



SPECIAL ISSUE

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# e-FORSCHUNGS BERICHTE **2019**

POTENTIAL AND PROSPECTS

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DES DEUTSCHEN ARCHÄOLOGISCHEN INSTITUTS

eDAI-F **2019**-3

## POTENTIAL AND PROSPECTS OF RESEARCH AT THE GERMAN ARCHAEOLOGICAL INSTITUTE



### Board of directors of the German Archaeological Institute



e-FORSCHUNGSBERICHTE DES DAI 2019 · Faszikel 3 · special issue

*With the establishment of the Istituto di corrispondenza archeologica in Rome in 1829, the foundation stone was laid for the German Archaeological Institute. The 190th anniversary celebration in 2019 was an opportunity for a discussion about shared research perspectives for the Institute's departments and commissions. The drafting of the research programmes and their review by the scientific committees of the various departments and commissions was accompanied in the board of directors by a discussion process focused on shared research objectives and future prospects. This discussion additionally served to determine the Institute's own position in the context of debates – taking place within various disciplines as well as beyond their boundaries – about the content, methods and tasks of archaeology in the 21st century. This document outlines basic principles as an aid for the development of collaborative research formats at the DAI and to further discuss and refine its research agendas and the vision of the future they contain.*



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### *Point of departure*

People's lives take place in history. In the past, circumstances and processes are to be found that differ radically from those of the present day, yet also form the foundations of today's world. For this reason modern archaeology examines the development of human life with its continuities and changes from its origins until the present. This is the only way in which the conditions of human existence can be understood.

For this to be possible, it is necessary to investigate the circumstances of life in human communities in all its diversity in the entire world. This includes the lives of people in the natural and human environment, how they adapt to it, exploit its topography and resources and how they change that world. A further aspect is the social organization of human societies in terms of differentiation and integration, cooperation and conflict. And it also includes the scope of experience and action that individual people have – what they experience, how they see the world, how they act in it and what the effects of this are on the local, regional and global level.

The archaeological sciences and the study of ancient cultures provide the key to a comprehensive understanding of human history. The disciplines' spectrum of methods combines finding and examining the material remains of earlier eras with analysing visually and linguistically mediated information about the past. Incorporating data from natural science analysis is a self-evident part of archaeological work, while the extensive use of modern information technology opens up new possibilities of identifying relevant connections within large volumes of data.

Archaeological research is of interest to a broad section of the public – in museums, global tourism, and various media. Depending on individual perspective, a role in this interest is played by the appeal of the unknown, familiarity with cultural heritage as part of a person's environment, and in particular the search for the historical background to the modern world including its current challenges: did today's problems – such as the scarcity of key resources or climate change – already exist in the past and if so, how were they dealt with or overcome?

Archaeology as a form of knowledge is itself historical. In addition to the

1 Excavations at the Doornkoop Ironpig Shelter site in Mpumalanga, South Africa. Among other things, resource usage and production processes of communities from the 13th millennium BCE (Later Stone Age) to the farming societies of the Iron Age are researched here. (Photo: J. Linstädter, DAI KAAK)

2 At the Great Temple of Yeha in Ethiopia, the DAI (Orient Department) and its local partners have built a museum that is scheduled to open in autumn 2020. (Photo: K. Mechelke)





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- 3 3D visualization of the city of Pergamon in the 2nd century AD based on current research results. (Model: D. Lengyel, BTU Cottbus)
- 4 Excavations in the garden of the Munyat al-Rummaniya, Spain. (Photo: F. Arnold, DAI Madrid)
- 5 Core of an African baobab tree. Dendrochronology can reveal chronological and climate information. (Photo: G. Helle, GFZ Potsdam)

scientific approach there also exist on a global level other ways and traditions of dealing with the human past in order to give it contemporary relevance. The study of social and cultural dynamics, their concepts and practices, reveals the long lines of such perceptions and interpretations of the world, and promotes an understanding of one's own and other cultures. This diversity of competing and also conflicting narratives of history and culturally determined paradigms is moreover the starting point for open-minded dialogue and indeed for critical reflection on the fundamental structure of one's own thinking. This is the only way in which archaeology as a science can credibly oppose ideological distortions of the past and the present.

