997* (Etudes et recherches archéologiques de l'Université de Liege 85, Liege 1998) 249-50; and Kyparissi-Apostolika, "The Neolithic Use of Theopetra Cave in Thessaly," in Halstead (supra n. 440) 142-52. A valuable compilation of research, literature, and finds gathered with meticulous care is presented in E. Alram-Stern, *Das Neolithikum in Criechenland, mit Ausnahme*

von Kreta und Zypern (Die Agaische Fruhzeit, 2. Serie; Forschungsbericht 1975-1993 1, Vienna 1996).

⁴⁴⁷ A. Hondroyanni-Metoki, "Αλιάκμων 1994: ΈΡΕΥΝΑ ΟΙΚΙΣΜΟΥ ΕΠΟΧΗΣ ΧΑΛΚΟΥ," *AEMT* 8 (1994) 30-36.

⁴⁴⁸ A. Hondroyanni-Metoki, "Από την έρευνα των νεκροταφείων στην κοιλάδα του μέσου ρου του Αλιάκμονα," in *Μνείας χάριν: Τόμος στη μνήμη Μαίρης Σιγανίδου* (Thessaloniki 1998) 287-97; H. Ziota and Hondroyanni-Metoki, "Αλιάκμων 1993: Προϊστορική έρευνα," *AEMT* 7 (1993) 36-41.

⁴⁴⁹ Hondroyanni-Metoki (supra n. 448) 295.

450 Q Toufexis, "Ανασκαφή στον Νεολιθικό οικισμό Κρεμαστός του Ν. Γρεβενών," *AEMT* 8 (1994) 17-26.

(RAP V, 290). An attempt to answer such questions has been made by Wilkie and Savina.⁴⁵¹ They invoke a possible climatic change and—disputing van Andel and Runnels⁴⁵²—point out that demic diffusion out of Thessaly may not have operated in favor exclusively of floodplains. We think that a satisfactory answer will have to be yet more complex, that it may be related to the exploratory practices of early farmers, and that it will entail revisions of our current conception of the objectives of those "farmers."

Kitrini Limni (fig. 2:4). Archaeologically contemporary with the Goules-Tourla cemetery in the Aliakmon valley, but larger and better preserved, is the cemetery of Xeropigado, 4 km to the east of Megalo Nisi Galanis,⁴⁵³ Its extent is estimated at ca. 0.25 ha; three-fifths of the site has been excavated. Most of the 168 individual burials were placed directly into pits that were lined, covered, or simply dotted with fieldstones collected from nearby hills. The remains of a few cremations, on the other hand, were placed in jars or pithoi, as were sometimes the remains of children. Nine cist graves, all for children, were also identified. With a single (probable) exception, adult females were laid on their left, adult males on their right side. One or two used and/or "killed" cups accompanied most of the dead. Metallic goods were rarely deposited in the graves, but those found include two pieces of jewelry from precious metals or alloys; both pieces accompanied child burials.

Pebbles, snails, and fragments and components of tools were also placed with the dead in some cases. No group of burials stands out for its wealth, and no grave appears to have been conspicuously marked above ground. In brief, simple technology and a low degree of differentiation are the chief communal features of the cemetery, and they contrast sharply with the insistence on individual burials. Patterns of dental wear are indicative of relatively high rates

of meat consumption, higher than indicated for populations from later cemeteries in western Macedonia (e.g., the LBA cemetery of Spathes on Mt. Olympos).⁴⁵⁴

Mandalo (fig. 2:12). The small settlement of Mandalo on the northwestern flanks of the central Macedonian plain obtained its obsidian during the Final Neolithic from a Carpathian source. Melian obsidian is also present but may not have been brought in before the Early Bronze Age.⁴⁵⁵ Such data need to be treated with caution, for the sample analyzed is small; one cannot yet speak, for example, of a realignment of exchange networks in the Bronze Age. Still, the presence at Mandalo of obsidian from Carpathia, ca. 800 km away, is remarkable, and not only because such obsidian is reported from the southern Balkans for the first time. We previously indicated that, notwithstanding its comparatively diminutive size (under 0.5 ha), Mandalo cannot be considered a settlement marginal to the economic and political systems of its time (RAP V, 294). The point is not that Mandalo is exceptional, but rather that the old idea of settlement hierarchy, based on site size, is an insufficient, possibly misleading, guide for approaching regional systems in the northern Greek Neolithic and Early Bronze Age; a rhizomatic, rather than a dendritic, model of those systems may be more realistic. The discovery of exotic obsidian at the site further underlines this point.⁴⁵⁶

