

OREA 2016

**OREA
ANNUAL REPORT 2016**

**BARBARA HOREJS
&
OREA TEAM**

OREA

Annual Report 2016

Barbara Horejs & OREA Team



Current research projects at OREA

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OREA Mission Statement and Short Description

The Institute for Oriental and European Archaeology (OREA), founded in 2013, covers essential prehistoric and early historical cultural developments from the Orient to Europe. This mission is reflected in the three core regions Europe, Egypt & the Levant, and Aegean & Anatolia. The orient and occident are frequently understood as counterpoints in different worlds and explored separately. In this research institute, these areas are deliberately considered as a common cultural bracket for crucial advances of human (pre)history and are therefore explored together. The focus of foundational research lies in the time horizon from the Quaternary, about 2.6 million years ago, to the transformation of societies into historical epochs in the first millennium BC.

Research methods include archaeological field work (excavations and surveys), material culture studies with diverse archaeometric methods, and interdisciplinary cooperations with a range of different disciplines, including archaeozoology, archaeobotany, anthracology, biological anthropology, palaeogenetics, climatology, geoarchaeology and landscape modelling. The basic analysis and interpretation of early cultures lies at the core of research efforts, which aim to include all possible sources. The study of chronologies, art and early writing as well as a broad socio-cultural spectrum including religion, ideologies and identities compliment research at the institute.

OREA researchers cover a wide range of disciplines from Prehistoric Archaeology, Egyptology, Sudanese Archaeology, Near/Middle Eastern and early Greek Archaeology to various philologies.

Targeted research on different priorities is concentrated in research groups spanning broad regions and designed to be trans-regional and diachronic. Research groups are constantly being initiated and developed to pick up new trends in the research landscape and provide new impetus.

For ongoing national and international quality assurance as well as additional research funding, the Institute strives for success in competitive external funding. Current financial support is provided by the Austrian Research Fund (FWF), the ERC, the EU Marie Curie programme and INSTAP as well as by the Austrian National Bank (ÖNB), the White Levy Fund, the City of Vienna, the County of Lower Austria and various private foundations.

The Institute publishes six publication series and two international journals. The publications reflect the core research areas and comply with the highest scientific standards through international evaluation procedures and advisory boards.

OREA EVALUATION AND MANAGEMENT

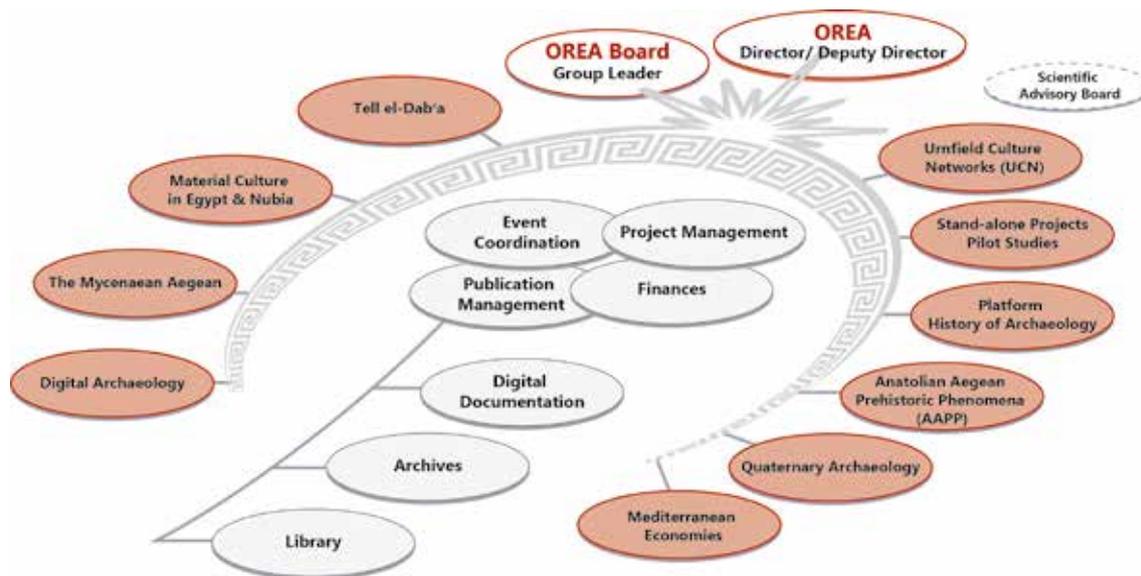
In 2016 the successful evaluation of OREA took place, carried out by an international team of distinguished peers. The restructuring and the organization in research groups since 2013 met full approval, as well as the development of the research groups so far. The very favorable recommendations of the evaluators were followed by the Austrian Academy and OREA was made a permanent institute of the AAS in 2016.

In spring 2016 Eva Alram took over the role of the deputy director of OREA from Vera Müller. The merging of the formerly three spatially separated OREA groups, libraries and archives proceeded with the move to the new location in Hollandstrasse 11–13 in 1020 Vienna, to newly adapted office premises.

The definition of research initiatives within OREA is as follows:

- **Research groups**

Innovative research on different priorities within OREA is focused in research groups – period independently/diachronic – according to the respective topic. The development of research



Organigram of OREA institute

groups was directly coupled to the structure of the new institute and led to a fundamentally new research structure. They are the most important groups within OREA in order to carry out successful international and interdisciplinary research in a structured team framework, which also specifically integrates and promotes young researchers. The groups are constantly evolving as a dynamic element and initiated to set new impulses in the research landscape. They are implemented for a limited period and have to undergo evaluation according to recognized quality assurance criteria.

- **Long-Term research**

Traditional research priorities are bundled in the form of long-term research projects. This relates primarily to long-term commitments to editions, publication of old excavations material etc. The *Urnfield Culture Networks* project is OREA's highly successfully evaluated long-term research project (international evaluation spring/summer 2015).

- **Platforms**

The platform *History of Archaeology* brings together colleagues working on different topics not only concerning the history of archaeology and the biographies of archaeologists but also dealing with questions of history of art. Research is manifold and covers amongst other things research into the history of the former Kommissionen, the impact of Egyptian art on 19th century painting and studies on Heinrich Schliemann. The platform integrates researchers from OREA and different Austrian institutions as well as freelancers.

RESEARCH STRATEGY

The basis of the research program are the OREA research groups, built up since 2013, whose leaders are represented an OREA panel of research group leaders (OREA Board) established in 2014. The research priorities defined in 2013 are now fully organized in groups, individual studies are the exception and mostly function as strategic pilot studies for potentially larger projects.

The strategy follows the focus defined in the OREA mission statement (see above) from research on the basis of humankind between the Orient and Europe to the transformation to historical societies of the 1st millennium BC. In 2016 the following research groups existed: *Quaternary Archaeology*, *Anatolian & Aegean Prehistoric Phenomena*, *Mycenaean Aegean*, and the

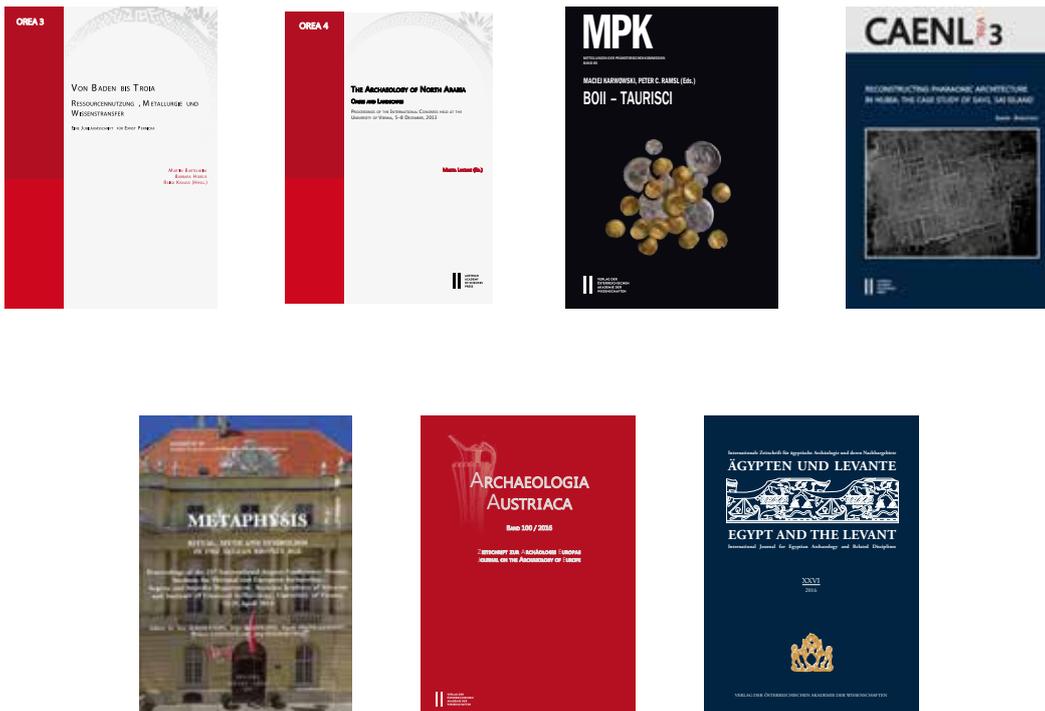
START project *Material Culture in Egypt and Nubia*. The scientific and strategic establishment of a new innovative research focus in OREA (*Mediterranean Economies*) was called into life and *Digital Archaeology* adds the necessary expertise from the field of digital humanities to our research. The *Tell el-Daba Publication Group* is responsible for publication of the long-term excavations conducted from 1966 to 2009.

PUBLICATION STRATEGY

The institutes’ strategy covers two different fields of publication: OREA’s own publication series and external international publications of OREA scientists.

OREA	Publications of the Institute for Oriental and European Archaeology
CChEM	Contributions to the Chronology of the Eastern Mediterranean in the Second Millennium BC
CAENL	Contributions to the Archaeology of Egypt, Nubia and the Levant
UZK	Untersuchungen der Zweigstelle Kairo des Österreichischen Archäologischen Instituts (Analyses of the Cairo branch of the Austrian Archaeological Institute)
MPK	Mitteilungen der ehem. Prähistorischen Kommission (Communications of the Prehistoric Commission)
MykStud	Mykenische Studien (Mycenaean Studies)
Ägypten und Levante / Egypt and the Levant	Internationale Zeitschrift für ägyptische Archäologie und deren Nachbargebiete / International Journal of Egyptian Archaeology and Related Disciplines
Archaeologia Austriaca	Zeitschrift zur Archäologie Europas / Journal on the Archaeology of Europe

All series and journals edited and published by OREA are internationally peer-reviewed and follow high state-of-the-art standards for scientific publications, regularly monitored by the Austrian Academy of Sciences and its publishing house as well as by international ranking institutions (Thomson Reuters, ERIH).



Promotion of young researchers, career development, gender and diversity in 2016

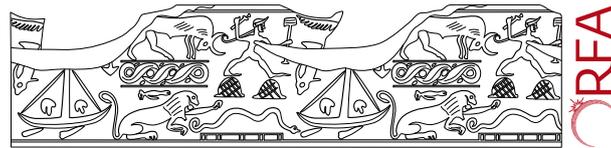
The already successful practice at OREA to promote the development of young scientists has been continued. Young scientists are encouraged and supported to submit grants for their research projects and then carry out their research on an international level at OREA. The DOC scholarship holders at OREA are integrated into the research work of the OREA research groups and supported by the group leaders. Three successful candidates finished their PhD scholarships in 2016. Teresa Bürge was guest lecturer at the Department of Oriental Studies at the University of Vienna after the completion of her doctorate, was offered a Post-Doc position in an international Swedish project and was able to secure a Post-Doc Track scholarship, all in 2016. Gabriele Ruß-Popa was awarded with a scholarship by the University of Vienna and a Post-Doc Track scholarship. In 2016 the **DOC-team** *The Role of Households at the Dawn of the Bronze Age – Contextualizing Social Organization* was granted and started with a kick-off workshop at OREA. **The APART fellows** (currently 2) at OREA are encouraged to build their own new projects and international networks based on their respective projects and the resulting collaborations. Felix Höflmayer received the **START Prize of the FWF** in 2016 and will start his project in 2017. OREA supported workshops and conferences especially for young scientists, as their workshops and conferences were integrated into larger scale conferences (e.g. 10th ICAANE in Vienna in spring 2016) or organized independently and will take place continuously, actively supported by OREA to give young researchers the possibility for presentation and publication of their first to their further results.

Cooperation in the field of teaching exists in Austria especially with the Institute of Prehistoric and Historical Archaeology and the Institute for Egyptology, the Institute of Ancient History, Papyrology and Epigraphy, the Institute for Classical Archaeology as well as the Faculty of Protestant Theology, all University of Vienna. Internationally, teaching cooperations exist with the Universities of Tübingen, Heidelberg, Leuven, New Bulgarian University (Sofia), Tel Aviv and Istanbul.

INTERNATIONAL PERSPECTIVES AND COOPERATIONS IN 2016

OREA and its scientists pursue international orientated projects and actively took part in international initiatives e.g. Horizon 2020 applications, especially in the category excellent science. In collaboration with our colleagues from the Danube region and the Balkans, OREA took part in strategies concerning these areas, as well as in the AAS (JESH programme) and secured participation in the HERA initiative. The individual projects of the research group Digital Archaeology for example are integrated into a wide European network through the involved scientists, the research group leader and her participation in the EU funded ARIADNE network and the collaboration with the Austrian Centre for Digital Humanities.

OREA is the only archaeological institute in Austria holding highly competitive grants as well as internationally peer-reviewed and third-party funded projects to such an extent. In 2016 OREA is hosting one ERC Advanced Grant, two ERC Starting Grants, one EU Marie Curie individual fellowship, one EU Marie Curie ITN fellowship, four FWF START prizes, eleven FWF stand-alone projects, one FWF Herta and Paul Amirian scholar, two APART fellowships, one ANFR Post-Doc fellowship and one DOC grant as well as the above mentioned DOC-team.



10th ICAANE

10th International Congress on the Archaeology of the Ancient Near East (10th ICAANE) April 25–29, 2016

The *International Congress on the Archaeology of the Ancient Near East* (ICAANE) is the largest Conference of Archaeologists of the Near East and its 10th reunion took place in Vienna the last week of April 2016. This jubilee event was hosted and managed by the Institute for Oriental and European Archaeology (OREA) with the extensive organisational and financial support of the Austrian Academy of Sciences. The conference took place in the historic buildings of the Old University (now Austrian Academy of Sciences) and the old Jesuite Monastery in the City Center of Vienna, providing an historically steeped environment, perfectly suitable for scientists dealing mainly with epochs of the distant past. The meeting was highlighted by two social events – the Mayor of Vienna hosting an evening reception in the Festival Hall of the Vienna Town Hall and the Austrian Academy of Sciences invited to the Fare Well Reception for the participants.

Around 800 scientists from 38 nations lectured in 8 parallel sections and 28 workshops on their latest research results, additionally a poster section with more than 80 posters accepted was presented.

The sections comprised:

1. Transformation & Migration:

Implementation of new technologies, skills or social-cultural dynamics correlated with migration processes is currently experiencing resurgence. This section focused on topics regarding potential migration as trigger for crucial transformations in societies at local, regional or supra-regional levels. The questioning of well-known migration models for cultural shifts was welcome, as was a testing of their methodological and theoretical approaches. Contributions aiming towards a diachronic perspective of archaeology in Near Eastern and neighboring regions, spanning from the early Holocene to the Iron Age, were also invited.

2. Archaeology of Religion & Rituals:

The combined analyzes of archaeological, faunal and botanical relics of cultic activities allow the reconstruction of an important part of religious behaviours and thus give insights into the scope of worship of the supernatural. Being the only means of evaluating the religious sphere for periods and areas without religious literature, as well as contributing in cultures richly equipped with written sources on religion, the archaeological record can show a considerable diversion between the ideological perspective and the practical reality. Newly excavated cultic relics or the evaluation of older materials (archeological, zoological, botanical and possibly other remains) throughout the eastern Mediterranean were most welcome, as were new theoretical or methodical concepts.

3. Ancient Near Eastern Environments: Shifts, Impacts, & Adaptations

Advances in analytical techniques and their increasing application within excavations and large scale field projects is producing new information about the way humans, and the wild and domesticated animals and plants associated with them, survived, flourished, or failed over time in a Near Eastern environmental context. This session invited contributions from bio- and geo-archaeologists working on Holocene natural and cultural contexts and sequences.

4. Prehistoric and Historical Landscapes & Settlement Patterns

Reconstruction and analysis of settlement patterns provides valuable information on social organisation, technological capabilities and ecological frameworks of (pre-)historic societies. Of special interest is the analysis of settlement patterns within the context of landscape archaeology. Here, archaeologists have to go beyond mere description based on environmental factors, and this still causes conceptual and methodological challenges.

Possible topics: Describing and predicting settlement patterns in the Near East; changing settlement patterns through time; site location in relation to social organisation; landscape reconstruction; human impact on landscape; methodological developments (prospecting sites and landscapes, source criticism, modelling to explain and understand settlement patterns, agent based modelling, etc.).

5. Economy & Society

After human societies made their first steps towards a food-producing economy, the Near East developed into one of the most dynamic centers of economic development and social change in the world. This well-known fact has to be re-defined ever more precisely, as both recent fieldwork and recent economic and social theory contribute new facts and new methods for our understanding of ancient economic structures and the social systems founded upon them. At the same time, these social systems were dynamically driven into contradictions and changes by the very development of economy. This session welcomed contributions providing the evaluation of new data relevant for reconstructing the economic mechanisms and the dependent social structures in all phases of Near Eastern prehistory and early history. Detailed interpretation of archaeological data and formulating hypotheses and models regarding the functioning of economic and social relations are mutually dependant and fuel an integral process of historical interpretation. Important issues for discussion may be technological innovations, the development of private vs. communal property, appropriation of new resources, commodity production and goods exchange, the functioning and extent of economic networks, exploitation and poverty, economic crises, social conflict and the overturn of political systems.

6. Excavation Reports & Summaries

For this section papers reporting on current (or recently terminated) fieldwork at archaeological sites as well as publication projects of older excavations (19th to mid 20th century AD) in the regions covered by this conference. were invited. The section thereby provided an up-to-date overview of latest developments and results in the field.

7. Images in Context: Agency, Audiences & Perception

The uses and meanings of the extremely rich repertoire of images produced and utilised in the Ancient Near East and neighbouring regions from Prehistory onwards are increasingly coming to be evaluated as context-related. Re-considering the different contexts of production, use, discard and discovery of images as well as the various sizes, materials and media carrying images allows addressing the reconstruction of agency, modes and audience(s) of visual communication and the perception(s) they elicited.

8. Islamic Archaeology

Archaeology and archaeological methods have become major instruments in understanding medieval to pre-modern Islamic cultures and societies. One characteristic in this field of research is that a multitude of written sources exists parallel to archaeological sources. A section on Islamic archaeology is an established part of the ICAANE series. This section welcomed papers that relate to the Islamic periods from c. 650 to c. 1900 AD and fall within the main themes of the conference and its geographical areas, as well as reports from on-going excavations. One session discussed the state and future of the field of Islamic archaeology.

The workshops presented the enormous spectrum of the conference participants and their interests and fields of specialisation. The chance to focus on extremely topical subjects involving and addressing an international community in smaller discussion groups was mirrored by the overwhelming acceptance of the enlarged work-shop program. Furthermore, OREA will publish the workshop contributions in internationally peer-reviewed volumes in the OREA publication series offering high standard dissemination for all contributions.

Work Shops 25 April
Archaeology of Central Asia during the 1 st millennium BC
Textile workers. Skills, labour and status of textile craftspeople between prehistoric Aegean and Ancient Near East
Archaeology of the Arabian Peninsula: Connecting the Evidence
Palaces in the Ancient Near East and Egypt
Egypt and the Levant during the EBI-II Period
Work Shops 26 April
The Central / Western Anatolian Farming Frontier
Tel Bet Yerah and the Early Bronze Age: 15 Years On
Palaces in the Ancient Near East and Egypt
Exhibiting an Imaginative Materiality, Showing a Genealogical Nature: the Composite Artefacts in the Ancient Near East

The Connected island: Cyprus from the Neolithic to the end of the Bronze Age
Chronology, Economy, and Ecology in the Late Antique and Islamic Periods

Work Shops 27 April
50 years at Tell el-Dab'a and a Kick-off for the ERC Advanced Grant "The Hyksos Enigma"
Groundstone and Rock-cut Tools in the Ancient Near East
Pot-burials in the Aegean and the Near East (6 th -2 nd millennium BC)
The Throne in Art and Archaeology: From the Dawn of the Ancient Near East until the Late Medieval Period
Ancient Lagash
Working at home in Ancient Near East

Work Shops 28 April
Encapsulating the "Amarna Age" Spirit: The Late Bronze Palace at Tel Beth-Shemesh, Israel
Temple deposits in Early Dynastic Times in Mesopotamia and Syria
The CIPA Workshop on Saving the Heritage of Syria: Best Techniques and Methods for Data Capture, Storage and Dissemination
Iconography and Symbolic Meaning of the Human in Near Eastern Prehistory
Old excavation data – What can we do?
Charting the Origins of Urban Lifeways: The Jordan Valley and Adjacent Regions at the Transition from the Chalcolithic to the Early Bronze Age
Finding Common Ground in Diverse Environments: Survey Archaeology in the South Caucasus

Work Shops 29 April
Iconography and Symbolic Meaning of the Human in Near Eastern Prehistory
Large Scale Data Integration and Analysis in Near Eastern Archaeology
Technical Perspectives on Wall Paintings in the Eastern Mediterranean and West Asia
After Mesopotamia
Water for Assyria
Formation, Organization and Development of Iron Age Societies: a comparative view
Temple deposits in Early Dynastic Times in Mesopotamia and Syria

Special Section "Cultural Heritage under Threat" Challenges and Perspectives

Highly qualified scientists and experts of Near Eastern Archaeology as well as the directors of the Antiquities Organizations of e.g. the Lebanon, Jordan, Libya and other countries of the Near East and Northern Africa were invited to discuss the preservation and conservation of their archaeological and cultural heritage. Together with representatives of the UNESCO and the Austrian Federal Ministry for Europe, Integration and Foreign Affairs initiatives for conservation of cultural heritage and preservation of archaeological sites, as well as training of experts in these fields were discussed. A focus was put on the destruction of archaeological sites and monuments currently under threat by armed conflicts. At the Special Section 2 additional Key Note Lectures emphasising the focus of the "Special Section" were presented:

- **Prof. Mehmet Özdoğan**, *Present Stand of Archaeological Research in the Near East: Prospects for Scientific Investigations vis-à-vis the Dilemma of Politics*
- and **Prof. Timothy Harrison**, *The Cultural Heritage Crisis and the Urgency of Coordinated Large-Scale Data Collection and Analysis in Near Eastern Archaeology*

This special section led to a declaration of intent and chain of actions, formulated in the "**Vienna Statement**" a jointly adopted declaration for preservation and protection of cultural heritage in the Near East and Northern Africa. It includes not only the acknowledgement of the importance of these monuments but further the readiness for a commitment to support local authorities.

