Near the Sea of Galilee in northern Jordan lie the ruins of the ancient city of Gadara. The Hellenistic-Roman site, today called Umm Qays, is the location of an unusual workshop where traditional stone masonry techniques are taught – skills that had been virtually forgotten in the region. Masterscrafstman André Gravert and trained craftsman Tobias Horn, stone masons and restorers, are teaching the basics of traditional stone masonry in a hands-on way to a mixed team of Jordanians and Syrians.

One objective is capacity building for the local population. Another is that the Syrian participants should be able to make use of their newly acquired skills in the reconstruction of their country.

The idea for this vocational training scheme, which the Foreign Office is supporting, came from an architectural historian at the DAI, Dr. Claudia Bührig, who also planned out the programme.

Masterclass at the Sea of Galilee: Jordanian and Syrian craftsmen acquire skills for the future of their country. Photo: Bührig, DAI

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Thank you!
A genuine Volkerwanderung appears to have taken place upon the world’s largest ocean around 3000 BC. In 20 metre long canoes, people voyaged across the ocean and gradually established settlements on the islands of the Pacific. The Lapita people – named after a site on the Foué peninsula in New Caledonia – set off from the Bismarck Archipelago in Papua New Guinea and travelled to the Solomon Islands and Vanuatu. Later on, the Lapita culture spread to Fiji, Tonga and finally Samoa. But where did the Lapita people come from? From south China, Taiwan, the Philippines or perhaps even Indonesia? Or did they originate from the Bismarck Archipelago, where the oldest traces of that culture have been found? Migration is a phenomenon that constantly recurs in human history. Some migration routes and destinations are being investigated by the DAI, and are presented in the title story in this issue.

Archaeological documentation of the ruins at Persepolis began in the early 19th century. Friedrich Krefter’s photographs, watercolours and drawings of Persepolis from the 1930s possess great documentary value.

Photo: Krefter
DEAR READERS,

When the world is set in motion and old rituals of identity reaffirmation are put to the test, it can be difficult to find anchors that are capable of providing a modicum of stability and security, both in how we think and in how we act. Seeking such anchors in the past is criticized in many quarters, and rightly so – unless we’re talking about a past that can teach us valuable lessons and enable us to find the way out of a seemingly hopeless situation. An integral view of the past, such as prevails in archaeology today, instructs us, for instance, that worlds set in motion are a fairly common phenomenon – and that the world we live in is in fact the product of multiple overlapping transformative movements.

At this present moment in history it can’t be emphasized enough that the way of life we call our own, which we take for granted and from which we draw confirmation of who we are, has come down to us also and only as a result of migration. The notion of autochthonous cultures born of themselves and evolving discretely appears to offer – illusory – support in uncertain times, but it is no longer postulated as the sole model to explain the development of cultures in research these days. Furthermore, the concepts of “rise” and “fall” underestimate the complexity of transformative shifts that never cease to shape and alter our shared planet and the people who live on it.

Archaeology is on the move, too. It has widened its field of view, no longer focused “only” on objects and monuments but also on the people that created them. Archaeology traces the convoluted paths that people and their knowledge have taken through time and space, in order to link the past with the present.

“On the Move” is the cover story in this issue of our magazine. Starting out with Neolithic journeys, it goes on to look at Greek sanctuaries with an international clientele, the Roman Empire shortly before its transformation into the medieval world, ports on various continents, and it ends with a voyage to the far-off South Pacific. In Focus this time is a recently founded archaeological heritage network that shows how current transformative movements can be an occasion to meditate on common origins and can promote cooperation. Our Panorama feature meanwhile reports on an indispensable human activity and the part it has played in the lives of all of us for 40,000 years now: music.

I hope you enjoy reading this issue of our magazine!

Prof. Friederike Fless
President of the German Archaeological Institute

Photo: Kuckertz
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MASTHEAD
On 27 April 2016, the project “Stunde Null: A Future for the Time after the Crisis” was officially launched in the presence of German Foreign Minister Frank-Walter Steinmeier. The project developed from an initiative of the German Archaeological Institute (DAI) and is being carried out by institutions that have been brought together in the Archaeological Heritage Network. The aim of the network is to pool the wealth of expertise possessed by German technical colleges, non-university research institutes, museums as well as regional archaeological and antiquities services and to make this expertise visible and usable for specific projects abroad.

As Foreign Minister Steinmeier emphasized in his speech, “the projects we are promoting through the Stunde Null initiative are complex and many-layered. Some might say: just as many-layered and complex as the challenges associated with reconstruction in Syria.”

The destruction of cultural heritage in Syria and Iraq by the so-called Islamic State in carefully stage-managed acts, such as the demolition of the temples at Palmyra, has produced images that make a powerful impact. In the process it is sometimes forgotten that since 2011 there has been ongoing devastation of Syrian towns and cultural assets that are part of the everyday lives of the people living there. Similarly, little attention is paid to the question of how acceptable living conditions can be restored in Syria once the crisis is over.

The DAI, one of the world’s largest archaeological research institutes, has initiated the Stunde Null project with the aim of pooling expertise and creating synergies to deal with these challenges. Cooperation should not be limited to this topic alone, however – it is extensible, and further projects are expected to be implemented in future. Central to the “Stunde Null” project therefore is the further training of Syrian architects, archaeologists, conservators, construction history specialists, town planners and above all craftspeople with a variety of specializations. Much of the training is taking place in countries neighbouring Syria that have taken in refugees. Furthermore, graduates can apply for scholarships on Master’s programs in heritage conservation at Helwan University in Cairo and the German Jordanian University in Amman. In Lebanon, Jordan and Turkey, refugees and local people are now receiving professional training as part of heritage conservation projects with a view to becoming specialists.

The project thus complements humanitarian aid: it creates jobs, and through vocational training – not abstract tuition, but hands-on planning and practical application – it improves career prospects in the field of reconstruction and hence the preservation of important monuments in the region.

DAI President Friederike Fless thanked the minister and the members of the German federal parliament for their personal commitment and for decisions which made the funding and implementation of the “Stunde Null” project possible.
“A jewel in the crown of our science system”

The German Council on Science and Humanities

Against the background of rapid digitization affecting also the humanities, the German Council on Science and Humanities draws attention to the IANUS research data centre, a platform which aggregates and disseminates data generated by the archaeological sciences and classical studies. IANUS was developed and is operated by an organization of scientific institutions under the direction of the DAI and is funded by the German Research Foundation (DFG). The concept of IANUS as a long-term archive and digital research data centre for the archiving and provision of project data is urgently needed in the archaeological sciences and branches of the study of ancient cultures. The evaluators were particularly impressed by the DAI's achievements not only in research but also in the preservation of cultural resources and in the field of Germany's foreign cultural and educational policy. In consequence the German Council on Science and Humanities, the German Council on Science and Humanities draws attention to the IANUS research data centre, a platform which aggregates and disseminates data generated by the archaeological sciences and classical studies. IANUS was developed and is operated by an organization of scientific institutions under the direction of the DAI and is funded by the German Research Foundation (DFG). The concept of IANUS as a long-term archive and digital research data centre for the archiving and provision of project data is urgently needed in the archaeological sciences and branches of the study of ancient cultures. The evaluators were particularly impressed by the DAI's achievements not only in research but also in the preservation of cultural resources and in the field of Germany's foreign cultural and educational policy. In consequence the German Council on Science and Humanities, the German Council on Science and Humanities, the german council on Science and humanities, Prof. Manfred Prenzel, summarized the council's appraisal of the German Archaeological Institute (DAI).

As one of the internationally “most respected research institutions in the humanities in Germany”, the DAI has defined its scientific profile more sharply in recent years and has distinguished itself particularly in the field of global archaeology, which investigates cultural interaction and operates in interdisciplinary fashion across large geographical areas and large time scales. The positive appraisal is also due to the fact that the institute continuously broadens its range of methods, especially in the natural sciences and information technology, and plays an exemplary role in furthering the young generation of archaeologists and scholars of antiquity.

“Returning to Iraq”

The DAI resumes its work

After an interval of 14 years the German Archaeological Institute has resumed fieldwork in southern Iraq. An international team of ten archaeologists and specialists from Germany plus seven archaeologists from Iraq under the direction of Margarete van Es, head of the Baghdad Branch of the DAI, has carried out archaeological surveys around Uruk, the capital of the legendary king Gilgamesh, and has prepared projects on the further exploration and conservation of archaeological sites there. After the long suspension of activities, conservation measures are urgently needed on previously excavated architectural structures. The team has documented the damage caused by environmental factors so as to be able to draw up appropriate and detailed plans. The surveys mapped all the archaeological remains as well as indications of ancient land utilization in a radius of three kilometres around the ancient city walls. The data has been stored in a geographical information system at the site. Initial result are the re-fore immediately available and can be passed directly to the local authorities. The investigations were linked to a training programme for young Iraqi and German archaeologists – a continuation and expansion of the DAI Orient Department's annual summer schools for the young generation of Iraqi researchers, scientists and specialists.

