BANEA
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BIAA British Institute at Ankara

Durham University

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Workshop

Achaemenid Environments:

Agenda-setting economic, landscape, environmental and bioarchaeological approaches to Achaemenid Impact

Thursday 4 January 2024

Leads:
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The impact of the Achaemenid Empire on its territories, and the nature of that empire, has and continues to be investigated primarily through the lenses of politico-financial administration, ideology and material/visual culture. Scholars have waivered on the strength of impact in these spheres, seeing strong impacts on taxation, finances and land organisation, and subtle, yet sometimes profound impacts on certain spheres of thought and behaviour, and the accoutrements that accompany these, especially commensality, travel, dress and to some extent, what we call religion.

Despite the robust scholarship on the Achaemenid Empire that has developed over the past four to five decades since the Achaemenid History Workshops, investigations of impacts on local economies and settlement patterns have remained somewhat limited and dispersed. Studies of land ownership, trade, agriculture, and economy based on textual sources are notable, but landscape and scientific archaeologies are still in many ways in their infancy as essential parts of the investigative toolkit.

In part, this is a result of the 'light' cultural imprint of the Achaemenid Empire. The above-mentioned accoutrements are relatively rare. The best caches of Achaemenid-period materials tend to be found in the burial sphere, which is the most visible sphere of monumentality in at least some of the Achaemenid territories. Pottery forms recognisable as Achaemenid period are not often found in

surface finds recovered during survey, leading to what could be false negatives for site occupation periods. Achaemenid levels have been hard to recognise at sites, even at the western Empire's ostensible headquarters of Sardis in Western Türkiye.

There are, however, examples of survey and the application of scientific methods that have picked up or promise to pick up data that can redefine the way we understand the impact of empire. Analysis of botanical and zooarchaeological assemblages from some sites is underway. There are several skeletal remains from burials, which can help to answer questions about mobility and human life. Focussing on and developing questions about landscapes has much to offer.

This BANEA workshop aims to initiate collaborative work on relevant landscape and bioarchaeological samples/datasets, and draw upon models and work on other periods and empires in order to collaboratively set a new agenda within the study of the Achaemenid territories; reframing paradigms of 'impact' and the ways in which questions about it can be answered, complementing the newly initiated series of Achaemenid Workshops (AchWorks) being staged on an annual basis.

Schedule

All papers are 15 minutes, with 5 minutes for immediate questions.
Schedule may change according to the ability of speakers to participate in person.

Block 1		
9:15	**Introduction**	
9:20	Abazar Shobairi, ***Hydraulic landscape of the Achaemenid Heartland***	
9:45	Aqeel Sfayyih Nashoo***, Settlement patterns and agriculture of Achaemenid around Tell al Wilaya, Iraq***	R
10:10	Lâtife Summerer, ***Unlocking Funerary Landscapes of Kelainai***	
10:35	Ahmed Ali Jawad, ***The Archive of Shamash-Zer-Ibni and his Family from the Late Achaemenid Period***	R
11:00	BREAK	
Block 2		
11:30	Canan Çakırlar and Salima Ikram, ***Modelling the environmental impact of Persian presence in Cilicia: Zooarchaeological evidence from Kinet Höyük (Classical Issos), mid 6th century BCE to 333 BCE***	
11:55	Lorenzo Castellano and John M. Marston, ***Agriculture in Achaemenid and Early Hellenistic central Anatolia: a view from Niğde-Kınık Höyük and Gordion***	R
12:20	Michele Massa, ***Extraction Landscapes and the Achaemenid imperial Footprint in the Konya Plain (central Türkiye***	R
12:45	Yilmaz Selim Erdal and Nefize Ezgi Altınışık, ***Bone evidence of the Achaemenid invasion and collapse of Kerkenes and Sardis***	
13:10	LUNCH	

Block 3		
14:00	Shmuel Clark and Shai Gordin, ***20 Acres of Prime Canal-Front: Using Gazetteer-Supported Text Analysis To Begin Mapping Cadastral Texts In Achaemenid Uruk***	R
14:25	Louise Bertini, ***Zooarchaeological samples from Naukratis in the Persian Period***	
14:50	Sierra Harding, Shyama Vermeersch, Nimrod Marom, Gunnar Lehmann, Gunnar and Stephanie Eisenmann, ***Persian period zooarchaeology in southern Phoenicia, with a focus on Tel Keisan***	R
15:15	Roundtable discussion: agenda setting	

