



ADAM MICKIEWICZ
UNIVERSITY
POZNAŃ



Treasures of Time

Research of the Faculty of Archaeology
of Adam Mickiewicz University in Poznań



Location of the main research areas.
Numbering, compare the table of Contents.



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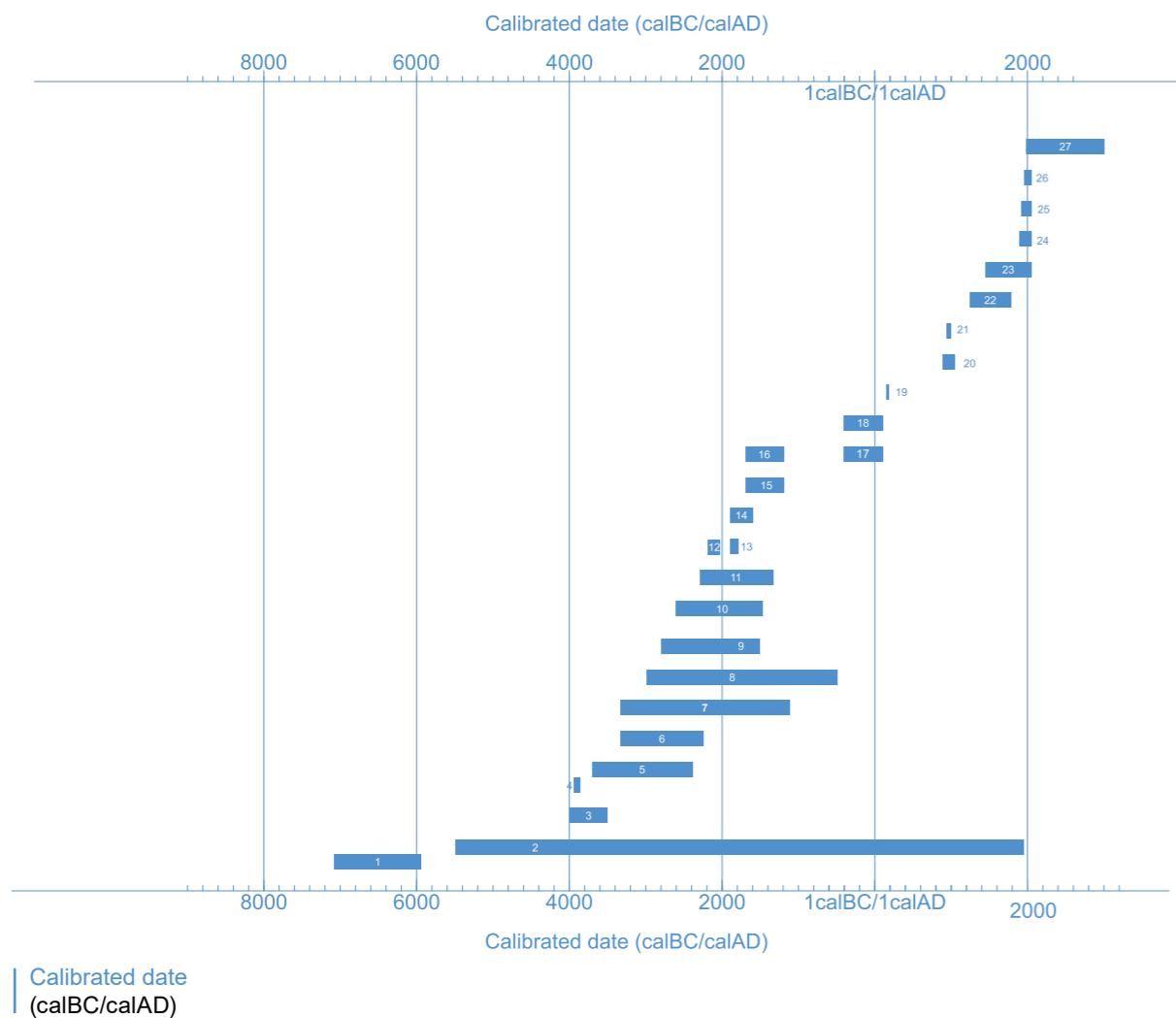
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Treasures of Time: Research of the Faculty of Archaeology of Adam Mickiewicz University in Poznań

Introduction

In 2019, archaeology at the Adam Mickiewicz University in Poznań celebrated its honourable 100th anniversary! The establishment of archaeology at this university was associated with the strong influence of the authority of Prof. Józef Kostrzewski and a succession of eminent scholars, many of whom we today call Masters.