Arhondiko (fig. 2:14). A large tomba (ca. 20 m high and more than 10 ha in area), Arhondiko was first occupied in the Neolithic, but excavations in the 1990s have concentrated on more recent periods. Two major architectural phases have been distinguished, the earlier of which is dated to the last 200–300 years of the third millennium, the second to the 21st–20th centuries B.C.⁴⁵⁷ In the earlier phase buildings were constructed around frames of

⁴⁵¹ N.C. Wilkie and M.E. Savina, "The Earliest Farmers in Macedonia," *Antiquity* 71 (1997) 201–207. ⁴⁵⁹ *Supra* n. 133.

⁴⁵³ H. Ziota, "Προϊστορικό νεκροταφείο στην Κουλάδα Κοζάνης: Μια πρώτη αναλυτική παρουσίαση της ανασκαφικής έρευνας (1995–1996)," in *Μνείαν χάριν* (*supra* n. 448) 81–102.

⁴⁵⁴ S. Triantaphyllou, "Prehistoric Cemetery Populations from Northern Greece: A Breath of Life for the Skeletal Remains," in K. Branigan ed., *Cemetery and Society in the Aegean Bronze Age* (Sheffield Studies in Aegean Archaeology 1, Sheffield 1998) 159–60.

⁴⁵⁵ V. Kilikoglou et al., "Carpathian Obsidian in Macedonia, Greece," *JAS* 23 (1996) 343–49. All nine FN specimens analyzed were assigned to the "Carpathian 1" source; of the two EBA specimens, one was from the same source, the other from Demenagaki. None of the specimens is il-

lustrated or described; one wonders whether the "EBA" specimens could not be on recycled Neolithic material.

⁴⁵⁶ Mandalo also boasts the earliest archaeological find of the saw-toothed grain beetle: S.M. Valamoti and P.C. Buckland, "An Early Find of *Oryzaephilus surinamensis* (L.) (Coleoptera: Silvanidae) from Final Neolithic Mandalo, Macedonia, Greece," *Journal of Stored Products Research* 31 (1995) 307–309. For the rhizomatic vs. the dendritic model, see especially G. Deleuze and F. Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (Minneapolis 1987) 3–25.

⁴⁵⁷ A. Papaefthimiou-Papanthimou and A. Pilali-Papasteriou, "Οι προϊστορικοί οικισμοί στο μάνδαλο και στο Αρχοντικό Πέλλας," *AEMT* 10 (1996) 147–55. Note that there are confusing discrepancies between the tables of ¹⁴C dates (pp. 149–50) and the ensuing commentary.

posts and their walls were built in the wattle-and-daub technique. Of special interest are concentrations of kitchen facilities, which include well-preserved domed ovens as well as storage bins. From one of the latter a substantial quantity of einkorn wheat was retrieved. The grain had been stored still dressed in its spikelets, presumably for protection from pests.⁴⁵⁸ Buildings of the second phase, on the other hand, had substantial stone foundations. The ceramics of this later phase include a few pots and sherds decorated with bands of incisions, filled with a white substance. This decorative mode has been known from central Macedonia since the days of Stanley Casson, but its absolute chronology was until now in dispute.