Abstracts (in alphabetical order of lead presenter)

Zooarchaeological samples from Naukratis in the Persian Period

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This presentation will discuss the faunal remains from the British Museum's 2016-2019 excavation season at Greek settlement of Naukratis, Egypt. While the site's occupational history is from the Saite- Late Ptolemaic periods, the majority of the archaeological, and thus faunal material date to the Persian period (c. 550-325 BC), coming from riverfront contexts and the sanctuaries of the Hellenion and Dioskouroi. While this is not a particularly large assemblage, it is a very well preserved one which can provide insights into the site's economy and also possible ritual practices.

Modelling the environmental impact of Persian presence in Cilicia: Zooarchaeological evidence from Kinet Höyük (Classical Issos), mid 6th century BCE to 333 BCE

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Cilicia served as a venture point for Persian military and naval expeditions from the mid-sixth century BCE until the campaign of Alexander the Great in 333 BCE. Located half-way between Al-Mina and Tarsus, Kinet Höyük was a harbor town and a fortified local centre during this period. Bilkent University excavations conducted by M.-H. and C. Gates yielded substantial bioarchaeological assemblages dating to the Persian Period in Cilicia, associated with the architectural remains of the local occupational periods 5, 4 and 3B. This paper

describes the zooarchaeological assemblages from Persian deposits at Kinet, with reference to the stratigraphic challenges involved in identifying them at this long-lived, densely-settled site. Kinet witnessed the military, economic, and demographic presence of a succession of territorial organizations before and after the Persians, the question we are interested here is how Persian militarism and extractionism differed or was similar from its predecessors and successors, and how local people and the environment responded to Persian influence.

Agriculture in Achaemenid and Early Hellenistic central Anatolia: a view from Niğde-Kınık Höyük and Gordion

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In this paper we present the results of archaeobotanical research conducted at the Achaemenid and Early Hellenistic levels of Niğde-Kınık Höyük, a multiperiod site located in southern Cappadocia, south-central Anatolia. We compare the dataset from Kınık Höyük to coeval evidence from Gordion and contextualize it within the broader central Anatolian context.

Compared to Gordion, the archaeobotanical record from Kınık Höyük emerges as clearly distinct. Agriculture at Kınık Höyük is based on the cultivation of bread wheat, 2-row hulled barley, grape, and other fruit crops—including Russian olive and walnut. Wheat is more abundant than barley, which is in stark contrast to Gordion. The evidence of viticulture from Kınık Höyük, moreover, is currently unique in the central Anatolian archaeobotanical dataset, considering the abundant and ubiquitous attestation of grape seeds and pedicels, and grapevine charcoal. The site was thus involved in large-scale viticulture.

Given the intensity of archaeobotanical research conducted at Gordion and Kınık Höyük, we argue that the important differences in the archaeobotanical assemblages recorded at the two sites reflect distinct agricultural systems during the Achaemenid period. This consideration suggests the presence in central Anatolia of well-defined specializations in agropastoral economies within the Achaemenid polity.

20 Acres Of Prime Canal-Front: Using Gazetteer-Supported Text Analysis To Begin Mapping Cadastral Texts In Achaemenid Uruk

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Cadastral texts have a long history of being successfully used to better understand real estate transactions and agriculture in Mesopotamia, but are often used in a proposographical context, to understand interactions among the landowning elite, or as an example of a text genre found in various archives.

The publication of a new gazetteer of Neo-Babylonian and Achaemenid Uruk allows these texts to be more specifically analyzed with an eye towards an understanding of the specific real-estate plots they detail. The MAPA gazetteer draws directly on specific texts to assemble a network of place-names. This gazetteer allows the identification of these cadastral texts through their unique connective signature, and their placement in a specific geographical context.

We propose a novel workflow for the discussion of micro-landscape geography in the Achaemenid period, an analysis of cadastral texts with the support of a gazetteer. This process, a proof-of-concept for which is presented using Uruk-focused cadastral texts dated to the Achaemenid period, and supported by the MAPA gazetteer, is a process which can be easily expanded to Achaemenid Mesopotamia at large.