A press release and a press conference was reflected by an hitherto unseen echo in the Austrian media landscape covering this topic in multifaceted reporting in radio, TV and print media. The Vienna Statement was made public after this press conference:

Statement about the Threat to Cultural Heritage in the Near East and North Africa

10th International Congress on the Archaeology of the Ancient Near East (ICAANE)
Vienna, April 27, 2016

On April 27, 2016 the special section 'Cultural Heritage under Threat: Challenges and Solutions' took place as part of the 10th ICAANE in Vienna. The Vienna Organising Committee and Scientific Board of the 10th ICAANE and participants in this event affirm the following:

1. The Near East and North Africa are among the richest cultural landscapes in the world, with remains from almost all periods of human history. Their importance is underlined by numerous inscriptions in the UNESCO World Heritage list.
2. The cultural property of these regions is in great danger. Destruction due to conflict and warfare, looting and illegal excavation, combined with the illicit trade in antiquities, has already led to the partial or complete loss of important historic monuments and objects.
3. The continuing and significant loss of cultural heritage through accidental or deliberate action poses a grave threat to the cultural identity and economic potential of these regions. Furthermore, the destruction of cultural archives constitutes an irreplaceable loss to humanity as a whole.
4. The situation requires intense international cooperation at all levels. Regional authorities, in particular antiquities bodies, scientific institutions, UNESCO, police, and border control, must cooperate over the long term. Such cooperation has been promoted by numerous international meetings, and these must continue to occur regularly.
5. Representatives and staff of the regional and local authorities, in particular antiquities bodies, in the affected regions should be supported in preserving the cultural property in their care by both national and international institutions, organizations, and committees (for example, through guest residencies for training and courses).
6. At a scientific level, dialogue with national authorities (such as departments of antiquities) must be initiated or continued with respect to the exchange or transfer of research data on archaeological sites and historical monuments generated in the affected countries by international research institutions.
7. Campaigns to raise awareness in printed, broadcast and social media are the basis for increasing public awareness of the problem of endangered cultural property. The extensive efforts made in recent years must continue at an international level.
8. Criminal investigations into the illegal trade in antiquities must be facilitated, and supported by professional expertise.
9. There is a clear need for international, UNESCO-supported conferences where expert analysts, in collaboration with national authorities, can develop proposals for consolidation, mitigation and preservation projects as a response to damage to and destruction of cultural property.
10. Advanced training abroad in the areas of consolidation, preservation, and reconstruction should be facilitated for young scholars from the affected regions in the following disciplines: archaeology, architecture, heritage conservation, and tourism management.
11. Study-abroad opportunities for students of archaeology, architecture, heritage conservation, and tourism management should also be made possible and facilitated.

Scientific Activity 2016

QUATERNARY ARCHAEOLOGY

(Research group leader: Christine Neugebauer-Maresch/Thomas Einwögerer)

Objectives

The research group Quaternary Archaeology focuses on the investigation of hunter-gatherer cultures of the Ice Ages. Hereby, the principle field of research covers open-air sites which are well-preserved in the loess sediments of the large river systems of the Middle Danube region. Ongoing fieldwork (Kammern-Grubgraben), as well as finished field investigations (Krems-Hundssteig, Krems-Wachtberg, Gösing-Setzergraben, etc...) in Lower Austria provided a large database for a range of disciplines involved in Ice Age research. Occupation span, structure, and function of the individual sites are reconstructed on the basis of this data, in conjunction with interdisciplinary analyses and comparison of regional and supra-regional cultural development and climatic changes. The branch in Krems located amid the well-known Palaeolithic sites of Lower Austria functions as a research platform, which provides enough space for material studies, in particular for re-fittings on the vast lithic inventories of Krems-Wachtberg and Kammern-Grubgraben.

Current research programme

The FWF project *Ecology and Environment in the Early Gravettian* (FWF 23612, director C. Neugebauer-Maresch) ended in June 2016 after a cost-neutral extension. Well-preserved anthropogenic structures like burials and hearths document the exceptional conservation at **Krems-Wachtberg**. Due to detailed investigations of the loess sedimentation, the locality became a key site for the reconstruction of climate and environment for the time between 40,000 and 20,000 years BCE. The interdisciplinary approach allows for detailed modelling of the main Gravettian horizon AH 4's formation. The excellent preservation of an occupation horizon (AH 4.4) was possible due to rapid sedimentation. Important results derive from analyses of the well-preserved charcoal leading to a floating dendro-chronological sequence of several hundred years, as well as providing evidence for the contemporaneity of the two hearths and the surrounding find layer. The faunal remains reflect diverse subsistence strategies such as the exploitation of fat and marrow from mammoth and ungulate bones. Precise determination of the lithic raw material enables the assessment of mobility ranges, as well as the definition of intra-site activity areas. The results paint a picture of a dynamic glacial landscape characterized by oscillating environmental conditions. Investigations of the economic, technical, and social reactions of a Palaeolithic hunter-gatherer society to this dynamic system contributes to current discussions on global climate change and its effects.

After the excavations ended in 2015, work focused on analyses and evaluation of the large find inventory, as well as on preparing the results for publication.

A four-week excavation campaign was conducted at the Epigravettian site of **Kammern-Grubgraben** in September 2016 (Fig. 1), thus continuing field investigations commenced in 2015, including a further exposure of the stone slab pavement. The density of finds and stone slabs decreases to the west pointing to a discontinuation of the find concentration. To the south, however, there was no significant decrease. As assessed in 2015, the newly exposed stone slabs are of local raw materials which occur on the nearby slopes of the Heiligenstein and Gaißberg hills. Animal



Fig. 1 Kammern-Grubgraben, students of the University of Vienna exposing an Epigravettian pavement of stone slabs (© OREA, ÖAW)



Fig. 2 Oberer Jungenbergweg, Vienna-Stammersdorf, core sampling (© OREA, ÖAW)

bones and teeth of mainly reindeer show poor preservation. Knapped stone artefacts often have a white patina classifying the raw material as imported. Remarkable are a bladelet core morphologically similar to a keeled scraper, and a small scraper (raclette) typologically pointing to an Epigravettian/Badegulian.

Since the exact location of the previous excavation's trenches could not be determined with help of a mechanical excavator, a trench investigated by Paul Haesarts in 1986 was located and subsequently re-excavated manually. Because the trench measured only 1.8×1.55 m instead of the published 2×2 m, it could unfortunately not be used to connect the plans of the previous excavations to the official measuring grid. The base of the old trench revealed a multi-layered plastic foil which presumably covered archaeological layers 2–4 (1985–1994). The archaeological layers were mostly undisturbed. Besides several indentations caused by periglacial processes, some were formed anthropogenically and most likely represent postholes. Another raclette was recovered from one of the postholes.

A stratigraphic connection between the stone slab pavement and the archaeological layers documented here was established by a series of core samples.

Between 2013 and 2015 the finds from the previous excavations at Kammern-Grubgraben (1985–1994) had been inventoried in cooperation with the Universities of Cologne (Prof. J. Richter) and Erlangen-Nürnberg (Dr. A. Maier), with help of students of the University of Vienna, and funded by the Government of Lower Austria. First results were published in *Archaeologia Austriaca* 100, 2016.

The project *Gog und Magog – die Mammutjägerzeit in Wien* (MA 7 – Kultur, Wissenschafts- und Forschungsförderung der Stadt Wien 2014; director C. Neugebauer-Maresch) was completed by the end of 2016. Research ranged from detailed literature review and evaluation to field investigations on the small number of relevant and still undeveloped plots. Fieldwork included core



Fig. 3 Senderstraße/Bisamberg in Vienna, profile in wine cellar (© OREA, ÖAW)

sampling (Titlgasse in Hietzing and Oberer Jungenbergweg in Stammersdorf) as well as documentation and sampling of two Quaternary profiles in a wine cellar (Senderstraße/Bisamberg). Furthermore, Pleistocene faunal remains from the collection of the Natural History Museum Vienna have been taxonomically classified.

Samples and data (animal bones for radiocarbon dating incl. species determination) have been contributed to the project *PalaeoChron – Precision dating of the Palaeolithic: chronological mapping of the Middle and Upper Palaeolithic of Eurasia* of T. Higham (Research Laboratory for Archaeology and the History of Art, University of Oxford).

Project submission

C. Neugebauer-Maresch submitted a project *BergbauLandschaftWien* in February 2016 (MA 7 – Kultur, Wissenschafts- und Forschungsförderung der Stadt Wien. Project duration: 18 months). Field surveys carried out in the course of the previous project funded by the City of Vienna ('Gog und Magog – die Mammutjägerzeit in Wien', see above) localized several flint raw material deposits with mining traces. Aim of this project is the assessment and documentation of all deposits and mining sites on the territory of the City of Vienna. Furthermore, the significance of this newly discovered mining region is to be investigated by analysing trade relations.

With the end of 2016 the long-term Quaternary Archaeology research group leader Christine Neugebauer-Maresch went into retirement, Thomas Einwögerer stepped in as new group leader.

Highlights 2016

- Krems-Wachtberg infant burials: after the excavation and sampling of the double burial of newborns (individuals 1 and 2) recovered as a block in 2005, carried out in the Natural History Museum Vienna, and further sampling of the second, single burial (individual 3), first results of aDNA analyses were published in *Nature*: Individual 3 is male.
- Gog und Magog – Die Mammutjägerzeit in Wien (MA 7 – Kultur, Wissenschafts- und Forschungsförderung der Stadt Wien für 2014; from 2015–01–01 to 2016–06–30; director

C. Neugebauer-Maresch): The most important result is the first evidence for the presence of humans on the territory of the City of Vienna in the early Upper Palaeolithic (EUP). A radiocarbon date (Rachel Hopkins, Oxford) on a metatarsus of *Equus sp.* with clear anthropogenic cut marks from Nussdorf provided a radiocarbon age of 34550±600 BP (OxA-34405). This corresponds to a calendar age of 37,000–38,500 cal. BC.

- First results of inventoring (2013–2015) the material of the previous excavations at Kammergraben (1985–1994) were published in *Archaeologia Austriaca* 100.

ANATOLIAN AEGEAN PREHISTORIC PHENOMENA

(Research group leader: Barbara Horejs)

Objectives

The central theme of the research group Anatolian Aegean Prehistoric Phenomena (AAPP) is the synoptic analysis of Neolithic, Chalcolithic and Early Bronze Age sites in Anatolia and the Aegean from a supra-regional perspective. This enables a better understanding of phenomena that connected these two major cultural spheres. Anatolia and the Aegean are both starting and intermediary points of formative, cultural phenomena and developments of historical relevance to humanity, which shaped the European continent. The interdisciplinary analyses crosslink our knowledge of both cultural areas and are crucial for the understanding of causes and socio-cultural impact, yet different research traditions and orientations of international academic schools have so far impeded progress. The AAPP research group, established in 2014, draws attention to this significant desideratum and unites experts of both regions. The focus on inter-regional prehistoric questions from the Neolithic to the Early Bronze Age in this cultural core may, via systematic comparison, lead to models and concepts that can be evaluated in a larger geographical and socio-cultural context.

Archaeological context

In the Holocene, from c. 10th to 3rd millennia BC, crucial changes in human society and life-ways took place in the Aegean-Anatolian area that characterizes the region to this day. These



Fig. 4 A green jadeite miniature axe between two axes made of different stone from the Neolithic period at *Çukuriçi Höyük* (photo: F. Ostmann/ERC Prehistoric Anatolia)

include the foundational and sustained changes to the oldest sedentary agricultural cultures in Neolithic times and the beginnings of human-induced environmental change, associated with a fundamental change of social organizational structures. The changes in the socio-cultural structures of these first sedentary communities to the emergence of the first proto-urban societies in the course of the Copper and Bronze Age reflect a fundamental change that becomes apparent through the onset of numerous simultaneous innovations. These dynamics can be described in concepts and models addressing e.g. the utilization of resources and the changing access to raw materials. They are also visible in the development of social hierarchies and specialized technologies. The geographical area of the archaeological cultures of this research group mainly comprises the mainland of Greece, including the northern coastal zones, the Aegean Islands and Anatolia from its western coast to the Anatolian plateau. Supra-regional studies of the group generally include the Balkans as well as Anatolia, upper Mesopotamia, the east Mediterranean and the Levant.

Current research programme

Process of Neolithization (10th–7th/6th mill. BC)

The essential processes of sedentism, the cultivation of animals and plants as well as all socio-economic changes that can be summarized as Neolithization, are highly debated in the regions of our focus. Modern excavated data from the early 7th millennium sites *Çukuriçi Höyük* and *Arvalya Höyük* (Western Anatolia) are currently being used for multiple interdisciplinary studies focusing on the initial starting point of first settlers in the region and their potential origin. Research regarding the Neolithic period focused on settlement phase VIII at *Çukuriçi Höyük*. Following detailed material studies during the depot campaign 2016, the stratigraphy, architecture, pottery, small finds, lithics, radiocarbon dates, and zoological and botanical remains are currently in preparation for publication. The manuscript of this volume will be submitted for publication in 2017.

Another objective during this depot campaign was to determine the rock types of the Neolithic stone tools. Along with a general classification of the rocks performed by D. Wolf (Martin-Luther-University of Halle-Wittenberg), detailed investigation of the jadeite axes was undertaken by L. Sørensen (The National Museum of Denmark). Further research on potential jadeite sources in the Aegean is currently in progress. First results of the *Çukuriçi* jadeite objects have already been integrated in the comprehensive publication by P. Petrequin et al. (2017) (Fig. 4).

The extended research on Neolithic stone tool technology, its development, distribution and socio-cultural interpretation at various sites has been continued in 2016. Important new insights regarding the development and the spread of the technology were carried out and presented at the closing workshops of the *BEAN project* (Marie Curie ITN, 2012–2016) in Antalya and the ERC project *Prehistoric Anatolia* (no. 263339) in Vienna. The main results were additionally presented at the 10th ICAANE (Vienna) and PPN 8 (Cyprus) conferences. The latter conference, concerning the PPN lithics of the Near East, had a special focus on interactions, diffusion and contexts of Neolithic traditions. Results from Western Anatolia have played an especially important role for understanding the Neolithic trajectory. In 2017, the PhD thesis of B. Milić will be finished and prepared for publication. Additionally, a follow-up project funded by the Dr. Anton Oelzelt-Newin'sche foundation has been approved, whereas a Pilot Postdoc with the topic *Modelling the Neolithic based on the spread of pressure technique* conducted by B. Milić and B. Horejs will begin in 2017. The collaboration partner of this project is M. Thomas from the UCL Department of Genetics, Evolution and Environment. Within the framework of the AFR-Postdoc Grant by M. Brami, a workshop on the topic of *The Central/Western Anatolian Farming Frontier* was organized for the ICAANE 2016 conference. Selected specialists dealing with the Neolithic period in Anatolia were invited to discuss the current state of research and possible models of the Neolithization. The outcome of this workshop is planned for publication as a peer-reviewed book in the OREA series.



Fig. 5 House model found at Platia Magoula Zarkou (late 6th millennium BC; photo: M. Börner/© OREA)

Diachronic studies in Thessalian plain (6th–3rd mill. BC)

In 2016, the interdisciplinary stand-alone project *Platia Magoula Zarkou: Cultural change during the 6th millennium BC*, funded by the FWF and directed by E. Alram-Stern, was in its second year. These studies provide new insight into the Neolithic material culture of Thessaly and enable us to define changes in pottery technology as well as tool production and use. In 2016, emphasis was put on the study of finds in the Museum of Larissa, carried out by an international team of archaeologists. The documentation concerning stratigraphy and use of the site was analyzed by Ch. Batzelas. Middle Neolithic pottery, studied by A. Pentedeka, showed that technological and stylistic developments seen in the Late Neolithic period (late 6th millennium BC) commenced at the beginning of the 6th millennium. Samples for petrographic analysis were taken from raw material as well as from pottery to get a better understanding of technological changes. The building of a kiln in the Museum of Larissa and experimental firing of original clays, conducted by L. Jacobs, gave a better understanding of the degree of specialization in Grey-on-Grey ware pottery production. Detailed information on the figurines, including the famous house model, was given by scanning every single object with a Breuckmann 3D scan (OREA-IKant Equipment pool, NRFI funded). The bone and stone tools were recorded and prepared for further microscopic use-wear studies (Fig. 5).

A geophysical survey by the Laboratory of Geophysical – Satellite Remote Sensing and Archaeo-environment IMS-F.O.R.T.H. under the direction of A. Sarris, using electromagnetic induction, magnetic and GPR techniques, was conducted around the tell of Platia Magoula Zarkou. Initial results point to the existence of a ditch around the tell, most probably dating to the Neolithic period, as well as to further Early Bronze Age habitation at the fringes of the site.

The DOC-Fellowship on *Platia Magoula Zarkou from 3500 till 2300 BC*, conducted by C. Moser, began in January 2016. It aims to shed light on the Early Bronze Age chronology of Thessaly as well as exchange networks within Thessaly, the Aegean and beyond. The study of the pottery assemblage and small finds at the Museum of Larissa/Thessaly, as well as the study of the stratigraphic evidence and the architectural remains, are currently under way. This study is

strongly embedded within the interdisciplinary DOC-team-Fellowship *The Role of Households at the Dawn of the Bronze Age – Contextualizing Social Organization* that pays particular attention to the social organization, which is traceable within the archaeological record.

Chalcolithic and Early Bronze Age settlements, economies and technologies (6th–3rd mill. BC)

As in 2015, research on sites dating to the 4th and 3rd millennia BC in the Aegean and Anatolia was continued. These studies focused on settlement patterns and structures, economic background, sourcing, technological development and chronology. Regionalisms versus inter-regional networks were additionally a major topic dealing with Chalcolithic and Early Bronze Age sites. Basic research on these questions are conducted at *Çukuriçi Höyük* and in the *Pergamon* region (both ERC *Prehistoric Anatolia* project). Based on the excavation results from *Çukuriçi Höyük*, detailed analyses of Western Anatolia and the East Aegean islands during the 5th and 4th millennia BC were conducted by Ch. Schwall in his PhD thesis, which was completed in 2016. Besides an extended discussion of the chronology and periodization, his thesis focused on excavations results, material studies and regional and supra-regional communication and exchange networks. Ch. Schwall offers a synoptic approach to the socio-cultural developments leading to the emergence of ‘proto-urban’ societies of the 3rd millennium BC in the Aegean and Anatolia. This study is currently in preparation for publication as monograph in the OREA series in 2017 (Fig. 6).



Fig. 6 Male figurine with removable cap from Aegina-Kolonna (photo: E. Alram-Stern/© OREA)

A trans-regional study of figurines dating from the 6th to 4th millennia BC includes new excavation data from Anatolia and unpublished figurines from the Greek mainland. Particular attention is paid to contextual analyses and theoretical concepts. A publication on the figurines of Aegina-Kolonna has been submitted by E. Alram-Stern for publication at the Journal of the Austrian Archaeological Institute. This study gives insight into the social organization of Chalcolithic villages in Greece; furthermore, it presents evidence for similarity in ritual practice throughout the Balkans and the Aegean.

Another aspect is an interdisciplinary approach to pottery technology, including petrographic, chemical and neutron activating analyses for micro-regional and trans-regional comparison. They are conducted in various projects such as the *Midea* project (Argolid), the *Prehistoric Pergamon* region survey (Kaykos/Bakırçay valley), the *Madra river* project and the *Çukuriçi Höyük* excavations. In 2016 the proceedings of the international conference “Pottery Technologies and Sociocultural Connections between the Aegean and Anatolia during the 3rd Millennium BC” has been edited and submitted for publication by B. Horejs and E. Alram-Stern.

In 2016 (May/June), a depot campaign took place in the course of the ERC project *Prehistoric Anatolia*. The material studies concentrated on Early Bronze Age pottery, small finds and lithics from *Çukuriçi Höyük*. Both the ERC project *Prehistoric Anatolia* (no. 263339) and the FWF START project (no. Y 528) ended in 2016. A closing workshop was held at Vienna in October 2016, where the *Çukuriçi Höyük* film was released (<https://defc.acdh.oeaw.ac.at/cukurici-movie/>).

The *Madra River Delta Project workshop* with N. Spencer was organized in Vienna. The aim of the meeting was to discuss the final publication of the project dealing with prehistoric finds of trial excavations and surveys in the region of the Madra River Delta by a Greek-British expedition close to the Aegean coast of northwest Anatolia.

The material and technological studies of textile production tools conducted by Ch. Britsch in course of his DOC-fellowship were continued at various sites in Anatolia (*Çukuriçi Höyük, Bademağacı*), in Greece (*Dikili Tash, Platia Magoula Zarkou, Mandra, Pevkakia Magoula*) and in Bulgaria (*Nova Nadezhda, Dubene-Sarovka*). The preliminary results of these investigations were presented at various meetings. In 2017, further research stays are planned in Serbia, Turkey and Bulgaria.