The year 2019 was a real breakthrough. We started the second century of existence within the Alma Mater Posnaniensis with a new structural independence and quality that the academic archaeology of Poznań had not yet known for its one hundred years of existence. This change, the formation of the first Polish Faculty of Archaeology, has opened new chances and possibilities of which we are now taking advantage.



Prof. Józef Kostrzewski
(1885-1969)

Currently, the Faculty of Archaeology of Adam Mickiewicz University is formed by a number of teams, each with their own leaders. In the majority of cases, these teams are united by interdisciplinarity, which integrates within selected projects the experience of many so-called 'auxiliary' sciences of archaeology. This trend is paralleled by the development of specialised laboratories armed with the latest equipment in the Faculty of Archaeology.

This publication presents the current scientific interests creatively developed by such teams at the Faculty of Archaeology of Adam Mickiewicz University. The research of these teams covers vast areas in time and space, summing up at least the last 9,000 years of prehistory. The following articles, arranged in chronological order, allow us to explore the prehistory of various areas.

The adventure begins around 7100 BC, in the Neolithic settlement of Çatalhöyük located in Turkey. Then, we move on to the loess uplands near Krakow, where the first farmers from the south of Europe had just arrived (5500 BC). A little later (4000-3500 BC), and a little farther north, in the area of Greater Poland, some of the first megalithic constructions in this part of the world were built. Around the same time, about 800 km to the southeast, a settlement

of the Trypillia culture remains in the phase of development (3950 BC). The end of the Stone Age in Poland was described in the history of Late Neolithic communities on a hill in the center of Kujawy region (3700-2400 BC). Farther east, in the forest-steppe area of Ukraine, significant cultural and social changes resulted in the formation of the Yamnaya culture (3350-2250 BC), beginning the Bronze Age.

Intense elements of this era can be traced in the area of southern Europe in the Greek Anthemous Valley (3350-1150 BC), in Attica (3000-500 BC) on the plains of the Hungarian Lowlands (2600-1450 BC) and to the Upper Dniester Valley, where numerous burial mounds were formed (2800-1500 BC). A similar chronological range is presented in the articles devoted to a unique site in Bruszczewo, Greater Poland (2300-1350 BC), which not only accumulates valuable metal artefacts, but is also the subject of interest of an interdisciplinary team focused on reconstructing its environmental context.

The next text take us far to the east, to the area of Iraqi Kurdistan, where we can appreciate the importance of Mesopotamian influences in shaping the picture of the Early Bronze Age (2200-2150 BC).

Subsequent texts describe the discoveries of Poznań scientists in Syria (1906-1787 BC) and in Greater Poland (1900-1600 BC). These two distant points describe various aspects of life in contemporary communities in the Middle and Early Bronze Age.

The characteristic archaeological materials of the later centuries of the Bronze Age (1800-1200 BC) reveal an intensification of military conflicts and migration processes (1700-1200 BC). The turn of the eras is illustrated in this volume by texts on the interpretation of representations on ancient Greek and Roman sculpture (400 BC-100 AD), as well as the cultural situation in the Polish lands (400 BC-100 AD).

We are introduced to the new era by an article on the funerary customs of communities from the Polish lowlands describing discoveries at the site of Mirosław (160-175 AD). Moments of the formation of elements of Polish statehood are referred to in texts describing towns at Grzybowo (919-1050 AD) and Poznań in the early Middle Ages (950-1000 AD).

Later parts of the Middle Ages are described by sacral monuments located also in the area of the contemporary city of Poznań: the Collegiate Church of St Mary Magdalene (1263-1802 AD) and the still extant Church of the Blessed Virgin Mary on Ostrów Tumski, founded around 1431 AD in the immediate vicinity of the previously described early medieval site of the 'origin' of the city of Poznań.

The final texts of the volume do not refer directly to a particular period of prehistory, but present the history of Polish archaeological research on the Iberian Peninsula, the contemporary perception of prehistoric art by the inhabitants of present-day Canada and Siberia, and the development of methodological thought among Poznań archaeologists.