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AL-HIRAH

A survey was also carried out at al-Hirah at the end of 2015. The two-week survey was conducted by a team of German archaeologists directed by Margarete van Es and Martina Müller-Wiener in cooperation with the Technical University of Berlin. The cooperation partners worked closely with the Najaf Antiquities Inspectorate. The international team inspected large parts of the sprawling urban area, mapped architectural and topographical features, and documented ceramics and other small finds. The objective was to determine the areas originally inhabited and to identify the various city districts. Al-Hira was a notable urban centre in Iraq. It is regarded as the predecessor of Kufa, the oldest Islamic city founded on Iraqi territory. Previous excavations have revealed the city’s importance in the history of Mesopotamia in late antiquity. The survey brought to light some important new findings. The archaeologists were able to localize finds from earlier international projects more precisely and to document new settlement remains across a large area. A group of young Iraqi archaeologists took part in the survey to familiarize themselves with the modern technologies used in archaeology. This training programme is organized by the DAI and substantially financed by the Federal Foreign Office. Scientific personnel from Germany was supported by Switzerland’s Max van Berchem Foundation.
"Tehran55"

Exhibition at the National Museum of Iran

An exhibition entitled "Tehran 55: Half a century of German archaeology in Iran" opened at the National Museum of Iran in Tehran on 24 April 2016. The exhibition was first shown in 2011 at Berlin’s Museum für Islamische Kunst (SMB). It was conceived by Barbara Helwing, then head of the Tehran Branch, and Patricia Rahemipour from the Eurasia Department of the German Archaeological Institute, and was mounted to celebrate the branch’s 50th anniversary. A slightly modified version of that original exhibition is now on show in Tehran.

At the opening ceremony there were addresses by Jebrael Nokandeh, director of the National Museum of Iran, the German ambassador to Iran Michael von Ungern-Sternberg, Mohammadreza Kargar, director of Iran’s Museums and Historical Properties Office, and Mohammad Beheshti, director of the country’s Research Institute for Cultural Heritage and Tourism.

Judith Thomalsky, current head of the Tehran Branch, gave guests an introduction to the exhibition, which presents as it were the prehistory and history of the Tehran Branch. Exhibits include finds from excavations, archive material, correspondence and photographs, opening a window on the history of scientific exploration. Visitors are supplied with preliminary information at the start and can find out more, if they wish, at various points in the exhibition.

The high point of the opening ceremony was the formal presentation of the catalogue “Tehran55”, edited by Yousef Hassanzadeh of the National Museum of Iran and translated into Persian by Hamid Fahimi.

The exhibition and the translation of the catalogue were partly financed from the special Fund of the German Federal Foreign Office. The exhibition is accompanied by lectures on the DAI’s archaeological projects in Iran.
A study trip to Germany
Academic exchange with Egypt

Thanks to funding from the Federal Foreign Office, the Cairo Department of the German Archaeological Institute was able to extend 29 invitations to Egyptian students to enable them to study at German universities. Egyptology, Coptology, Islamic archaeology, papyrology and conservation and museology are academic disciplines in which German universities enjoy an excellent reputation internationally. Some of the supposedly more exotic subjects are moreover acquiring increasing importance these days given their relevance in cultural heritage preservation.

The guest students visited universities, academies, museums and research facilities in their area of specialization in Berlin, Bonn, Heidelberg, Hildesheim, Leipzig, Munich and Würzburg. They were able to look behind the scenes in storerooms, libraries, laboratories and collections and get an impression of how the German scientific community operates in practice. For example, one group of ten papyrology students took part in a papyrology workshop in the Egyptian Museum and in the papyrus collection of the Berlin State Museums at the end of last year. The papyri that were studied provide important data about the economy and society in Ancient Egypt. Back in Cairo, the Egyptian students gave presentations on their research findings and expressed an interest in staying in contact with fellow students, colleagues and institutions in Germany.

Aleppo was once a major centre of trade in the Near East. The old town of Aleppo with its bustling bazaars was a hive of activity. In the early years of the 20th century, caravans destined for Iraq were equipped here, and it was from here that German excavation teams set off on horseback for ancient sites in Iraq.

The photo shows the high stone bridge leading to the citadel of Aleppo. It was taken in the year 1914 by Walter Bachmann, a member of the excavations at Assur and Kar Tukulti Ninurta. Photographs like this are part of the rich stock of images in the DAI’s archives, which are now being digitized and made available to Syrian institutions in order to help with the task of reconstructing cultural heritage that has been destroyed.

See also the special issue of Archaeology Worldwide: “Reconstruction”
The German Archaeological Institute, as the research institute of the Foreign Office, is setting standards globally. Together we are going to establish an Archaeological Heritage Network that pools expertise ranging from cultural education to joint excavation and restoration activities as well as scientific evaluation, and makes [this expertise] utilizable for the issues of today, such as the sustainable use of natural resources – and which above all permits one thing: access to the world’s cultural heritage here in Berlin and the collective generation of global knowledge.” *

Frank-Walter Steinmeier

* Speaking in the Frankfurter Allgemeine Zeitung newspaper, 15 May 2015

RESTORATION ON THE NILE ISLAND OF ELEPHANTINE near Aswan in Egypt. Some of the work was supported with funds from the Transformation Partnership of the Federal Foreign Office

Photo: DAI Cairo

ARCHAEOLOGICAL HERITAGE NETWORK
Towards cultural heritage preservation
In times of upheaval and crisis, the number one priority is, of course, ensuring people’s safety and supplying the essential necessities of life. In times of great insecurity, furthermore, traditions and customs can nourish a people’s sense of identity, creating a sense of rootedness in one’s own history. Culture and tradition, we should note, manifest themselves not only in buildings and artefacts but also in people’s ability to conceive and produce them and cultural concepts shape the way people relate to, and modify, their natural environment.

The destruction of cultural property has many causes. War is the cause of the devastation most visible in the world at the present moment, in countries like Syria, Iraq and Yemen. The so-called Islamic State has been destroying world famous cultural monuments and sites in spectacular acts carefully stage-managed for maximum media impact. Yet at the same time, scarcely noticed by the international community, people in war-torn regions are losing cultural assets that are part of their everyday lives. Crises furthermore increase the threat to cultural heritage through unauthorized excavation and looting that supply the illegal trade in art and antiquities worldwide. Among man-made dangers confronting cultural property is the destruction of entire cultural landscapes by large-scale infrastructure projects and the reckless exploitation of natural resources. But environmental factors like wind erosion, precipitation and flooding over time take their toll on archaeological monuments, too.

CURRENT CHALLENGES

The situation in the crisis zones of the Middle East is heightening the sense of urgency about protecting and preserving cultural heritage, and this awareness is increasingly having an effect on the political level too. But cultural preservation goes much further than conserving, stabilizing and restoring important cultural edifices and sites. Cultural preservation also means combining traditional crafts with innovative methods and creating jobs, measures aimed at the economy which help to stabilize the host and partner countries. Old concepts of self-contained cultural areas are incapable of serving as the foundation here; the same goes for offers of asymmetrical assistance. On the one hand, in a rapidly changing world, discourse on national and cultural identity is becoming more complex, as is decision-making about the right approach and priorities in the preservation of cultural resources. On the other hand it is important to develop cooperative formats that pool the know-how developed over the years by institutions like the DAI and make it available where it is needed.
SKILLS NETWORK

The Archaeological Heritage Network is not an entirely new institution. It's about pooling existing skills and expertise that can lead to synergy effects. The network brings together universities, research institutes, heritage organizations, subsidy institutions, museums, professional societies, foundations and private initiatives. International operations to rescue cultural heritage around the world are becoming ever more complex in a rapidly changing world. This poses changing challenges that can best be met collaboratively. It is necessary in order to attract financing on demand. In relevant international organizations it is expected that a strong German network will have a positive influence on the development of well-founded concepts in the cultural preservation sphere. This may in turn have a beneficial knock-on effect on research, academic teaching and vocational training in Germany. German universities and research institutes certainly possess considerable skills and expertise in the preservation of archaeological heritage. But this know-how is not pooled but spread across a wide spectrum, and is taught on a great number of university courses. The expertise includes a wide spectrum of archaeological research as well as architecture and construction history, damage assessment methods, restoration and conservation, site management, site presentation and tourism development. Tourism is crucial to the economy in many countries of the world that are home to notable monuments and heritage sites.

This multidisciplinary scientific approach combining theory and practice is a magnet internationally, attracting many prospective students as well as guest researchers from countries all round the world. Employment possibilities for graduates in these study areas are diverse. Firstly their expertise is in demand at numerous scientific and cultural institutions like universities and museums in Germany and abroad. Secondly there are many attractive opportunities in the commercial sector in specialized architectural and restoration firms and of course in the tourism industry. By building up these skills it will be possible to create the basic conditions for successful cultural preservation abroad. By combining innovative research, sustainable training programmes and practical-oriented work and by strengthening the economic potential in host and partner countries in order to stabilize them, it will moreover be possible to gain greater long-term acceptance for Germany’s foreign cultural and educational policy.