### A. The DAI – Structure and Mission

According to its statutes the German Archaeological Institute has the mission

*„to carry out, advance and publish research in the field of the archaeological sciences and allied disciplines globally. It promotes diversity within specializations and disciplines, international collaboration, and the development of integrated research approaches. It contributes, on the basis of its research, to the protection, preservation and increased awareness of cultural heritage in Europe and worldwide. It maintains research infrastructures which researchers of all nationalities are free to use. It strives to preserve the unity of the German archaeological sciences in relation to the entire field of classical studies, to foster the young generation of researchers and to foster scientific cooperation in Europe and around the world. In this way it also serves the Foreign Office's cultural relations and education policy and its research and academic relations policy.“*

The DAI's scientific work is shaped and guided by the principles of integrative research themes, interlinked developments in the areas of data generation and data management, research and training, as well as a relevance to the present day, extending from the scientific, via the cultural to the political sphere.

In order to achieve these objectives, the DAI has departments in Rome,





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6 [iDAI.welt](#) <sup>↗</sup> brings together central digital tools and information infrastructures. (Graphic: DAI)

7 The DAI maintains 16 specialist libraries around the world for international communications. View of the DAI Athens library. (Photo: H. Birk, D-DAI-ATH-2015-00966)

Athens, Cairo, Istanbul and Madrid along with the Orient Department and the Eurasia Department in Berlin, the Romano-Germanic Commission in Frankfurt am Main (RGK), the Commission for Ancient History and Epigraphy in Munich (AEK) and the Commission for Archaeology of Non-European Cultures in Bonn (KAAK). Attached to these departments and commissions there are currently five branches – Baghdad, Damascus and Sana'a (Orient Department), Beijing and Tehran (Eurasia Department) – and three research units: Budapest (RGK), Lisbon (Madrid Department) and Ulan Bator (KAAK). The Head Office in Berlin comprises the central administration and a scientific department with divisions for building archaeology and natural sciences in addition to the Central Research Services (ZWD). The ZWD support the DAI's research infrastructures in both the analogue and digital forms of the archives, libraries, photographic collections and the editorial office. The digital research data infrastructure [iDAI.world](#) <sup>↗</sup> and other services operated by IT technicians and research staff provide central digital tools and data infrastructures that facilitate research and are developed in line with research needs.

Specialization in terms of disciplines and regions as well as constant presence in the form of departments, branches, research units, expedition houses and also long-term projects are key to the DAI accomplishing its tasks and are essential for the DAI's efficacy as part of the Foreign Office's cultural relations and education policies, as well as research and academic relations policies. The long-term presence in host and partner countries is vital to cooperation on a basis of trust. The DAI maintains research infrastructures such as specialized libraries that reflect the fields and disciplines represented at the individual departments and commissions. They are used by German and foreign scientists and are well-frequented places of communication and scientific cooperation; hence they also serve the government's research and academic relations policy.

A key role in promoting scientific cooperation on an international basis is played by the research and accommodation facilities that are attached to the departments and branches. As social research facilities they offer cooperation partners temporary accommodation for study purposes at the



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DAI and at the same time are the point of departure for research activities undertaken abroad by German universities.

In many countries, long-standing tradition has entrusted the DAI with exceptional monuments and sites which may also be of great importance in discourses relating to identities: Olympia, Pergamon, the Colosseum, Karakorum – Genghis Khan's capital in Mongolia –, the Pyramids of Dahshur and Göbekli Tepe in Turkey to name but a few. Individual and institutional cooperation likewise takes place on the basis of such traditions. Since its foundation in 1829, the DAI has committed itself to international cooperation in science and culture and also to vocational and specialized training. To-day this not only refers to specialist study courses, but also involves capacity building measures in the field of restoration, excavation technology, cultural tourism, etc. Through this the DAI contributes to building sustainable structures and to regional economic development. Projects aimed at the safeguarding of cultural artefacts, outreach, training, and tourism development have, in addition to their scientific value, acquired new mandatory force as a result of the internationally valid legal basis of modern archaeological research (e.g. *The European Convention on the Protection of the Archaeological Heritage, signed at Valletta, 16 January 1992*, adopted in Germany's Federal Law Gazette on 15 October 2002). These international standards are binding for the DAI.

The DAI was consequently an initiator of the Archaeological Heritage Network (ArchHerNet), which was founded in 2016. German institutions possess a wealth of expertise in protecting, preserving and raising awareness of cultural heritage, but because of federal structures and defined responsibilities this expertise has often remained restricted to Germany and/or individual federal states. The aim of the Archaeological Heritage Network is to pool this expertise on a shared platform, thereby making it more visible and utilizable in specific missions in other countries. The network also offers possibilities for learning from the work done collaboratively abroad and adapting our actions around the globe accordingly.