The volume closes with a text describing one of the many perspectives currently faced by the staff of the Faculty of Archaeology of Adam Mickiewicz University in Poznań: the new ArchaeoMicroLab.

We look to the future with great hope that the Staff of the Faculty will provide ideas for many more volumes of Treasures of Time. We trust that this set of articles will present archaeology at the Adam Mickiewicz University in Poznań in its new structure as a Faculty and show its potential. We would thus like to encourage you to get acquainted with our Poznań perspective on archaeological studies, and to reflect on ways of exploring the past.

Andrzej Michałowski

Danuta Żurkiewicz



Location of the main research areas.
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3350-1150 BC

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In the Valley of Anthemous ... (Northern Greece)

Stelios Andreou, Maria Pappa, Janusz Czebreszuk, Konstantinos Vouvalidis, George Syrides, Sofia Doani, Iwona Hildebrandt-Radke, Jakub Niebieszczański

Abstract

The Anthemous Valley Archaeological Project is a cooperation between Greek and Polish scientists aiming towards archaeological recognition of the northern Aegean within the alluvial Anthemous Valley. The methodology of the project consists of the multidisciplinary tools of settlement archaeology and geoarchaeology. The timeframe spans the prehistoric periods from the Neolithic to the Early Iron Age. One of the main research tasks is to reconstruct the evolution of the landscape in close reference to the cultural changes in the region. To date, all sites within the valley have been catalogued and identified through archaeological prospection and some with the use of geophysical survey. The results point to an intensive occupation in the past, especially during the Bronze Age. Geoarchaeological research was conducted in the tell of Nea Raedestos, which has shown major landscape transformations in the Holocene due to river activity. The current work focuses on the mouth of the Anthemous River to reconstruct the progradation processes and formation of the deltaic plain in relation to prehistoric human occupation of this area.

Keywords: Northern Greece, Tell, Geoarchaeology, Neolithic, Bronze Age, Early Iron Age

Introduction

An international research initiative, the Anthemous Valley Archaeological Project (AVAP), was launched in 2010 and realised in Northern Greece (Figure 1). Initially, the project was run by the Ephorate of Antiquities of the Thessaloniki Region (Dr M. Pappa) and the Aristotle University of Thessaloniki (Prof S. Andreou), with the participation of the then Institute of Archaeology of the Adam Mickiewicz University in Poznań (Prof J. Czebreszuk). Since 2020, the project has been led by the Faculty of Archaeology of the Adam Mickiewicz University under the concession obtained by the Polish Archaeological Institute at Athens. The participation of the Polish team is based mainly on funds provided by the National Science Centre (NCN). Four grants have been gained to date (2 grants from the Opus program, one from Preludium, and one from the Diamond Grant).

The following text is an expanded Polish version of a chapter that was first published in 2019 (Czebreszuk & Niebieszczański, 2019).



Figure 1. Anthemous Valley, Northern Greece.



Figure 2. Mount Chortiatis, the dominant terrain in the Anthemousa Valley with an altitude of 1201 m. The NATO military radar is visible at the top (Photo: AVAP).

The Anthemous Valley

The subject of the AVAP is to research the history of prehistoric settlements from the Neolithic, Bronze, and Early Iron Ages (the period from ~6500 to 700 BC), the remains of which have been recorded by archaeologists in the valley of the Anthemous River, near Thessaloniki in Northern Greece. The Anthemous is an intermittent river, in which continuous flows occur only during periods of increased rainfall, and its valley rests on the still active tectonic fault of the same name. As a result of its activity, the region is exposed to earthquakes (including one in Thessaloniki in 1978; Papazachos & Papazachou, 1997). Thanks to the geological diversity of the rocks that form the Anthemous Valley (Niebieszczański, 2016), the settlements in the past benefited from rich deposits such as chert (a ferruginous variety of flint) and serpentinite (a greenish rock used in the production of ornaments), as well as gold. These natural deposits occur on the slopes of the mountains which close the valley from the south and the north. These are part of the Chortiatis mountain massif and the highest peak in the north is 1201 m above sea level (asl) (Figure 2). At the bottom of the valley, there is a flat plain composed of flood sediments that foster the development of agriculture – therefore, it is not without reason that this area is called ‘Thessaloniki’s garden’.