Achaemenid Invasions into Anatolia: Bioarchaeological Insights into the Collapse of Kerkenes and Sardis

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Anatolia has long been a melting pot of cultures and populations, shaped by millennia of human mobility and interactions. From the Neolithic onwards, the movement of people between the Zagros Mountains and Anatolia has played a pivotal role in the region's history. The influence of South Caucasian-Zagros populations, often referred to as the "eastern influence", has steadily made its way westward, particularly into Anatolia. However, our understanding of these historical migrations has been hindered by the limited information available regarding human remains.

This study seeks to address these knowledge gaps by examining archaeogenomic studies conducted in Anatolia and its surrounding areas, shedding light on how the genetic affinity influenced by the East has grown within Anatolia. The primary focus is on aDNA studies, which provide insights into the genetic makeup of the region's past inhabitants. By analyzing these genetic data, we aim to unravel the intricate tapestry of human migrations and interactions that have shaped Anatolia over time.

Furthermore, this research delves into the dramatic events that unfolded in 547 BC when Cyrus of Persia led an expedition into Anatolia, causing the destruction of cities such as Kerkenes and Sardis. Bioarchaeological evidence from these cities reveals the grim consequences of these Achaemenid attacks. At least two individuals from Kerkenes and three individuals from Sardis victimized in the violence of this historic invasion. By integrating these diverse sources of information, we aim to contribute to a more comprehensive understanding of the region's rich and diverse past, as well as to the broader field of archaeogenomic research both within Anatolia and beyond.

The Archive of Shamash-Zer-Ibni and his Family from the Late Achaemenid Period

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The archive in our possession belongs to the Shamash-Zer-Ibni family from the city of Shater (Šāṭer) in Mesopotamia during the late Achaemenid period, specifically from the reigns of Artaxerxes I and Darius II. The archive texts document the economic activities practiced by three successive generations of the family, starting with Shamsh-Zer-Ibni, followed by his son Aki-milki-Ilu'a, and his grandson Nkhistu. Most of the archive's texts pertain to economic transactions, primarily loan contracts and title deeds for fields, with a few texts of varying content.

The majority of these archive texts were recorded in the city of Shater, whose location is still unknown, Because the tablets came from illegal excavations. Consequently, establishing a direct archaeological context for the archive is difficult. However, maybe that Shater was located somewhere between the cities of Nippur and Uruk, within the Bit-Amukanu region, on the left bank of the river Nar-Sharri. With the aid of newly acquired information, we can endeavor to some extent to pinpoint the location of the city of Shater, facilitating a connection between the texts data and the landscape of the area.

Persian period zooarchaeology in southern Phoenicia, with a focus on Tel Keisan

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The Persian Period (539-332 BCE) in the Galilee witnessed relative prosperity. As part of the Satrapy of Abar Nahara, the region benefited from Phoenician international trade, a monetary economy, and the stabilizing presence of imperial armies as a forward base against frequent Egyptian revolts. These changes could potentially be reflected in contemporary archeofaunal assemblages, especially stock improvement through management practices or oversea introduction. However, the bioarchaeological record of southern Phoenicia in the Persian period is fragmentary: relatively few faunal assemblages have been analyzed, and the available data are scattered across different reports, some of which are "gray literature."

In this paper, we take first steps in synthesizing the available archaeozoological literature for this study region in order to provide a basic frame of reference for faunal transformations in the Persian period. We then focus on the recently-excavated animal bone remains from Tell Keisan to discuss questions of breed introduction and improvement using

biometric and geometric morphometric analyses. Our results suggest a mosaic of conservative practices and incipient changes related to livestock keeping and improvement.

Extraction landscapes and the Achaemenid imperial footprint in the Konya Plain (central Türkiye)

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The Konya Plain (central Türkiye) is a semi-arid endorheic basin dominated by the Çarşamba River delta, and is mostly famous for its early Neolithic excavations at Pınarbaşı, Boncuklu Höyük and Çatalhöyük. However, recent archaeological surveys have now highlighted how this region not only played a central role in fostering early experimentations with sedentism and agriculture but was also pivotal for sustaining the growth of the first urban centres in central Anatolia and as a strategic granary for later imperial formations.