The *Midea Project* conducted by E. Alram-Stern in cooperation with K. Demakopoulou aims at a better understanding of the Neolithic and Early Helladic periods in Southern Greece. In 2016, Neolithic, Chalcolithic and Early Helladic pottery (EH I–III) has been analyzed, and two papers on the EH II pottery, based on petrography and chemistry and macroscopic reconnaissance, have been submitted for publication. Further emphasis has been put on stratigraphic studies, including the analysis of a pit grave burial. According to the studies of M. Schultz, the skeleton dating to 4357–4274 cal BC (1 sigma) belonged to a 45–55 year old woman suffering from periostitis or phlebitis. According to the character of the bones, the burial ground has been changed, and the grave in Midea was a secondary burial.

Digitizing Early Farming Cultures

This project under the direction of E. Aspöck is strongly linked with the AAPP research group. It aims to create a database integrating the AAPP research data from the Aegean as well as from Anatolia dating from 7000 to 3000 BC. The complex of various running databases and digital as well as analogue archives will be homogenized and standardized for future storage (repository) and additional online publication of the data (open access strategy). In 2016, the database was completed and data entry started. The DEFC App has been released as an online platform (<https://defc.acdh.oeaw.ac.at/>). Up to now, 730 datasets have been entered and development began for a thesaurus for creating focused queries of the database.

The Role of Households at the Dawn of the Bronze Age

In March 2016, a DOC-team project was awarded (S. Cveček, St. Emra, C. Moser, M. Röcklinger). The project is a jointly planned set of interdisciplinary PhD projects with a common overarching research interest. This research focuses on studying households, household activities and settlement organization as a primary source for discussing the emergence of social structures in the Early Bronze Age, at the beginning of the 3rd millennium BC in Greece, the Aegean and Western Anatolia. During 2016, all four PhD candidates started working on the project and first study seasons were conducted on the material of *Platia Magoula Zarkou* (Thessaly, Greece) and *Çukuriçi Höyük* (Turkey). For 2017, a continuation of study campaigns abroad and several meetings are planned.

Highlights 2016

- The closing workshop of the ERC project *Prehistoric Anatolia* was organized by Barbara Horrejs and her team, held at OREA, Vienna, 20th–21th October 2016. The aim of this workshop was sharing and discussing the results of the different research topics of the project. Furthermore, ongoing and approved follow up projects were announced and ideas for future investigations were gathered. Altogether 51 papers, 15 posters and 2 books have been published.
- Release of the movie *Çukuriçi Höyük – The World Heritage Site through Time*. Together with 7Reasons a visualization and digital reconstruction of the Neolithic, Chalcolithic and Early Bronze Age periods was performed. The movie, lasting 10 minutes, is based on the excavation results and provides an overview of the conducted work and major results of the project (<https://defc.acdh.oeaw.ac.at/cukurici-movie/>).

- Several new projects have been granted: *Modelling the Neolithic. Origins of lithic technologies in the 7th millennium western Anatolia and the Aegean* (Dr. Anton Oelzelt-Newin'sche foundation at the Austrian Academy of Sciences); *A new Approach for Golden Treasures. Innovative Analyses in Archaeometry* (B. Horejs, E. Pernicka, Ch. Schwall; Project funding: Innovation Fund "Research, Science and Society" of the Austrian Academy of Sciences); *Platia Magula Zarkou in Thessaly – Greece: a Neolithic tell settlement and its surroundings* (Holzhausen foundation at the Austrian Academy of Sciences).
- The OREA series volumes *Pottery technologies and sociocultural connections between the Aegean and Anatolia during the 3rd millennium BC* (E. Alram-Stern – B. Horejs) and *Çukuriçi Höyük I. Aegean-Anatolian Studies from 7th to 3rd millennium BC* (B. Horejs) were submitted.
- DOC-team-Fellowship of the Austrian Academy of Sciences 2016 for Constanze Moser and Maria Röcklinger (together with Sabina Cveček and Stephanie Emra: *The Role of Households at the Dawn of the Bronze Age – Contextualizing Social Organization*).

MATERIAL CULTURE IN EGYPT AND NUBIA (Research group leader: Bettina Bader)

Objectives

Egyptology is still largely a text-based discipline, with written evidence comprising religious, poetic, administrative and historical texts. In contrast, Egyptian archaeology and the study of the material culture yield information on a wide variety of research topics, which are either not covered by texts or complement (or contradict) the general picture the texts provide. Another great advantage in Egyptian archaeology is the comprehensive array of depictions of daily life, religious and other scenes in funerary art, so that for many objects found in excavation the intended use can be identified and even described. In periods with little or no textual coverage the archaeological record and material things are the only evidence. For this reason the research group *Material Culture in Egypt and Nubia* concentrates on information to be gleaned from all types of 'objects', which ancient people used in the widest sense. The theoretical background is rooted in the expansive field of material culture studies, which offer a wide range of interpretational possibilities coming from social anthropology and other branches of archaeological research. Currently the focus is on the Second Intermediate Period (ca 1800–1550 BC), during which several regional 'styles' developed most noticeably in the ceramic corpus, but also in other, much rarer, object groups. In order to pinpoint and quantify 'differences' find contexts from the late Middle Kingdom to the early New Kingdom (encompassing the SIP) distributed all over Egypt and Nubia are collected and analyzed in order to compare their composition, the technology of manufacture of the objects, the types of objects and their distribution throughout the country. For each site an independent relative chronological sequence is being produced, which not only can then be compared to other sites but also woven together in a relative chronology. Besides chronological points, insights into formation of regionalism, the actual manifestation of regionalism and connectivity between various regions can be gleaned from this data.

Current research programme

Research continued during this year at a wide range of sites in the field and in several museums abroad in order to isolate suitable contexts for the project in a variety of regions. This work was conducted by the researchers of the group (PI: B. Bader, collaborators: C. M. Knoblauch, L. Hulková and honorary member J. Bourriau). The overview will be undertaken from north to south.

In **Wadi Tumulat** the excavations of the Polish-Slovak co-operation partners (S. Rzepka, J. Hudec, University of Warsaw, and Aigyptos Foundation) took place at Tell el-Retaba. This site



Fig. 7 Child burial of the Second Intermediate Period, Tell el-Retaba (photo: Lucia Hulková)

was settled at least from the Second Intermediate Period up to the Persian period and even into medieval times. L. Hulková, the project collaborator, recorded the archaeological finds from the settlement and the tombs of the Second Intermediate Period up to the early New Kingdom (Fig. 7). At the nearby site of Tell el-Mansheya (also in W. Tumulat) the representatives of the Ministry of Antiquities (Mostafa Hassan Mahmud Ahmed and Sameh Ahmed Elsaid Hashem) agreed to collaborate with her in order to prepare the architecture and the finds of a Second Intermediate Period cemetery for publication next year. A joint report of another salvage excavation of the Ministry of Antiquities directed by M. Nour el-Din in Tell el-Retaba appeared in print this year (see below). Research into the old excavation of W.M.F. Petrie undertaken at Tell el-Yahudieh at the turn of the last century also continued. A research visit to the relevant museums abroad is in preparation.

At the site of **Tell el-Daba** in the north eastern Nile Delta the focus of research was laid on the settlement and tombs of the late Middle Kingdom as a starting point for the sequence (by B. Bader). In the course of this year the manuscript of the first fascicle of the archaeological report of that settlement in Area A/II was concluded (see also research group *Tell el-Daba Publications*). The unusual trait of this settlement, its self-organized and notably not orthogonal layout, does not find many parallels in Egypt or the Levant. This is more likely rooted in the neglected state of settlement archaeology in general, rather than a special regional trait, especially as it is likely that most of the river settlements along the river Nile (which are hitherto not explored) might have had a similar organization. Also the simple house ground plans of the late Middle Kingdom show unequivocal parallels to the average housing ground plans throughout the Nile Valley.

Research in the **Memphis/Lisht** area concentrated on the one hand on archaeological contexts retrieved from the settlement excavations of the Egypt Exploration Society, London at Memphis/Kom Rabia, undertaken in the 1980s and 1990s, which span the period from the late Middle Kingdom to the early New Kingdom and therefore provide an important link between the northern and more southern sites available (in collaboration with J. Bourriau, Cambridge, C. Gallorini, Birmingham). As counterpoint in the type of context collaboration with Sarah Parcak (Univ. of Birmingham, Alabama, US) in the excavation of a late Middle Kingdom tomb, in which B. Bader took part in 2016, provides archaeological material from the beginning of the regional sequence, the end of which is represented by the material from a small cemetery at nearby Abusir el-Meleq,

which has been analyzed by project collaborators (B. Bader, C. Knoblauch, Fig. 10) before. S. Parcak's project has been selected as one of the 'top 10 discoveries of 2016 in Egypt' by *Luxor Times*.

A little to the south the site of **Ehnasya el-Medina** (Carmen Pérez-Die, Museo Arqueológico Nacional, Madrid) is located, at which an excavation season took place in 2016 (B. Bader). The old excavations at nearby **Sedment/Mayana** were analyzed and promising contexts selected for more intensive research.

At both sites ceramic finds are the most abundant find group, although other objects occur. In order to gain the maximum amount of information as many museum objects as possible will be recorded in museums abroad as the next step, as has been done in numerous occasions before (Fig. 8).

At **Mostagedda**, a cemetery excavated in the early 20th century ca 200 km north of Thebes, an interesting feature can be studied, namely the influx of material culture rooted in Nubian traditions, such as very special pottery as regards to manufacture and decoration (sometimes reduced firing, high degree of burnishing and incised linear decoration), and various artefacts (various shell species, bone artefacts, jewellery made of shells, etc.) that do not occur at all sites of the Second Intermediate Period, especially not in the northern part of the country. While a number of tombs contain pottery and artefacts comparable to those in other parts of Egypt (e.g. hemispherical cups) and some with 'Nubian' artefacts, there are some with only material culture reminiscent of Nubian traditions. Several relevant contexts have been located (by B. Bader) and recorded (B. Bader, C. Knoblauch) in order to characterise their special meaning. For the Nubian component collaboration with A. de Souza (Macquarie University Sydney, Australia) has been secured and it is planned that he joins the research group in 2017 in order to add his specific expertise to several sites with such features (e.g. Kubbaniya, Abydos, Edfu). Scientific co-operation was also achieved with a view on identification of a number of shells and molluscs found in such graves e.g. at Mostagedda now housed in museums in Europe (M. Zuschin, Institute of Palaeontology, University of Vienna). The aim of this collaboration is to re-assess the long held and wide spread assumption that all such shells and molluscs were brought to the Nile valley from the Red Sea. The fact that these objects are kept in European museums provides a very rare occasion in Egyptian archaeology to undertake scientific analysis on Egyptian material.

Analytical work at the multi period site of **Abydos** with its immense history of archaeological research since the late 18th century AD has progressed well. A larger number of individual intact contexts dating from the late Middle Kingdom to the early 18th Dynasty has been isolated and recorded in the past year (ca 160 objects), including re-recording museum pieces in Ashmolean Museum (Oxford, UK), Museum of Archaeology and Anthropology, Cambridge and Fitzwilliam Museum (Cambridge, UK) on a variety of research trips (C. Knoblauch). The range of the objects included pottery, beads, metal objects, cosmetic objects and stone vessels. A separate monograph is being planned because the material catalogue of the site promises new insights due to its richness and correlations. The prospective title is 'Abydos Assemblages from the Late Middle Kingdom through to the early New Kingdom: Material Culture and Society. With Appendices by Steven Snape, Dawn McCormack and Aaron deSouza'.

Field work at **Thebes** has been brought to a successful conclusion with the publication of the pottery from a variety of tomb contexts ranging from the late Middle Kingdom to the early Second Intermediate Period beneath the Mortuary Temple of Thutmosis III (B. Bader, see also below)

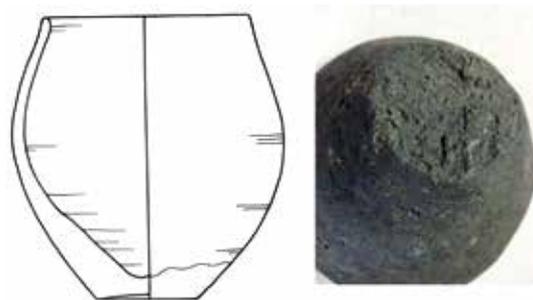


Fig. 8 Burnt cup with straight base from Ehnasya el Medina (© Bettina Bader)



Fig. 9 Uronarti: Kite aerial photograph showing, left to right, CA, CH (not yet marked out but clearly visible by the boundaries of its flanking units), and CB (photo: Laurel Bestock)

(co-operation partner M. Seco, Spain). This project provided the opportunity to study ceramic material in the field and to compare it to intact museum pieces. Although the material often came from disturbed contexts, it was nevertheless a very valuable project to gain first-hand knowledge about raw materials, technology and *chaîne opératoire* of the archaeological material. Several site specific traits in the raw material and manufacturing processes could be identified, which will help in comparison with other contexts and also other object classes. To this end several other contexts excavated early last century have been identified for restudy on future museum visits. Most of them are situated close to the Mortuary Temple of Thutmosis III, namely those Temples of Millions of Years of Ramesses II and Thutmosis IV suggesting a more extensive cemetery of the late Middle Kingdom than anticipated, which has partly been reused during the Second Intermediate Period and the early New Kingdom.

In the Sudan National Museum, Khartoum, a range of objects was re-recorded that belong to the cemetery and fortress of **Mirgissa**, which is in the focus of research as well. These mainly ceramic finds fall into a date range from the late Middle Kingdom to the Second Intermediate Period (C. Knoblauch, L. Hulková).

The co-operation project with Brown University (L. Bestock, C. Knoblauch) at **Uronarti/Nubia** conducted an excavation season in 2015/16, which lasted three weeks focussing initially on establishing a GIS map and excavating. C. Knoblauch and L. Hulková arrived mid-season with the main aim of intensified artifact analysis. Excavations were continued in the stone-village (site FC). Archaeological excavation was slated to focus on two areas: Site FC, an area of stone huts on the eastern edge of the island (Fig. 9), and the domestic areas within the fortress. For Site FC, the general goals included assessing the extent of the site as well as attempting to document any horizontal differences between its various parts. For the fortress proper, higher up, goals included clearance of a single domestic space (CC) in order to record it using modern techniques and bring it into dialog with other known domestic spaces of the Middle Kingdom–Late Middle Kingdom; and excavation of part of the fortress perimeter wall (CE). An important component of the archaeological work at the site was continued analysis of ceramic material.

This not only is critical to our interpretation of the excavated areas, but also independently provides the clearest evidence to address several of our overarching research questions about chronology, site usage, and cultural interactions and hybridity.

Digital and archival work

A complex database designed by the specialist Thomas Urban (Denkmaldokumentation und Archäologie) for the project has been developed and tested for some time and is now being used for input of the selected contexts after a comprehensive thesaurus was developed. The elements recorded comprise the architectural frame-work, i.e. the type of tomb or house, the find circumstances of the context, usually tombs but also settlements and the relation of the finds to each other. Further the types of objects (pottery, scarabs, tools, weapons, leather objects, stone vessels [Fig. 10], etc.) are recorded with detailed information on material, measurements, manufacturing technology and *chaîne opératoire*.

The card archive of J. Bourriau, McDonald Institute for Archaeological Research, Univ. of Cambridge, honorary member of the research group, is in the process of being digitized in order to preserve it for the future.

Another focus of the research programme was the conclusion of research manuscripts derived from a variety of workshops and symposia. These were in part connected to theoretical topics such as the relationship of concepts of culture with the contact of cultures and how to balance their advantages and disadvantages. Regionalisation was also discussed, with examples of regional variations of pottery shapes as opposed to variations of the same shapes in terms of raw materials, shape details and technological details were discussed. Such case studies are often not possible in other objects groups because the quantity of these objects frequently does not allow a firm statement on real differences between regions.

The discussion group ‘A dialogue with things’ is focussed on the application of a wide variety of methodological concepts coming from a number of research fields connected with material culture studies, such as social anthropology, consumption studies, concepts of appropriation of material culture in various social contexts and circumstances as well as the types of information that can be credibly extracted from the relationship of man and things in context. Special stress is laid on the concepts of the *chaîne opératoire*, because in the current research the most obvious differences between regions in Egypt and Nubia are connected with the manufacturing technology.

Financing: FWF START grant, Y754–G19 Beyond Politics: Material Culture in Second Intermediate Period Egypt and Nubia.



Fig. 10 Kohlpot of Egyptian alabaster from Abusir el-Meleq (photo: courtesy of Museum Berlin)

Highlights 2016

- Presentation of the *Project Beyond Politics: Material Culture in Second Intermediate Period Egypt and Nubia* (FWF START grant, Y754–G19) at the 10th International Congress on the Archaeology of the Ancient Near East (10th ICAANE) in Vienna, 25 to 29 April 2016.

**THE MYCENAEAN AEGEAN:
CULTURAL DYNAMICS FROM THE MIDDLE BRONZE AGE TO THE EARLY IRON AGE**
(Research group leader: Birgitta Eder)

Current research programme

The work of the Mycenaean Research Group covers various aspects of the Late Bronze Age cultures of the Greek Mainland and the Middle Bronze Age strands of its genesis (Minoan Crete, Middle Helladic mainland) and its transformation into the Greek Early Iron Age. Larger and smaller projects study aspects of the political structures of Mycenaean Greece and its political geography, the northern and western regions of Mycenaean Greece, the relations between the Greek mainland and Crete during the Late Bronze Age, the textual evidence of the Linear B documents, Mycenaean cult practice and rituals, but also Middle Helladic and Early Mycenaean pottery, burials and habitation sites. The geographical scope includes all areas of the Mycenaean civilisation from Thessaly to Crete and from the Ionian Islands to the Dodecanese and the coast of Asia Minor. Several projects are dedicated to the preparation of final excavation reports and the interdisciplinary evaluation of Middle Bronze Age and Mycenaean pottery.

An internal discussion group has dedicated the so-called Blue Circle Discussions in Mycenaean Archaeology to the ways and means, conditions and implications of the social (re)production of (material) Mycenaean culture. Discussions of theoretical issues support the creation of relations and interfaces between the individual projects. The regular exchange of ideas in the discussion circle offers added value for the work on individual projects, but also helps designing future research questions and projects. In more or less regular intervals, the discussion group organises international “Discussions in Mycenaean Archaeology” on specific subjects and research questions, and the first international meeting on “(Social) Space and Place in Early Mycenaean Greece” took place in October 2016 at the Austrian Archaeological Institute in Athens.

Selected projects

Kakovatos and Triphylia in the 2nd millennium BCE

This FWF Stand-alone Project project is dedicated to the evaluation of the recent excavations (2010–2011) at the site of Kakovatos in Triphylia (Peloponnese) and the (re)publication of the old finds from the tholos tombs. 2016 the study of the pottery from LH I–IIB levels, the related stratigraphy and the ¹⁴C data for the absolute chronology of the site continued. The analysis of the



Fig. 11 The flat-based tripod cooking pot in red micaceous ware that was found in Kleidi-Samikon (1908) represents probably an import from Kythera. Other samples from Kakovatos and Epitalion illustrate the integration of Northern Triphylia into a network of relations with the southern Peloponnese, Kythera and Crete (photo: I. Geske)

first series of petrographic (173) and chemical (32) pottery samples from the site as well as from the tombs provided promising results. Imports come from Kythera, Crete and the Dodecanese and comprise cooking pots, storage vessels and transport containers. In addition, pottery that had been produced in other areas of the Peloponnese was identified. An essential perspective of the project pertains to the rise of a stratified society in the Early Mycenaean period within its regional context. The systematic archaeological and archaeometric program of analysis of pottery from the neighbouring sites of Kleidi-Samikon, Epitalion and Ay. Dimitrios will allow developing a regional perspective on pottery production and consumption as well as site communication on a regional and supra-regional level (Fig. 11). Petrographic (212) and chemical (42) samples are currently analyzed. During two study seasons in the archaeological museum at Olympia work continued on the evaluation of pottery from Kakovatos and the systematic recording of the pottery from neighbouring Kleidi-Samikon. The (re)evaluation of the old finds from the tholos tombs was completed in 2016 and will be prepared for publication in 2017.

Current research in Kakovatos and the surrounding region of Triphylia offered the framework for the Organization of a conference on “(Social) Place and Space in Early Mycenaean Greece” in October 2016 in Athens. The discussion of contemporary developments in the Early Mycenaean Peloponnese has provided an important perspective for studying Kakovatos in a wider Aegean context.

PI: B. Eder; project staff: Chr. De Vree, J. Huber.

Main Cooperations: Ephorate of Antiquities, Olympia, P. Moutzouridis, K. Nikolentzos, Fitch Laboratory of British School at Athens (E. Kiriati, G. Kordatzaki), H. Mommsen (NAA), N. Benecke (DAI Berlin, archaeozoology), S. Riehl (Univ. Tübingen, palaeobotany), M. Zavadil (OREA).

Funding: FWF; INSTAP; Fritz Thyssen Foundation

Middle Bronze Age Pottery from the Peloponnese

The integrated study of Middle Helladic pottery provides information about supra-regional contacts as well as insights into daily life and craftsmanship. Work on the MH pottery from Midea, Pheneos and Kakovatos will contribute to answer questions concerning the production, circulation and consumption patterns of MH pottery in the Peloponnese.

Pheneos: 147 sherds were selected for petrographic analyses. They cover the chronological span from EH III/MH I to LH III with a focus on the early and late Middle Bronze Age. The pottery appears mainly locally produced. Imports from Aegina, the Korinthia and perhaps also from the Argolis were provisionally identified (Fig. 12). The study of the Neolithic pottery implies that the settlement of Pheneos was inhabited from the Middle Neolithic period until the Final Neolithic/Chalcolithic period. Work on the stone tools revealed that most of them were made of chert (perhaps imported from Nemea); only few were made of obsidian.

Kakovatos: 185 sherds belonging to vessels with incised decoration were found in Kakovatos in the excavations of 1907/08 and



Fig. 12 Clare Burke and Michaela Zavadil with students from the University of Graz study the Middle Helladic pottery from the Pheneos excavations. 2016 saw the start of a project dedicated to the petrographic analysis of the pottery (photo: Pheneos Project)

2010/11. The majority of the sherds belong to the so-called Adriatic pottery, which was produced throughout the Middle Bronze Age until the Early Mycenaean period. Interesting is a group of dark burnished bowls decorated with incised garlands, which are characteristic for MH II and early MH III in the Argolid. Their presence in Kakovatos might point to a use of this kind of bowl in the Early Mycenaean period in the western Peloponnese.