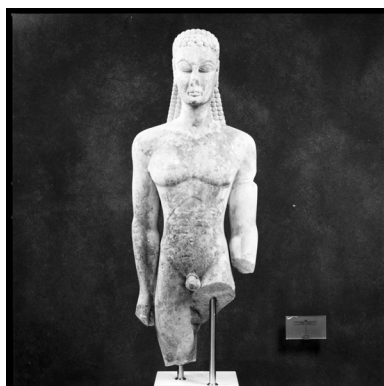
8 Valley temple and Bent Pyramid of Sneferu in Dahshur, Egypt. (Photo: DAI Cairo)

9 The basement of the arena in the Colosseum in Rome. (Photo: H. J. Beste, DAI Rome)





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**10** A large gate system once secured access to the palace city in Karakorum, Mongolia. (Photo: H. Wittersheim, DAI KAAK)

**11** The Kouros had been discovered in 2002 in the Kerameikos of Athens by the DAI Athens. (Photo: W.-D. Niemeier, DAI Athens)

**12** Specialist course for young academics at the AEK in Munich. (Photo: J. Schropp)

## B. Areas of Work

There are numerous sources that provide evidence about human activity in the past. Potsherds, great works of art, discolorations of the soil, monumental buildings, an ancient DNA sequence or an inscription can all tell us about aspects of life in the past. The scientific disciplines that work together in the process of archaeological research are equally diverse: archaeological disciplines (prehistory and early history, Ancient Near Eastern archaeology, classical archaeology and archaeology of the Roman provinces, Christian or Byzantine archaeology and Islamic archaeology), further historical sciences and disciplines within the humanities (e.g. egyptology, ancient history, construction history, epigraphy, papyrology and numismatics) and research fields involving natural sciences (such as anthropology, archaeo-zoology, archaeo-botany, dendrochronology and geo-archaeology). Integrated into historical sciences and the humanities, these disciplines at the DAI, and beyond it in collaborations, can provide the basis for a detailed study of the past in its many-layered complexity. For this reason the DAI is particularly interested that the range of highly specialized, 'minor' disciplines (e.g. palaeoanthropology, numismatics and papyrology) should be preserved. This interest is served by various programmes to foster the young generation of researchers at the DAI, ranging from practical experience and project participation to summer schools, scientific networks and jobs offering the possibility of further qualification. Together they contribute significantly to preserving the necessary diversity of disciplines in the archaeological sciences and the study of ancient cultures.

Research at and on significant archaeological sites remains central to the work of the DAI. Here, non-invasive or minimally invasive methods – from the latest remote sensing technology and geophysical prospecting all the way to drilling – play an increasingly important role. The DAI is focused on utilizing and perfecting these methods as they are key to preserving cultural heritage. All the same it is excavation that yields an incomparable wealth of finds and features and hence information about conditions of life and utilization processes in the past. Analysis of finds according to typology and chronology, in relation to production, use, meaning and deposition as well as their

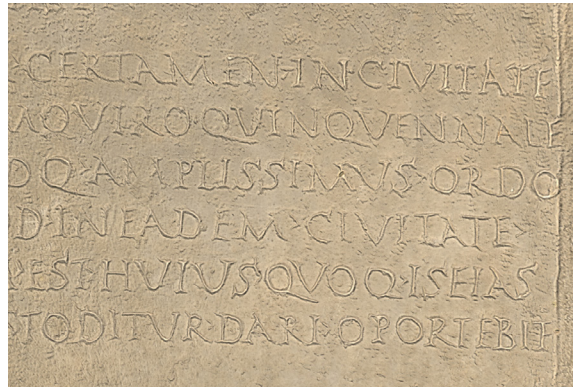




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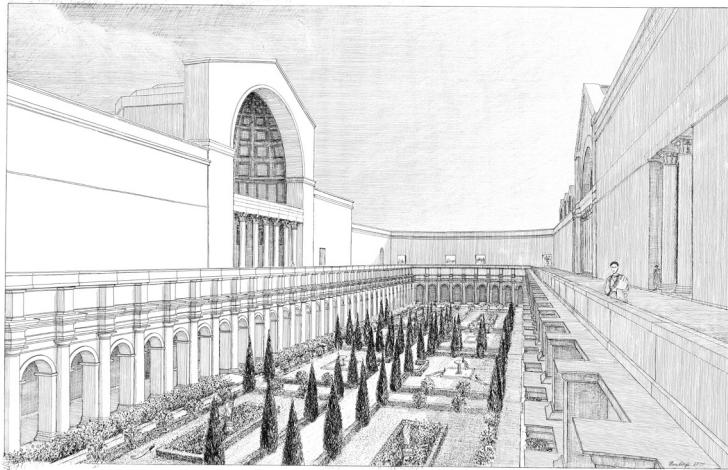
association with other finds and find contexts can afford essential insights into sociocultural practices, technological know-how, social organization, regional and intercultural contacts, mobility and symbolic worlds, for example. The application and further development of these working methods must therefore continue to be fundamental to archaeological expertise.