The study area is located at the crossroads of the Aegean world, which stretches to the south, and the Balkan world – extending northwards. Today, traces of prehistoric settlement are recorded there (Figure 3), the most distinctive and impressive form of which are *toumba* (tell) sites. Contrary to the first impression, the name ‘*toumba*’ does not translate as ‘tomb’ (although in the 19th century, these features were interpreted in this way), but instead means the remains of settlements from the Bronze Age. They are man-made hills with a characteristic cut-off peak and some are nearly 20 m high and 200 m wide in diameter at the base. They were created by building houses ‘on top of one another’ in the same place, and the whole process probably lasted for several thousand years (Figure 4). During the archaeological surface survey, the AVAP team recorded 13 such forms, which indicates a very high settlement density in the Bronze Age (Andreou, Czebreszuk & Pappa, 2016). On the other hand, extensive ‘flat’ sites

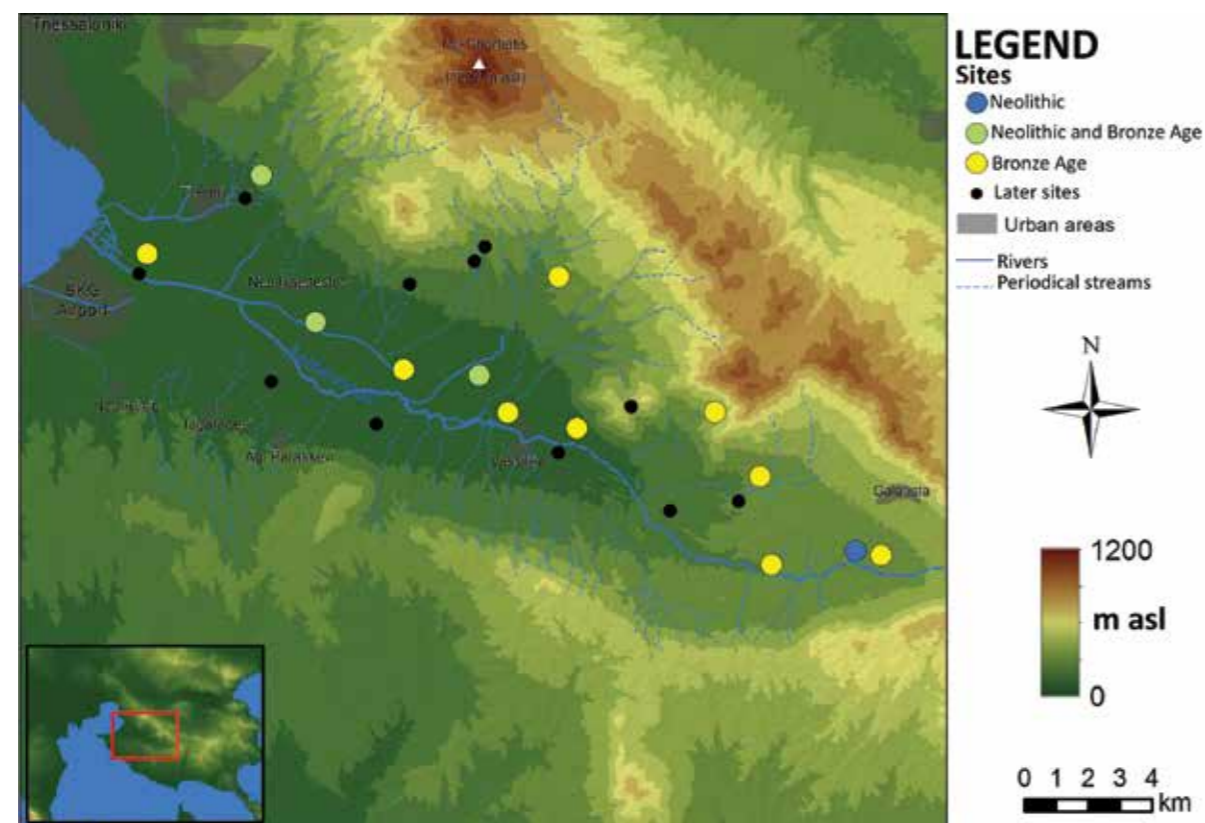


Figure 3. Archaeological sites in the Anthemous Valley.



Figure 4. Toumba Loutra Thermis - an example of an anthropogenic hill created as a result of long-term settlement in the same place over thousands of years (Photo: AVAP).