Midea: The majority of the EH III and MH pottery from Trenches A and Aa dates to the transition from late EH III (Lerna IV:3) to MH I. Thus we have to assume a hiatus in occupation between the developed phase of EH II and late EH III. Fragments dating to later phases of the Middle Bronze Age are quite rare and come mainly from mixed contexts. The publication of the material is in preparation.

PI: M. Zavadil; collaborators: E. Alram (OREA), C. Burke (University of Sheffield), B. Eder (OREA), Ch. Matzanas (Ephorate of Antiquities Iliia). Cooperation partners: K. Demakopoulou (director of the Greek-Swedish excavations at Midea), K. Kissas (Ephorate of Antiquities of the Corinthia), P. Scherrer (University of Graz).

Funding: INSTAP, University of Graz

LH IIIC settlement of Aigeira in Achaia

Excavations in the settlement at Aigeira on the coast of the Corinthian Gulf in the ancient region Achaia have revealed an important phase covering the Mycenaean post-palatial period of the 12th and early 11th century BCE. The project is dedicated to the publication of the finds and the stratigraphy. E. Alram-Stern has been working on the stratigraphy and architecture of this settlement site that will be presented in a single volume. Based on the systematic analysis of stratigraphic units and findings and with the aid of drawings and photos from the 1975–1980 excavations she can reconstruct a comprehensive picture of the development of the settlement.

PI: E. Alram-Stern, S. Deger-Jalkotzy; project staff: M. Börner, A. Bächle

The Transformation of the Mycenaean World

This exciting period at the transition from the Bronze Age to the Iron Age (12th–9th century B.C.) witnessed major changes in the political and economic conditions that led to the emergence of new social structures in the Aegean. The current state of research is at present only accessible to specialists due to the small-scale publication structure. B. Eder has written and continues to contribute general surveys of the period to several handbooks that will make specialized research much easier accessible to a wider group of scholars. In 2016 Eder discussed the role of sanctuaries and the formation of Greek identities in the Late Bronze Age/Early Iron Age transition in her written contribution to the 2015 Conference in Brussels: *Beyond the Polis: Ritual practices and the construction of social identity in Early Greece (12th–6th centuries B.C.)*.

PI: B. Eder

Highlights 2016

- In October 2016 B. Eder and M. Zavadil organized the international conference on *(Social) Place and Space in Early Mycenaean Greece* at the Austrian Archaeological Institute at Athens (<http://www.orea.oeaw.ac.at/place-and-space.html>) (Fig. 13). The conference brought together an international group of scholars presenting new data from recent excavations as well as new perspectives on older materials pertaining to the MH III/LH I–II periods. A comparative look on regional trends and superregional phenomena contributed to a geographically more

Fig. 13 International conference (Social) Place and Space in Early Mycenaean Greece



balanced and at the same time more nuanced picture of the formative period of Mycenaean culture. While the Argolid and the eponymous site of Mycenae have always played a key role in shaping the view of Mycenaean Greece, the presentation of new data and the re-evaluation of the well-known evidence from other regions of the Peloponnese opened new approaches to the interpretation of habitation sites, burial places, burial practices and assemblages of burial gifts as well as to the production and circulation of pottery and to the understanding of social strategies of power and the establishment of super-regional networks in the Early Mycenaean Aegean.

- The monumental publication of the conference on *METAPHYSIS. Ritual, Myth and Symbolism in the Aegean Bronze Age. Proceedings of the 15th International Aegean Conference*, that had been organized by the Institute for Oriental and European Archaeology in collaboration with the Institute of Classical Archaeology in Vienna, 22–25 April 2014, was edited by E. Alram-Stern, F. Blakolmer, S. Deger-Jalkotzy, R. Laffineur and J. Weilhartner and appeared in the series AEGAEUM in 2016.
- Birgitta Eder was elected by the Governing Body of Merton College, Oxford as *Visiting Research Fellow for Hilary Term* 2018.

MEDITERRANEAN ECONOMIES (Research group leader: Reinhard Jung)

Objectives

In its work the research group established in 2014 is combining archaeological case studies with economic theory. The development of the forces of production constitutes a decisive factor in the development of economic and political structures of all social systems and therefore also determines contacts between societies to a large extent. Therefore, modes of production and property as well as exchange relationships between different Mediterranean societies are in the focus of the projects in the research group. Apart from the establishment of chronological frameworks, the research questions aim at the economic basis as well as related political and social structures. This includes local and regional perspectives as well as interregional products exchange and migration. In terms of methodology all the projects practice close interdisciplinary cooperation with colleagues from a wide array of archaeometric disciplines – e.g. for analyses of different materials (pottery, metals, archaeozoological remains) or for chronological purposes (¹⁴C). In addition, written and archaeological sources are analyzed in a comparative way in order to arrive at historical conclusions.

The “Zentral-Café” discussion group, which is directly affiliated to the research group, unites researchers from different OREA research groups as well as from the University of Vienna. They represent various disciplines of archaeology and social anthropology work on chronological periods from the Neolithic up to the modern era. Discussions center on important texts of economic theory on the one hand and specific case studies from archaeology and anthropology on the other hand.

Current research programme

In the framework of the project *Studies on the new Mycenaean Palace of Ayios Vasileios in Laconia* lead by R. Jung (OREA) the typological and technological study of the pottery finds of the previous excavation campaigns at the site of Ayios Vasileios proceeded during summer and autumn 2016. In August R. Jung and E. Kardamaki selected a group of 19 vessels for an archaeometric examination aiming at the production technique of the pottery (Fig. 14). These vessels were investigated by M. Choleva, a specialist on forming techniques of prehistoric pottery, with the method of radiography (x-ray technique) in cooperation with a radiologist at Sparta. Furthermore, E. Kardamaki sampled a first group of 60 sherds in October 2016 for petrographic and chemical analyses. The samples are currently under study by P. Day (petrography, University of Sheffield) and V. Kilikoglou (Neutron Activation Analyses at MURR, Missouri, USA and NCSR Demokritos, Greece).

E. Kardamaki, who had started the typological study of the material in 2015, continued her work at Sparta in 2016. She carried out the relevant work (drawing and recording of the pottery) on the material stored in the store-room of Sparta between June and September 2016, while a restorer reassembled finds from the ongoing excavations for future study. A. Rumolo joined the team during the summer excavation campaign and contributed to resolving stratigraphic problems related to the significant destruction deposit of the palace. In line with the original schedule, approximately 50% of the material intended to be part of the current project has been studied in 2016.

E. Kardamaki's first results related to the chronological phases of the palace and the sequence of the pottery typology have been presented on several occasions within the past year. She held a lecture in the University of Salzburg (May 2017). In addition, she presented a joint paper with A. Vasilogamvrou (excavation director at Ayios Vasileios) at the international conference organized by OREA and the Austrian Academy at Athens in October 2016. The first large article about the pottery from Ayios Vasileios was submitted by E. Kardamaki to *Archaeologia Austriaca* in September 2016.

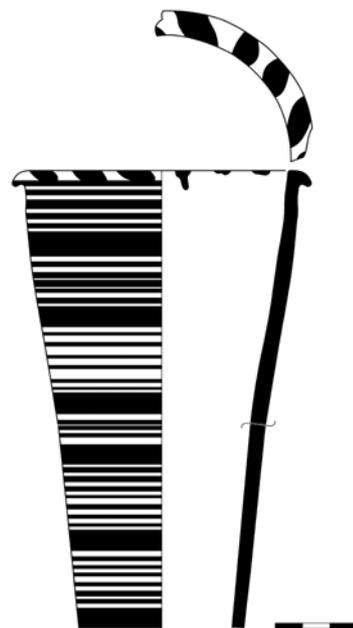


Fig. 14 Mycenaean ritual vessel (rhyton) of the early 14th century BCE from the southeastern pottery dump of the palace at Ayios Vasileios (drawing © E. Kardamaki)



Fig. 15 Air photograph of City Quarter 1, Hala Sultan Tekke, at the end of the 2016 season of excavation (photo © P. M. Fischer and T. Bürge)

The new project *The Collapse of Bronze Age Societies in the Eastern Mediterranean: Sea Peoples in Cyprus?* lead by P. Fischer (University of Gothenburg, Sweden) with his co-researcher T. Bürge (OREA) is investigating the causes of disruption in international trade and eventually the partial/total collapse of the Bronze Age civilisations in the Eastern Mediterranean around 1200 BCE. Hypotheses explaining this severe cultural crisis involve the appearance of invading peoples, the “Sea Peoples”. This Sea Peoples phenomenon might have been initiated by south-eastward migration starting in Italy, continuing over the Mediterranean and the Balkans to Greece and the Eastern Mediterranean islands and eventually ending in the Levant and Egypt. Migration might have been caused by a climate change, which might have resulted in famine, but there are other factors to consider such as a changed rule, altered social conditions, increased social mobility and economic motives at the end of the “Mycenaean palatial period” (Fig. 15).

The nucleus of the project is the study of the economic, political and climatological situation in Cyprus, the centre of international products exchange in the Eastern Mediterranean. Bronze Age export of Cypriot copper from its rich ores – copper was one of the most coveted products at that time – involved not only the entire Mediterranean but also the remainder of Europe. The study of a changed situation in Cyprus and finds relating to the Sea People phenomenon, e.g. objects which originate in central Europe/Italy/the Balkans, will lead to a greater understanding of the general crisis. In the seventh excavation season (May – June 2016) at the Bronze Age city of Hala Sultan Tekke field work continued in City Quarter 1, where georadar had indicated stone structures to the south of the fenced area. Massive domestic structures, which belong to three phases of occupation (Strata 1–3), were exposed. Both the most recent Stratum 1 as well as Stratum 2 were destroyed in a conflagration. The three phases are preliminarily dated to the 13th and 12th centuries BCE.

Excavations were also conducted in Area A, roughly 600 m to the south-east of City Quarter 1. Seven circular anomalies indicated by the geomagnetic survey were excavated. Two were pits of modern date, and three were identified as Late Cypriot wells. Another anomaly turned out to represent a rich Late Cypriot offering pit with figurines and more than 60 ceramic vessels, inter alia, two Mycenaean chariot kraters and a large vessel with the image of a woman robed in a splendidly adorned Minoan-style dress. The remaining geomagnetic anomaly represents a tomb so far containing more than 80 locally produced and imported vessels, gold jewellery, weapons, scarabs and seals. The material in the offering pit and the tomb reflects far-reaching intercultural connections in the period from the 15th to the 13th centuries BCE. T. Bürge studied the pottery finds of these new excavations at Hala Sultan Tekke from May to June and from September to October 2016.

The 2016 season yielded a number of ¹⁴C samples, which will be analyzed by E.M. Wild at the VERA laboratory in Vienna. Petrographic samples will be studied by P. Waiman Barak, University of Haifa, and ceramic samples for INAA analysis will be processed by J. Sterba, Technical University of Vienna. In addition, sediment cores were sampled by D. Kaniewski, University of Toulouse, and his team in May 2016 in order to establish a quantitative climatic proxy based on pollen records from the Larnaca Salt Lake. The aim is to detail the environmental context along the south-eastern Cypriot coast during the Late Bronze Age crisis. The study of the cores is in progress.

The new FWF project *Bronze Age Gold Road of the Balkans – Ada Tepe Mining* lead by B. Horejs (OREA) examines so far only excavated goldmine of prehistoric Europe. It is situated in southern Bulgaria on the mountain Ada Tepe and was excavated by H. Popov and a team of the National Institute of Archaeology with Museum at the Bulgarian Academy of Science (NIAM – BAS). OREA is involved in an international cooperation between the Austrian and Bulgarian Academies of Science and will contribute to the processing of excavation results and final publication of artefacts. Due to the high amount of finds and excavated areas (mining structures, waste heaps, two settlement areas) the project of the Mediterranean Economies research group is focussing on the settlement on the north-eastern slope, which will be analyzed in various aspects. In the 2016 summer campaign at Krumovgrad the focus of the team

(L. Burkhardt, B. Horejs, St. Horvath, F. Ostmann, M. Börner, T. Urban) was on material studies and especially on documenting the different house inventories. Furthermore, a series of pottery as well as metal samples were taken for chemical analyses. In the framework of the project, there are two ongoing academic theses, a Master thesis by St. Horvarth, and a PhD thesis by L. Burkhardt. Furthermore an opulent exhibition entitled “*Auf der Suche nach Gold. Metalle – Ressourcen – Netzwerke in der Bronzezeit Bulgariens*” is planned and organized by H. Popov (NIAM – BAS) and B. Horejs (OREA) in collaboration with the Kunsthistorisches Museum Wien (KHM). It is going to take place from 07.03.2017 – 25.06.2017 at the KHM. During autumn 2016, B. Horejs was travelling through Bulgarian museums selecting finds for the exhibition and establishing a series of cooperation agreements with the Bulgarian antiquities authorities. F. Ostmann was responsible for photographic documentation of artifacts for both, the exhibition and further study in the framework of the project. In spring time M. Mehofer (VIAS, University of Vienna), E. Pernicka (University of Heidelberg) and P. Penkova (NIAM) took metallurgical samples of the Vălčiträn gold treasure and of finds from the Ada Tepe excavations in order to reconstruct the *chaîne opératoire* of the Late Bronze Age metallurgy in Bulgaria. M. Mehofer also conducted gold melting experiments in Sofia. In August and September R. Jung and B. Weninger worked at Krumovgrad on the radiocarbon chronology by modelling the data from all excavated areas of the Ada Tepe site in collaboration with H. Popov and K. Nikov. A workshop in December brought together R. Jung, H. Popov and B. Weninger at OREA for finalizing the Ada Tepe chronological model and in order to model the ¹⁴C sequences of Kush Kaya, another Late Bronze and Early Iron Age site in the eastern Rhodopes with a material culture closely related to the one of Ada Tepe. The next steps of the projects will be the completion of the Master thesis by St. Horvarth in 2017 and an extended study season in spring and summer 2017 with the aim to conclude work on the project database.

The project *Punta di Zambrone – a Bronze Age Fortified Settlement on the Tyrrhenian Coast of Calabria* lead by R. Jung (OREA) has entered the preparatory stage of its final publication. R. Jung edited the proceedings of the 2015 workshop held at the ÖHI in Rome, *1200 – A Time of Breakdown, a Time of Progress in Southern Italy and Greece*. He also contributed to several articles of the Zambrone team for those proceedings, the manuscript of which is scheduled to be submitted in 2017 as *Punta di Zambrone I* including final publications of the Zambrone excavations and discussion papers by excavators of contemporary sites in southern Italy and Greece.

In the cooperation project *Deir el-Medina – Egypt and the Aegean* lead by L. Bavay (Institut Français d’Archéologie Orientale du Caire) and R. Jung (OREA) R. Jung finished the documentation of the Mycenaean pottery finds from Deir el-Medina during a second study campaign (following the first one of 2014) at Deir el-Medina and at the Institut Français d’Archéologie Orientale in Cairo in the second half of March 2016 (Fig. 16).

At the 10th International Congress on the Archaeology of the Ancient Near East (10th ICAANE) held at the Austrian Academy of Science and organized by OREA from April 25th to 29th 2016, R. Jung organized Session 5 *Economy and Society*.



Fig. 16 Mycenaean perfume vessel (stirrup jar) of the 13th century BCE from the cemetery of Deir el-Medina (photo © L. Bavay, R. Jung)

Highlights 2016

- The project *The Collapse of Bronze Age Societies in the Eastern Mediterranean: Sea Peoples in Cyprus?* approved in 2015 by the Swedish Research Council started on January 1st 2016. Peter Fischer (University of Gothenburg) is the project leader, while Teresa Bürge is employed as a researcher at OREA and is studying the pottery from the New Swedish Cyprus Expedition excavations at Hala Sultan Tekke.
- The FWF project *Bronze Age Gold Road of the Balkans – Ada Tepe mining* started in January 2016. In the framework of this project, Laura Burkhardt is employed at OREA with the PhD project *Die Funde der Goldbergwerkssiedlung vom Adatepe (Nordostquartier). Chronologie, Funktion und kulturelle Beziehungen in der späten Bronzezeit* since October 15th 2016. Sarina Molla-Djafari finished her BA thesis with the title *Keramikdekorationen im Inventar des spät-bronzezeitlichen Hauses 7 (Nordostquartier) am Ada Tepe* in autumn 2016.
- Since January 15th 2016 Eleftheria Kardamaki is employed as a researcher at OREA in the framework of the FWF project *Studies on the new Mycenaean Palace of Ayios Vasileios in Laconia*.
- The proceedings of 8th Archaeological Conference of Central Germany *Rich and Poor* held in October 2015 at Halle, Germany, appeared in print in October 2016. They are co-edited by H. Meller, H.-P. Hahn, R. Jung and R. Risch.

DIGITAL ARCHAEOLOGY

(Research group leader: Edeltraud Aspöck)

Research data has now been recognized to be an important output of archaeological projects. The research group Digital Archaeology addresses important questions related to the long-term preservation of research data and their dissemination for data sharing and re-use. The research group is well connected internationally and projects build on international research and standards in the field. The activities of the research group span across all OREA including collaborations with several other OREA research groups and projects. The group represents an interface between archaeologists and technicians.

The overall aims of *Digital Archaeology* are to:

- develop strategies to overcome fragmentation of archaeological research data
- improve strategies to guarantee long-term preservation of archaeological research data for sharing and re-use of data

Research objectives:

- Long-term preservation of OREA research data:
 - + Digital archaeology projects as case studies leading to the development of a repository for archaeological research data at the ÖAW-ACDH.
- Creation of an OREA e-research infrastructure:
 - + Make selected OREA research data accessible open access online: Creation of an OREA online platform to publish research results and data and make them accessible open access (platform hosted by ÖAW-ACDH).
- Creation of standardized research datasets from heterogeneous data typically resulting from traditional long-term excavation projects and from research in archaeological regions with different research traditions.
- Preservation of non-digital resources: Digitizing analogue OREA resources and archiving them in the repository if analogue materials are degrading.
- Improvement of data management practices in archaeology:
 - + Adaption, modification and development of guides to good practice in archaeological IT.

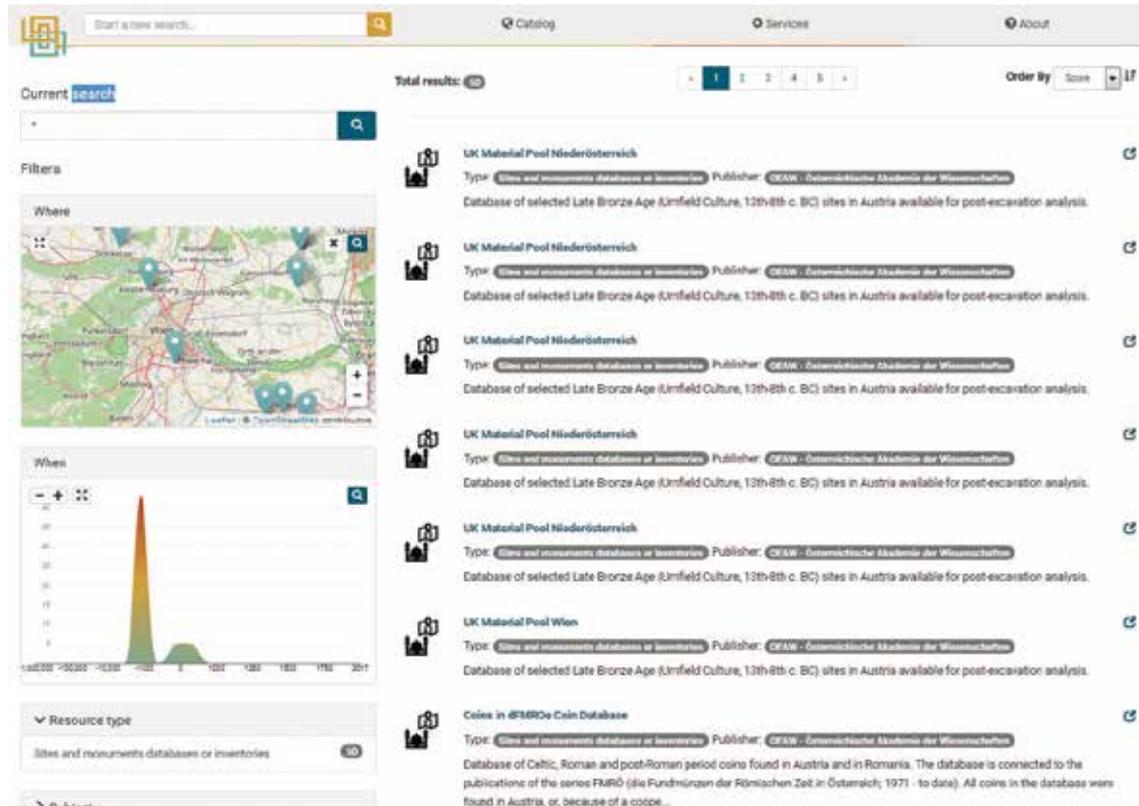


Fig. 17 ARIADNE Catalogue user interface with metadata records of ÖAW projects UK Pool and dFMROe coins in the area of Vienna. URL: <http://portal.ariadne-infrastructure.eu/> (© OREA Digital Archaeology)

Additionally, we are interested in the theoretical and social implications of increasingly digital research methods in archaeology. This includes e.g. democratization of access to knowledge on a global scale through increasing number of open access online resources and the possible changes in research practice of future generations of archaeologists.

Current research programme

ARIADNE – Advanced Research Infrastructures for Archaeological Dataset Networking in Europe (FP7–INFRASTRUCTURES-2012–1–313193)

coordinated by Franco Niccolucci, PIN and Julian Richards, ADS), running 1. February 2013 – 31. January 2017. ÖAW project team: Edeltraud Aspöck, Irene Petschko, Seta Štuhec).

Several highlights of the final project year of ARIADNE were in the area of dissemination (see below, highlights).