Information carried in images and texts is of particular value in the investigation of complex, state-like societies. In them, socially constructed knowledge, perceptions, organizational structures and historical events can find expression more explicitly than is possible elsewhere. Since the meaning of this category of evidence depends entirely upon its functional and historical context, the interdisciplinary integration of iconographic and textual research with the holistic examination of archaeological find contexts is of decisive importance to the DAI.

Editions and corpora – of images, inscriptions, coins or of the finds and features of a particular method of production, area of origin or period – create the basis on which evidence may be understood in the context of general developments and scientific discourse. Comprehensive application of digital documentation formats and dynamic, web-based usage methods – in conjunction with traditional forms of publication – permit a new level of quality in terms of the exhaustiveness of such collections, depth of capture and flexibility of use.

Buildings are a central and very particular category in the spectrum of archaeological sources. They have a determining influence on a significant part of human life as protective structures, habitations, places of work, buildings serving ritual or prestige purposes, etc. They reflect changes in the economic fortunes of a society, contribute to the maintenance of social order and perform the function of a mass medium of communication given their high visibility. Archaeological building research does not regard individual buildings, ensembles or even entire cities as unchangeable ideals or typological abstractions. Instead it considers their entire history – the design, erection, use, possible repurposing, abandonment and decay of the structures as well as their rediscovery, including any re-erection and presentation that has occurred.

- 13 The 14-probe device from the RGK in use. (Photo: J. Kalmbach, DAI RGK)
- 14 The Corpus of Roman Finds in the European Barbaricum (CRFB) project is an international undertaking among European countries to publish all Roman products that are found outside the borders of the Roman Empire in the context of local societies.
- 15 Inscriptions from Pergamon (CIL III 7086, detail) are documented by the AEK with reflectance transformation imaging. (Photo: F. Battistoni)



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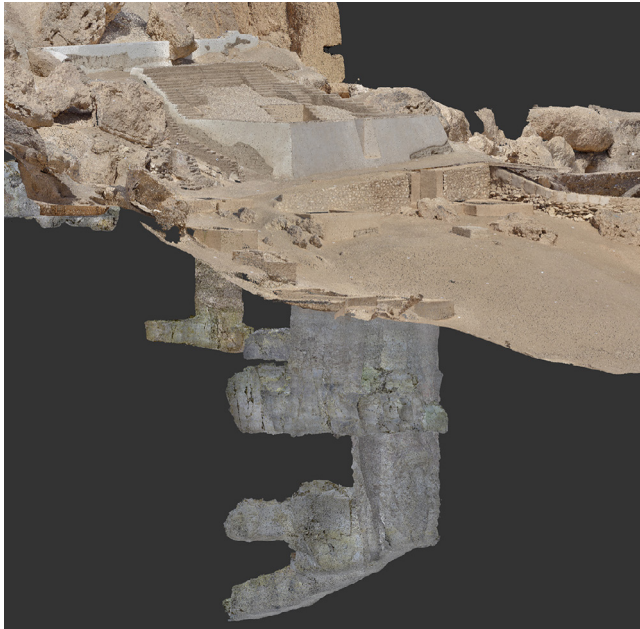
A challenge for archaeology is the analysis of large geographical spaces. How regions, indeed continents, were opened up by networks of various forms of settlement and use and by systems of transport and communication routes must be documented in order for us to understand the mechanisms by which human communities were linked together on an ever greater scale. This leads to an understanding of the historical transformation of geographical spaces through natural as well as anthropogenic factors, which is becoming increasingly important. Collaboration with geoscientists is necessary to explore this landscape-archaeological and geo-archaeological dimension. From this perspective nature and culture become ascertainable as interdependent systems in social ecology terms. The involvement of archaeology means that the interaction of social and ecological factors can be studied in temporal depth, making it possible to determine the historical dimension of highly topical debates centring on human-environment equilibrium at a time of climate change and demographic explosion. Geographic information systems and the ever more comprehensive availability of remote sensing data allow the modelling of highly complex socio-geographic data sets and open up new possibilities for an archaeology of large spaces.