FOUNDED MEMBERS OF THE ARCHAEOLOGICAL HERITAGE NETWORK

Aachen University – RWTH
Architectural Heritage Committee of the German Archaeological Institute
Brandenburg Technical University, Cottbus – BTU
Deutsche Gesellschaft für Internationale Zusammenarbeit – GIZ
Deutsches Stiftung Denkmalschutz – DSD
Deutsches Nationalkomitee für Denkmalschutz – DNK
Gerda Henkel Foundation
German Academic Exchange Service – DAAD
German Archaeological Institute – DAI
German National Committee of ICOMOS
German UNESCO Committee – DUK
Koldewey-Gesellschaft, Vereinigung für baugeschichtliche Forschung e.V (construction history society)
Prussian Cultural Heritage Foundation – SPK
Romano-Germanic Central Museum, Mainz – RGZM
University of Applied Sciences, Berlin – HTW
Verband der Landesarchäologen – VLA (association of archaeology departments of the federal states)
Verein der “Freunde der Altstadt von Aleppo” (friends of the Old Town of Aleppo)
Vereinigung der Landesdenkmalpfleger – VdD (association of heritage preservation offices of the federal states)

THE FIRST PROJECT – “STUNGE NULL”

At its constitutive session in 2015, the Archaeological Heritage Network agreed on its first joint project “Stunde Null” offers a platform and a framework for bringing together Syrian experts, students and future decision makers and giving them basic and advanced training in architecture, archaeology, heritage preservation and management, construction history, urban planning as well as various crafts – both in Germany and various countries of the Middle East. The aim is to assist them in planning the future of their own country. The network was officially launched on 27 April 2016 at the DAI’s annual reception in the presence of Federal Foreign Minister Frank-Walter Steinmeier.
Preserving and restoring culture in Egypt – how exactly? Where to begin and where to leave off, one might well ask. After all, we’re talking about 6,000 years, in which cultural vestiges of inestimable value and crucial importance for the country and its people were created, survived or were destroyed by the forces of nature or by human neglect, were forgotten or became part of the present day.
The gravest threats are posed by modernity. Tomb-raiding reached its apogee in the modern era with Europe’s craze for Egyptian antiquities. As a result of colonial administration and seismic geopolitical shifts, Egypt like many other countries found itself catapulted into a different era and, since the 19th century, has followed the developments of the modern world in many respects. In the 20th century, technological advances that redefined what was possible were enthusiastically embraced and applied in projects of tremendous scale. On the Nile, construction of a massive hydroelectric dam at Aswan threatened to submerge ancient cultural monuments in the newly created reservoir, which resulted in the biggest and most spectacular salvage operation yet mounted in the country. In an international collaborative effort, the temples of Abu Simbel were cut into blocks, moved piece by piece to higher ground on the bank of the Nile and then reassembled. The temples had been built more than 3,000 years earlier by Pharaoh Ramses II; cut into the rock on the west bank of the Nile, they extended nearly 60 metres deep into the sandstone. The rescue operation took five years to complete, from 1963 to 1968. In 1970, the new dam went into service.

Spectacular rescue operations like this one tend to overshadow the slow-moving and often problematic work of archaeologists in Egypt. An important part of this work today is what is known as cultural preservation. Inextricably linked to this is raising an awareness and appreciation of the country’s long and rich history among the local population.

“Having recourse to the past is essential in a country going through complicated times,” says Stephan Seidlmayer, director of the Cairo Department of the DAI. Pharaonic Egypt is more crucial than ever to a sense of national identity in the modern state. Though the fact may go unnoticed, archaeology is consequently very much part of the present. And for this reason the cultural preservation projects undertaken by the Cairo Department of the DAI relate not only to vestiges of the long distant past but also to the recent past and indeed the present.

In a country like Egypt which has repeatedly experienced upheavals, the protection of cultural resources can be quite a challenge. While many of the world famous monuments are well protected, off tourism’s beaten track a number of antiquities suffer damage and destruction. Often ignorance is the cause.

“One of the frequent problems in cultural preservation efforts is the failure to involve the local population,” Seidlmayer explains. “That’s why research work should never have an exclusively scientific focus. In a country where around 15% of the gross domestic product and jobs depend on tourism, it’s essential that archaeology’s significance to society should be recognized.”

This being so, the DAI’s programme for the preservation of cultural heritage comprises site management, tourism plans, museology and other ways of communicating with the public, including a smartphone-based guide to Aswan for digital natives. The Cairo Department distributes information brochures in Arabic, produces teaching material, conducts courses for school children and organizes a host of other public events to draw attention to its work.
Nearly a century ago now, in 1922, Howard Carter discovered the tomb of Tutankhamen, dating from the 14th century before the Common Era. What ancient Egyptian object is as iconic as the young pharaoh’s golden death mask? The mask was put on display and caused a sensation. But some other artefacts discovered at the same time have received comparatively little attention. Some of these undeservedly neglected items are now being studied in a collaborative project involving the DAI’s Cairo Department – specifically approx. 100 fragments of gold relief panels found near the chariots in the antechamber of the pharaoh’s tomb. They consist of embossed gold foil attached to solid material, presumably leather and textile. Until recently they were kept in the storage magazine of the Egyptian Museum in Cairo. Now these extremely delicate artefacts are being analysed, scientifically appraised, restored and prepared for public presentation.

Cooperation Partners
Romano-Germanic Central Museum, Mainz (RGZM), Dept. of Prehistory
University of Tübingen, Institute for Ancient Near Eastern Studies (IANES) and Dept. of Ancient Near Eastern Archaeology
Egyptian Museum, Cairo

Sponsors
German Research Foundation (DFG)
Federal Foreign Office

Gold Fragments Weighty with History
Nearly a century ago now, in 1922, Howard Carter discovered the tomb of Tutankhamen, dating from the 14th century before the Common Era. What ancient Egyptian object is as iconic as the young pharaoh’s golden death mask? The mask was put on display and caused a sensation. But some other artefacts discovered at the same time have received comparatively little attention. Some of these undeservedly neglected items are now being studied in a collaborative project involving the DAI’s Cairo Department – specifically approx. 100 fragments of gold relief panels found near the chariots in the antechamber of the pharaoh’s tomb. They consist of embossed gold foil attached to solid material, presumably leather and textile. Until recently they were kept in the storage magazine of the Egyptian Museum in Cairo. Now these extremely delicate artefacts are being analysed, scientifically appraised, restored and prepared for public presentation.

Here and there the solid material to which the thin gold foil was attached still survives. It is thought to consist of several layers of leather, textile and plaster. Non-destructive technologies are being used to determine the composition of the material and the means by which the gold was fastened to it. Many of the gold foil fragments have become separated from the material that formerly supported them, and most of them are damaged, displaying warps, folds and tears.

But material analysis is only one part of the job. “We want to try and eliminate the damage as far as possible to recapture the legibility of the figural scenes,” says Christian Eckmann, restorer at the Romano-Germanic Central Museum in Mainz. To do this, the restorers have to carefully unfold bent fragments and stabilize cracked ones by fixing them to fine synthetic fibre.

“It’s often little things that reveal a lot,” says Seidlmayer. For instance, some motifs are traditional in ancient Egyptian art, such as the pharaoh on a hunt, in battle or enacting a rite. Other images occur across the eastern Mediterranean from the late Bronze Age onwards, e.g. bullfights, caprids at a tree, and various ornamental plants.

“These gold relief panels, overlooked until now, in fact provide important evidence on international contacts between powers in the East in this period,” Seidlmayer says. These contacts include not only war, tribute and dynastic marriages, but also trade in metals, glass, semi-precious stones, raw materials, luxury goods and foodstuffs, as well as the exchange of officials. And these small gold fragments may also yield new insights into Egyptian chariots of the Bronze Age.
THE EARLY ISLAMIC NECROPOLIS OF ASWAN

The Fatimid Cemetery

The ancient world can sometimes appear static and immutable to us. Yet central to archaeology is discerning change in the past, plotting its progress and ramifications. “At the early Islamic Fatimid necropolis in Aswan we can trace the Arabization and Islamization processes in the region very clearly,” says Stephan Seidlmayer.

With about 500 private graves and 50 mausoleums, the Fatimid Cemetery is one of the biggest Islamic cemeteries in Egypt and the biggest from this early phase – burials began there in the 7th century and continued into the High Middle Ages. However, time was taking its toll on the mud-bricks from which the tombs and mausoleums were built. The necropolis, an important site of Islamic culture and piety, was falling into disrepair.

The decision was therefore taken to document and stabilize the necropolis so that selected parts of it could be restored. A joint project involving the German Archaeological Institute and the Technical University of Berlin started, in 2006, with comprehensive investigation and documentation. “We have been able to restore 50 private graves and nine mausoleums,” announces Philipp Speiser, the on-site director of the project. But the project was not confined to restoration. “Local workers have also been trained as restorers in close cooperation with Egyptian experts.”

Now after almost ten years’ work the project has been successfully concluded. Raising awareness among the local population is crucial to the long-term preservation of cultural assets, and here too that was a priority. In one section of the necropolis, the team members have laid out a visitors’ route and a number of information panels have been put up – for the many tourists from abroad who visit the site each year, but primarily for the local people.

THE AESTHETIC DESIGN OF EARLY INDUSTRIAL PLANTS can be seen in this factory where cotton fibre was separated from the seed. It is located in El Qanater el Khayreyya, just north of Cairo. Photo: Bodenstein

Dr. Philipp Speiser is director of the project “The Early Islamic Necropolis of Aswan” (Fatimid Cemetery). Photo: Speiser

Industrial Architecture that Mirrors History

“Today many of the buildings are in disrepair and endangered, like monuments of the pharaonic or Graeco-Roman period. “These structures have been very neglected in research and as far as heritage preservation goes,” Bodenstein says. Therefore a research project is under way to record the buildings, using graphic documentation and photographs, to aid in any future restoration work.

“We’re making the first comprehensive inventory of Egyptian industrial architecture,” Bodenstein explains. “We’ll then be able to examine their design and construction from the perspective of local and global links.”

Among the heterogeneous buildings already documented are the Cairo arsenal from the reign of Muhammad Ali (1805–1848), a late 19th century factory complex for cotton fibre production, the gigantic textile factories of Alexandria and El Mahalla el Kubra from the 1930s to the 1960s, and other industrial plants including modernist buildings from the second half of the 20th century.
Connecting Cultures

Images of refugees trying to cross the Mediterranean and the Balkans to reach Central Europe and especially Germany have prompted commentators in many media outlets to draw historical parallels. Particularly last year, a parallel commonly drawn in news reporting was the “flüchtlingswende” (refugee wave), the mass migration of population that occurred in late antiquity. Mention of this historical migration conjures up visions of whole peoples on the move in solid groups – and of the downfall of a large and long-stable political entity, the Roman Empire. The concept of mass population movements is consequently one that subliminally evokes and transmits anxieties of insecurity and collapse.