(i.e., those that can only be recognised in the field by the remains of vessel fragments on freshly ploughed ground) are associated with the earlier period (i.e., the Neolithic). To date, the largest Neolithic settlement – Vassilika – Kyparissi, with an area of 13 ha (Andreou, Czebreszuk & Pappa, 2016) has been documented in the Anthemous Valley. Excavations and comparisons between this and other sites representing the same period also located in Northern Greece show that settlements of this type were characterised by loose clusters of buildings that changed position within the site every several dozen or hundred years (Pappa, Nanoglou & Efthymiadou, 2016). Thus, archaeologists now record large-scale settlement complexes with the understanding that they were not necessarily all inhabited within a single generation (Kotsakis, 1999; Pappa, Nanoglou & Efthymiadou, 2016). In addition to the Vassilika – Kyparissi settlement, two other sites characterised by a large area have been discovered: Galatista (Andreou, Czebreszuk & Pappa, 2016) and Thermi (Pappa, Antomaras, Vliora & Nanoglou, 2011; Andreou, Czebreszuk & Pappa, 2016).



Figure 5. Surface research – a line of archaeologists identifying archaeological remains and artefacts in the field (Photo: AVAP).

Archaeological fieldwork

Archaeological recognition of the sites located in the Anthemous Valley rely mainly on surface prospection (Figure 5) (Andreou, Czebreszuk & Pappa, 2016). It is a research method that involves identifying the record of anthropogenic activity in the past from what can be observed on freshly ploughed land. Among the finds, fragments of ceramic vessels prevailed, but there were also clay figurines or artefacts made of stone (tools or ornaments). For example, a selected section of the Neolithic site of Vassilika – Kyparissi yielded over several hundred kilograms of archaeological material obtained from the surface.

In addition to the classical methods of archaeological prospection, the AVAP also used the method of magnetometry (Figure 6), which measures the magnetic field intensity of underground soil layers. This provides insight into the diversity of geological and archaeological horizons. The use of this method in the Anthemous Valley made it possible to identify, for example, fortifications in the form of a ditch dug around the Neolithic settlement in Galatista (Figure 7) (Andreou, Czebreszuk & Pappa, 2016).



Figure 6. Magnetometry research – searching sites without archaeologists interfering with the soil structure (Photo: AVAP).

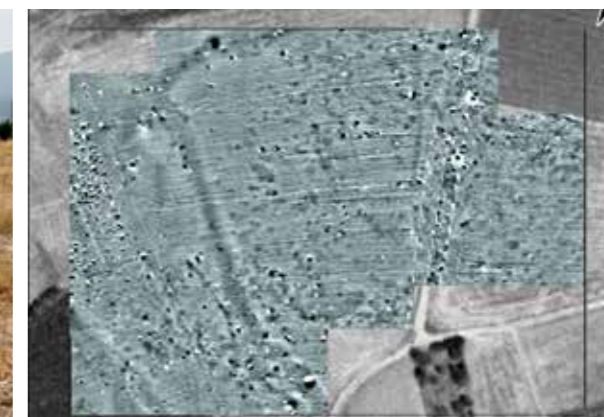


Figure 7. The results of magnetic studies at the Galatista Neolithic site. The dark area that runs from the north to the south is an anomaly for which the ditch is responsible, probably serving as a defensive element in the Neolithic period (Andreou, & Czebreszuk & Pappa, 2016).

Geoarchaeological research

In addition to studying the prehistoric settlement system, the project team also focused on a geoarchaeological study that aimed to identify records of past anthropogenic activity with the use of several methods borrowed from geology, geomorphology, and other natural sciences to study human interactions with their environment. The fluvial valleys and coastal plains of Northern Greece have undergone significant environmental transformations since the Last Glacial Maximum (van Andel & Shackleton, 1982). The Aegean Sea was affected by the Holocene transgression and fluvial deltaic processes that caused the landscape to dynamically transform over the last 18,000 years. A telling example of this is the case of the Thessaloniki Plain, located on the opposite side of the Thermaic Gulf, where in the 4th century BC there was a shallow bay on which the strategic port used by Philip II of Macedon and Alexander the Great operated in Pella. As a result of progressive delta formation processes, the site at Pella now lies about 40 km inland (Syrides et al., 2009; Ghilardi et al., 2008). Another specific feature of the fluvial valleys in that region is increased river activity since the end of the 4th millennium BC (Syrides et al., 2009). As a result of these processes, some archaeological sites can be now found many metres below the surface of the terrain – which is the case of Dikili Tash in Eastern Macedonia, for example. There, an early Neolithic settlement was discovered by drilling through an almost 10 m thick cover of flood sediments (Lespez et al., 2013).