The rapid development of biochemical methods of investigation, including the analysis of ancient DNA and stable isotopes, has lent new importance to bio-archaeology, a field of interdisciplinary cultural historical research. These methods allow greater quality in the analysis of human biological characteristics and their archaeological-historical implications. This ranges from individual-specific data to population genetics analyses that establish the mobility of large human groups. Many points of contact exist with research into prehistoric migrations as well as migrations within highly connected geographical areas in historical periods, including the cultural contacts associated with them. The spectrum of new investigative methods can also focus on the living conditions of human communities, for instance by studying epidemics as historically relevant factors. Biological kinship can be determined with new precision using DNA analysis, while isotope analysis sheds some light on the geographic origin of individuals. A fundamental aspect of human-environment relations is the exploitation of

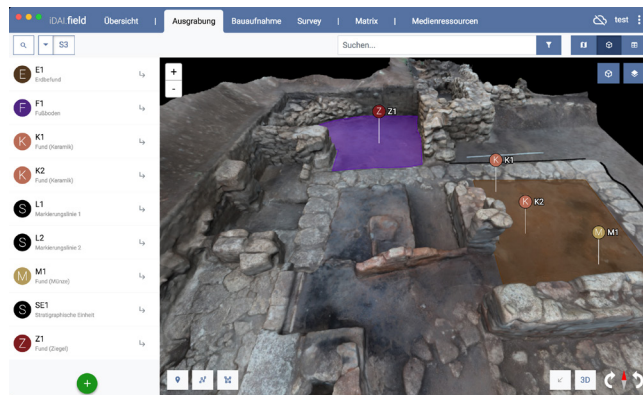
**16** Based on the investigations by the construction researcher Ulrike Wulf-Rheidt, the illustrated reconstruction of the garden on the Palatine Hill in Rome was created, which brings its ancient condition to life. (Drawing: J. Denking, DAI Head Office)

**17** The Istanbul Department, along with geoscientists from the University of Cologne and Kiel University, is investigating changes in the coastline off the west coast of Turkey. (Photo: U. Seeliger)





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plants and animals, a broad research field that is opening up new prospects for a historical ecology.

Continuing advances in information technology are constantly giving new impetus to archaeological work. This is not primarily about providing purely practical tools. What is of decisive importance is that structured analysis of large data sets can lead to the discovery of new patterns and issues. In order to exploit these benefits, it is necessary not only to apply digital methods rigorously in individual projects, but also to create an integrative semantic framework. The DAI is therefore working systematically on compiling controlled vocabularies and thesauri (e.g. [iDAI.gazetteer](#)<sup>↗</sup>, [iDAI.chronontology](#)<sup>↗</sup>) which will form the basis for this. The documentation system [iDAI.field2](#)<sup>↗</sup> provides a structural model for presenting current and historical archaeological field research data in standardized, comparative form. Similarly the DAI's commitment to developing a national repository of archaeological research data ([IANUS](#)<sup>↗</sup>) is not only motivated by a desire for the long-term safe storage of data; another major aim is the permanent usability and interoperability of research data of varying provenance. In view of the number and diversity of its archaeological projects, the DAI considers itself duty-bound to advance the cause of digital archaeology.

Working with the material evidence of the past brings with it a particular responsibility for the protection of cultural heritage. The DAI's work at archaeological sites has therefore always been conducted with an awareness of the requirements of the preservation and management of monuments and sites within the framework of international conventions. Training programmes and community engagement in host countries are aimed at encouraging discussion of cultural preservation standards, strengthening local expertise and enabling modern societies to access their historical heritage. The Archaeological Heritage Network, which the DAI coordinates, has set itself the objective of pooling the expertise that exists in Germany in the field of monument conservation and cultural preservation and making it available to host countries. At the same time, procedures and methods used in host countries need to be further developed in correlation with the specific local experiences and know-how. Digitalization and the digital publication

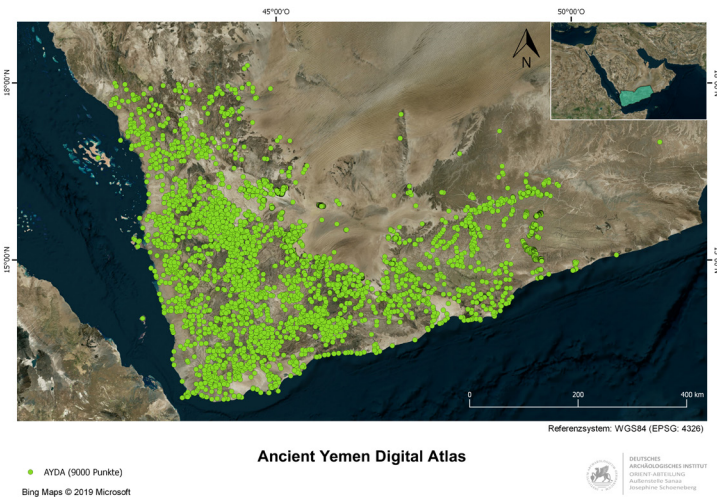
18 3D model of Area H with underground and above-ground structures of the tombs of the necropolis of Dra' Abu el-Naga' in Egypt. (Created by Ch. Ruppert, DAI Cairo)