Studying the past enables us to present a more nuanced interpretation of concepts that get applied to modern phenomena – both in the case of the migrations of late antiquity and the many other forms of mobility. Indeed, if we look into the past, mobility seems to have been the norm rather than the exception. At the very beginning stands the spread of Homo sapiens across the globe, which is conceptualized in research as a migration from Africa, the “Out of Africa” model. This theory is coupled with the model of the multi-regional development of modern humans. Thus two fundamental explanatory models are put forward to account for many forms of development of cultures in this early phase of human history. The domestication of plants and animals at the dawn of the Neolithic, denoted by the term “Neolithic Revolution”, came about in the Fertile Crescent between the Levant and Mesopotamia. Agriculture and herding, the cultural technologies essential to this revolution, spread as a result of migration, but also as a result of knowledge transfer. However, comparable developments – going as far as the cultivation of plants – can also be observed in places where there was no direct contact with the Near East, as in the “New World” of South America, for example. There, too, the model of diffusion via human mobility and knowledge transfer is juxtaposed with the model of autochthonous development. What is uncontested is that, in neighbouring regions, a significant role was played by the diffusion of cultural technologies through mobility.

In historical epochs, too, mobility continues to be a decisive factor. Countries with Mediterranean shores were connected by navigation, which led to the phenomenon of international trading posts and sanctuaries. Trade routes linked China with the Black Sea and the Mediterranean, which makes the discovery of Chinese lacquer- covered wooden boxes in Crimea less startling. The fact that Phoenician and Greek seafarers established settlements all round the Mediterranean is as familiar a phenomenon as mobility within the Imperium Romanum, which was itself the product of military expansion, i.e. a very specific and violent form of mobility. The career of a Roman soldier could lead him all over the empire. Roman officials were dispatched to the provinces. In Bavaria, the Roman frontier defences were guarded by Syrian archers, among other soldiers. Tourism as a pastime is attested in the Roman imperial period, with Greece and Egypt popular destinations for travellers. Mobility in the ancient world turns out, on closer inspection, to be as multifaceted as it is in our own time.

Between 1820 and 1914, approximately 5 million Germans emigrated to America. In the 17th century, 40,000 Huguenots sought refuge in Germany. About 10 million tourists visit the Balearic Islands every year, which is roughly the number that come to Berlin in one year – in fact over 12 million visitors were counted in 2015. Passengers travelling through Frankfurt am Main airport numbered nearly 60 million in 2015 alone. Naturally these numbers were never reached in the ancient world, where mobility was limited, but even so the early cultures in human history were extraordinarily mobile and interested in trade and transfer.

NETWORKS

Archaeology Worldwide can only touch very briefly on this topic, which the DAI has been exploring in the research cluster “Connecting Cultures”. The fact that the DAI is studying global networks that existed between early cultures, and is doing so in the framework of global archaeology, was singled out for praise by the German Council on Science and Humanities in its recent evaluation of the DAI’s work. Global archaeology in this context means that phenomena investigated by the various DAI departments and commissions are compared and contrasted under thematic headings like innovation, migration and the shift to a sedentary lifestyle. Global archaeology also means that scholarly attention focuses on large regions and land masses, as in the TransArea Network Africa. Here it’s not just a case of studying networks among ancient cultures. Scientists and researchers themselves work in an integrated, networked way today. This is becoming especially evident in the field of cultural preservation and the protection of cultural resources. The challenges presented by the devastation of cultural heritage in our world today have led to the founding of the Archaeological Heritage Network, which pools expertise in Germany. This initiative is our response to ever increasing requests from around the world for German know-how in cultural preservation and cultural heritage protection to be brought to bear more intensively. A flexibly expandable network appears to be the most appropriate form.

This country does of course have conside- rable expertise in this area. However, because of the federal structures in Germany, expertise in key areas is in many cases distributed across the country on the federal state level, while certain institutions do operate nationally. Making all this expertise visible and usable abroad is one aim of the Archaeological Heritage Network. Another is to learn from the opportunities the network opens up and to adjust our own actions and attitudes accordingly. So here too, at the end of the day, it’s all about mobility and the transfer and exchange of knowledge, skills and people.
Taken together they measure 13,000 kilometres – the two longest rivers of the world. The Nile is a few kilometres longer, the Amazon carries more water. They are both lifelines and transport arteries that pass through several countries and are essential to the regional economy.

They are both objects of desire, coveted in the colonial era; both objects of fascination for adventurers, romantics and researchers; both important habitats for humans and other species.

One old, the other young, as it may appear at first sight, the European perspective placing the Nile in the “ancient world”, which seems closer to our own, and the Amazon in the “New World”, the former regarded as a kind of a cultural hero, the latter a savage. Indeed while scholars have pored over the Nile and its ancient cultures for a very long time, archaeologists on the Amazon are essentially entering new territory – and making remarkable discoveries as they go. The Amazonian landscape for a long time belonged to mythologists, ethnologists, dropouts, specialists in “primitive” cultures, until cattle barons and environmental activists claimed it as their own. Who the Nile belongs to is a question that was not asked for a long time in the West. The river was and had always been “Egyptian”, including its landscape and its cultures which were a magnet for educated travellers and a target of colonial cupidity. No attention was paid to the river’s African origins.
The Nile

The Nile has been written about for thousands of years. There are textual sources from Pharaonic times, the Graeco-Roman period as well as the later Arab period. These early texts are heterogeneous and often unconnected in terms of textual history, but their inspiration, the mighty Nile, elicits similar associations time and time again. Without the Nile, no human habitation would have been possible for long enough to bring forth what travellers marvel at today. The fertile mud brought by the annual flooding of the Nile offered everything that was needed for agriculture. It was important, of course, to make sacrifices and observe strict rituals to ensure the floods would come. It was after all a matter of life and death when settlements were built, and while settlements from the Roman and late Roman period lie up to two metres below the present-day surface.

The Nile island known as Elephantine was the site of human occupation beginning 6,000 years ago. From there the inhabitants controlled trade on the river between the Nubian south and settlements to the north. Elephantine was also important for its deity, Isis, which was regarded as a mythical place, the location of the source of the Nile. The settlements established on the island and later around the bay of modern Aswan some 5,500 years ago gave their name to a dramatic, 20th century intervention in the natural processes of the Nile landscape with its people and cultures. For the construction of the Aswan Dam and to make way for the future reservoir, the Nubian minority was resettled. “In 1971 an entire cultural region was flooded,” says Stephan Seidlmayer.

Now a geo-archaeological survey is under way to determine the genesis of the (cultural) landscape of the region. It is being conducted on the west and east banks in the former flood zone of the Nile, north of the first cataract. The area under investigation extends from the northern periphery of the city of Aswan and the rock-cut tombs of Qubbet el-Hawa about 15 kilometres northwards. There Ilka Klose, who is carrying out the survey, has sunk boreholes to determine past courses of the Nile.

"The Nile god with his two pitchers seated in the spring-chamber underneath the cataract island of Bigge."

PUBLICATION: The Nile and its course have changed a great deal over the millennia. Some way inland, pottery from the Naqada Period (~4500 to 3500 BC) has been found in layers 2.5 m deep. Ceramic finds from the Middle Kingdom (~2100 to 1800 BC) have turned up near the river at a depth of up to 6 m, while settlements from the Roman and late Roman period lie up to two metres below the present-day surface.

"The Roman Temple of Sætët. On Elephantine has a Nilometer built into the riverfront facade. The most important Nilometer of the region, it consists of a staircase in a corridor with scales cut into the sides. It was made operational again in 1870 and was the starting point for modern measurement of the water level."

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One thousand kilometres further downstream, at Dahshur, stands the first mega pyramid designed in the ideal, smooth-sided form. The Bent Pyramid, built by King Snefru, had its own Nile harbour; unlike the other pyramids, this harbour had a genuine function. “huge quantities of material had to be moved,” says Nicole Alexanian, who directed the DAI’s work at Dahshur. 3.5 million cubic metres of building material were transported and used in the construction project. But Snefru didn’t build only one pyramid. “landscape architecture was created on a grand scale at Dahshur,” Alexanian says. Building on such a colossal scale was only possible because the course of the Nile at that time lay about 500 metres further east – immediately in front of the pyramids.

The archaeologists are using magneto-metry to detect remnants of the harbour facilities. that’s because the harbour basin and the surrounding buildings are covered by a layer of sand seven metres thick.
NILE DYNAMICS

About 250 kilometres north of Dahshur lies the settlement mound of ancient Buto, today Tell el Fara’in. It is situated in the flood plains of the north-west Nile delta, some 40 km from the Mediterranean coastline and about 10 km from the Rosetta branch of the Nile. The DAI has been conducting a survey in the north-west Nile delta since 2010 to establish the settlement history and changes to the landscape. What impact the dynamics of the Nile delta can have on human communities is shown by the case of Buto. “The site was in constant use from the first half of the 4th millennium to the end of the Old Kingdom (c. 2200 BC),” says project leader Ulrich Hartung. After that there is no trace of occupation for 1,000 years. “Evidently the site was abandoned,” Hartung adds. Archaeologists hypothesize that branches of the Nile shifted in such a way that Buto lost its connection with other regions. It wasn’t until late in the 8th century BC that occupation of the site resumed on a significant scale.

The Nile landscape displays continuous dynamism, the number of river branches and their courses changing radically in the course of time. The constantly evolving fluvial topography alters the habitat and conditions for life, with far-reaching implications for human communities in the delta. The two-branch delta we know today only came into being a little over 1,000 years ago. The dynamics of the Nile have been reduced, however. The annual flooding cycle – responsible for fertile soils, deities, rituals and sacrifices, intense theological and scientific enquiry – no longer happens, brought to an end by the high dam at Aswan which started operating in 1964.