Nea Nikomedeia (fig. 2:11). The recently published ¹⁴C dates from Nea Nikomedeia might fully resolve the issue of the chronology of this site. If calibrated, most of those dates would fall in the last four centuries of the seventh millennium B.C., thus placing Nea Nikomedeia squarely within the Greek Early Neolithic, in an advanced phase of it. If we hesitate slightly on the matter, it is only because the new dates have been published without indications of provenience or further comments.⁴⁵⁹ The duration of the settlement has been estimated to be 50-150 years, and three (rather than the original two) generations of buildings have been distinguished. Estimates of community size (500-700 individuals during the first two phases) may be toward the higher end, for they assume simultaneous occupation of all buildings.⁴⁶⁰ The analysis of the ceramic material has demonstrated that several ceramic pastes were used at once, all of which probably derived from local sources, and none of them was reserved for any particular kind of vessel.⁴⁶¹ It has also been shown that the color of the so-called pink slipped ware from the site is in fact a pigment rather than a slip; it is made of crushed hematite mixed with clay.⁴⁶² Calculations of rates of ceramic production (pots per year) have been

attempted, but should be treated with caution; they rest on an estimate offered by Rodden at the time of excavation and can no longer be verified, because only a fraction of the excavated pottery was kept.

Yannitsa area. The number of known EN sites in the central Macedonian plain has been growing.⁴⁶³ The lack of ¹⁴C dates, however, in combination with the near-invisibility of the MN period in the province, engenders discomfiting questions: could it be that some of what is considered EN pottery is indeed later? On the other hand, a new excavation at Axos A (west of Yannitsa) may well have revealed an EN phase earlier than those represented at Nea Nikomedeia and Yannitsa B, but documentation of this phase of "monochrome pottery" remains inadequate.⁴⁶⁴

CENTRAL MACEDONIA

Stavroupolis. Rescue excavations at Stavroupolis revealed an extended occupation of over 4 ha. The deposits, with a maximum depth of 4 m, were divided into several architectural phases, all dated to the early Late Neolithic, on grounds of typological ceramic similarities. The earliest phase is distinguished by pit-dwellings, while subsequent phases display an architecture of rectangular houses with clay floors, hearths, and storage facilities.⁴⁶⁵ The site was deserted before pottery types considered broadly contemporary with the "Dimini" phase made their appearance.

Kastanas (fig. 2:16). An investigation of the spatial distribution of activities in the settlement of Kastanas, taking into account all archaeological and bioarchaeological data, offers valuable insights regarding the communal relationships at the site during the penultimate phase of the Late Bronze Age (levels 16-14).⁴⁶⁶ Activities related to small-scale storage, preparation, cooking (in portable hearths), and consumption of food occurred, along with spinning and sewing, mainly inside the small buildings of the earliest level (16). Long-term storage, on the other hand, was confined to a very small freestand-

⁴⁵⁸ S. Valamoti, "Αρχαιοβοτανικά κατάλοιπα από τον οικισμό του Αρχοντικού: Ανασκαφική περίοδος Σεπτεμβρίου 1993" *AEMT* 7 (1993) 155-58, with a long list and discussion of the species identified; A. Papaefthimiou-Papanthi-mou and A. Pilali-Papasteriou, "Ανασκαφή Αρχοντικού 1993," *AEMT* 7 (1993) 149.

⁴⁵⁹ Pyke and Yiouni (supra n. 171) 195.

⁴⁶⁰ Pyke and Yiouni (supra n. 171) 47-48.

⁴⁶¹ Pyke and Yiouni (supra n. 171) 76-77, 186. These conclusions parallel nicely those of Vitelli for EN Franchthi; see, e.g., K.D. Vitelli, "Pots, Potters, and the Shaping of Greek Neolithic Society," in W.K. Barnett and J.W. Hoopes eds., *The Emergence of Pottery: Technology and Innovation in Ancient Societies* (Washington, D.C. 1995) 60.

⁴⁶² Pyke and Yiouni (supra n. 171) 65-69.

⁴⁶³ P. Hrisostomou, "Η Νεολιθική κατοίκηση στη βόρεια παράκτια ζώνη του άλλοτε Θερμαϊκού κόλπου," *AEMT* 10 (1996) 167; N. Merousis and A. Stefani, "Προϊστορικοί οικισμοί του Νομού Ημαθίας," *Μακεδονικά* 29 (1993-1994) 354.

⁴⁶⁴ Hrisostomou (supra n. 463) 62-64.

⁴⁶⁵ D. Grammenos, S. Kotsos, and A. Hatzoudi, "Σωστικές ανασκαφές στο Νεολιθικό οικισμό της Σταυρούπολης" *AEMT* 11 (1997, in press).