Metadata of ÖAW datasets (coin database <http://www.oeaw.ac.at/antike/index.php?id=358> FMROE, and several datasets from late Bronze Age archaeology <http://www.oeaw.ac.at/orea/projekte/bronzezeit/ukpool/>) were created for integration in ARIADNE catalogue and can now be browsed via ARIADNE portal (<http://portal.ariadne-infrastructure.eu/>). This included mappings of keywords to AAT (<http://www.getty.edu/research/tools/vocabularies/aat/>) and provision of coordinates for display on map interface of catalogue (Fig. 17).

Our activities as part of the Special Interest Group (SIG) *Site and monument data* included the surveying of archiving practices in countries across Europe resulting in a report.

ARIADNE co-funded the DEFC & 4Dpuzzle projects, hence please see below for further activities.

DEFC Digitizing Early Farming Cultures

(ACDH go!digital Antrag ACDH 2014/22; 1. November 2014–31. October 2016; Partners: OREA Digital Archaeology & AAPP research group, ÖAW ACDH, ARIADNE); OREA project team: E. Aspöck (project leader), S. Štuhec, I. Petschko (project assistants); ACDH team: M. Durco, P. Andorfer, K. Zaytseva; data entry team: M. Brzakovic, D. Bochatz, S. Schilk, T. Rinner, E. Semilidou; AAPP team: E. Alram-Stern, Ch. Schwall, B. Milić, M. Röcklinger, M. Bami.

In January 2016 the construction of Django-based online database called DEFC app has been finalized and made accessible via the project's homepage (available at: <https://defc.acdh.oeaw.ac.at/>). In the following months, several improvements and upgrades have been made based on the user feedback and additional needs.

The purpose of the DEFC app(lication) is to integrate research data from Neolithic and Chalcolithic sites and finds of Greece to enable collaborative research across the area. In the course of 2016 information from several analogue resources provided by the AAPP research group has been extracted, entered and digitized. By the end of 2016, data from about 700 sites have been recorded.

The scanned 3D models of the Schachermeier pottery collection including the provenance metadata have been published on the DEFC homepage and linked to the database.

In order to ensure semantic accuracy of terms used in the database the AAPP research group provided word lists from their research vocabularies that serve as drop-down lists. Furthermore, the terms have been defined and hierarchically arranged in a thesaurus that will soon (in the coming year) be transformed into a SKOS thesaurus. Additionally, an image gallery including images of different types of pottery shapes, decorations and details for defined periods and regions has been added to the database to serve as a reference showing representative pottery types to ensure a more accurate data entry. All published entered data can be browsed using a filtering function and visualized on a geographic map.

The DEFC app aims to become a semantic, linked open data database. In order to ensure this objective certain steps have been made to implement standards that allow interoperability. This includes use of the GeoNames geographic database (<http://www.geonames.org/>) as well as the encyclopedia of life database <http://eol.org/> as a reference for animal bone data to link to the OpenContext project (<https://opencontext.org>) in the future. The DEFC Zotero bibliography database (<https://www.zotero.org/defc-orea-oeaw>) was created from merging several project databases and holds over 9700 bibliographic records so far. In the future it is planned to increase the interoperability of the dataset and explore query options by mapping the data model to CIDOC CRM ontology and transform the data to RDF triple store with a SPARQL endpoint. In 2016, a test implementation has been made: <https://defc.acdh.oeaw.ac.at/defc2rdf/>.

Since the DEFC app is an open access database everyone is able to browse and query published data. App online data is licensed by OREA ÖAW under the CC BY 4.0 license. As such, you are free to share, use and remix DEFC App data, as long as you attribute the source data accordingly.

For more detailed information see our 'Building the DEFC App' posts on the homepage of the DEFC app: <https://defc.acdh.oeaw.ac.at/blog/>.)

A Puzzle in 4D: digital preservation and reconstruction of an Egyptian palace

1. February 2015–31. January 2020; OREA Project team: Barbara Horejs (project leader), Edeltraud Aspöck (scientific coordinator OREA), Angela Schwab (project management), Karin Kopetzky (archiving), Martina Simon (project assistant), David Blattner, Julian Posch, Karl Burkhart (student assistants); LBI Project team: Wolfgang Neubauer (project leader LBI), Nives Doneus, Matthias Kucera (scientific coordinator LBI); Project partners: OREA Tell el-Daba research group, ÖAW ACDH, Österreichisches Archäologisches Institut (ÖAI), Ludwig Boltzmann Institute (LBI), ARIADNE, PIN, ADS, University of Chicago, Universität Bochum.

In this report we will describe the work carried out by OREA Digital Archaeology group. Metadata and semantic enrichment: Analysing Tell el-Daba resources we found five main cate-



Fig. 18 Scanning oversized drawings with A2-scanner at ÖAW ACDH
(photo: OREA, Digital Archaeology)

gories which are distinct in their nature and creation processes: excavation areas; archaeological features and finds; documentation (analog or digital); physical storage; digital secondary documentation (Figure 2). We are using the CIDOC CRM ontology as a conceptual background to model the available documentation, the physical reality it documents and the process of creating digital documentation from analog sources (Fig. 18).

Digitizing & Metadata records: For our test area F/I we scanned analogue field drawings and created respective metadata records (around 900 scans & records). Oversized drawings and maps were scanned using the Wide Tek 25 A2-scanner at the ÖAW ACDH. Larger than A3 drawings (Profile drawings and oversized drawings) were put together using stitching software. We examined the film negatives containing photos from excavation years 1979 and 1980, which is when area F/I was excavated (in total 222 film strips) for damage and recorded their condition. Because we had not yet found an ideal way to scan film negatives (but had to process the photos for our project partner) we gave these negatives to a professional company for scanning. The research assistants afterwards created metadata records for each photo. The film negatives were ordered into new special storage files to ensure their preservation. For Metadata entry Excel-files are used. We customized the Excel Worksheets to allow the entry of several identifiers in one field from a dropdown menu to represent 1:n relations (Visual Basic macros and Excel Data Validation functionality). Track of the different versions of metadata-files is kept through the use of github (text exports) and daily backups to the project network drive.

Data archiving and open source access: Based on user requirements defined in 2015 and requirements for long term preservation of data, existing software solutions have been evaluated. The goal was to develop a system with open and specified interfaces between the components. The leading idea is that the data are the most important asset of the system and it should be possible to choose different software products for each system component and if necessary replace them individually if a better one comes up for the specific purpose. For a test implementation (F/I field drawings and photos) we used Microsoft Excel for the metadata entry and management of the controlled vocabularies. The flexibility offered by MS Excel was an advantage compared to other systems and we could immediately start the metadata entry process. After mapping the data to CIDOC CRM, the RDF structure was ingested in a triple store. In the triple store we linked the resources through the identifiers and hence integrated the metadata of field drawings or photos. The RDF network of the triple store can be queried using the SPARQL query language. Additionally, a denormalized export of data was imported in MS Excel to be searched/filtered. The same data was used to implement a prototype of a web-based frontend that accesses a SQL database. Tests have been done to ingest the digital resources and metadata in a FEDORA repository.

Highlights 2016

- Organization of *ARIADNE data management workshop in Vienna*: In the final project year of ARIADNE we organized a data management workshop for Austrian and Hungarian archaeologists at the ÖAW in Vienna on January 19th 2016, which was very well attended [presenters Holly Wright (ADS), Kate Fernie (PIN) and Edeltraud Aspöck (ÖAW)]: blogpost ARIADNE data management workshop 2016.
- Organization of ICAANE Workshop *Old Excavation Data – What can we do?* [Organizers: Edeltraud Aspöck, Karin Kopetzky, Seta Štuhec (OREA, ÖAW) Matthias Kucera (LBI Arch-Pro)]. In this workshop projects dealing with resources from older or long-term excavations were brought together to discuss preservation strategies and cases of reuse.
- Organization of CHNT Round table Long-term preservation and access *Where is an archive for my data?* <http://www.ariadne-infrastructure.eu/ita/Events/CHNT-2016> [Organizers: Edeltraud Aspöck (OREA), Guntram Geser (Salzburgresearch)]. This round table raised many issues related to archaeological data archiving: political situation, standards, practicalities.

TELL EL-DABA PUBLICATIONS

(coordinated by V. Müller)

Objectives

The core objective of the research group is the analysis and publication of the excavations from 1966 till 2009 at Tell el-Daba (ancient Avaris) in Egypt's Eastern Delta. As one of the major key-sites of the Eastern Mediterranean for the first half of the 2nd millennium BCE this huge harbour town delivered vast amounts of architectural and material remains reflecting the international relationships of its inhabitants. A thorough evaluation of diverse archaeological materials in their respective context is not only paramount for the understanding of this international city on its own behalf but builds a backbone for a whole range of different research questions not only in respect to Egypt but concerning neighboring countries as well. Next to chronological questions concerning stratified typologies of the material culture, the historical chronology and ¹⁴C-data, also technological studies (such as petrographical analyses on Levantine transport vessels) and – above all – evaluations of the daily and religious life of the inhabitants are at the stake of the research group.

Current research programme

Tell el-Daba

B. Bader, who analyses the late Middle Kingdom settlement in Area A/II (Fig. 19) of Tell el-Daba (Phase H, G/4 and G/3–1), concluded the first fascicle of the final archaeological report. This first fascicle includes the westernmost area of the tell (A/II), which had been published in a preliminary manner by M. Bietak, in the volume Tell el-Daba V, in 1991. The manuscript includes 18 squares, namely A/II-k-o/10–13, covering roughly 1600 square metres. The split in the publication has been decided because the western part was excavated in 1966 to 1969, whilst the eastern part was explored from 1975 onwards. Due to the development of the excavation and its methods and also the amount of archaeological finds available for re-study the temporal division in this manner seemed most useful. The manuscript provides a feature by feature description of Compounds 10, 11, 12, 13 and 14 and presents a contextual treatise with archaeological finds including pottery, small finds and animal bones (published by J. Boessneck, Tell el-Daba III). The special character of this settlement is its relatively loose distribution of irregular compounds, which is in stark contrast to most of the known settlements in Egypt and the Levant in the late Middle Kingdom. For Egypt such a self-organized plan need not be singular considering the fact that not a single settlement along the

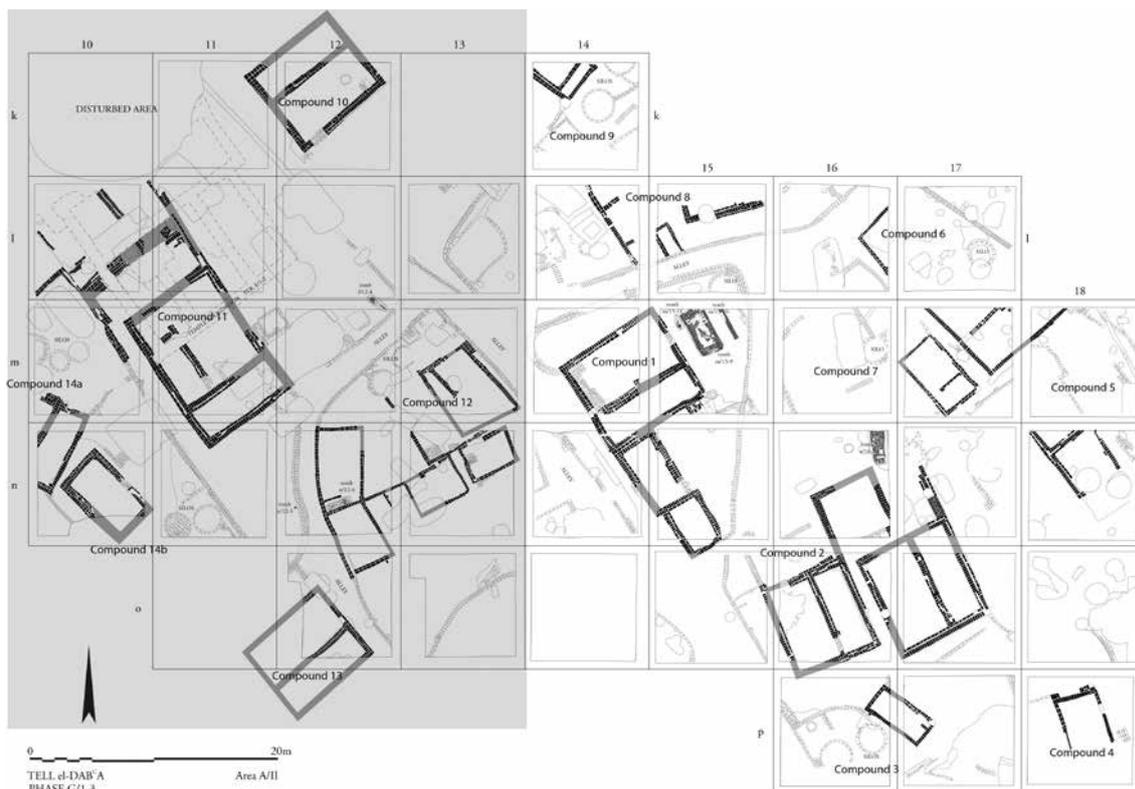


Fig. 19 Settlement of the Middle Kingdom in area A/II at Tell el-Daba (© ÖAI/ÖAW archives)



Fig. 20 Amphora from the Middle Bronze Age imported from the Levant to Tell el-Daba (© ÖAI/ÖAW archives)

Nile has been explored due to the difficulties of modern destruction and overbuilding as well as deep sedimentation.

The study of the funerary traditions and the tomb architecture of over 400 tombs dating from the late Middle Kingdom and the Second Intermediate Period from area F/I at Tell el-Daba and their preparation for publication was continued this year by K. Kopetzky. She also proceeded with the publication of petrographic analyses of Canaanite fabrics from the same time span found at Tell el-Daba that will elucidate the origin and dissemination of ves-

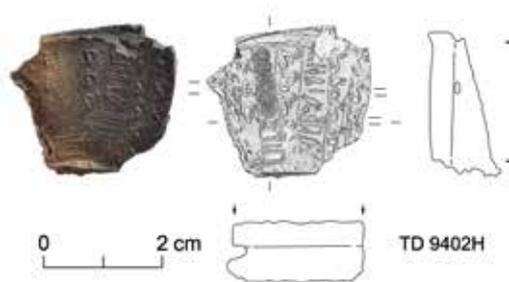


Fig. 21 Seal impression of Ipu-shemu, ruler of Retjenu, found at Tell el-Daba (© ÖAI/ÖAW archives)

sels from the Levant (Fig. 20). In her research on an early MB II B seal impression from a late 13th dynasty palace in Tell el-Daba she could demonstrate the close connection between the royal family of Byblos and this site (Fig. 21). She also proposes that stags and antelopes depicted on this seal symbolize the ancient Near Eastern warrior god Resheph whose worship was supposedly introduced during the 2nd Intermediate Period. The circumstances of its discovery in a severely conflagrated building indicates a possible turbulent transition from the 14th to the 15th dynasty.

The analysis and evaluation of archaeological remains from rituals deposited in the courts of the temple precincts in area A/II at Tell el-Daba were continued by V. Müller. These deposits cover the period from the late Middle Kingdom to the Early New Kingdom. Next to animal bones the material consists of pottery vessels which are very similar to the material found in settlement contexts, i.e. the amount of vessels with a purely ritual function is very limited.

D. Aston was able to finish his vast catalogue of ceramic material from area H/VI at Ezbet Helmi. This catalogue encompasses 527 plates with more than 4200 pottery vessels dating from the end of the 2nd Intermediate Period to the early New Kingdom. He started with the typological analysis of the different pottery wares of this still very badly understood time period. Aston's publication will be a very important basis for future studies on this time period, not only for Egyptian ceramic studies but for the question of the transition of the Middle to the Late Bronze Age in the Levant as well, as this is till today tied to the Egyptian development of the material culture.

E. Czerny continued his research for the publication of scarabs and sealings from the New Kingdom site of Ezbet Helmi. The material consists of 480 objects, scarabs, scaraboids, amulets, plaques and imprints. The bulk of the scarabs was found in area H/I in a workshop area of early 18th dynasty date, while most imprints were found in a workshop or office building annexed to Palace G on its west side in area H/VI. No less than 15 king's names occur on the scarabs and sealings, beginning with the MK name of Amenemhat, via the Hyksos king's name Apophis to the NK kings names of Ahmose, Amenhotep I, II, Thutmose I, III, and Ramesses II. However, most of these scarabs and sealings were found in secondary contexts and are not suitable to provide more than a *terminus post quem* for the dating of their respective findspots.

Responsible for the analog and digital archive of the Tell el-Daba documentation K. Kopetzky continued her tasks in the project *A puzzle in 4D* directed by E. Aspöck which is part of the latter's research group *Digital Archaeology*. In this project a GIS based online tool to analyze old excavation data will be developed in co-operation with the Ludwig Boltzmann Institute (LBI) for Archaeological Prospection and Virtual Archaeology, where K. Kopetzky is responsible for all the stratigraphical and documentation-based information to the site of Tell el-Daba. She is also involved in a 3D reconstruction of an early 13th dynasty palace from area F/I by the LBI. As project scientific specialist for Tell el-Daba she is part of a team which is building up of a long-term digital archive for the documentation of Tell el-Daba from 1966–2009.

Near East

K. Kopetzky continued her studies on the synchronisation of the stratigraphy of important sites in the Near East with the site of Tell el-Daba in Egypt. During her stay in Lebanon in August 2016 she studied the newly excavated imported and imitated Egyptian material from the sites of Sidon (C. Doumet-Serhal, British Museum London) and Kfarabida-Tell Fadaous (H. Genz, AUB Beirut). For the first time an Egyptian import of the Old Kingdom was found in the Early Bronze Age layers of Sidon.

Recent radiocarbon dating results for several sites in the southern Levant continue to challenge the current low Middle Bronze Age chronology. Radiocarbon sequences for Tell el-Burak (Lebanon) and Tel Kabri (Israel) were published by F. Höflmayer *et al.* and found that they are in agreement with the high radiocarbon determinations for Tell el-Daba in Egypt. While discussion about the implications are still on-going, the new results are consistent with radiocarbon determinations around the eastern Mediterranean and the Egyptian historical chronology. A comparative investi-

gation by F. Höflmayer and S. Manning (Cornell University) of radiocarbon dates for the southern Levant and ¹⁴C-dates and dendrochronology for Anatolian sites (Achemhöyük and Kültepe that can be dated via the Mesopotamian chronology), found support for the Middle Chronology of Mesopotamia while the high Middle Bronze Age dates for the southern Levant are in agreement with A. Ben-Tor's proposed link between Middle Bronze IIB Hazor and the Mari correspondence.

F. Höflmayer organized together with S. Cohen (Montana State University) a session at the Annual Meeting of the American Schools of Oriental Research that took place at San Antonio, TX in November 2016 that was devoted to the new results on the high radiocarbon chronology for the Middle Bronze Age. Speakers included S. Cohen, A. Yasur-Landau, K. Streit, F. Höflmayer, S. Bechar, S. Falconer, S. Manning, and M. Bietak.

Tracing Transformations

In June 2016, the project *Tracing Transformations* was awarded the START-grant of the Austrian Science Fund to PI Felix Höflmayer.

Tracing transformations will explore the history and archaeology of the crucial period of the late Middle and early Late Bronze Age in the southern Levant. This period saw the demise of the Middle Bronze Age city-states, the end of the Hyksos Empire in Egypt, and the rising interest and involvement of the Pharaohs in the Levant, culminating in the military campaigns of the Thutmosid period and leading eventually to the 'International Age' of the Late Bronze Age Amarna period.

This transformative period is still poorly understood due to an insecure chronological framework with many open questions regarding the chronological synchronization of Egypt and the Levant. So far, assessments of this period were also dominated by a text-based approach relying heavily on Egyptian sources, while archaeological data from the southern Levant were not always fully appreciated.

Tracing transformations will shed new light on this formative period by (1) a targeted excavation of late Middle and early Late Bronze Age settlement layers at Tel Lachish, a key-site of the southern Levant, (2) establishing an absolute chronology for the late Middle and early Late Bronze Age based on sequences of radiocarbon dates that can be correlated with the radiocarbon-backed New Kingdom chronology of Egypt, (3) a comprehensive study of the development of material culture of the southern Levant based on the radiocarbon chronology (including pottery, imports, prestige goods, foreign influences, and architecture), and (4) a new historical assessment of the period based on the new chronological framework, the results of the study on material culture, and a critical study of the available textual sources.

Applying this variety of approaches (excavation, establishing an absolute chronology, studies on material culture and history) will allow to view this formative period from very different angles and contribute to our understanding of historical trajectories that led to the 'International Age' of the Late Bronze Age.

Pilot Survey in Lebanon

A short archaeological survey was undertaken in the Chekka region by K. Kopetzky in cooperation with H. Genz from the Department of History and Archaeology of the American University of Beirut (AUB). Further members of the survey team were Ch. Schwall and M. Börner from the OREA Institute and M. Mardini, a student of archaeology from the AUB. Specifically the site of Tell Mirhan north of Ras Chekka and about 15km south of Tripolis was investigated and proven to be a Bronze to early Iron Age site. This tell was chosen due to its strategic position in antiquity right at the shore of a large bay suitable as a protected anchor place for large ships. A plan of the preserved tell was created and a more than 30m long E-W section through the highest part of the tell was investigated. During the survey in the hinterland of Tell Mirhan several new sites were discovered, which showed an occupation from the Chalcolithic until the Islamic periods. This survey made very clear that many sites are severely endangered by modern construction activities

and the need for identifying and protecting potential archaeological sites in a previously uninvestigated area is very urgent.

10th ICAANE

With B. Horejs and M. Bietak as main organizers of the 10th International Congress on the Archaeology of the Ancient Near East (10th ICAANE) in April, 25–29 in Vienna, the research group was also involved in the organization and performance of this large conference. As members of the organising committee V. Müller was responsible for the arrangement of *Section 2: Religion and Ritual* and K. Kopetzky organized the symposium *50 Years of Excavation at Tell el-Daba (1966–2016)* together with M. Bietak. V. Müller is also involved in the publication of the papers of this section. In the course of the symposium K. Kopetzky gave a paper on *Supply and demand. Tell el-Daba – a fence for stolen goods?* demonstrating that during the Middle Bronze Age in the Levant most of the Egyptian small finds, dated to the 12th or early 13th dynasties, were retrieved from tombs dating into second half of the 13th dynasty (= early MB II-B). Many of these pieces were altered before their final depositions. It seems that most of them did not reach the Levant via diplomatic gift exchanges, as has been suggested in the past, but rather as loot robbed from the cemeteries of Middle Kingdom Egypt during a politically insecure period. *The Late Middle Kingdom Settlement at Tell el-Daba in Area A/II* was the subject of B. Bader's presentation and D. Aston gave a paper on *Plates and Ringstands, Recent Work in Tell el-Daba* that was focused on the function of these pottery groups.