The Amazon

Francisco de Orellana, lieutenant in the service of Gonzalo Pizarro, wanted to find La Canela, the “land of cinnamon”, and the gold of El Dorado, thought to be located east of the Andes. He led the first expedition that travelled the entire length of the Amazon from Peru to the Atlantic coast. The famous report, the Relación, was written by Gaspar de Carvajal, a missionary in Lima, in 1542. The voyage took them through the territory of the “Amazonas”, warrior women who ruled a fertile land, built cities and possessed great wealth in gold and silver. The report was supposed to suggest that the prerequisites for systematic colonization were already in place, and all that needed to be done was to wrest power and control of the natural sources from the Amazon. Today we know the local population told the Spaniards all manner of stories just to get rid of them. But the conquistadors saw what they wanted to see: people with monkey tails as well as what one would call today complex societies. Given the agglomeration of truth and fiction, romances, construction and deconstruction, nobody felt able to assert with confidence what actually existed in the Amazon jungle at the time of the Conquest. In consequence, Amazonia was imagined to be a wild place, just like its inhabitants, who were assigned to the realm of nature rather than being seen as a cultivated people. The continent’s great civilizations were elsewhere. The landscapes of the Amazon tenaciously resisted the imposition that the region could once have supported large sedentary communities.
The region is by no means ideal for settlement. The soils are poor in nutrients, in spite of their alleged fertility. So the surprise was all the greater when traces of dense habitation from the pre-Hispanic period came to light everywhere. In a swathe stretching from Acre province in Brazil in the south-west of the Amazon basin through northern Bolivia as far as Alto Xingu in southern Brazil – regions considered wild and untouched – archaeologists have discovered hundreds of circular ditch enclosures.

Heiko Prümers from the DAI’s Commission for Archaeology of Non-European Cultures (KAAR) and his Bolivian co-director Carla Jaimes Betancourt, in cooperation with the Bolivian archaeological heritage agency, have been working since 2007 at llanos de Moxos, flood plains covering approx. 110,000 square kilometres in the Bolivian part of Amazonia.

The llanos de Moxos savanna roughly corresponds to the department of El Beni. One of the provinces of this plurinational state is Iténez, which lies to the north-east of the savanna, in the north-east of the Bolivian Amazon basin.

“Apparently the history of Amazonia was different from what people for a long time supposed, and from what the romantic imagination wanted,” says Prümers, describing how the view of the region has changed. Suddenly there was talk of a scientific “revolution on the Amazon”, of “lost cities” and “forgotten civilizations”. In point of fact, archaeological data on the inhabitancy of the Amazon basin remains thin on the ground.

When the DAI archaeologists and their Bolivian partners began their work, there was neither a chronological framework for the region, nor was it possible to ascribe certain cultures to certain regions. For a long time it was unclear when exactly settlement of the region had commenced.

“In 2013, in the forest clearing of Jasiaquiri we found for the first time remains from a culture from the 4th to 6th century CE,” Prümers says. That was the first evidence that the region had a long pre-Hispanic settlement history. The village in the clearing is situated immediately north-west of a circular ditch enclosure with a diameter of about 350 metres. Ring ditch systems once enclosed the villages and probably served a defensive purpose. They were originally thought to date from the start or the course of the Conquista (14th – 16th cent.).
A SABAEEAN SANCTUARY IN ETHIOPIA

The libation altar from the Almaqah Temple in Wuqro

We know very little about the influence of ancient South Arabia on the culture of northern Ethiopia. Similarly, the fusion of north-east African with Sabaean culture at the beginning of the last millennium BC is known to us only from very few sites. These include Yeha in Tigray, Ethiopia, and Matara in northern Eritrea. Consequently it was an archaeological sensation when a virtually fully preserved libation altar with other ritual objects of Sabaean stamp were discovered in December 2007. The artefacts came to light during salvage excavations by the Tigray Culture and Tourism Bureau (TCTB) at Meqaber Gai’awa near the small town of Wuqro, their artistic quality and workmanship are exceptional. The finds were the catalyst for fieldwork campaigns from 2008 to 2014, jointly undertaken by the TCTB, the Orient Department of the DAI and the Friedrich Schiller University (Jena, Germany). The result was the excavation and conservation of a temple to the Sabaean moon god Almaqah dating from the 8th to the 6th century BC.

In iconography and style, the 70 cm high altar resembles ancient South Arabian sacrificial altars, although none of the latter had been found in such an excellent state of preservation, not even in Yemen. The Wuqro altar, therefore, provides the first clear indications as to how altar fragments known from other places like Yeha and Marib in the Sabaean heartland are to be reconstructed. Rising from a four-step socle are facade slabs with embedded blind windows; on top rest cover panels decorated with dentil moulding and bearing a royal dedicatory inscription. The cover panels enclose a square basin designed to receive fluids from sacrificial rites. On the western cover slab there is a square-shaped, slightly sunken area which displays impact notches. This circumstance, together with the sheep and goat bone fragments found in the mud floor around the altar, suggests animal sacrifice. Blood or other sacrificial fluids ran out of a spout shaped like a bull’s head into the basin, the bottom of which was made of a limestone slab. Sacrificial slabs of this kind are known from ancient South Arabia under the designation “drink offering table”. Our offering table was fixed to a core of stones and mud mortar inside the altar. Another spout shaped like a bull’s head is to be found projecting from the south facade and discharging into a channel at the foot of the altar; the channel is a two-metre-long limestone monolith sunk into the temple’s mud floor. At the end of the channel the sacrificial fluids collected in a bowl-shaped basin. The iconography and style as well as a votive inscription by a master mason on one of the revetment slabs of the sanctuary indicate that the altar was the work of Sabaean masons. The master’s name, “Haryhum”, is of a type well attested in the corpus of central Yemenite inscriptions. Petrological analysis proves, however, that the masons created the work in situ in Wuqro. The limestone originates from local quarries. A charcoal sample from the altar’s core dates its construction to the 8th to the 6th century BC.

ROYAL INSRIPTION

The altar’s dedicatory inscription is of exceptional importance in cultural history terms. It’s the first royal inscription from the last millennium BC that has been found in a verified archaeological context in the Abyssinian highlands. The text, written in clear Sabaean, states that a previously unknown king called Wal’an, son of King Radi’um and his consort Shakatum, dedicated the altar to the god Almaqah on the occasion of his investiture as lord of the temple of Yeha, then the centre of the kingdom of D’imat. The inscription is moreover not the first one to name Yeha, but it also contains two notable links to regional African cultural traditions, pointing to the Nile valley to the north-west. Mention of the king’s mother and his attribute “he who defeats the enemies” are unusual in ancient South Arabia. In the kingdom of Kush in the middle section of the Nile valley, meanwhile, emphasis of female forbears in the filiation of the king is of great importance. It springs from a tradition of legitimizing royal rule by the female line, a tradition that continued into the Christian Middle Ages. “Defeater of enemies” is a formulaic epithet used by ancient Egyptian and Kushite rulers in their inscriptions and in the iconography of royal tombs and temples to deities. Ceramics found in the Wuqro temple precinct – e.g. vessels with black rims or decorated with geometric motifs - point to the same cultural horizon. In contrast to that, ancient South Arabian traditions are reflected in other votive offerings due to their association with the Almaqah cult. The Almaqah sanctuary thus combined ritual objects and offerings of a Sabaean-influenced elite with votives customary for the locality and offered by the ordinary populace.

Thanks to the generous support of the German Foreign Office, the libation altar and other votive objects have been replaced on site by exact replicas, and the temple has been conserved and covered by a protective shelter for display as an open-air museum. The originals have been on display since October 2015 at a new museum in Wuqro, built by the TCTB and the Berlin Society for the Support of Museums in Ethiopia.

Pawel Wolf

THE LIBATION ALTAR OF MEGABER GAI’AWA led to the discovery of the Almaqah temple of Wuqro – and of a previously unknown centre of Ethio-Sabaean cultural fusion in the Abyssinian highlands, an area barely explored by archaeologists. Photo: P. Wolf

Dr Pawel Wolf, an Egyptologist and classical archaeologist at the DAI’s Orient Department, specializes in the ancient cultures of Sudan and the northern portion of the Horn of Africa. He has directed archaeological surveys and excavations in Sudan, for example at Musawwarat es Sufr, Jebel Barkal, the Fourth Cataract of the Nile and at Qohaito in Eritrea. He is carrying out his own settlement and landscape archaeology project in Hamatalab in north Sudan, and runs the DAI projects on the royal pyramids of Meroë and fieldwork in Wuqro, Ethiopia.

THE SUPERFICIALLY CARVED LIBATION ALTAR, its limestone blocks fitting seamlessly together, was once the ritual cornerstone of the Almaqah temple. Photo: P. Wolf
Migration is a phenomenon that constantly recurs in human history. Migrations can involve people, objects, goods, knowledge, religious ideas, ideologies or cultural techniques. Cultural interaction over the millennia is complex and multifaceted – and one of the most fruitful fields of enquiry in modern archaeology.

ON THE MOVE

Mobility and Migration in the Ancient World

THE MARITIME TRANSPORT AND BARTER OF GOODS has a long tradition on the Solomon Islands.

Photo: Moser
BARTERIAN MIGRATIONS?
A clarification of terms

“If the term Völkerwanderung is used today, the 19th century often resonates through it,” says Philipp von Rummel of the German Archaeological Institute. A dichotomy hinges on the concept of “against” – barbarians destroying civilization – is still potent today and all too often obscures what is a highly complex issue, an intricate chain of events which requires critical analysis. “In the 19th century a people’ was the constitutive unit, and history was regarded as peoples acting against one another,” von Rummel explains. Yet the Volk- in Völkerwanderung is not at all easy to define, and the same goes for the -wanderung (“migration”).