⁴⁶⁶ C. Becker, "Zur Rekonstruktion von Aktivitätsmuster in spatbronzezeitlichen Hatishalten, untersucht am Fundmaterial aus Kastanas (Nordgriechenland)," *PZ* 70 (1995) 96-114.

ing structure, at the entrance of which is evidence for increased meat consumption. In the next level (15), the space of the small storeroom and the residential unit next to it was taken over by an extensive oval house with a large permanent hearth and sizable storage facilities inside. A similar hearth was also placed in an outer court.

Finally, in level 14b, the total area was taken over by a large "megaron" with one permanent hearth placed inside. The scale of storage, preparation, and consumption of foodstuffs was greater than ever before, both within the structure and in the surrounding open space, and it is suggested that the house served a large crowd. Moreover, the artifact-rich deposits imply a more elaborate material culture and a greater variety of activities. One may conclude from the analysis presented by Becker that a series of transformations in communal relationships occurred during the period between ca. 1250 and 1150 B.C. The evidence from the early phase implies a social regime of small, spatially distinct yet interdependent residential units, sharing surpluses on occasions of group consumption and feasting. In the later levels, however, there is a shift to larger and stronger residential groups, which stress their presence through increased storage facilities and collective public consumption.⁴⁶⁷

The recently finished, thorough study of the Mycenaean-style pottery from Kastanas completes the series of publications of the prehistoric levels of the site, making it the only fully published prehistoric excavation in Macedonia.⁴⁶⁸ As seems to be the rule

⁴⁶⁷ Perhaps, after a short regression, the process of expansion of the residential unit took a more concrete and stable form in level 12, again related to food preparation and consumption on a larger scale. See *Kastanas* 52-53, 171-79.

⁴⁶⁸ R. Jung, *Kastanas: Ausgrabungen in einem Siedlungshugel der Bronze- und Eisenzeit Makedoniens, 1975-1979: Die Drehscheibenkeramik der Schichten 19 bis II (Prahistorische Archäologie in Südosteuropa, Berlin, in press)*.

⁴⁶⁹ Jung (supra n. 468). A new ¹⁴C date of 965±49 B.C. has been provided for the immediately following level 11, with Middle Protogeometric pottery. This allows a date for level 12 in the late 11th or early 10th century B.C. More ¹⁴C dates from short-lived samples are expected and may resolve the problematic dating of level 12; see supra n. 291. A similar assemblage has been found at Toumba Thessalonikis, but Aegean-style painted pottery is lacking from the Early Iron Age levels of Assiros. For Toumba, see supra n. 324 and S. Andreou and K. Kotsakis, "Η προϊστορική τούμπα της Θεσσαλονίκης: Παλιά και νέα ερωτήματα," *AEMT* 10 (1996) 369-87; for Assiros, see K. Wardle, "Change and Continuity: Assiros Toumba at the Transition from Bronze to Iron Age," *AEMT* 10 (1996) 427-42. For further discussion of the Mycenaean pottery

in the area, a limited amount of LH IIIA2- and IIIB style pottery appears for the first time in level 16 of Kastanas. Numbers rise considerably with the first appearance of early and middle LH IIIC-style pottery in levels 14 and 13, respectively, to reach the highest point in the earliest Early Iron Age level 12, in which however, late LH IIIC-style and Early Protogeometric pottery occur together.⁴⁶⁹

Toumba Thessalonikis (fig. 2:20). Continuing work at Toumba has refined the earlier stratigraphy of the site. Two early LBA architectural phases (6 and 7) have been defined. Decorated pottery in these early phases was limited to matt-painted and incised categories, which contrasts with the situation during the later phase 5, when LH IIIA2- and IIIB-style pottery was present. Three earlier architectural phases (8-10), separated from 6 and 7 by an extensive destruction horizon, seem compatible with MBA and late EBA dates. The construction of stone walls during the early phases was generally more meticulous than later on, employing occasionally the herringbone pattern familiar from other Aegean sites, but no complete house plans can be made out. Later LBA walls, however, do not suggest any major reorientation of the earlier settlement plan, apart from the fact that later habitation was confined to the very top of the mound, above the imposing LBA earthen ramparts.⁴⁷⁰

Mesimeriani Toumba. The site of Mesimeriani lies on the hilly area at the southern edge of the Thermaic Gulf, a few kilometers from the present coast. Following a Neolithic (Middle and Late?) phase extending to ca 4.5 ha, habitation contracted during

from Kastanas, see below.