Figure 8. Toumba Nea Raedestos, one of the largest tumbras in the valley, has been subjected to geoarchaeological research. The form visible in the photo measures 19 m in height and over 200 m in circumference at the base of the embankment (Photo: AVAP).

Similar transformations were also expected in the nearby Anthemous Valley, both in terms of fluvial activity and marine transgression (e.g., Vouvalidis, Syrides & Albanakis, 2005). Therefore, a geoarchaeological study of one of the largest tumbras in the Anthemous Valley – Nea Raedestos – was undertaken (Niebieszczański et al., 2019a; 2019b; 2020). Today, the site is located in the centre of the valley and is surrounded by the extensive flood plain of the Anthemous River, which runs approximately 1 km south of the tomba (Figure 8). The application of the electrical resistivity imaging method enabled archaeologists to identify the structure of geological formations resting underground without the need for costly and time-consuming excavations. The obtained images show how the landscape around the Nea Raedestos site developed in the past (Figure 9). The results reveal that there were two river channels in the past both north and south of the tomba, probably representing different developmental phases and the changing course of the Anthemous River, and also revealed the existence of a small tectonic fault in the vicinity of the settlement (Niebieszczański et al., 2019a). After obtaining the electrical resistivity profile, the next research step was to take geological cores of the intact sediment structure. It is a specialized method which involves driving a steel sampler with a pneumatic drill which has inside a plastic tube for collecting the obtained sediment (Canti & Meddens, 1998). With this method, it is possible to detect even