Between the 4th and the end of the 6th centuries, events occurred that ultimately led to the total transformation of the European continent. By the end of this time frame, the Roman Empire in its known form had ceased to exist. The events that mark the start of this transformational process are the incursion of the Huns in eastern Europe and the movement of the Goths into the Roman Empire in AD 376. “While the incursions by the Huns certainly did have the character of raids, not all the migrations of this period can be seen as compact or deliberate processes motivated by a definite desire for conquest,” von Rummel emphasizes. “In fact, most of the numerous groups that were on the move were in search of a stable place in the multi-ethnic state that was the Roman Empire.”

Many of the battles of the Migration Period were battles to secure admission to the empire, not attacks by external powers pursuing conquest. They were struggles between those who wanted to preserve their privileges and those who used force in pursuit of a better life. “Alaric or Theodoric didn’t act against the Roman world or even outside Roman structures, but inside them,” says von Rummel, correcting a common misapprehension. “It’s not the case...
that ‘Germanic’ tribes conquered the Roman Empire. Instead they went through a process of development in and with (the Roman Empire), at the end of which a new power structure emerged.”

Some have pictured the empire breaking up as a result of internal division and decadence, while others view it as a clear case of political barbarism, an attack that brought about the downfall of a proud empire. “Both are correct and both are wrong,” Philipp von Rummel judges.

In those two turbulent centuries, the map of Europe altered beyond recognition. Rome’s vast empire was reduced to its eastern half, as new rulers installed themselves in the provinces of the west. “Life went on and was by no means worse in all spheres of life,” von Rummel points out. A romanticization of the Roman Empire as a model superstate unmatched in the modern era has led some scholars to favour the notion of a clash of civilizations. “It’s right that technology and economy sank to a lower level right across Europe,” von Rummel concedes, but it’s important to ask who the developments were disadvantageous for. “The residence of the Anglo-Saxon king in Northumbria may not have been nearly as sumptuous as Hadrian’s palace at Tivoli, but the nutritional status of the European population remained the same throughout the Migration Period,” von Rummel notes. That means their standard of living was better than that of most people in the 19th century, the century when the notion of Völkerwanderung and barbarian invasions had most currency.

Vandals in Africa – Völkerwanderung without “vandalism”

Keystone from a small CHURCH IN HENCIR EL-GOUSET (Tunisia) with an inscription naming the Vandal king Thrasamund. Photo: von Rummel

Epitaph from the TOMB OF THE VANDAL ARFRIDOS from a church in Thuburbo-Makua, Tunisia, today in the Bardo Museum, Tunis. The Vandals did not differ from their Romano-African neighbours in tomb design either. Photo: von Rummel

The MAUSOLEUM OF THEODORIC in Ravenna. The cornerstones at the intersecting sides of this impressive burial monument are carved from single blocks. Photo: DAI Rome

SADDLE FITTINGS of a Gepid prince from Apahida, now on display in the National Museum of Romanian History. Apahida is a commune in Transylvania which became famous for the rich grave goods originating from three Migration Period tombs. Fig. “Saddle fittings of a Gepid prince – Apahida.jpg” James Steakly, GFDL 1.2 or later

CARthage UNDER VaNdAL RUnE: big villas were built in the Tunisian city. If they differed at all from older Roman houses, then it was only in being even more opulently equipped. Photo: von Rummel

The BASE OF THE OBELISK OF THEODOSIUS in the Hippodrome in Istanbul (Turkey) shows clear distinctions in status in the imperial propaganda of the early Migration Period: in the upper register the imperial family with bodyguards, below them barbarians bringing gifts. Photo: von Rummel
NEW SOURCES IN ARCHAEOLOGY

New methods in archaeology could bring clarity to a complex situation. For instance, determining the age of organic objects has become more accurate in recent decades thanks to radiocarbon dating. Similarly, material analysis can provide information about the production and distribution of artefacts, while isotope and DNA analysis, used increasingly widely lately, can help identify certain groups within migration movements, for example.

PHILIPP VON RUMMEL

They are a valuable addition. But like all sources, the sources from natural science research must be regarded critically. For example, biological methods can supply us with information about population history and about kinship. But this doesn’t say much culturally and sociologically, because kinship has frequently been defined above all in sociological, not biological terms. And when you get to questions like self-attribution, identity and language, it can get very complicated.

PHILIPP VON RUMMEL

If knowledge can be deepened thanks to new methods, then there’s always great enthusiasm at the beginning. But we shouldn’t seek to play historical methods off against genetic methods. Collaboration between the humanities and the natural sciences is fruitful and necessary – and is long established at the DAI. Ancient DNA is one of many categories of sources history can ask questions of. And while it can supply extremely valuable information, there’s no question of it being more important or more objective than other sources. Whether we’re talking about DNA from an ancient skeleton, or about an archaeological find or a text, historical interpretation is required in every case if the information provided is to be more than merely factual. Archaeology has always been an intermediary between very different disciplines and approaches. In this tradition, palaeogenetics takes its place among a host of other natural sciences that are applied in archaeology. At the DAI, it’s now practised really as a matter of course in collaborative projects, in studies on human as well as animal DNA.

ARCHAEOLOGY WORLDWIDE

Are the natural sciences competing against classical methods of archaeology?

New SoUrceS iN archaeology

What are the discourses in archaeology with regard to the new possibilities, such as those presented by DNA analysis?

PHILIPP VON RUMMEL

If knowledge can be deepened thanks to new methods, then there’s always great enthusiasm at the beginning. But we shouldn’t seek to play historical methods off against genetic methods. Collaboration between the humanities and the natural sciences is fruitful and necessary – and is long established at the DAI. Ancient DNA is one of many categories of sources history can ask questions of. And while it can supply extremely valuable information, there’s no question of it being more important or more objective than other sources. Whether we’re talking about DNA from an ancient skeleton, or about an archaeological find or a text, historical interpretation is required in every case if the information provided is to be more than merely factual. Archaeology has always been an intermediary between very different disciplines and approaches. In this tradition, palaeogenetics takes its place among a host of other natural sciences that are applied in archaeology. At the DAI, it’s now practised really as a matter of course in collaborative projects, in studies on human as well as animal DNA.

PROF. ESZTER BÁNFFY

is First Director of the Roman-Germanic Commission of the DAI in Frankfurt.

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ACROSS THE WAY TO EUROPE

The spread of the Neolithic

Across large parts of the ancient world, between 10 000 and 6500 BC, people become sedentary; they produce food instead of gathering it, domesticate animals and plants, build houses, develop pottery and eventually even metalurgy, and differentiated social institutions emerge. The oldest forms of this way of life are known from the Fertile Crescent, the core zone of the Near East, beginning in the 10th millennium BC. From there this early agricultural mode of subsistence spreads, from the 7th millennium BC onwards. The “Neolithic Revolution” travels up through south-eastern Europe to central Europe and ultimately further north and west.

“What we understand by civilization in Europe today originally comes from this region of the Near East,” says Eszter Bánsffy, First Director of the Roman-Germanic Commission of the DAI (RGK). The transmission process is driven by the south-east European Starčevo culture, named after an archaeological site in Serbia. “The people belonging to this culture were the last migrants that in genetic terms come from Anatolia – carriers of the innovations of a social and cultural ‘packet’ that changed Europe irreversibly,” Bánsffy says. But it would be wrong to imagine the Neolithization of Europe as a one-way mission civilisatrice in which a “more advanced” culture acted as mentor to a more primitive one. “In the course of this long-lasting evolution there were a variety of contacts and complex acculturation processes going on between the immigrants and the resident population of hunters and gatherers in south-eastern and central Europe,” Bánsffy emphasizes. “So Neolithization wasn’t really a revolution in the literal sense.”

Contact between the cultures was promoted by a deceleration in the migratory movement of immigrants in the region around the western Carpathian Basin, partly because the agriculturalist subsistence mode needed to be adapted to the ever cooler and wetter Atlantic climatic conditions. Thus opportunities to learn from one another arose. “The resident population of hunter and gatherer cultures was perfectly adapted to the hill and water landscape of the region,” the archaeologist says.
What the early farmers were in search of most of all was fertile soil. But Eszter Bánffy sees another important motive behind the dynamic expansion into modern-day Germany: the quest for salt. Salt could compensate meat-poor nutrition and moreover was essential as a preservative. Brine springs, where salt could be recovered from inland waters, were known from low-lying fenland – a topography the farmers were familiar with – north of Frankfurt as well as the Elbe–Saale region and Lesser Poland.

To unravel the complex history of the Neolithization of Europe, archaeological research that combines the humanities and the natural sciences is essential, says Eszter Bánffy with conviction. Several projects that she directs and collaborates on apply traditional archaeological methods in addition to environmental and bioarchaeological methods. Isotope analysis, palaeo-medical analysis and ancient DNA analysis are used in order to confirm archaeological secure finds and features, and also to find new answers to old questions. There is still a great deal to find out about a revolution that was not a revolution and yet changed the face of a continent. One of the most radical transformations was the emergence of a new culture. “In the course of a series of complex developments and interactions, a new cultural identity emerged, that of the Linienbandkultur – the first farmers of central Europe,” Eszter Bánffy explains. These were descendants of the north-west Balkan Starčevo culture, “the last immigrants from the south-east.”
**IRANIAN NEOLITHIC**

The Neolithic is probably the most innovative phase in human history that we archaeologists can describe," says Dr. Judith Thomalsky, head of the Tehran Branch of the Eurasia Department of the DAI. It is a phase, moreover, that begins at several places in the Fertile Crescent simultaneously. One of the indicators of the revolutionary transformation is the start of pottery manufacture. Early ceramic production begins in north Mesopotamia – in Syria, the Levant and south-east Turkey – as well as in Iran's Zagros Mountains and in Fars in southern Iran," explains the archaeologist, "and does so at the same time, that is around 7000 BC.