⁴⁷⁰ For a general review of excavation results, see Andreou and Kotsakis (supra n. 469). For technological aspects of the Toumba pottery, see V. Kiriati, "Η μελέτη της τεχνολογίας ως δείκτης ανθρώπινης συμπεριφοράς: Παρατηρήσεις στην κατασκευή κεραμικής της ΥΕΧ από την Τούμπα Θεσσαλονίκης" *ArchMak* 6 (1999) 585-97. For quantified accounts of the Mycenaean ware from the site and a discussion of the possible meaning of Mycenaean potter) in Macedonian contexts, see S. Andreou, "Looking South through a Wine Glass: LH III Pottery from the Toumba of Thessaloniki" (in preparation); S. Andreou, "Μυκηναϊκή κεραμική και μακεδονικές κοινωνίες κατά την Εποχή του Χαλκού" in *Β' Διεθνές Διεπιστημονικό Συμπόσιο: «Η περιφέρεια του Μυκηναϊκού κόσμου», Λομία 26-30 Σεπτεμβρίου 1999* (Lamia, forthcoming). For the evidence of wine making at Toumba, see M. Mangafa and K. Kotsakis, "A New Method for Identification of Wild and Cultivated Charred Grape Seeds," *JAS* 23 (1996) 409-18; and Mangafa et al., "Αμπελοκαλλιέργεια στην προϊστορική Μακεδονία: Τα δεδομένα της προϊστορικής τούμπας Θεσσαλονίκης" *Πρακτικά Ε' Τριήμερου Εργασίας: Αμπελοοινική ιστορία στο χώρο της Μακεδονίας και Θράκης* (Athens 1998) 158-69.

the Early Bronze Age to a large (1 ha), well-defined mound. By the Early Iron Age, the mound had attained a height of 16 m. The LBA deposits were very shallow and MBA levels were not easily definable. The EBA deposits, on the other hand, were particularly thick (12 m). They comprised a series of 17 reconstructions of post-framed, rectangular buildings, the most recent of which provided a ¹⁴C date of 2194-1931 B.C. Although no complete house plans have been preserved, the remains of a heavily burnt room reveal the same concentration of food storage and preparation facilities seen also at contemporary sites in eastern and western Macedonia.⁴⁷¹ The importance of the room and of the activities taking place in it are underlined by the discovery of large relief fragments of clay with curvilinear motifs, possibly decorating a wall or structure.⁴⁷²

Ayios Mamas (fig. 2:25). Unlike Mesimeriani, *Ayios Mamas*, located on a peninsula during the Bronze Age, provides a long stratigraphy and a wealth of information regarding the MBA material culture in Chalkidiki.⁴⁷³ In an excavated area of 850 m², four successive architectural phases, attributed to the Middle Bronze Age on general ceramic affinities, have been identified. The earliest phase comprises three partly excavated, elongated, and freestanding post-framed houses with similar orientation, lying next to one other. The houses were destroyed in a severe conflagration. Hearths, ovens, benches, and vessels for storage, cooking, eating, and drinking testify to domestic activities inside the houses. Pottery from *Ayios Mamas* displays affinities with ceramics from the early MBA levels of Kastanas, but also includes a

gray, wheelmade jug, most likely an import. In the second phase, brown- and red-slipped kantharoi are distinctive, and in the third, fine gray Minyan ring-stemmed goblets first occur, continuing into the next phase, along with other MBA burnished wares. The quantity and quality of "Minyanlike" pottery diminish in the subsequent level, which may be considered transitional to the Late Bronze Age. Disturbances from the heavy building activity of the Byzantine period have caused severe damages to the LBA levels. Despite that, levels belonging to this period have been identified. A street with parts of houses reminds one of *Toumba Thessalonikis*, as does the absence of any severe destruction during the period. On the other hand, ramparts similar to those from *Toumba Thessalonikis* and *Assiros* are not reported from *Ayios Mamas*. As far as Mycenaean pottery is concerned, the site conforms to the usual central Macedonian pattern, with LH IIIA2-style pottery being the earliest stratified material.⁴⁷⁴