E. Czerny presented an overview and a first analysis on *Seals and Sealings from Ezbet Helmi*. Together with M. Bietak and S. Prell he is involved in the publication of the ICAANE Tell el-Daba symposium that will be published in a single volume.

K. Kopetzky gave two further papers: Together with E. Aspöck, S. Štuhec and M. Kucera she organised the workshop *Old Excavation Data – What Can We Do?* where the OREA-project *Archiving digital and analogue resources of the Tell el-Daba excavations: the 'A puzzle in 4D'* was presented, concentrating on the procedures and structures behind a long-term digital archive, which is currently in the making for all analog and digital documentations of the 50 years-lasting excavation of Tell el-Daba. In the section *Excavation Reports & Summaries* she reported together with M. Persin, H. Genz and A. Ahrens on *The Middle Bronze Age at Tell Kfarabida-Fadaous (Lebanon): an Interim Statement*. First results of the imported Egyptian pottery to that site were presented, showing that this material dates mainly to the late 12th and early 13th dynasties and is thus contemporary to the local MB IIA material it was associated with.

In Section 6: *Excavations Reports & Summaries* F. Höflmayer presented a paper on Egyptian historical chronology, *Tell el-Daba and the Middle Bronze Age in the Levant: A review of radiocarbon data and archaeological synchronisms* together with M. Dee and S. Manning.

V. Müller together with E.C. Köhler (University of Vienna) organized a workshop on *Egypt and the Levant during the EB I–II Period: A New Look at an Old Topic*. Together they gave an introductory paper on this subject building the basis of this workshop and the following papers and discussions. In recent excavations at Abydos huge amounts of jugs and juglets imported from the Levant have been found of which some have been analyzed petrographically. The results of this investigation together with recent finds in the Levant point to the bulk of production centers situated in today's Lebanon and to a lesser degree in Southern Palestine as previously believed. In this context F. Höflmayer spoke about: *Egypt and the Levant in the Early Bronze Age I–II period: A Radiocarbon Perspective*.

Further activities

V. Müller continued her work on the documentation and analysis of the tomb inventory of king Den from the middle of the 1st Dynasty (ca. 3000 B.C.). In autumn 2016 she spent 2 months at **Abydos** and was able to nearly finish the recording of the materials. The bulk of imported vessels from the Levant as well as seal impressions not yet attested were in the focus of this season.

For the establishment of a new project, the ceramic material of the cemetery at **Turah** from the same period excavated in 1910 by H. Junker and deposited in its majority at the Kunsthistorisches Museum Vienna was checked to a large part. This overview builds the basis for an application of financial support from a third party that is about to be formulated.

D. Aston continued his work on the processing of pottery from the New Kingdom excavated in the **Valley of the Kings at Thebes** during a stay of three weeks. In the same context he gave a talk on pottery during a Day School on the Valley of the Kings at Basle. As expert on pottery for the 1st millennium BCE he participated at two workshops, one held at Athens and the other one taking place at Lisbon.

E. Czerny continued with his publication activities. Vol. 26 (2016) of *Egypt & Levant* was issued mid-December that year. The volume comprises 6 preliminary reports, all of them from eastern Delta excavation sites in Egypt, plus 9 articles, most of them also treating Egyptian archaeology.

Highlights 2016

- START-Award from the Austrian Science Fund for *Tracing Transformations in the Southern Levant: From Collapse to Consolidation in the Mid-Second Millennium BC* (Y932–G25) for F. Höflmayer.
- *Glassman Holland Research Fellowship at the W. F. Albright Institute of Archaeological Research, Jerusalem, Israel*: 1 Feb–29 Apr 2017 for study on Middle Bronze Age chronology and connections for F. Höflmayer.
- *Editorial Board Member* of the Bulletin of the American Schools of Oriental Research (BASOR) 2016–2019 for F. Höflmayer.
- Participation in the Organization and performance of the 10th International Congress on the Archaeology of the Ancient Near East (10th ICAANE) at Vienna.
- *Section 2: Religion and Ritual* (V. Müller)
- Symposium *50 years excavations at Tell el-Daba (1966–2016)* (K. Kopetzky and M. Bietak) with presentations of D. Aston, B. Bader, E. Czerny and K. Kopetzky.
- Workshop *Old Excavation Data – What Can We Do?* (E. Aspöck, K. Kopetzky and others).
- Workshop *Egypt and the Levant during the EB I–II Period: A New Look at an Old Topic* (V. Müller and E.C. Köhler).

URNFIELD CULTURE NETWORKS (Group leader: Michaela Lochner)

Objectives

UCN is one of the few research groups worldwide committed to the long-term study of the Late Bronze and Early Iron Ages (13th to 8th century B.C.) in Central and Southeast Europe with a special focus on the Urnfield Culture and interactions with neighbouring, contemporary cultural phenomena.

Special attention is given to burial customs, religion and ritual, as well as socio-economic phenomena, and the way they are connected to cultural and social developments. Selected research questions include: securing resources and power, motherhood and the social status of women, cremation burials and cultural transmission as well as social identities and mobility. All team members share an interest in the social organization of communities as reflected in cemeteries.

The cultural developments, potential connections as well as religious, economic and social characteristics are explored through various regional studies. The integration of young researchers and local specialists in a common network is paramount. UCN facilitates medium- and long-term research and systematically supports young talent.

Of central importance is the utilisation of large data sets from excavations that have been conducted in Austria over many years, such as the settlements of Thunau am Kamp, Stillfried an der March, as well as the cemeteries Franzhausen-Kokoron and Inzersdorf ob der Traisen. Our data sets also include recently excavated settlements and cemeteries such as Polichni in Macedonia, Dolina in Croatia and other sites in the western Balkans. Digital initiatives (UC bibliography pool, cremation burials database CBAB), publications, international workshops held regularly (UC dialogues) as well as international conferences organized by UCN members complete the research programme.

Current research programme

Urnfield Culture dialogues (“UK-Gespräche”)

The UC dialogues are a discussion forum for researchers on the Late Bronze Age/Urnfield Culture (1300–800 BC) in Europe. Held twice a year, the meetings are organized by *Urnfield Culture Networks/OREA*. Since 2015, the UC dialogues include an international outlook. The new concept combines a one or two-day thematic workshop with a corresponding public evening lecture.

Workshops 2016:

- 9.3.2016: UK-Gespräche “Get Together” / Pre-conference lecture: David Parma, Klára Šabatová, Milan Salaš *Urnenfelderzeitliche Siedlungen, Gräberfelder und Hortfunde Mährens – Neueste Ausgrabungen und Forschungen*
- 10.3.2016: UK-Gespräche “Get Together” / Workshop: *Archäologische Strukturen – Urnenfelderzeitliche Grabungen und Forschungen (13.–8. Jh. v. Chr.)*
- 30.11.2016: UK-Gespräche “Get Together” / Pre-conference lecture: Mike Parker Pearson, *New Perspectives in funerary archaeology for Later Prehistory*
- 1.–2.12.2016: UK-Gespräche “Get Together” / Workshop: *Let the dead speak for the living – Late Bronze and Early Iron Age burials in Southeast Europe – theoretical perspectives in Balkan Archaeology*

List of current and planned projects:

1) databases / (electronic) publications:

Cremation Bronze Age Burials (CBAB) – Creation of database

The aim of this project is the coordinated assessment of the European phenomenon of the cremation burials in the Late Bronze Age based on a shared database, a comparison of local and partial analyses of cemeteries, anthropological analyses as well as theoretical considerations of funerary rituals.

Thanks to the cooperation with the research group *Digital Archaeology* and the *Austrian Centre for Digital Humanities*, the first test version of database app CBAB (Cremation Bronze Age Burials) was launched by the end of 2016. A list of criteria for the designated database had already been developed in the course of preliminary studies, with archaeometric and anthropological analyses as fundamental components. During the initial phase, several junior researchers started filling the data base with data from various sites (associated young researcher Verena Tiedtke). Throughout 2017, the database will become accessible for colleagues from different European regions.

In October 2017, CBAB will be presented at the international conference “Cremation Burials in Europe between the 2nd millennium BC and the 4th c. A.D. – Archaeology and Anthropology” in Munich.

Team: M. Gavranović, St. Gimatzidis, M. Lochner, K. Rebay-Salisbury

Thunau am Kamp – a fortified hilltop settlement of the Urnfield Culture

This project is part of the analysis of excavations carried out between 1965 and 2003 (director: H. Friesinger, E. Szameit), which began in the 1980s. The large number of finds from over 430 excavation trenches, dug over the whole extent of the 20 ha complex, comprises over 100,000

individual objects. The finds have already been inventoried and categorized; a large part has been drawn and parts of the sections/plans of contexts have been digitized. The final publication of the overall results will be prepared by M. Lochner for an electronic publication.

The extensive collection of data and interpretative results, amongst them representative findings and small finds, will be published online and secured in a digital archive for the long-term (Project “Thunau-Scan”, associated young researcher Michael Konrad).

PI: M. Lochner

The Late Urnfield Culture cemetery of Franzhausen-Kokoron, Lower Austria

The extensive analysis and interpretation of the 403 cremation graves with approximately 1600 individual objects includes a catalogue and photographic material (overview plan, photographs and drawings of finds and contexts), which is available as digital, interactive open-access publication via the Austrian Academy of Sciences Press.

An update and supplementation of the data (plates of characteristic types, results of the physical anthropological assessment) and a re-launch of the graphical user interface is being prepared in collaboration with the publishing house (<http://epub.oeaw.ac.at/franzhausen-kokoron2/>).

To provide an opportunity to combine the database with other, thematically similar data sets, it was mapped using the CIDOC-CRM ontology. A publication of the data mapping in xml and rdf is planned in the near future. The project is integrated in the ARIADNE programme.

Principal Investigator: M. Lochner

Urnfield Culture in Lower Austria

The book project with contributions from numerous authors will include about 350 pages with colour illustrations and diagrams and appear in the series ‘Archaeology in Lower Austria’, published by the Austrian Academy of Sciences Press in 2018.

Principal Investigator: M. Lochner, Funding: Lower Austria

Urnfield Culture Bibliography

Bibliographic data on the Austrian Urnfield Culture can be accessed online via the OREA website and is constantly updated. An extension to include regions of Southeast Europe has been initiated.

2) *Ongoing projects:*

The social status of motherhood in Bronze Age Europe

PI: K. Rebay-Salisbury; project member: D. Pany-Kucera, FWF-Stand-alone project, 1.1.2015–31.12.2017

and

The value of mothers to society: responses to motherhood and child rearing practices in prehistoric Europe

Analysing the link between reproduction and women’s social status, the projects explore social responses to pregnancy, birth and childrearing from the late Neolithic to the late Iron Age (c.3000–15 BC) through case studies in central Europe. The FWF-funded pilot study centres on developing a methodology of differentiating mothers from non-mothers in the skeletal record and focuses on large, Bronze Age cemeteries in Lower Austria. The ERC-funded diachronical study expands both chronologically and thematically to write the history of motherhood over the last three millennia BC.

Innovative archaeological and bio-anthropological methods will be applied to recently published cemeteries. Archaeological methods include the analysis of graves of infants, pregnant women, as well as double burials of women and children and a reconstruction of their social status. Anthropological methods include the palaeo-pathological reassessment of women’s and infants’ skeletons, tooth cementum analysis of selected individuals, isotope analyses to assess infant feeding practices and aDNA analyses to clarify genetic relationships between buried individuals and to determine the sex of infants.

Activities in 2016 included:

- Anthropological analysis of skeletal collections (Unterhatzenthal, Schleinbach, Franzhausen, Fels am Wagram, Pottenbrunn and Zwingendorf), TCA and DNA analysis of selected individuals.
- Invited lectures (7.10.2016, Hanover, Germany; 21.3.2016, Belgrade University, Serbia)
- Conference contributions (29.9.2016, *Multiple femininities – multiple masculinities* (Klement, NÖ); 2.9.2016, 20th Meeting of the European Association of Archaeologists (Vilnius, Lithuania); 14.10.2016, LI riunione scientifica IIPP (Forlì, Italy); 20.6.2016, *The End of the Spectrum: Towards an Archaeology of Marginality* (London); 21.5.2016, *Big Men or Women? Neue interdisziplinäre Ansätze der Frauenforschung für die Eisenzeit Mitteleuropas* (Berlin))
- Organization of the Workshop *Multiple femininities – multiple masculinities. The diversity of gendered identities in the Bronze and Iron Ages* (29.–30.9.2016, Klement, NÖ, with P. C. Ramsel) and poster exhibition at the Museum of Prehistory, Nußdorf ob der Traisen, NÖ (Tag des Denkmals 25.9. 2016).
- Publication of two papers and one book (*The Human Body in Early Iron Age Central Europe*, London/New York, Routledge)

PI: K. Rebay-Salisbury; project members: R. B. Salisbury, M. Spannagl-Steiner, M. Fritzl, project manager: B. Saringer-Bory, ERC Starting Grant Project, 1.7.2016–30.6.2021

Late Bronze Age metallurgy in the western Balkans

The project aims to investigate metal producing Late Bronze Age societies in the western Balkans and to reveal their intermediary role in the supra-regional exchange networks between Central Europe (Urnfield culture) and the Mediterranean World. By using various chemical-analytical and archaeological methods, the investigation will develop new idea about the importance, management and use of local ore resources (Fig. 22).

After a successful pilot phase (November 2014–March 2015) and fruitful cooperation of the institutions OREA, VIAS and regional museums in Travnik and Doboj (Bosnia and Herzegovina), the following activities took place in 2016:

- Publication of the peer-reviewed paper with the first results from the pilot phase (M. Gavranović, M. Mehofer 2016)
- In July 2016, M. Gavranović and M. Mehofer prospected several sites and mining regions in Eastern Serbia and Central Bosnia and arranged cooperations with the Regional Museums in Bor and Negotin (Serbia), the Regional Museum in Zenica (Bosnia), the National Museum of Bosnia and Hercegovina in Sarajevo and the Faculty of Mining, Geology and Petroleum Engineering in Zagreb (Croatia)
- Submission of two applications for long term investigations (*Social impact of metallurgy in western Balkan: an interdisciplinary study of social transformations in the Late Bronze Age*, FWF – Start programme and ERC – Starting grant)

PI: M. Gavranović; key researcher: M. Mehofer



Fig. 22 M. Gavranović and M. Mehofer during the inspection of the copper ore mine near Kreševo, central Bosnia, July 2016 (photo: OREA/VIAS)

Burial

The project focuses on the analysis and interpretation of Late Bronze Age archaeological remains from the contact zone between the Carpathian Basin and the Balkans. This area plays a key role, both geographically and culturally, in connecting the European continent to the Aegean-Anatolian World. Starting point of the investigations is the cemetery and associated settlement of Dolina at the Croatian bank of the river Sava.

Activities in 2016:

- Recording and analysis of finds and features from the previous excavations in Dolina (radio-carbon dating of organic material, archeometallurgical and lead isotope analysis and residue analysis of the pottery)
- Three-week excavation campaign in the settlement area in Dolina in November 2016 (together with Institute of Archaeology Zagreb) and geomagnetic prospection of the site Završje (hilltop settlement) in cooperation with the Museum in Slavonski Brod, Croatia
- Recording of finds from northern Bosnia in Museums in Bijeljina, Dobož and Orašje
- Co-Organization of international conferences in Vienna (*Let the dead speak for the living: Late Bronze and Early Iron Age Burials in Southeast Europe, 1st–2nd December*) and Sarajevo (*Perspectives on Balkan Archeology – The Early Iron Age: Methods and Approaches, 8th–9th April*) and presentation of the first preliminary project results in two respective lectures
- Publication of three papers and submitting of one further paper with the results of the accomplished actions

PI: M. Gavranović, Marie-Curie Programme/EU (from 1.9.2015)

Securing resources, power and cult in Stillfried?

The project is devoted to the question of whether the central site Stillfried also had the function of a supra-regional grain storage space, which was accompanied by elaborate rituals (Fig. 23). The remarkably high density of cone-shaped (storage) pits with similar filling patterns gave rise to these considerations; particularly the depositions of wild and domesticated animals in these pits are exceptional. In the framework of this project two young researchers are working and currently preparing a BA and MA thesis (B. Biederer, T. Jachs).

In 2016, the focus was on the analysis of the cone-shaped storage pits with the detailed reconstructions of the actions that led to the storage pit: from the construction, the utilization phase,



the deliberate filling and later interventions. Based on these sources T. Jachs created new profile drawings with integration of pictograms for the finds and new layer labels. T. Prohaska (VIRIS Institute) made Sr-isotope studies of human skeletons from the late Urnfield settlement phase in Stillfried.

PI: M. Lochner; key researcher: M. Griebel, project member: B. Biederer, FWF-stand-alone project (1.11.2015–31.10.2018)

Fig. 23 Hillfort settlement Stillfried an der March: Cone-shaped storage pit, excavated in 1985 in the western part of the “Hügelfeld” near the western wall. The lower part of the 1,82 m deep pit measured 3,66 m. The feature was secondary filled with humus material and burned object remains (© Stillfried Archive, Land NÖ)

The Early Iron Age site of Polichni in Thessaloniki

A total of approximately 1021 graves including cremations and inhumations have been unearthed at the Early Iron Age western necropolis so far. A detailed documentation is available from the excavation campaigns, which spanned several years. Thanks to funding by INSTAP in 2011 and 2012, several hundreds of objects were already drawn and photographed; the ceramics were further subject to typological and petrographic analyses.

The aim of the project is the final publication of the excavation campaigns so far. The site will further provide the opportunity to undertake modern, detailed and multi-disciplinary excavations in the future to back the research results so far.

Activities in 2016:

- Submission of the FWF stand-alone project “Death and burial between the Aegean and the Balkans”
- Recording of material in Greece: Argilos (cooperation Uni Montreal, Kanada) and Mende (in the context of the publication for the project “Early Greek Colonisation in Macedonia and Italy”), Greece
- Co-Organization of an international conference in Vienna (*Let the dead speak for the living: Late Bronze and Early Iron Age Burials in Southeast Europe*, 1st–2nd December)
- Conference contributions (6.2.2016, *Analysen vor- und frühgeschichtlicher Keramik: Methoden, Anwendungsbereiche, Auswertungsmöglichkeiten* (Hamburg); 20. und 21. Mai 2016, *Big Men or Women. Neue interdisziplinäre Ansätze der Frauenforschung für die Eisenzeit Mitteleuropas* (Berlin); 30.11–2.12. 2016 *Let the dead speak for the living. Late Bronze and Early Iron Age burials in Southeast Europe* (Vienna))
- Publication of two papers and submitting of eight further papers and one edited conference volume.

PI: St. Gimatzidis, INSTAP, FWF-Stand-alone project

The Early Urnfield Culture cemetery of Inzersdorf ob der Traisen, Lower Austria

Despite grave robbing in antiquity, the 273 urn burials and scattered cremations of the cemetery were found exceptionally well equipped with grave goods (Fig. 24). The analysis and interpretation of the cemetery will be carried out by several researchers over a time-span of three to five years, depending on individual research emphases and with the help of scholarships (e.g. Doctoral Fellowship Programme).

Since 2016 M. Fritzl and H. Aichinger are preparing MA theses on the basis of this material. M. Fritzl is currently assembling the catalogue of grave goods and contexts.

PI: M. Lochner



Fig. 24

Inzersdorf ob der Traisen, grave 210: The urn in the south-west with cover (fragments of a pot) contains cremation remains of a 31–50 years old man. Two smaller vessels with cylindrical neck and handles (in the front) are representing grave goods. The cremation remains of one further, 7–12 years old individual were discovered in the grave pit layers (© BDA)

Human and animal depositions – sacrificial cult in Stillfried?

In this project, which started in 2011, selected findings of large storage pits including human and animal depositions were analyzed and interpreted, including the reconstruction of stratigraphic and depositional sequences as well as the application of natural science approaches, to help understanding background and practice of ritual actions. The FWF project was finished December 2015. Two articles are published in *ArchA* 99, 2015. The final monograph is being prepared to be published in the series MPK in 2017.

PI: I. Hellerschmid, FWF-stand-alone project

Main cooperation partners of the listed projects:

Anthropological, Zoological and Prehistoric Department of the Natural History Museum in Vienna, Vienna Institute of Archaeological Science, Department of Botany and Biodiversity Research/University of Vienna, VIRIS Laboratory/University of Natural Resources and Life Sciences, Institute of Archaeometry/Technical University Vienna, Federal Province of Lower Austria, Department of Archaeology/Austrian Federal Monuments Office (BDA), Mickiewicz University Poznan, Poland, Curt-Engelhorn-Centre Archaeometry, Mannheim, Germany, University of Durham, UK, Institute of Archaeology, Zagreb, Croatia, Institute of Archaeology, Belgrade, Serbia, Regional Museums Travnik and Doboj, Bosnia and Herzegovina, Ephorate of Prehistoric and Classical Antiquities, Thessaloniki, Greece.

New cooperations started in 2016:

S. Stefanovic, University of Belgrade, Z. Siklósi, Eötvös Loránd University, Budapest, V. Kiss, Hungarian Academy of Sciences, K. Šabatová, Masaryk University, Brno, Czech Republic, J. Appleby, University of Leicester, M. Louise Stig Sørensen, University of Cambridge, Museum Brodskog Posavlja, Slavonski Brod, Croatia, Faculty of Mining, Geology and Petroleum Engineering in Zagreb, Croatia, National Museum of Bosnia and Hercegovina in Sarajevo, Bosnia-Hercegovina, Museum of Semberija, Bijeljina, Bosnia-Hercegovina, Regional Museum in Zenica, Bosnia-Hercegovina, Museum of Krajina, Negotin, Serbia, Museum of Mining and Metallurgy in Bor, Serbia.