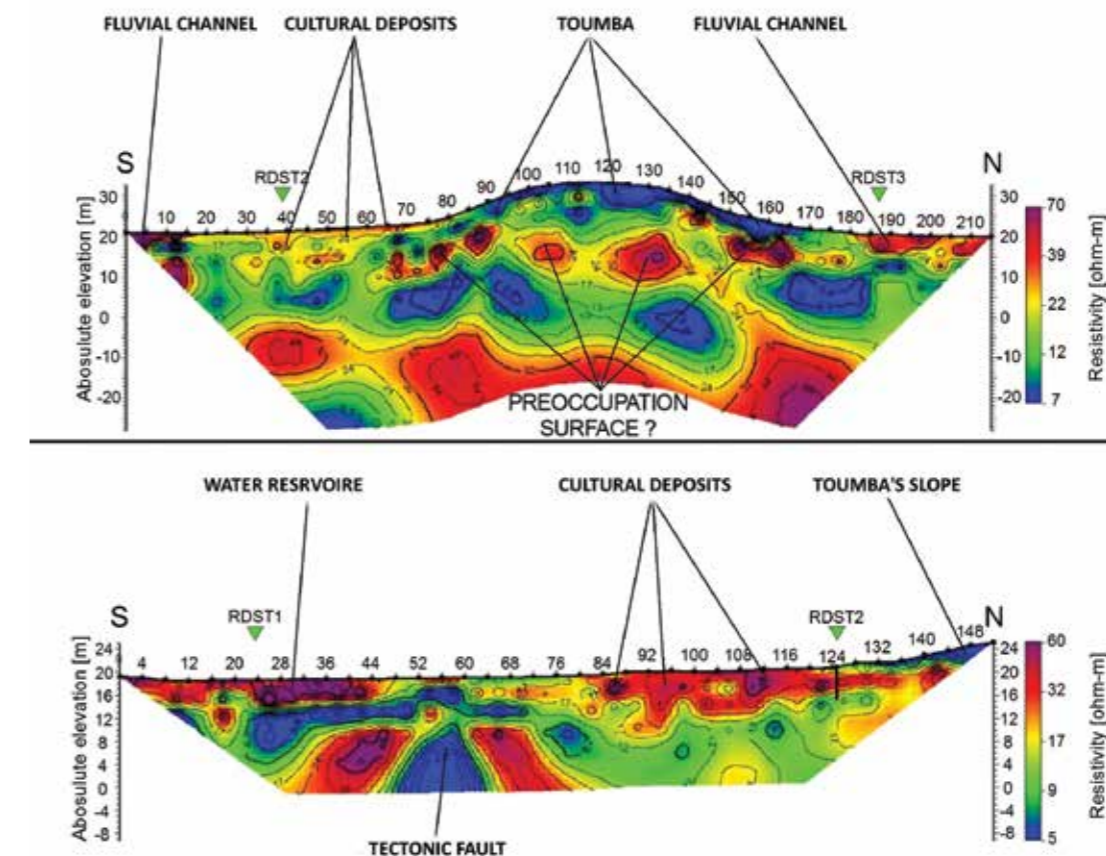


Figure 9. The electrical resistivity tomography image taken for the Nea Raedestos site (Niebieszczański, 2019b).

the slightest changes in geological or archaeological horizons. The percussion drilling results showed that there was a shallow body of water directly south of the tomba that functioned during the Neolithic and the Early Bronze Ages (Figure 10). The lacustrine sediments were characterized by a high content of organic matter, including tree pollen and diatoms, thanks to which the vegetation cover and hydrological conditions of the reservoir were reconstructed (Niebieszczański et al., 2019a). These results indicate that the pond (or small lake) was heavily polluted and partly salinated. Probably its water was not fit for consumption due to the high proportion of coprophilous fungi (i.e., those that feed on animal excrement; Niebieszczański et al., 2019a). The vegetation around the reservoir was highly ruderal, which proves the anthropogenic influence on the environment. Nearly no tree pollen was recorded, which suggests that the landscape was most probably exposed at the time. Another outcome of the percussion drilling was encountering layers containing Neolithic pottery and many charcoal fragments at a depth of over 3 m. Radiocarbon dates confirmed that time span. During the recording of the Neolithic settlement layers, some traces of a fire incident were identified (i.e., a strongly burnt layer abundant in fragments of vessels). This indicates that the settlement was affected by fire around the time of the transition from the 4th to 3rd millennia BC. (Niebieszczański et al., 2019b). Despite this, the settlement continued into the later period, and, with the beginning of the Bronze Age, some

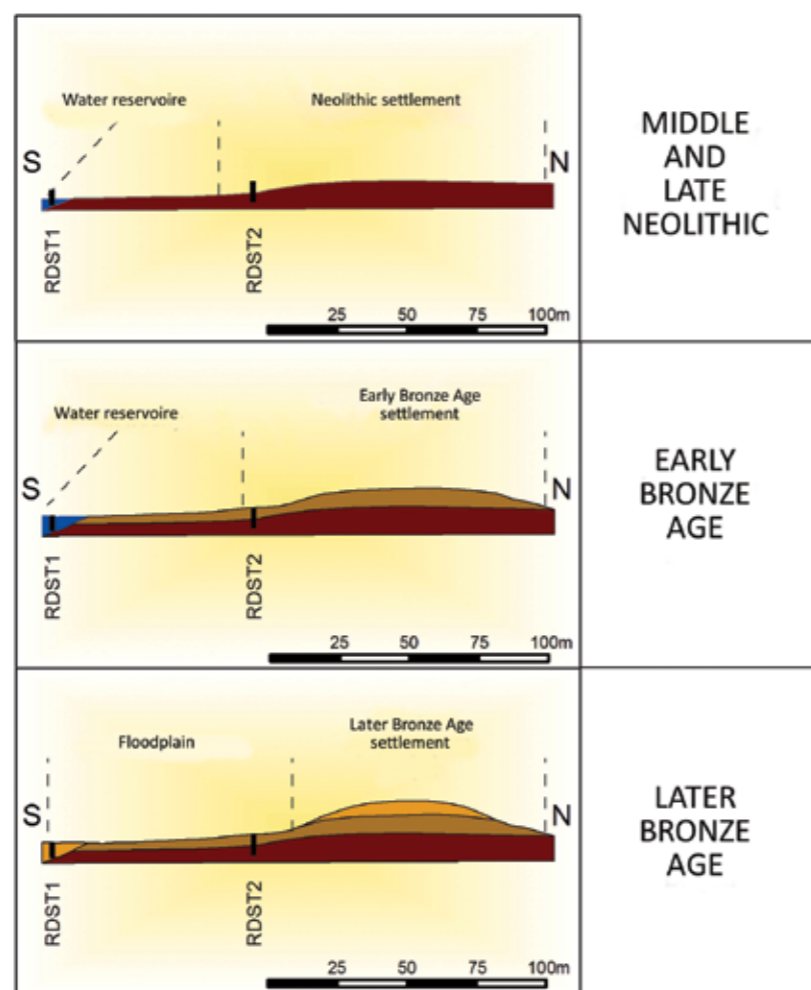


Figure 10. Diagram showing landscape changes around the Nea Raedestos site during the Neolithic and Bronze Age (Niebieszczański et al., 2019a).