Following recent research, the picture regarding the central Macedonian Middle and Late Bronze Age is changing. Organizational differences among the excavated LBA sites have already been touched upon, as well as possible differences in the position and role of each site within regional networks.⁴⁷⁵ However, more studies of changing communal relationships within sites are essential for the apprehension of the social strategies employed by different groups participating in these networks. Cultural differences are evident even between areas as close to one another as the Thermaic Gulf area and Chalkidiki.⁴⁷⁶ *Toumba Thessalonikis* and *Ayios Mamas* offer

⁴⁷¹ E. Elster, "Construction and Use of the Early Bronze Age Burnt House at Sitagroi: Craft and Technology," in R. Laffmeur and P.P. Betancourt eds., *TEXNH: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age (Aegaeum 16, Liege 1997)* 19-34.

⁴⁷² See supra ns. 286, 332. For recent work, see D.V. Grammenos and S. Kotsos, "Ανασκαφή στον προϊστορικό οικισμό Μεσημεριανή τούμπα Τριλόφου" *AEMT* 10 (1996) 355-68. Chance finds of copper tools from the site have been published together with the well-known hoard of Petralona. All are dated on morphological grounds to the late third millennium B.C. See D.V. Grammenos et al., "Ο θησαυρός των Πετραλώνων της Χαλκιδικής και άλλα χάλκινα εργαλεία της ΠΕΧ από την ευρύτερη περιοχή", *ArchEph* 1994, 75-116.

⁴⁷³ For recent work, see I. Aslanis and B. Hansel, "Ανασκαφές για τη Μεσοελλαδική της Μακεδονίας στον Άγιο Μάμα" *ArchMac* 6 (1999) 99-108; and Aslanis and Hansel, "Άγιος Μάμας: Ο πρώιμος Μεσοελλαδικός οικισμός" *AEMT* 12 (forthcoming). For a preliminary examination of the possible uses of the several thousand marine mollusks found in the archaeological deposits of the site, see C. Becker,

"Nourriture, cuilleres, ornements . . . Les témoignages d'une exploration variée des mollusques marins à Ayios Mamas (Chalcidique, Grèce)," *Anthropozoologica* 24 (1996) 3-17.

⁴⁷⁴ For preliminary information, mostly regarding the Mycenaean pottery from Kastanas, see Jung (supra n. 468); R. Jung, "Η μυκηναϊκή και πρωτογεωμετρική κεραμική της Μακεδονίας και η σημασία της," in *Β' Διεθνές Διεπιστημονικό Συμπόσιο* (supra n. 470). A LH II sherd, most likely an import from the Argolid, comes from a disturbed level. Three Mycenaean animal figurines, in addition to one from Heurtley's excavations, are reported by Jung, all from disturbed levels.

⁴⁷⁵ Supra ns. 306, 320.

⁴⁷⁶ A synthesis of northern Greek prehistory from the Neolithic to the Early Iron Age with particular emphasis on regional cultural aspects appeared almost concurrently with RAP V; see K.A. Wardle, "The Prehistory of Northern Greece: A Geographical Perspective," in *Αφιέρωμα στον Ν.Γ.Λ. Hammond* (Παράρτημα Μακεδονικών 7, Thessaloniki 1997) 81-113.

good examples. During the Middle Bronze Age variation exists both in material culture and in settlement organization: neither "Minyan" pottery nor post-frame architecture appears at Toumba. It is equally important to know whether this pattern of cultural differences persists into the Late Bronze Age or has a long ancestry going back to the Neolithic.