19 From cross-section drawing to 3D view: [iDAI.field2](#)<sup>↗</sup> makes it possible to document various levels in a single system. (Screenshot: S. Cuy, DAI Head Office)





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**20** In the IGEF-CH training program, Iraqi colleagues are trained in techniques and methods of monument and building preservation. (Photo: U. Siegel, DAI Orient Department)

21 The Ancient Yemen Digital Atlas (AYDA) maps cultural heritage sites in Yemen. (Map: J. Schoenberg)

of historical and archaeological archive holdings at the DAI (excavation archives, archives of individual scholars, etc.) along with assistance rendered in setting up a digital register of historic monuments in host countries have – in addition to their potential in archaeological-historical research – recently also made an important contribution to the fight against illegal trade in antiquities. Therefore significant value is placed on them in the range of activities conducted by the DAI.

### C. Themes

Research at the DAI is characterized by great diversity in terms of structure, ranging from case studies and basic research to large-scale collaborative research. The individual projects reflect local and regional conditions and are also thematically focused in a transregional and transtemporal way and integrated into current academic discourses. The following themes will be central to research across all departments at the DAI in the coming years.

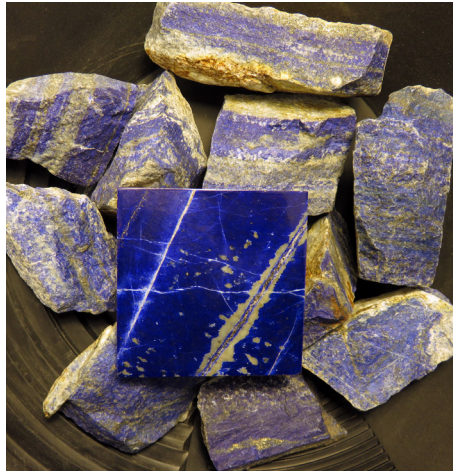
### Global and regional interrelations

In the framework of global historical studies, the DAI conducts research into regional and transregional interrelations. Among the central themes are various forms of mobility and interaction. Attention is due first of all to synchronic phenomena which are evident across large areas. Ideally the historical range of frameworks of action investigated in this way is revealed by analysis of their temporal and spatial depth, amongst other things. A global archaeological perspective, which identifies similarities and differences by means of comparison, promises not only to demystify keywords and ideologemes and to relativize prognoses and supposed automatisms in terms of reliability, but also to allow a more differentiated perception of ongoing processes in order that the range of options of action can be widened.

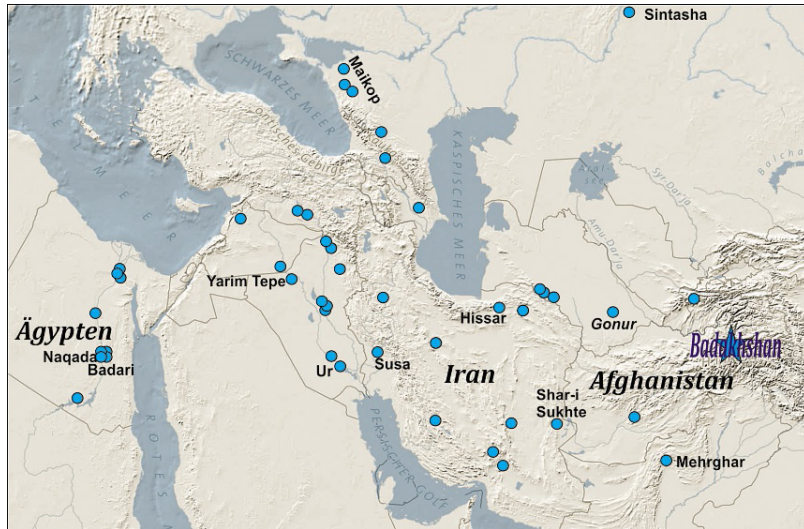
Owing to the temporal depth and spatial breadth of its research, the DAI, since its foundation, has dealt with a multiplicity of forms, routes, areas, contexts, agencies and effects of cultural interaction. Its long scientific tradition enables the institute to critically assess concepts and analytical approaches that stem from long-established world views and projections.