Highlights 2016

- Organization and hosting of three international workshops and conferences:
 - *Archäologische Strukturen – Urnenfelderzeitliche Grabungen und Forschungen (13.–8. Jh. v. Chr.)* (“UK-Gespräche”, March 2016)
 - *Multiple femininities – multiple masculinities: the diversity of gendered identities in the Bronze and Iron Ages* (ERC-starting Grant, September 2016)
 - *Let the dead speak for the living – Late Bronze and Early Iron Age burials in Southeast Europe – theoretical perspectives in Balkan Archaeology* (“UK-Gespräche”, December 2016)
- Start of a new UCN project: *Cremation Bronze Age Burials (CBAB) – Creation of database app* (Team: M. Gavranović, St. Gimatzidis, M. Lochner, K. Rebay-Salisbury, in coop. with ACDH)
- UCN created a common network platform for junior researchers associated with OREA and specialized in Late Bronze- and Early Iron Age. Furthermore the members of UCN team established in 2016 successful 13 new cooperations with international specialists from Central and Southeast Europe

PLATFORM: HISTORY OF ARCHAEOLOGY
(coordinated by Michaela Zavadil)

Objectives

Research into the history of their own discipline played for a long time a minor role for archaeologists. In recent years interest has increased noticeably and studies concentrate not only on the beginnings of archaeology, but also on its recent past. Following this trend the platform “History of Archaeology” was established in 2015. It brings together colleagues working on different topics dealing not only with the history of archaeology and the biographies of archaeologists but also with the history of the former commissions. The Prähistorische Kommission and the Ägyptische Kommission were among the oldest commissions within the Academy (founded in 1878 and 1907), whereas the Mykenische Kommission – established in 1971 – was comparatively young.

Current research programme

According to the widespread interests of the members of the platform research was related to various topics:

Ernst Czerny concentrated on the impact of Egypt and Egyptian art on Austrian painters in the 19th and early 20th century: In the years 1842 and 1844/45 Hubert Sattler (1817–1904) visited Palestine, parts of Syria and Alexandria as well as Egypt and Nubia. According to current knowledge he was the first Austrian artist who depicted the Nubian monuments. Sattler produced a large number of sketches and drawings on site; after his return he used them to produce large-format oil paintings. On the other hand the historical painter Adolf Hirémy-Hirschl (1860–1933) travelled 1882–1884 *inter alia* to Egypt. In contrast to Sattler he was less concerned with faithful depictions of Egyptian antiquities, and so in Hirémy-Hirschl’s oeuvre Egyptian influence is discernible in the topics he chose for his paintings. E. Czerny spent one week at the Österreichisches Historisches Institut in Rome to study the personal papers of Adolf Hirémy-Hirschl. The results of E. Czerny’s research were presented in two lectures: *Die Macht der Visualisierung: Ägypten und Nubien im Werk des weltbereisten Landschaftsmalers Hubert Sattler* (18. 5. 2016, Museum August Kestner, Hannover, within the supporting program of the exhibition *Macht und Ohnmacht. Pharaonen, Cäsaren, Fürsten, Bürger*), and *Traces of the Egyptian Experience in the work of Adolf (Hirémy-)Hirschl, Student of L. C. Müller at the conference Egypt and Austria XI. In search of the Orient*, Vienna, Kunsthistorisches Museum, 20.–24. 9. 2016.

Brigitta Mader continued her research on the history of the Prähistorische Kommission during the years 1938–1948. The project *Archäologie und Ideologie. Die Prähistorische Kommission der Österreichischen Akademie der Wissenschaften zwischen 1938 und 1948* has been subsidized by the Stadt Wien. It deals with the history of the Prähistorische Kommission in the Nazi era, when Oswald Menghin (1888–1973) was its chairman and considered it a task of prehistoric research to provide “[...] wesentliche Beiträge zum nationalsozialistischen Weltbilde”. The project aims therefore



Fig. 25 Portrait of Anton Prokesch von Osten, diplomat, officer and pioneer of Egyptology in Austria, by Joseph Tunner, 1847 (© Stadtmuseum Graz)

at a study of the Commission's structure and activities: Show they changes through ideological influence? Was research exploited for national socialist purposes? Are there lasting effects and consequences for modern prehistoric archaeology?

E. Czerny and B. Mader took part in the international symposium *Anton Prokesch von Osten. Sammler, Gelehrter und Vermittler zwischen den Kulturen*, which was organized by the Universalmuseum Joanneum (Department Archaeology & Coin Cabinet), the Karl Franzens Universität Graz (Institute of Archaeology) and the Österreichische Urania für Steiermark (20.–22. October 2016) (Fig. 25). E. Czerny gave a paper on „Anton Prokesch von Osten und sein Beitrag zur frühen Ägyptologie“, whereas B. Mader spoke about “Anton Prokesch von Osten als ‘Geburtshelfer’ der k.k. Zentralkommission für Denkmalpflege in Wien”.

Michaela Zavadil focused on various aspects concerning her research on Heinrich Schliemann (1822–1890) and his employees.

She spent one week in Berlin (Evangelical Central Archives and Staatsbibliothek) to continue her archival work on the biography of Marie Mellien (1851–1904), who as a young woman acted as teacher of Schliemann's daughter Andromache (1871–1962). In her later years she played an important role in the peace and women's movement. During a stay in Athens M. Zavadil conducted research on the Heinrich Schliemann Papers which are kept in the Archives in the Gennadius Library (American School of Classical Studies at Athens). There she concentrated on the one hand on the correspondence between Schliemann and Mellien and on the other hand on sources concerning Schliemann's connections to Vienna. Schliemann stayed in touch not only with numerous archaeologists, philologists and architects, but also bought for his residence in Athens furniture, carpets, curtains and a piano in Vienna (Fig. 26).



Fig. 26 Emil Streicher, invoice for the piano bought by Schliemann (© ASCSA, B 83, No. 803a)

Highlight 2016

The international conference *Egypt and Austria XI. In search of the Orient* brought together contributors from nine European countries and from Egypt. It was organized by Ernst Czerny in cooperation with the International Research Group “Egypt & Austria” and the “*Egyptian and Near Eastern Department*” at the Kunsthistorisches Museum Wien and took place at the premises of the KHM from 20.–24. 9. 2016. The program scheduled 30 lectures; the publication of the proceedings is in preparation.

ACROSS ANCIENT BORDERS AND CULTURES

(Project leader: Julia Budka)

Objectives of the Research project

The research project *Across ancient borders and cultures* (START project J. Budka) focuses on settlement patterns in Northeast Africa of the 2nd millennium BC based on the detailed analysis of material remains. The relevant case studies are plotted across ancient borders (Abydos and Elephantine in Egypt; Sai Island in Egypt) and are of diverse environmental and cultural precon-

ditions, but show a correspondence with the archaeological remains datable to the 18th Dynasty. Up to now, no attempt has been made to explain this intriguing situation in detail. Interactions and mutual influences between the areas of Pharaonic Egypt, on the one hand, and the African Kingdom of Kush (Kerma) on the other hand, have not escaped the attention of modern researchers, but the precise character of these interrelationships is still unknown.

The focus of the project is the site of Sai Island as the prime example for domestic life of New Kingdom Egypt (c. 1539–1077 BC) in Upper Nubia. Sai has only partially been explored until now and still offers enormous potential. Whether this settlement can be evaluated as an Egyptian microcosm despite its location outside of Egypt will be tested at the micro-spatial level. The major aim is to establish “standards of living” for Sai on the basis of the material culture and architecture and compare these systematically with data from Egypt. Data from the town of Sai are complemented by new excavations in the contemporaneous pyramid cemetery.

Current research

Sai Island

The 2016 field season on Sai Island lasted from December 31 2015 to March 12 2016. Excavations were carried out in three areas in the Pharaonic town (SAV1 East, SAV1 West and SAV1 Northeast) and in the New Kingdom cemetery SAC 5.

Based on the results from the 2015 season, an eastern extension (10 × 6 m) was added to Square 1S in SAV1 West, labelled as Square 1SE. Several small mud brick buildings were exposed and feature 123 (extending into Sq. 1S) was completely excavated, yielding an infant burial from a later phase of use of the structure. As proposed in 2015, the earliest phase of occupation at SAV1 West seems to be contemporaneous to the building of the town wall and dates to the mid-18th Dynasty. There is clear evidence for several phases of use within the 18th Dynasty (Fig. 27).

At SAV1 East, extensions were added towards the western and southern part of the site (new Squares 4B, 4C and 4B1). Within Square 4, the western part of feature 15, a large subterranean room lined with red bricks, was fully excavated. Pottery and seal impressions found below the wall 44 of Building A set into this cellar support the dating of the corresponding building phase to the later reign of Thutmose III. Extensions in the new Squares 4B, 4C and 4B1 yielded *in situ* remains of large mud brick

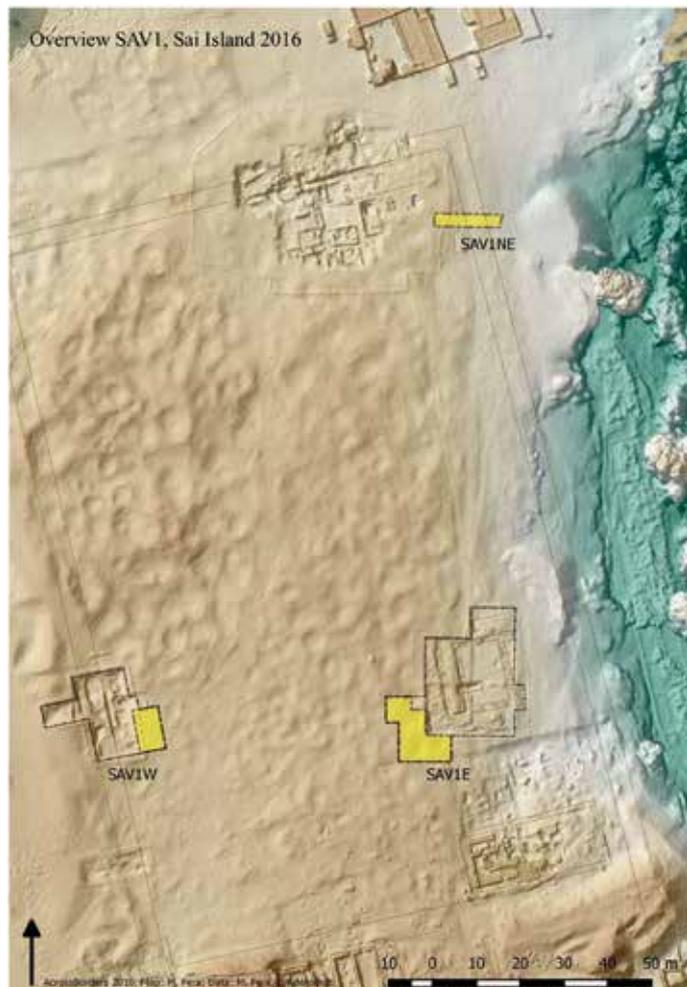


Fig. 27 Overview working areas in Sai Island New Kingdom town, 2016 (map: Martin Fera, © Across Borders)



Fig. 28 Example for in situ situation in main burial chamber of Tomb 26 (orthophoto: Martin Fera, © Across Borders)

magazines with schist pavements. Several building phases within the 18th Dynasty could be traced, especially of the early and mid-18th Dynasty. All in all, further proof was gathered that sector SAV1 East has much in common and shows many parallels to the southern area of the town, SAV1, excavated by M. Azim in the 1970s.

As reported in 2014, the eastern part of the New Kingdom enclosure wall was presumably running along the sandstone cliff, as indicated by the SIAM magnetometric survey, geological observations and our digital elevation model. To test this assumption, a 15 × 3 m trench was excavated to the east of the site SAV1 North (called Trench 1 of SAV1 Northeast). Remains of brickwork associated with mid-18th Dynasty pottery can be interpreted as the town enclosure wall and enable us to calculate the Pharaonic town's exact east-west width.

In addition to the excavation, kite photography of the Pharaonic town and the cemetery was conducted. A geoarchaeological survey in the vicinity of the New Kingdom town site and to the south of Gebel Abri was successfully undertaken. This survey took the form of hand auger profiles, as well as opportunistic prospection of exposed and available sections and quarry outcrops. Furthermore, the micromorphological sampling programme was continued, focusing on the 18th Dynasty occupation in SAV1 East, but also testing some deposits in SAV1 West.

Both pottery and objects were processed in 2016, documented by photos and drawings and described in the Filemaker database with currently more than 4600 entries. The focus was on the new material from SAV1 East and SAV1 West – over 400 finds have been registered and photographed. Large amounts of the newly excavated pottery were processed in sherd yards at the sites (430 baskets from SAV1 West, 615 baskets from SAV1 East).

Work continued in the large New Kingdom cemetery SAC 5 (February 13 to March 11) in Area 2, focusing on tomb 26 discovered in 2015. This tomb was found looted at the beginning of the season – the backfilling of the shafts were taken out during May 2015, the main burial chamber was entered and some deposit along the south wall towards the east of the chamber was removed, but the damage was not severe. Excavation work focused on the cleaning of the deposit in the burial chamber (feature 2) – a minimum of 10 individuals were documented from different levels reflecting the long time-span of use of the tomb from Thutmoside times to the Napatan era, comprising Ramesside and Pre-Napatan burials. A not yet excavated chamber was found hidden in a deep trench along the north wall of feature 2 – it is still completely filled with flood deposits and will be excavated in 2017.

In a large part of area 2 towards the south and east of tomb 26, a complete surface cleaning was conducted, providing proof that this sector of the cemetery is void of tombs, possibly stressing an elaborate position and the high importance of tomb 26 (Fig. 28).

Scientific analyses of bones and dental tissue were undertaken to explore the origin of people from Sai (in cooperation with the University of Natural Resources and Life Sciences, Department of Chemistry – VIRIS Laboratory). AcrossBorders is presently analysing the systematic variation in the isotopic composition of strontium in the environment of Sai, a method now widely used in archaeology, especially for tracing human and animal migration. The isotope map of the island will provide a basis for further interpretation of the autochthony or allochthony of the skeletal remains from Tomb 26.

Elephantine

The 2016 season on Elephantine lasted from October 19 to December 1 2016 and was undertaken in cooperation with the Swiss Institute in Cairo. Excavations were conducted in House 55; a micromorphological sampling programme was implemented and 30 samples of floor levels were taken. The exceptionally well preserved building House 55 in sector BVIII offers much potential not only for comparisons with Sai, but also as case study for the complex use-life of New Kingdom structures in Egyptian towns.

The study on the New Kingdom pottery from House 55 was continued in 2016. Both ceramics from the last season (45th season) and from the current excavations (46th season) were studied. The two main working steps conducted during the 2016 season were: 1) documenting the statistics and establish the dating for pottery from house 55; 2) drawing and photographing of the material.

The processing of a total of 410 ceramic assemblages from the 45th season and the current 46th season was carried out (40.000 sherds with more than 10.000 diagnostics). More than 25 complete vessels were found *in situ* and studied in detail. A total of 350 significant diagnostic sherds and complete vessels were drawn. 400 new entries were created in the pottery database.

STUDIES ON ANCIENT EGYPTIAN COMPOUND NOUNS (APART fellowship Roman Gundacker)

Objectives

The main research objective is to identify and to analyze linguistically Egyptian compound nouns. This requires the meticulous evaluation of hieroglyphic, hieratic and demotic writings of possible compound nouns and the search for offspring in Coptic or Egyptian Arabic and for vocalized renderings in cuneiform, Hebrew, Aramaic, Greek, Meroitic and Old Nubian texts. Besides examining morphological and semantic properties of the individual words, a comprehensive theory on the formation and linguistic interpretation of the phenomenon of compounding as such is being developed. Beyond linguistic aspects, evaluation of compound nouns, many of which denote key concepts of Egyptian elite culture, will also tackle the value of compound nouns for the determination of the Egyptians' mindset at the dawn of Egyptian civilization in the 4th and 3rd millennium B.C.

Current research

In 2016, evaluation of dictionary databases and searching text publications continued. During a stay in Chicago (March–April), the archives of the “Chicago Demotic Dictionary” were consulted and many passages of texts were evaluated with the aid of the dictionary staff, in particular Janet H. Johnson and François Gaudard, who deserve sincere gratitude for their support. Based on these newly evaluated materials, the identification of numerous morphological compounds was secured with additional writings (phonetic or otherwise decisive). As a result, the total of morphological compounds increased to 150 (securely identified or highly probable examples).

Further research focused on aspects of the linguistic development of morphological compounds and on the impact on the understanding of the cultural setting:

Above all, earlier research on the phenomenon of dropping and, in part, replacing of morphological compounds with neologisms (mostly juxtaposita) was advanced. Above all, there is a clearly determinable tendency to give up morphological compounds from the early 2nd millennium BC onwards. This is fully in line with earlier observations that no morphological compound can be proved to originate after the 3rd millennium BC. Furthermore, morphological compounds only survived into later phases of the Egyptian language if they displayed certain morphological properties and if they formed part of the specific idiom or technical vocabulary of elite culture (royal ideology and religion). Furthermore, there is a limited number of morphological compounds among zoonyms, phytonyms, anthroponyms and toponyms, all of which can be characterized as relicts.

Among those morphological compounds, the origin of which can be traced to particular sites or regions (i.e., thirteen toponyms and six theonyms within Egypt), dialectal features, e.g., Upper Egyptian *jb* vs. Lower Egyptian *jbw* (Old Kingdom: **lbw*) “heart”, and differing vocalization patterns, e.g., Upper Egyptian *wpw.t* ~ **wǐp(ǎ)wǎt* vs. Lower Egyptian (or Fayumic) *wpw.t* ~ **wǎp(ǔ)wǔt* “opening”, are extant. This kind of shibboleths is well-suited to serve as the starting point for solid evaluation of dialectal features of Egyptian in the 4th and 3rd millennium BC.

In-depth evaluation of Egyptian ocean names revealed that they all follow a common morphological pattern and that, therefore, they all should be assigned to a common period of creation. For four out of seven ocean names, written evidence proves that they were created in the first half of the 3rd millennium BC, one more can be associated with this group on grounds of metaphorical circumscriptioins involving plays on words, and two more can be assigned conjecturally. Co(n)textual evaluation of the relevant text passages and research on the cultural background in combination with consultation of recent palaeo-climatological research led to the result that the Egyptians named the Aegean Sea, the southern Mediterranean Sea, the Red Sea, another ocean to the east (most likely the Indian Ocean around the Horn of Africa) and a body of water to the west, which most likely can be identified as megalake Palaeo-Tchad, on common grounds. Two more hydronyms are not yet assigned to particular lakes within northern Africa or to adjacent parts of the sea. Further research will focus on additional toponyms, including mountains and other landscape formations, in order to unveil the geographical scope of Egypt and her earliest political and cultural elite.

Future studies will continue the search for additional material in order to determine and recognise more morphological compounds, to identify them with greater security based on additional decisive writings and to evaluate them both linguistically and historico-culturally. One key task is to secure interim results which indicate that no morphological compound was created after the late 3rd millennium BC. Given that this hypothesis, which until now stands unchallenged, holds true, morphological compounds provide a unique insight into the Egyptian mindset of the 4th and 3rd millennium BC, which is the all-important formation phase of the Egyptian state and civilisation.

EGYPTIAN RELATIONS WITH THE LEVANT IN THE 4TH AND 3RD MILLENNIUM BC (APART fellowship Felix Höflmayer)

Objectives

The APART-project *Egyptian relations with the Levant in the 4th and 3rd millennium BC* aims to reassess the interregional interconnections between the Levantine region and the Nile Valley based on the new radiocarbon-backed high Early Bronze Age chronology. This period encompasses state formation processes in Egypt during the Proto- and Early Dynastic Period, the Old Kingdom, and its collapse at the end of the 6th Dynasty. The Levant saw the so-called Egyptian “colonies” at the beginning of the Early Bronze Age, the rise of urbanism during Early Bronze II and III, its collapse, and the advent of the de-urbanized Early Bronze IV (or Intermediate Bronze Age).

The rapid climate change around 2200 BC (the 4.2 ka BP event) was often thought to be a trigger or a contributing factor to the end of empires, states, and urbanism (e.g. the Akkad-empire

in upper Mesopotamia, the collapse of the Egyptian Old Kingdom, and the end of urbanism in the southern Levant). However, recent radiocarbon dating studies by Johanna Regev *et al.* and Felix Höflmayer *et al.* on Early Bronze Age chronology conclusively showed that the “collapse” of urbanism at the end of Early Bronze III was an extended process and should be raised at least to c. 2500 BC (instead of 2300/2200 BC). The new high Early Bronze Age chronology not only challenges long held historical synchronisms, but also proposed models of societal collapse. The APART-project of Felix Höflmayer reviews the rise and collapse of the Egyptian state of the Old Kingdom, the first phase of urbanism in the southern Levant, and their mutual relations against a radiocarbon-backed absolute chronology.

Current research

Several key radiocarbon sequences have already been published, such as for Tel Yarmuth (Israel) by Johanna Regev, or Tell Fadous-Kfarabida (Lebanon), Khirbet ez-Zeraqon and Khirbet el-Batrawy (Jordan) by Felix Höflmayer.

In 2016, study on the radiocarbon determinations from Tel Yaqush (Israel) in the upper Jordan valley was begun (in cooperation with Yael Rotem, University of Pennsylvania, and Yorke Rowan, University of Chicago). An initial Bayesian model found that the transition from the Early Bronze IB to the Early Bronze II period falls to the very early 3rd millennium BC (see Fig. 29). This result is very much in line with results for other sites such as Tel Yarmuth (Israel) or Megiddo (Israel), both recently published by Johanna Regev *et al.*, as well as with Khirbet ez-Zeraqon (Jordan), publication by Valentina Tumolo (Universität Tübingen) and Felix Höflmayer forthcoming, and adds additional support for the beginning of what is usually termed ‘urbanism’ in the southern Levant around 3000 BC. Publication of the sequence of Tel Yaqush is currently in preparation by Yael Rotem, Felix Höflmayer, and Yorke Rowan.