The understanding of the patterns of production, circulation, and consumption of Mycenaean-style pottery in central Macedonia has been improved by recent work at the sites of Kastanas, Ayios Mamas, and Toumba Thessalonikis.⁴⁷⁷ Chemical analysis of pottery from Kastanas indicates the presence of southern imports, but analytical and macroscopic work at Kastanas, Assiros, and Toumba suggests that most of the pottery was made in Macedonia, beginning as early as LH IIIB. While pottery found at Kastanas, Ayios Mamas, and Toumba Thessalonikis displays notable similarities, the differences in the Mycenaean assemblages of the three sites are marked, suggesting distinct production centers and circulation networks supplying each site.⁴⁷⁸ Despite adherence to the canonical repertoire of shapes and motifs, there are divergences and local peculiarities.⁴⁷⁹ Technological variability at Kastanas and Toumba may suggest a different provenance for the ceramics, different potters, or varying conditions of production. The development of a regional Macedonian style is most likely to respond to the specific needs and tastes of the local consumers. There is a strong

preference evident for painted Mycenaean pottery and a predilection for particular shapes (mainly drinking vessels and other containers for liquids and aromatics). These preferences demonstrate the selective principles formed within a specific cultural context in which Mycenaean-style pottery was consumed. In view of the evidence from recent studies the traditional interpretations, whereby the presence of Mycenaean-style pottery in central Macedonia is perceived as a sign of Mycenaean settlers or "emporia," seem less compelling.⁴⁸⁰ Instead, the gradual adoption of Mycenaean ware may be perceived as part of a long-term process related to the gradual elaboration of material cultural values in the context of specific social practices of members of LBA Macedonian communities. The process probably started, as far as pottery is concerned, with the production and use of matt-painted and incised pottery at the transition between the Middle and Late Bronze Age.⁴⁸¹

EASTERN MACEDONIA AND THRACE

Dikili Tash (fig. 2:35). The work carried out at Dikili Tash during the last 10 years is summarized in a recent paper published in *AEMT*.⁴⁸² Excavations at the site focused on two sectors, one at the foot of the tell, where early LN deposits reaching a depth of 5 m were examined, and another higher up on the mound, where material from the end of the LN period was investigated. In the lower sector, a series of

⁴⁷⁷ For our previous discussion of Mycenaean pottery in central Macedonia, see supra ns. 303, 319, 330, 342, 343. For Kastanas and Ayios Mamas, see Jung (supra ns. 468, 474); for Toumba Thessalonikis, see Andreou (supra n. 470).

⁴⁷⁸ For analytical work from Kastanas, see H. Momsen et al., "Classification of Mycenaean Pottery from Kastanas by Neutron Activation Analysis," in Y. Maniatis ed., *Archaeometry. Proceedings of the 25th International Symposium, Athens, 19-23 May 1986* (Amsterdam 1989) 515-23. Few early sherds were attributed to the Mycenaean-Berbatii composition group; see Jung (supra n. 468). For petrographic analyses from Thessaloniki, see Kjiatzi (supra n. 470) and Andreou (supra n. 470).

⁴⁷⁹ Jung (supra n. 474).

⁴⁸⁰ Jung (supra n. 474), in his preliminary discussion of the Ayios Mamas material, argues against the usual interpretation of this particular site as a Mycenaean "emporion." Nor does the evidence from Toumba Thessalonikis, another likely spot for a trading station, seem to offer any support for such an interpretation. See Andreou and Kotsakis (supra n. 306), in *A' Διεθνές Διεπιστημονικό Συμπόσιο: "Η περιφέρεια του Μυκηναϊκού κόσμου," Λαμία, 25-29 Σεπτεμβρίου 1994. Πρακτικά* (Lamia 1999) 107-16, where references to discussions of emporia and settlers in Macedonia are given.

⁴⁸¹ See Andreou (supra n. 470). It is suggested that Mycenaean pottery was used in periodic occasions of feasting or body cleansing involving ceremonial consumption of alcohol and aromatic substances during which decorated pottery was displayed. These ceremonial occasions fostered the growth, stability, and cohesion of social groups in the various tell communities of central Macedonia. For some possible indications of this social practice and strategy, see the above section on Kastanas. For a preliminary date for the appearance of matt-painted and incised pottery in central Macedonia, see supra n. 326. For recent opinions about the mechanisms of trade between the Mycenaean mainland and northern Greece, see N. Wardle, "The Impact of Mycenaean on Peripheral Communities," in *B' Διεθνές Διεπιστημονικό Συμπόσιο* (supra n. 470) and H.A. Bankoff, N. Meyer, and M. Stefanovich, "Handmade Burnished Ware and the Late Bronze Age of the Balkans," *JMA* 9 (1996) 193-209. For an evaluation of figurines and burial customs as evidence for Mycenaean contacts with Macedonia, see A. Pilali-Papasteriou, "Η μυκηναϊκή παρουσία στη Μακεδονία: Προβλήματα και επανεκτιμήσεις," in *Η περιφέρεια* (supra n. 480) 103-106.