This paper will highlight how, through detailed analysis of historical satellite imagery, high-resolution Digital Surface Models, UAV-based 3D modelling and ground-truthing archaeological fieldwork, the Konya Regional Archaeological Survey Project (KRASP) was able to disentangle the diachronic palimpsest of land use and water management in the region. It will in particular highlight a radical change in settlement location choices and layouts, a more regular occupation in the landscape, the growth of irrigation systems and the occupation of the steppe by sedentary groups around the mid-1st millennium BCE. We interpret this process as a major shift in the organization of agropastoral landscapes and the socio-economic structure of local farming communities within the context of the first imperial power in Anatolia.

Settlement patterns and agriculture of Achaemenid around Tell al Wilaya, Iraq

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Through this study, we aim to focus on the Achaemenid period in the Mesopotamia by the modern archaeological survey techniques to determine spatial distributions, Achaemenid sites in Mesopotamia have not been extensively studied, the remains of the Achaemenid era in this region were studied, including written texts, pottery, and other cultural items, However, a comprehensive study of sites dating back to this era through landscape archaeology has not been previously conducted.
By conducting this study, we seek to achieve the following.

1. We are concentrating on the study of the Achaemenid sites in Mesopotamia by conducting a survey of the region and establishing the spatial distributions of sites from this era with surveys conducted by researchers in neighbouring regions, to put a clear picture of the distribution of Achaemenid sites around main cities in the southern of Mesopotamia and the surrounding countryside.
2. We are also focusing to examining the settlement patterns of Achaemenid sites, determining whether they exhibit agricultural or pastoral patterns, and studying the

sizes of archaeological sites, particularly emphasizing temporary settlements in rural areas its gives us an idea about the prevailing economic system of that era.

3. It is possible to reconstruct the courses of ancient rivers from the Achaemenid era by correlating archaeological sites from that time with textual records that describe the river channels during the Achaemenid era.

Hydraulic landscape of the Achaemenid Heartland

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In the present paper, we will focus on the hydraulic and landscape features in the heartland of the Achaemenid Persian Empire (ca. 550-330 BC). The majority of the Achaemenid hydraulic structures are located in the two main river basins, those of the Kur and Sivand Rivers, located in southwestern Iran, in the Pasargadae and Persepolis plains respectively. This contribution wilk examine the pertinent archaeological evidence (such as the remains of dams, weirs, and canals), which illustrate the sophistication of Achaemenid irrigation technology and networks, and will also consider its impact on the surrounding landscape. Three main important regions can be distinghuished. The first is the northern part of the Pasargadae plain, consisting of the Bulaghi Valley and Sivand River basin. The second area is located in the Persepolis plain, in Marvdasht connecting to the Persepolis and the Naqsh-e Rostam areas. The Dorūdzan plain (Kur River basin) is the last region. Water resource management is an important factor in the maintance and distribution of hydraulic landscape and a regional organization is vital for the system's proper and smooth function. The Achaemenids may have contributed to the development of regional organization of irrigation and hydraulic constructions in the land between the Kur and Sivand Rivers.

Keywords: Achaemenid, Pasargadae, Persepolis, Landscape, Hydraulic structures.

Unlocking Funerary Landscapes of Kelainai

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A cross-disciplinary research project conducted between 2008 and 2011 in and around Dinar aimed to reconstruct the geoarchaeology of Ancient Kelainai through a combination of datasets gathered by geophysical and hydrological investigations as well as aerial photography and field surveys. A particular focus was on mapping burial areas by the means of Geographic Information System. While the chronological classification of the identified graves poses generally a problem, paintings, ceramics, and coins from some pillaged tumuli and looted tomb chambers helped to assign them securely to the Achaemenid period. Starting from the premise that the presence of visible clusters of graves, tumuli and, rock-cut tombs indicate the inhabited areas the achieved datasets allow spatial analyses towards reconstruction of historical landscapes, settlement patterns and, land use in and around

Kelainai. Set against this background this paper will argue that the presence of tumuli points to the existence of local or Persian nobility settled in the vicinity of Kelainai where Achaemenid Great Kings resided in their palaces.