This is one of the findings of an international conference on Neolithization that took place in March at Tehran University, organized by the DAI's Sedentarization Research Cluster in cooperation with Dr. Hasan Fazeli Nashli of the university's Institute of Archaeology (see box). In addition to pottery making, other Neolithic innovations are indigenous to Iran, researchers have discovered. "By means of DNA analysis plus archaeozoological and archaeobotanical investigations we can detect traces of the local domestication of goats and of cereals," says Thomalsky. Neolithization is a lengthy process, however. Simply holding livestock is not the same as domestication, and manipulation of plants long precedes the first human cultivation of selected varieties. In Iran, the process begins 10,000 years ago.

**TECHNOLOGIES**

When pottery was invented in the first half of the 7th millennium BC, the ceramic styles of that primordial phase are fairly uniform. But soon regional styles develop. In the period when pottery becomes regionalized, regional contacts and networks evidently become more strongly developed," Thomalsky says. The need for materials for the emergent technologies increases, promoting the circulation of these materials. This is especially apparent with the advent of metallurgy, another pioneering innovation of the Neolithic period.

"For Ali Kosh in the Deh Luran Plain, we have evidence of the first processing of ores like natural copper and malachite starting from the 9th millennium," Thomalsky says. There is experimentation with the new technology in the 6th millennium, before it then spreads through large swaths of Iran and beyond in the 5th millennium.

Judith Thomalsky is studying the evolution of the distinctive Iranian lithic industry. The earliest evidence of it is to be found in the Zagros Mountains and in Fars. Thomalsky analyses flint implements aged between 8,000 and 14,000 years. "It appears this new technology then spreads from here into Turkey and the Caucasus," Thomalsky says. All in all, as the conference found, there were many separate localized Neolithic developments, but also lively interaction between them.

**SEDENTARIZATION RESEARCH CLUSTER**

The conference "Neolithization and its Consequences: A global view from and to Iran" was held at Tehran University from 1 to 4 March 2016 and was organized by the DAI's Sedentarization Research Cluster in cooperation with Dr. Hasan Fazeli Nashli of the university's Institute of Archaeology. The DAI's research cluster no. 1 "From sedentarization to the complex society: settlement, economy, the environment, cult" (speakers: Friedrich Lüth, Karin Bartl, Norbert Benecke, Markus Reindel) links together the institute's research projects related to Neolithic processes. It conducts comparative analysis of the circumstances of the sedentarization of humans in different environments and cultural regions of the Old and New World with the aim of clarifying the fundamental steps towards the formation of complex ways of life.

**THE OLDEST SETTLEMENTS OF TAPPE**

Sialk near Karshan in Isfahan Province go back 7,000 to 8,000 years.

Photos: Thomalsky

**HERDSMAN WITH HORSE**

In a Palaeolithic rock shelter near Kermanshah, central Zagros, Iran.
Where do they come from, those useful techniques that people have used for thousands of years to simplify their lives (or even just to show off)? How do people know how to cultivate plants, rear animals, make pottery and – much harder – objects from metal?

Finding and extracting ore, smelting and casting it – this was a veritable innovation, if not indeed a revolution (after ceramics the second transformation of material by fire). Physical evidence of metallurgy, primitive or elaborate, has been found in many parts of Eurasia. Analysing this evidence, together with the knowledge it embodies, itself requires innovative methods, especially where there are no written sources. “Most concepts of knowledge are lacking something,” says Svend Hansen, First Director of the Eurasia Department of the German Archaeological Institute. If merely academic knowledge, written down and canonized, were to be regarded as knowledge, it would mean excluding the majority of the human race from consideration. “That’s why it’s important to consider objects which are the embodiments of knowledge.”

But how does complex technical know-how spread? Only via artefacts that are traded, given as a gift, or stolen? “From the Palaeolithic onwards, the societies of western Eurasia between the Atlantic and the Urals were linked by transregional networks,” Hansen explains. “In this framework occurred the exchange of goods, skills and ideas, and the interaction of people.” Groups of hunters roamed vast areas, encountered other hunters and communicated with them. “Innovations spread fast when they were plausible,” Hansen says. That’s true of the Neolithic as well as the beginnings of metallurgy. Metal is plausible as an innovation because it’s the first recyclable material, capable of being used over and over again. Also plausible are wheels and wagons, which verifiably appear between Mesopotamia and the North Sea around 3500 BC.

In the 5th millennium BC, metallurgy develops from western Asia as far as south-east Europe. “Metallurgical innovations relied upon a constant and rapid transfer of knowledge,” Hansen explains. One prerequisite is a high degree of social cooperativeness. Apart from that there are technological factors that promote knowledge transfer over long distances. “For some metals like tin, antimony and silver there’s only limited availability,” Hansen says. “That alone constitutes an inner motivation to cover long distances.” Deposits were always potential meeting places for specialists.
The first farmers who came to south-eastern Europe from Anatolia and the Levant formed a network recognizable by the material record and stretching from Turkish Thrace and Macedonia to the middle reaches of the Tisza (Hungary). Remarkably similar clay statuettes represent one form of common culture. The second European wave disseminating the agricultural subsistence mode, brought by the Linear Pottery Culture (LBK) between Lake Balaton and the northern section of the Upper Rhine Plain, is founded on the high recognizability of identically decorated vessels and uniform buildings built in their thousands according to the same scheme. These networks regulated the exchange of necessary goods and prestige objects. Through mutual aid and support, they had the potential to reduce the danger posed by crop failure and other crises and thus also to reduce the possibility of conflict and violence. Such networks also served the dissemination of technical know-how. Many innovations in metallurgy, such as lost-wax casting, were widespread between the Persian Gulf and central Europe by the 4th millennium BC.

Within societies, technical skills and know-how were passed on by observation and imitation. And as in all epochs, trainees had to complete an apprenticeship in their craft or specialization. “In pre-literate cultures we can assume this occurred in the family or kinship group,” Hansen says. With the introduction of writing, schools could theoretically have taken on the role of specialized training and increasingly in transmitting the knowledge stored in the skills of craftsmanship. No evidence of this exists in Mesopotamia, however, so one should assume the oral tradition continued to flourish in literate cultures. Dissemination of knowledge among multiple individuals was necessary because people were mobile in the Copper and the Bronze Age. The survival of an entire community could conceivably have been put in jeopardy if a solitary genius had decided to pack his or her bags and leave.

OLD LINKS
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MELTING POTS
The international links of major sanctuaries

Between the 8th and the 6th century BC a big part of the Mediterranean was on the move. Groups of people ventured abroad in search of trading opportunities, while others hoped to settle land or found cities. Most of them first went to Delphi to consult the oracle in the temple of Apollo. The temple thus became an information exchange for geographical, nautical and ethnological data. This phase in history later came to be called the Great Greek Colonization. It should be borne in mind that the Mediterranean region was not an enclosed interior space, but was connected to other cultural zones via rivers and trade routes. Links reached into Celtic lands on one side and circum-Saharan cultural areas on another, the latter partly overlapping with the cultural areas of the ancient Near East. The Arabian peninsula was connected via the Pacific Ocean with India, which in turn had links with Central Asia. With so much on the move – people, know-how, goods – sacred sites very frequently played a part in the ancient world that is unfamiliar to us today: they were meeting places, information exchange and coordination centres. As such they testify to interactions that exceed cultural boundaries.

In the Greek world, mobility was a matter of course. People would frequently travel for religious reasons. One example of this is the Panhellenic festivals, which were held once the polis societies had emerged in the 8th century BC. Every polis that held sacred games had to dispatch a delegation to all places in the Greek world months before they were due to start, to announce the exact dates in line with the various cult calendars.

The Olympic Games were instituted in the 8th century and slowly acquired Panhellenic significance, as did other games. Every four years, Olympia summoned young athletes to its Panhellenic games. It wasn’t only athletes who came, but anybody with status and power and means. The sports contests that were held there were so famous that the ordinal number of the festival came to designate a period in history (there’s an echo of this today, with the 31st Olympic Games of the modern era in 2016). At the games, people came together, knowledge and information circulated, local and foreign goods were exchanged, skills and techniques diffused. The sanctuary of Olympia, in the north-west of the Peloponnesian peninsula, has been explored by German archaeologists since 1875. The sprawling site, with its many fine structures for ritual and sport, has now been almost entirely excavated.

SAMOS
The Greek island of Samos lies off the Ionian coast of Asia Minor. In classical antiquity it was a regional power and a centre of trade. It was there that a monumental temple complex was erected to Zeus’s wife and sister Hera, the Heraion, which Herodotus records as being the biggest temple in all of Greece. The sanctuary of Hera passed through a period of peak prosperity in the 8th to the 5th century BC, as is attested by the wealth of votive offerings made of ceramics, stone, faience, ivory, metal and carved wood which were preserved in the boggy ground at the site.

The Heraion itself has been an object of study of the Athens Department of the German Archaeological Institute (DAI) for about 90 years. In 2012 and 2013, excavations were conducted to the east of the Great Altar, which dates from c. 550 BC, an international team of archaeologists led by Wolf-Dietrich Niemeier, then first director of the DAI Athens Department, made some surprising discoveries. They found a layer of debris containing a great deal of sanctuary refuse. At first sight an utter jumble, the debris, once sorted and analysed, provided evidence of far-reaching international links. Cypriot limestone statuettes, precious metals, and casting moulds for jewellery were among the new finds, as were a Phoenician-made, Egyptianizing seal ring and an ushabti statuette of limestone that had been imported from Egypt. An older debris layer was found to contain an Egyptian bronze statuette from the Nubian 25th dynasty; the naked female figure of a con- cubine has African facial features and carries a crown and a lily in her left hand. “No other Greek sanctuary has yielded such a wealth and such a variety of imports from the Near East and Egypt among votives of the early Archaic period as the Heraion of Samos,” says Wolf-Dietrich Niemeier. “In the 7th century BC, therefore, Samos was already connected to the international trade networks of the eastern Mediterranean and beyond.” The task awaiting the archaeologists now is to analyse the profusion of new finds and prepare them for publication.