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**22** This rock crystal dagger was discovered in a Copper-Age grave in Spain. The ivory from which its handle was made does not come from nearby Africa, but from Asia. (Photo: M. A. Blanco de la Rubia, DAI Madrid)

**23** Lapis lazuli is a sought-after gem, for which Badakhshan is considered the only prehistoric source. From there it was widely traded in the 4th and 3rd millennia B.C., as the site map shows. (Photo: D. Steiniger, map: J. Thomalsky, DAI Eurasia Department)

The demarcation and transgression of boundaries in the course of regional and transregional cultural contacts can occur as a consequence of completely different interests and agencies and in highly varied social and cultural spheres. Sites and zones of transregional cultural contact are not necessarily located at the periphery of settlement areas and domains of rule, and moreover they also display their own types and dynamics of cultural change, for example as preservers of cultural traditions or as centres of innovation.

Another central theme of global archaeology is economic interaction. Demand for resources varies and changes over time. These needs create connectivities. Uneven distribution and access to resources cause exchange and trade to develop, and beyond that also the founding of settlements as well as colonization and conquest. Access to resources generates production processes; and the dissemination of products initiates the emergence of supply systems and distribution networks – in a process that leads to concepts of standardization and the development of administrative structures.

This research prompts further questions regarding local appropriation and use as well as the resultant cultural and social differentiation. Here, the overlap and interplay of cultural and economic dependencies merit particular attention.

#### *Human-environment focus: Social ecology*

Climate change and population growth are global challenges of the present time – and they affect archaeology in a variety of ways. Often, archaeological remains constitute the only surviving evidence of past cultures. Due to environmental destruction and climate change, they face an unprecedented level of risk and require documentation and safeguarding. Archaeology itself contributes to meeting these global challenges by participating in the development of interdisciplinary methods of environmental research and promotes a holistic concept of the interrelatedness of ecological factors and the actions of communities.

The interdependency of nature and culture in history is one of the core themes of archaeological research, whose sources make it possible to study





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**24** In Siberia, archaeological sites are at risk from coastal erosion and thawing of the permafrost. (Photo: K. Dneprovskij)

**25** a. The laboratory for prehistoric anthropology at the DAI Head Office deals with the biocultural heritage of humankind. b. Skeleton from Sharakhalsun in the North Caucasus. (Photo: DAI Head Office)

changes in the societal metabolism over long periods from the beginnings to the present day. Among the central questions are: what contingent or causal relationships exist between the natural environment and cultural formations and the evolution thereof? From what point onwards is it possible to identify anthropogenic changes to the environment on regional to global scales? What insights into the vulnerability and resilience of human communities can be gained from the way cultures of the past utilized natural resources and reacted to environmental crises? Is increasing social differentiation and complexity associated with an altered perception of the environment?

Through its worldwide projects and comparative research approaches, the DAI is in an exceptional position of being able to distinguish macro-level processes and their effects on social practices and institutions from a local, regional and global perspective. In view of this the data gathered by the DAI and its partners should be used to a greater extent for the modelling of historical human-environment scenarios. Here, the social ecology analysis of the availability and exploitation of natural resources in conjunction with social practices and power structures provides the tools that render human influence on the natural environment as well as the sustainability and stability of societies quantifiable.

The research questions of social ecology are interdisciplinary, necessitating the application of a wide range of methods. The DAI is ideally suited to this given its interdisciplinary structure and widespread networks. It is important that traditional spheres of the DAI, such as architecture, town planning and landscaping, where substantial volumes of data exist, should be exploited in the exploration of human-environment relationships and how these are perceived. The knowledge from varied and complementary disciplines may be pooled to form an expanded cultural history in which for the first time ecological phenomena are brought together systematically with social, political, economic and religious aspects.

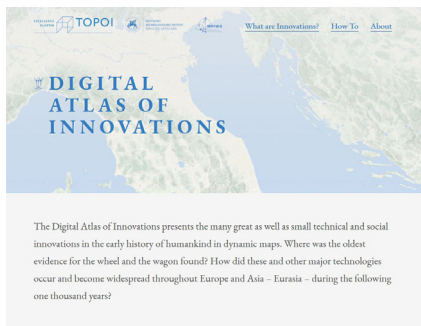
### *Social and cultural dynamics*

Archaeology makes an independent contribution to questions regarding the emergence and evolution of social, economic, political and religious systems





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**26** In the past millennia, people have interfered with existing ecosystems through deforestation, settlement building, agriculture, and animal husbandry. Many of these interventions, even those that have been “reclaimed” by nature, are still recognizable in the landscape today, such as the Upano culture settlements in the lowlands of Ecuador. (Photo: H. Prümers, DAI KAAK)

**27** The Atlas of Innovations is a tool that maps the oldest evidence of certain key technologies. (DAI Eurasia Department)

**28** With the construction of the Marib Dam in Yemen in the 6th century B.C., the Sabeans transformed the region into a fertile oasis. (Photo: I. Gerlach, DAI Orient Department)

and the multiplicity of their symbolic forms.