⁴⁸² C. Koukouli-Chrysanthaki, R. Treuil, and D. Malamidou, "Προϊστορικός οικισμός Φυλίσπων 'Ντικιλί Τας': Δέκα χρόνια ανασκαφικής έρευνας," *AEMT* 10 (1996) 681-704.

postholes is all that survives from the layout of houses; they seem to run in a northwest-southeast direction. Of particular interest is the conclusion reached from a combination of archaeological macroscopic examination and laboratory analysis that the clays used for different domestic constructions such as walls, floors, benches, roofs, and ovens were deliberately selected for their properties. A large number of ovens were excavated, of which two preserved part of their domed construction, formed with superimposed coils. Ovens, together with adjacent platforms, represent the most tangible remains of the houses. An isolated find related to these houses is intriguing: a bucranium modeled in clay was probably attached to the interior surface of a wall. In the upper sector, the excavation of a complex of four houses dated to the end of the Late Neolithic was continued.⁴⁸³ Among the structures, house 4 was special in that it was divided into three separate rooms. Each room was equipped with an oven, a bench and/ or clay basin, a large number of pots for food preparation and consumption, querns, and other domestic equipment, but no figurines.⁴⁸⁴ Sizable vessels of unbaked clay, occasionally with incised decoration, as well as large pithoi testify to the significance of storage inside houses, but also to the control of storage and consumption at the household level. This picture is compatible with the intense use of settlement space seen also at sites of the Balkan Chalcolithic, in which densely packed houses have little or no empty spaces between them. Finally, a series of new ¹⁴C dates place this complex of houses in the time span of 4230-4043 B.C.⁴⁸⁵

Promachonas-Topolnica (fig. 2:27). A joint Greek-Bulgarian excavation program was inaugurated at

this site, which is bisected by the border between Greece and Bulgaria.⁴⁸⁶ The Bulgarian part has been excavated from 1980 to 1990 and three phases were defined, verified subsequently on the Greek side. The lower two phases preserved post-framed architecture dated on the basis of four ¹⁴C samples to the beginning of the fifth millennium. Although the site is roughly contemporary with Dikili Tash I, the pattern of settlement organization is completely different, with *Promachonas* exhibiting scattered habitation.

Makri (fig. 2:42). A recent report on excavations at the Neolithic site of *Makri* in Thrace gives firmer information on stratigraphy, sedimentology, ceramic sequence, stone industries, and animal and plant remains, as well as charcoal and phytoliths.⁴⁸⁷ *Makri* grew from a small camp to an extensive settlement, although some episodes of abandonment seem to have intervened.

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⁴⁸³ Supra n. 365. See also R. Treuil and P. Darcque, "Un bucrane' neolithique a Dikili Tash (Macedoine orientale): Paralleles et perspectives d'interpretation," *BCH* 122 (1998) 1-25.

⁴⁸⁴ Koukouli-Chrysanthaki et al. (supra n. 482) 693.

⁴⁸⁵ Koukouli-Chrysanthaki et al. (supra n. 482) 693-94.

⁴⁸⁶ C. Koukouli-Chrysanthaki, H. Todorova, I. Aslanis,

J. Bojadziev, F. Konstantopoulou, I. Vajsov, and M. Valla, "Προμαχόννας-Τοπολνιца: Νεολιθικός οικισμός Ελληνοβουλγαρικών συνόρων," *AEMT* 10 (1996) 745-67.

⁴⁸⁷ N. Efstratiou et al. "Excavations at the Neolithic Settlement of *Makri*, Thrace, Greece (1988-1996): A Preliminary Report," *Saguntum* 31 (1998) 11-62.