toumbas began to form. One of the important achievements of this geoarchaeological research was the establishment of the beginnings of the settlement during the middle of the 6th millennium BC. In turn, its end is estimated to have occurred in the Early Iron Age (i.e., around the beginning of the 1st millennium BC). Given the fact that, nearby, there is a site representing the Classical, Roman, and Medieval periods, as well as the modern settlement of Nea Raedestos (which still exists today), it can be concluded that the area has been continuously inhabited for more than 8,000 years (Andreou, Czebreszuk & Pappa, 2016)!

Ongoing research

The ongoing archaeological and geoarchaeological research in the Anthemous Valley is aimed at exploring the delta zone of the river that flows directly into the Thermaic Gulf. To date, it has been established that the current course of the coastline was formed at the beginning of the Holocene (Vouvalidis et al., 2005). During the last glaciation, the water level in the gulf was

lower by about 130 m, and the bottom of the basin was then a vast plain reaching the foot of Mount Olympus, located on the other side of the sea (van Andel & Shackleton, 1982). With the advent of the Holocene (i.e., the period in which humans also exist), as temperatures started to rise, the northern hemisphere ice sheets melted, and sea levels increased at different rates. In the Anthemous Valley, the delta zone (i.e., where the archaeological sites are now recorded) was formed during the Middle Bronze Age (i.e., in the 3rd millennium BC). Earlier, it was a shallow bay fading into saline marshes and floodplains (Vouvalidis et al., 2005). Currently, the project involves drilling in this area to recognize the dynamics of the changing shoreline as well as patterns in the progradation of the deltaic plain (Doani et al., 2021) and associated transformations in the settlement system.

Summary

To date, the archaeological research project conducted in the Anthemous Valley has revised archaeological understanding of the transition zone between the Balkan and Aegean worlds. Until now, the area of the Peloponnese, “Greece Proper” and the Greek islands were treated as the centre of civilization and culture that had a unilateral influence on the surrounding areas. The research conducted in the valley has revealed that the northern fringes of that world were not at all “deserted” places. On the contrary, they were densely settled areas that became transmitters of the civilizational progress that contributed to the emergence of European cultures known today. It is worth noting that the communities occupying the study region developed a culture with specific features and successful internal organisation. All in all, the outcome of the ongoing AVAP research promotes a better understanding of the Pleistocene and Holocene evolution of river valleys in the eastern Mediterranean. This is a crucial issue in the study and classification of the cultural processes taking place in the analysed areas.

Acknowledgments

The Anthemous Valley Archaeological Project (AVAP) started in 2010 as a cooperation between the Ephorate of Antiquities of the Thessaloniki Region and the Aristotle University of Thessaloniki. The Adam Mickiewicz University of Poznań (UAM), Poland participated from the start as the scientific partner of AUTH on the basis of a bilateral agreement between the two universities. On behalf of the three participants, the project was directed by Dr Maria Pappa, Prof. Stelios Andreou and Prof. Janusz Czebreszuk respectively. With the establishment of the Polish Archaeological Institute at Athens (PAIA) in 2019, a significant organizational change took place in the project. Through a permit which was issued by the Ministry of Culture and Sports of Greece to PAIA, UAM took over the research in the framework of AVAP since 2020. The project is still being realized in cooperation with the Ephorate of Antiquities of the Thessaloniki Region, which oversees it, and the Aristotle University of Thessaloniki.

The geoarchaeological research in the Anthemous Valley is funded by the National Science Centre grant no. 2016/21/B/HS3/00923. (“Buried archaeology” – Prehistoric settlement landscapes (Neolithic – Bronze Age – Early Iron Age) in the alluvial zones of the Aegean. Case Study of the Anthemous Valley in Northern Greece).

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