The increasing differentiation of societies is connected with innovations, such as the wheel and the wagon, new metals or writing systems. Consequently, one important research field comprises cultural techniques and technologies, their society-level prerequisites and their effects on living and working conditions. In a global archaeological perspective, comparisons between different periods and areas give us an opportunity to analyse the emergence, use and dissemination of new techniques and technologies. This includes their great significance in conflict and warfare.

Social dynamics and the transformation of ritual and religious practices are interdependent. In this connection the DAI is investigating the diverse forms of interaction between religion, society and the individual throughout history. The practices are associated with specific conceptualizations and interpretations of the world, which usually are religious in nature. They find expression in pictures, tales and myths. The DAI – in close cooperation with social, religious and cultural science disciplines as well as other branches of the study of ancient cultures – also conducts research into these conceptualizations and interpretations, in doing so bringing concepts and values that are still influential in today’s world more sharply into focus.

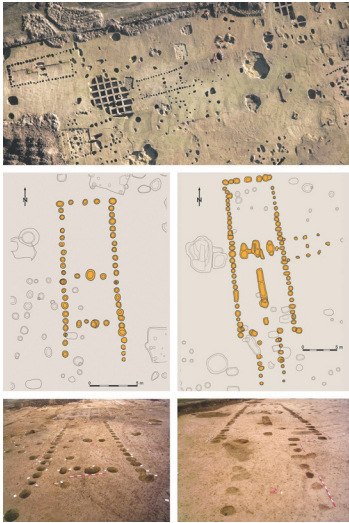
Well-researched sacred spaces and sites in particular make it possible to search for continuities and discontinuities over long time periods. The same is true of research into sacred topographies in towns and landscapes, which commonly display direct references both to the natural environment and to social and political structures. Many sacred sites and sanctuaries developed into communicative hubs in regional and transregional networks and also into economic centres, where the exchange of information was concentrated. The DAI has all the prerequisites to be able to examine this question from a global archaeological perspective as well as in considerable temporal depth from the Neolithic to the present day.

### *History (histories) of knowledge and new prospects*

The history of knowledge in a global perspective is of fundamental importance for research at the DAI. It encompasses the study of knowledge in the past



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and deliberately includes periods in which scientific disciplines and methods did not yet exist in developed form. A central object of research is knowledge and innovation as ascertainable in technologies, objects, images and texts. The aim is to understand how it was conditioned by cultural, social, ecological and economic factors.

Archaeology is a multi-traditional science, comprising a number of specialized disciplines with a history reaching back into the 19th century. Knowledge production in archaeology does not occur independently of cultural paradigms, culturally specific concepts, and political ideologies. These shape narratives, models and images and are also the path to understanding differently constructed and differently perceived pasts and identities. Critical reappraisal of these scientific processes and models is therefore indispensable and represents a fundamental part of research. Furthermore, understanding different traditions and forms of appropriating the past in terms of their global interdependencies and local manifestations is of vital importance for a modern history of science as a specific form of the history of knowledge.

The analysis of methods, theories and models from a history of science perspective is, moreover, an essential foundation upon which to determine one's relative position and as such is relevant for well-considered scientific practice, all forms of knowledge transfer and indeed for all actions vis-à-vis cultural heritage. The same applies to the digital turn, which is being discussed in respect of its far-reaching impact on the scientific process and its dissemination by means of visualization and modelling methods, in order that new applications can be developed and implemented on this basis.

**29** The DAI has been working at the archaeological site of Olympia, a UNESCO World Heritage Site, since 1875. (Photo: DAI Athens)

**30** House structures of the Lengyel settlement near Alsónyék, Hungary. (Photo: DAI RGK)

**31** Pillar 56 from Göbekli Tepe's Enclosure H. (Photo: N. Becker, DAI)





32 Letter from Braun to Gerhard, Rome, May 3, 1841: The basis for the Instituto di Corrispondenza Archeologica was a Europe-wide network of members and correspondents, including scholars of antiquity, artists, and architects. Their correspondence is part of the "letters from scholars" in the archives of the Rome Department. (Photo: archives, DAI Rome, A-II-B13)



# e-FORSCHUNGSBERICHTE 2019

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