It is of considerable interest to compare site specific radiocarbon models in order to arrive at a more nuanced development of the rise and fall of urbanism throughout the southern Levant (Fig. 30). While at Tel Yarmuth the transition from Early Bronze I to Early Bronze II

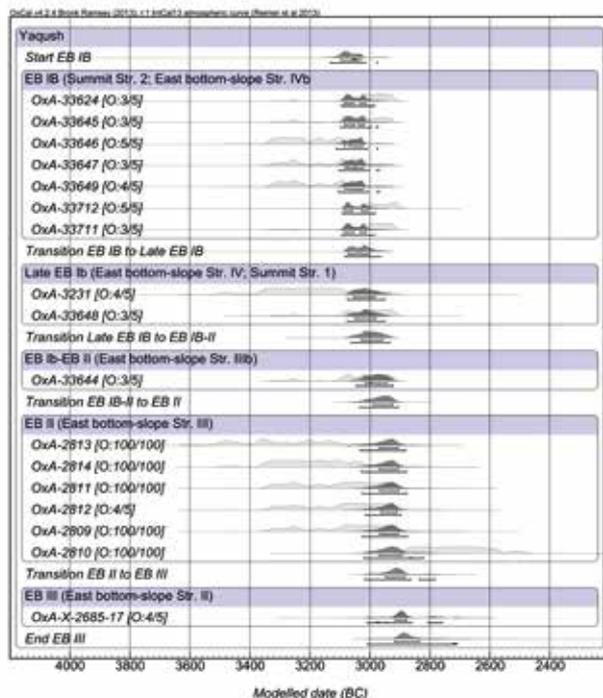


Fig. 29 Modelled radiocarbon determinations for Early Bronze Age samples from Tel Yaqush, Israel (© F. Höflmayer)

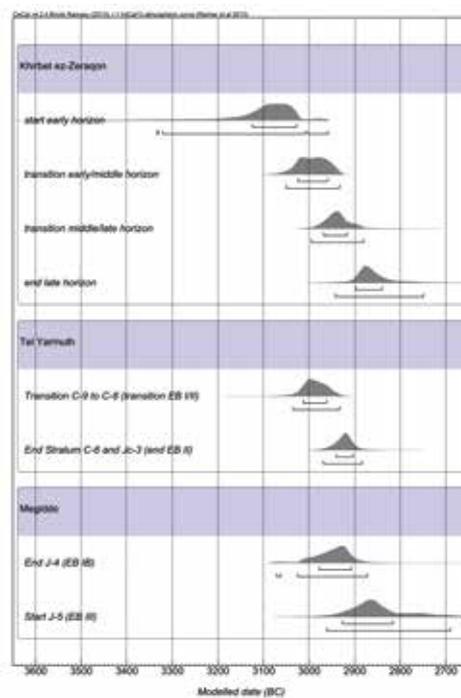


Fig. 30 Comparative chart for selected transitions at Khirbet ez-Zeraqon, Tel Yarmuth, and Megiddo (© F. Höflmayer)

falls to just after 3000 BC, as at Tel Yaqush (cf. Fig. 29), we see a slightly different picture at Tel Megiddo. Here, the Early Bronze IB seems to last until the late 30th century BC, and apparently dates to about the same time, when in Khirbet ez-Zeraqon (Jordan), the Early Bronze III was already beginning (transition middle/late horizon). At the same time, Early Bronze II is missing at Megiddo, but settlement resumes with Early Bronze III around 2900/2850 BC at the site, more or less at the same time, when Khirbet ez-Zeraqon was abandoned early in the Early Bronze III.

With these additional radiocarbon determinations at our disposal, we now start to track more minute variations in the development of individual sites than has been possible based on pottery studies alone. We are now starting to move beyond our common notion of a step-wise relative chronology. Apparently, we can no longer assume that transitions between relative chronological phases took place at exactly the same time throughout the southern Levant. Instead, we have to take more into consideration that relative chronological phases that we designate as Early Bronze IB, Early Bronze II, Early Bronze III, etc., cannot be uniformly used and applied as time periods all over the region.

Thus, we start to reconstruct the individual biographies of specific sites, and by doing this arrive at a much more nuanced picture of rise and fall of urbanism in the southern Levant that still has to be correlated with the now also radiocarbon-backed chronology for Pre- and Protodynastic Egypt as published by Mike Dee *et al.* Using a site-specific approach to the notion of urbanism allows for a more nuanced history of what was previously termed “collapse” of the Early Bronze Age urban system (e.g. by Pierre de Miroschedji). Instead, it seems that the better part of the first half of the 3rd millennium BC saw several rises and collapses of individual sites, with Arad being left already during the Early Bronze II period, Khirbet ez-Zeraqon in the beginning of the Early Bronze III and some sites, such as Khirbet Iskander (Jordan), retaining their urban outline also during the otherwise de-urbanized Early Bronze IV (or Intermediate Bronze Age).

A first view on this new notion has been presented at the 10th International Conference on Archaeology of the Ancient Near East held in Vienna in April 2016.

Aside from ongoing research on the radiocarbon chronology, work also continued on the monograph on the synthesis of the Egyptian-Levantine relations during the Early Bronze Age that also included several research stays at the Institute of Archaeology at Hebrew University of Jerusalem.

At the same time, continued radiocarbon dating on Middle Bronze Age samples from several sites (including Tell el-Burak in Lebanon and Tel Kabri in Israel) continue to challenge the current low Middle Bronze Age chronology and calls for a substantial revision (for more details, see the report on the research group “Tell el-Daba Publications”).

THE EARLY IRON AGE AT TELL ABU AL-KHARAZ, JORDAN VALLEY (Project leader: Peter M. Fischer; DOC fellowship Teresa Bürge)

Objectives

The basis of this study is an extremely well-preserved Early Iron Age compound from the Trans-jordanian settlement of Tell Abu al-Kharaz in the central Jordan Valley. This unique compound was constructed around 1100 BCE. The aims of the project were a detailed study of the material remains with a focus on the question of continuity vs. change from the Late Bronze Age to the early Iron Age and possible influences of migration on the Early Iron Age settlement of Tell Abu al-Kharaz.

Current research

The outcome of the research led to the following conclusions:

The Early Iron Age compound from Tell Abu al-Kharaz is unique in the Southern Levant. The virtually undisturbed contexts of the basement and the remains of the collapsed upper storey(s) allowed the study of a number of aspects: The analysis of the architecture and the building materials



Fig. 31 Room 10 of the early Iron Age compound, Tell Abu al-Kharaz during excavation (photo: Peter M. Fischer)

revealed that the building had (at least) two storeys, of which the lower storey – the basement – is built of stone whereas the upper storey(s) is/are of mudbrick. The unparalleled regular layout of the building indicates that it was rigorously planned before and constantly supervised during construction. This, in turn, hints at a well-organized society which settled the Early Iron Age town. The associated finds are all mainly related to domestic activities.

The almost 50 m long compound, to which an annex of 12 m to the west was attached, was built on the remains of the Early, Middle and Late Bronze Age city walls which provided a stable foundation for the compound. To the east of the compound is a defence glacis from the Early Bronze Age, which was modified and reused in the period when the building was used. The connection and integration of the building with the town's defence system, and its location at one of the most vulnerable parts of the town, are not accidental: it was a suitable place to house soldiers or other functionaries and their families. However, because of the small number of bronze objects which could have been used as weapons, it is difficult to draw clear-cut conclusions on the function of the inhabitants of the building.

Radiocarbon dates indicate that the destruction of the building cannot be dated later than around 1050 BCE. In relative terms, the Early Iron Age compound at Tell Abu al-Kharaz can be attributed to the period traditionally termed Iron Age IB in the Southern Levant.

The search for architectural parallels with the Early Iron Age structure yielded no results. There is a remote affinity to casemate structures, but the analysis of these structures highlighted a number of differences in size, layout and context, which makes an interpretation of our compound as casemate structure unlikely. The planned architecture of the compound from Tell Abu al-Kharaz and a number of other Early Iron Age sites with planned layouts contradict the traditional view of the existence of mainly unplanned and unfortified settlements in the Early Iron Age. The compound from Tell Abu al-Kharaz is most likely an *in situ* invention, which was perfectly adapted to the natural topography and used stable structures from earlier periods as foundation. As the compound is – so far – the only completely preserved building in this settlement phase, the layout of other parts of the town cannot be reconstructed (Fig. 31).

The Early Iron Age pottery and other finds at Tell Abu al-Kharaz indicate a high degree of continuity from the Late Bronze Age. On the other hand, there are a number of innovations,

which reflect an amalgamation of new, foreign, and traditional, local traits. This combination of continuity and innovation is consistent with finds from other sites in the Jordan and the Jezreel Valleys.

Foreign traits are mainly from the Eastern Mediterranean – specifically Cypriot and Aegean – spheres of culture. There are a number of Phoenician imports, whereas the Egyptian influence, which in principle was never clearly perceptible in the Late Bronze Age material from Tell Abu al-Kharaz, is negligible. Western traits are reflected in fine ceramic wares and small portable objects, which were most likely traded, together with objects which were locally produced. These include new types of cooking pots and loom weights, which indicate changes in cooking and dietary habits, and in domestic textile production.

It is clear that the settlers of Early Iron Age Tell Abu al-Kharaz were influenced by the 12th century transformations in the Eastern Mediterranean. Limited migration of individuals or families, which arrived from the Eastern Mediterranean through the Jezreel Valley, is suggested. These migrants mingled with the local population by intermarriage, which explains the amalgamation of local and foreign traits in the material culture of particular contexts. It is suggested that the migrants most likely did not arrive directly from the Mediterranean and that the migration process lasted years, decades or even generations. Therefore, it is problematic to refer to these migrants as “Sea Peoples”, as the immigrants to Tell Abu al-Kharaz had already experienced cultural changes on their way to Transjordan. However, these possible descendants of the “Sea Peoples” contributed to a rich, flourishing, well-organized and multi-cultural society at Early Iron Age Tell Abu al-Kharaz.

The PhD thesis with the title *An Early Iron Age Compound at Tell Abu al-Kharaz, Jordan Valley: Tradition, Innovation, and Intercultural Relations in the Eastern Mediterranean around 1100 BCE* was submitted at the University of Vienna in November 2015 and defended in January 2016. Currently, the publication of the thesis is in preparation, for which a one-year Post-DocTrack fellowship of the Austrian Academy of Sciences was granted.

THE ENIGMA OF THE HYKSOS

(ERC Advanced Grant Project; Project leader: Manfred Bietak)

Objectives

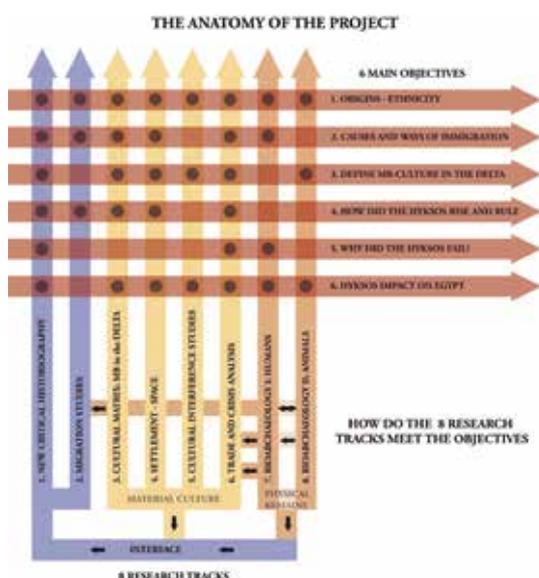


Fig. 32 Diagram illustrating the eight research tracks and the objectives (© Hyksos Enigma)

This ERC AdG project runs for five years and explores the origin, the ethnicity and the influence of the “rulers of the foreign countries” – the Hyksos, ruling the North of Egypt in the Second Intermediate Period. Therefore archaeological findings from several missions working in the Eastern Delta of Egypt have to be compared to structures and objects known from the Levant and surrounding regions.

The projected investigations will be conducted in eight interrelated research tracks, incorporating an array of archaeological, historical, theoretical and analytical approaches. Archaeological analyses, cultural interference studies and new onomastic studies are going to play an equal role as well as most up-to-date DNA and Sr isotope analyses. The aim of this interdisciplinary project is to reveal the origin of the western Asiatic population, the



Fig. 33 S. Prell, M. Bietak, H. Schutkowski, R. Matic (© Hyksos Enigma)

dialogue with the host country, the impact on the culture of the latter and finally their heritage in Egypt.

This investigation of the Hyksos phenomenon, innovative in its concept, has the potential to write a new chapter in the history of this salient region and offer an elementary model of how to use archaeological sources to learn more about history in general.

The research tracks embed also the research objectives: the main aims being to determine the geographic origins and ethnicity of the western Asiatic people living in the Delta (during the Middle Kingdom & the Second Intermediate Period), to ascertain factors and ways of immigration of that population (whether as a homogenous group or at different times and from different provenances), to define the culture of these peoples in all its aspects, to assess the interference of the Middle Bronze Age in the Levant with the Egyptian culture, to identify the mechanisms through which the Hyksos came to power, to reconstruct the mechanisms of their rule, the spatial structure of their kingdom and the nature of its internal and external relations, to distinguish the reasons why the Hyksos failed, by studying the foundations and fluctuations of economy and trade in respect to prosperity and crisis. Furthermore, economy and subsistence regimes have to be compared with the health records over the course of the time they settled in Egypt and evidence as to whether the Hyksos and the Western Asiatic population in the eastern Delta disappeared “without a trace” or whether they had an impact on the culture and spiritual world such as religion, literature and language of the New Kingdom has to be collected.

Current Research

The project started with the recruitment of the core team, a project Manager (R. Matic) and the PI's Research Assistant/Coordinator, S. Prell. Throughout the year other positions and sub-contracts were published in line with the grant agreement and filled. By the end of the year the team was almost complete with two Post-Docs, A. Mourad & S. Vilain, (RT5 + RT6) and one PhD Position, S. Gomez-Senovilla (RT4) as well as two external agreed subcontracts (H. Charaf and E. Marcus), supporting RT3 and RT6. The Post-Doc working on research for RT2 is hopefully going to complete the team mid 2017. Bournemouth University (BU), acting as the Co-Beneficiary in this project, also advertised their PhD position and their successful candidate N. Maaranen started by the beginning of autumn term. Their Post-Doc position is going to be announced in February 2017 and the successful candidate is supposed to start in late spring 2017. Various co-operations established prior to the project's start were re-confirmed



Fig. 34 H. Schutkowski, M. Bietak, A. Zink, S. Ismail, M. Binder
(© Hyksos Enigma)

and additional agreements were set up (e.g. Petrie Museum of Egyptian Archaeology (UCL), Anthropological Institute Vienna, etc.).

The project was introduced at the 10th ICAANE in Vienna with a Key Note by M. Bietak, and it was also the kick-off for the implementation meeting of the project incl. H. Schutkowski (PI of Co-Beneficiary) and other potential supporters of the project (Fig. 33). A rough work plan was outlined and various additional possibilities within this cross disciplinary project were highlighted. During 2016 the RA & PI attended various workshops, held presentations (Harvard, Yale, Krakow and Boston) and also visited Cairo to check the functionality and usage of a DNA-laboratory (Fig. 34) installed at the Egyptian Museum prior to 2007 and to organise future visits for new members of staff. Work on articles, textual research is ongoing as well as the organization of sample analyses to be carried out by the BU's staff by the end of 2017.

DEEPDEAD – DEPLOYING THE DEAD:

ARTEFACTS AND HUMAN BODIES IN SOCIO-CULTURAL TRANSFORMATIONS

(HERA Project, Project leader: Estella Weiss-Krejci; postdoctoral researcher: Sebastian Becker)

Overall Objectives

Long-dead bodies are pervasive and increasingly active participants in contemporary European society. Bodies, like those of Richard III and Miguel de Cervantes, are erupting into view with increasing frequency. Whilst offering clear opportunities for education and the promotion of heritage, such encounters with the dead can also pose unsettling questions about cultural identity, the collective past, and the shape of time. Through both literal and metaphorical interactions with the remains of the dead, societies and individuals testify to their identity in the present and their aspirations for the future. Why and how do the dead and the artefacts associated with them become flashpoints of controversy, interest, and identity for the living?

Harnessing the disciplines of literary studies and archaeology, this HERA-JRP-III funded project will examine historic and prehistoric encounters with human remains and related artefacts in England and Central Europe in order to shed light on their cultural and social power. Through a series of case studies juxtaposing distinct eras, societies and types of evidence, the project will reveal what is constant and what is locally and historically specific in our ways of interacting with the long dead. Our research will explore the relationship between long-dead



bodies and myths of national or community origin, and the ways in which they have been and are used to reinforce or challenge historical narratives. Identifying the meanings and mechanisms of past interactions with the dead and their artefacts in order to inform our understanding of present-day discoveries and dilemmas is the central goal of the DEEPDEAD project.

Fig. 35 The Sedlec ossuary, Kutná Hora, Czech Republic (photo: E. Weiss-Krejci)

Current Research of the Austrian Team

The Austrian team is leading an investigation of prehistoric and historic graves and dead bodies, which experienced disturbance, adaptation or reuse. The analysis of archaeologically documented deposits with human remains deriving from Austria will reveal a better understanding of the dynamics of and variability in engagements with the dead in prehistory and early history. The team is currently generating a site gazetteer, which includes information on deposits with worked body parts, fragmentary human remains, reuse of burial places and anciently disturbed graves. In this, we are supported by Patricia Murrieta-Flores from the University of Chester, UK, a specialist in digital humanities, who will assist us in developing protocols and innovative approaches to the application of GIS to prehistoric burial sites and their after-histories (Fig. 36).

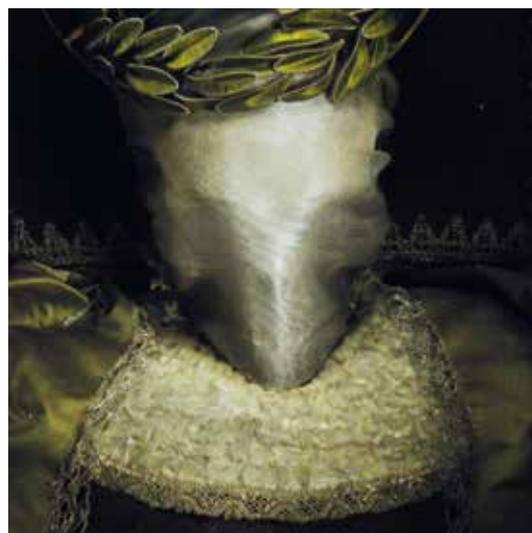


Fig. 36 Relics of St. Valentine; St. Stephen's Cathedral, Vienna, Austria (photo: E. Weiss-Krejci)

A second path of investigation addresses the question of whether all dead bodies have agency or only specific ones. The analysis is based on a few key archaeological sites from different periods, which provide long research histories spanning from the nineteenth century to the present day. The careful study of the archaeological reports, newspaper articles and schoolbooks regarding these burial sites is expected to reveal the changes in the attitudes towards archaeological dead bodies by both scientists and the public over the course of more than 150 years. The juxtaposition of these reactions during the times of the Austrian-Hungarian Empire with those of the interwar, WW II and post WW II years should provide some idea how specific political circumstances shaped the attitudes towards the long dead.

Highlights 2016

- DEEPDEAD Team Meeting, 25–26 July 2016, University of Exeter, UK.
- Eighth World Archaeological Congress (WAC-8), 28 August–2 September 2016, Kyoto, Japan. Presentation by L. Šmejda & E. Weiss-Krejci: *Contested tissues: human bodies and material culture*
- HERA Launch, 15–16 September 2016, Prague, Czech Republic.
- Workshop *Multiple femininities – multiple masculinities*, 29–30 September 2016, Schüttkasten Klement, Ernstbrunn, Austria. Presentation by E. Weiss-Krejci: *LGBTQQIA identification in archaeology: an eight letter riddle*
- Österreichische Gesellschaft für Ur- und Frühgeschichte (ÖGUF)-Symposium *Mobilität und Kulturraum*, 27–30 October 2016, Hallein, Austria. Presentation by S. Becker: *Bilder, die verbinden: Vogeldarstellungen als Kommunikationsmedium in der Urnenfelder- und Hallstattzeit*.
- Conference *Studying Urbanism in First Millennium BC (Iron Age) Germany*, 7–8 November 2016, McDonald Institute for Archaeological Research, University of Cambridge. Participation by Sebastian Becker.
- Central European Theoretical Archaeology group (CETAG), 8–9 November 2016, Bratislava, Slovakia. Presentation by Ladislav Šmejda & Estella Weiss-Krejci: *Is collecting the remains of the dead an intrinsic part of past and present human societies?*
- Conference *Gathered in Death*, 8–9 December 2016, Louvain-la-Neuve, Belgium. Presentation by Estella Weiss-Krejci: *Who is who in the grave? A cross-cultural approach*

- Theoretical Archaeology Group (TAG) 2016, 19–21 December 2016, University of Southampton, UK. Organization of Session 18 ‘Out of Sight, out of Mind? Visualisation Strategies for Evoking Memories of the Dead’. Presentations by S. Becker: *A different kind of person? Graves and grave goods as surrogates of the dead in prehistoric Europe* and by E. Weiss-Krejci: *What remains: strategies of commemorating and forgetting the dead*

Project Funding: HERA JRP III UP, Joint Research Programme III, Uses of the Past; CRP 15.055 DEEPDEAD (July 1, 2016–June 30, 2019). HERA is a research program, which is co-funded by the humanities funding agencies in 23 participating countries and the European Commission. The DEEPDEAD project has received € 1,160,116 across four partners (the Austrian share comprises € 317,870).

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Ladislav Šmejda (PI), Czech University of Life Sciences Prague, Department of Ecology, Czech Republic

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OREA Team 2016 (© OREA, photo: F. Ostmann)

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Guests and Associated scientists 2016

Kathrin Bernhardt	Vasco Hachtmann	Peter Fischer
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Julia Budka	Martina Pacher	Sigrid Deger-Jalkotzy
Stefan Grasböck	Chiara Pappalardo	Manfred Hainzmann

OREA Publications 2016

Quaternary Archaeology

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