The international links of major sanctuaries

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PROF. WOLF-DIETRICH NIEMEIER
former first director of the DAI Athens Department, directed the excavations on Samos.

Babylonian bronze statuette of a man with a dog

Egyptian bronze statuette of the 25th dynasty.

Ushabti of limestone.

Phoenician-made, Egyptianizing silver ring.

Photos: Niemeier

Debris layer with votives from older altars. The debris level was found to contain plentiful sanctuary refuse. The jumbled debris, once sorted and analysed, provided evidence of far-reaching international links.
Ports are interfaces between land and water, providing access to distant worlds. In many geographical contexts ports are necessary for transporting goods, people and information. Ports are thus mediators of economic, social and cultural structures.

Ports are complex systems in which the environment, technology, logistics overlap with social, economic and political factors. How do cities sited on the coast define their relationship with the hinterland? To what extent do they face, or turn their back on, the sea?

The urban culture of the ancient world is one of the main subjects of study in archaeology – many of the most important ancient centres were also ports. Another focus of archaeological research is finding out how human mobility proceeded and how the exchange and transmission of resources and ideas functioned in the past.
How were the harbour and settlement sites actually chosen? “For the landing sites, the harbours, people preferred sheltered places in bays, shallow coastal waters or on rivers,” Messal points out. “The settlement attached to it was generally built on higher ground in the immediate vicinity.” Archaeologists are seeking to clarify how exactly the harbours were connected to the settlements and what role the harbour played in the life of the settlement. As time passed, it seems a kind of maritime identity developed – the graves at coastal settlements were sometimes shaped like boats and were mostly at an elevated position with a good view of the harbour and the commercial centre.
Umm al-houl looks at first sight like a small unremarkable spot on the Qatari coast of the Persian Gulf. Some 19th century buildings – perhaps 20 of them – stood here in a hamlet that was bounded on the landward side by a wall. “But it’s an important site of Qatar’s cultural heritage,” Kristina Pfeiffer of the orient department of the german archaeological institute (dai) points out. the now-ruined hamlet is the only walled settlement on the south-east coast of the Qatar Peninsula. extensive surveys have been carried out in the area since 2012 by the dai orient department in cooperation with Qatar Museums (QM). as the old site is at risk from construction activity nearby and also from environmental forces, salvage excavations were carried out from 2014 to 2015.

The groundwater level has changed dramatically as a result of building activity. Photo: Pfeiffer

The harbour area is largely moorland today, boggy and overgrown with reeds.

TOUGH WORKING CONDITIONS

The harbour area is largely moorland today, boggy and overgrown with reeds.

GEOMAGNETIC INVESTIGATIONS

in Rostock-Dierkow.

Photo: Karle, NIH

PILE CORE SAMPLING

in Bardy/Sweilube.

Photo: Messal

The colonial-era outpost lies 20 km south-east of the Qatar capital, Doha. Directly before it, on the seaward side a lagoon has formed, separated from the sea by a sandbank, and now accommodating a low mangrove forest. The recent construction of a sedimentation basin on the landward side has completely destroyed the natural topography of the surrounding area. The walls of the basin now enclose the settlement on the north, west and south sides. While inhabited, the settlement opened onto the sea. Round towers served as lookout posts, especially on the seaward side. The hamlet consisted of several complexes built around yards of various sizes; they are constructed of mud-plastered limestone and have rectangular plans in the traditional building style of the region.

In 2015, the archaeologists discovered the remains of a possible small harbour and boat workshops among the mangroves. "The accessibility of the Arabian Gulf is one main reason for the location of the settlement," Pfeiffer says. Firstly the inhabitants’ subsistence was secured, and secondly the site provided access to the big pearl banks. Pearls have always been a highly prized and widely traded commodity. Pearl diving in the Persian Gulf was therefore a lucrative business. It was for this reason that one of the leading Qatari merchant families established itself at Umm Al-Houl, contributing to the importance of this small spot on the Qatar coast. The end of the pearl trade spelled the end of Umm Al-Houl. In 1930, the Japanese began to produce cultured pearls.

The harbour basin can be seen as an L-shaped discoloration (from algae growth). Image: Google Earth

THE HARBOUR OF GROSS STRÖMKENDORF

The harbour basin can be seen as an L-shaped discoloration (from algae growth). Image: Google Earth

THE TRADING AREA OF GROSS STRÖMKENDORF

is being investigated on land and on the water – here, geomagnetic sounding in the shallow waters of the harbour basin. The geophysical measurements are being carried out by the Institute of Geosciences of the Christian Albrecht University, Kiel. Photo: Messal

ON THE SEA-FACING SIDE OF THE SETTLEMENT

stood a round tower that may have served as a lookout post. Photo: Pfeiffer
A genuine *Völkerwanderung* appears to have taken place upon the world’s largest ocean around 3000 BC. In 20 metre long canoes, people voyaged across the ocean and gradually established settlements on the islands of the Pacific. The Lapita people – named after a site on the Foué peninsula in New Caledonia – set off from the Bismarck Archipelago in Papua New Guinea and travelled to the Solomon Islands and Vanuatu. Later on the Lapita culture spread to Fiji, Tonga and finally Samoa. But where did the Lapita people come from? From south China, Taiwan, the Philippines or perhaps even Indonesia? Or did they originate from the Bismarck Archipelago, where the oldest traces of that culture have been found?
“We’re still right at the beginning,” says Johannes Moser of the DA’s Commission for Archaeology of Non-European Cultures (KAAK). Since 2011 he and his colleagues have been working on the island of Malaita (Solomon Islands), trying to find out more about how prehistoric people populated the Pacific region. The first habitation wave occurred there during the Palaeolithic, 30,000 years ago. “The Lapita people are the newcomers,” Moser explains. They came some 3,500 years ago, settled the coastal areas and brought decorative, dentate-stamped pottery, Lapita ware.

The archaeologists have found lithic debris of flint in several caves, under rock shelters and at find-spots in the open. The flint was evidently brought to the flaking stations and used for making hatchets – predating the first contacts with Europeans in the late 16th century. It has become clear that the tools were not manufactured for domestic use. “What we have here is a very large-scale production centre, whose artefacts – predominantly stone hatchets – entered into circulation supraregionally as wares for trade or barter,” Moser explains. The finding place named Apunirehena occupies a key position on the island of Malaita on account of the unique and immense quantity of raw materials found there. Contacts between the islands and functioning networks, even across great distances, have a long tradition in the Melanesian region.

Among those studying the stones at Apunirehena is doctoral student Benjamin Spies from the University of Tübingen. He is investigating the evolution of flint technology, which appears to have begun at this site over 2,000 years ago. He also wants to find out whether Malaita supplied the region with silex.
CROSSROADS OF CULTURE

At the Ra rock shelter, the second archaeological site on the island, Moser and his colleagues found a laid surface of stones that was obviously man-made. Underneath were human remains, which had probably been buried. After the discovery they covered over the bones again. “The inhabitants of the island didn’t know there was a grave at this spot,” Moser relates. “Otherwise the place would have been taboo.” Luckily for the researchers there is no such thing as retroactive tabooing. So examination of the remains could proceed, in the hope of casting some light on the provenance of the population.

The first investigations into the skeletons of three individuals were conducted by the palaeoanthropologist Julia Gresky from the natural science section at the DAI. “Normally bones are destroyed by the damp conditions and roots in climates like these,” Gresky explains. The find was therefore a lucky strike. It was quickly established that the buried individuals had died before the first contacts with the Europeans.

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The first investigations into the skeletons of three individuals were conducted by the palaeoanthropologist Julia Gresky from the natural science section at the DAI. “Normally bones are destroyed by the damp conditions and roots in climates like these,” Gresky explains. The find was therefore a lucky strike. It was quickly established that the buried individuals had died before the first contacts with the Europeans.
THE SOLOMON ISLANDS AND PART OF THE BISMARCK ARCHIPELAGO display remarkable diversity. Photo: Moser

NOMADS IN IRAN on the way to summer pasture. Their journey led them past the prominent rock where King Darius I had his tomb hewn into the rock. The photograph dates to between 1972 and 1978 and was taken by Barbara Grunewald, the photographer of the Tehran Department (today Branch).

THE SOLOMON ISLANDS AND PART OF THE BISMARCK ARCHIPELAGO with increased land-mass during the lower sea level (regression) phase in the Pleistocene. The map shows Palaeolithic find-sites and the oldest find-site on the Solomon Islands, Vatuluma Pososi.

The Solomon Islands and the Bismarck Archipelago today. Graphic: Wittersheim

COOPERATION PARTNERS
- National Museum, Solomon Islands (Honiara)
- Ministry of Culture and Tourism, Solomon Islands
- Tony Hosake, Director of the National Museum
- Lawrence Kiko, Chief Archaeologist; National Museum
- Dennis Marita, Director of Culture

ADDITIONAL PERSONNEL
- Chief Andrew Raroirae (Maniaha)
- Robinson Kokope (Masupa)

LOGISTICAL ASSISTANCE
- German Embassy in Canberra
- Honorary consul of the Federal Republic of Germany on the Solomon Islands, Gerald Sternzel (Honiara).
‘German architecture, especially Gothic, has nothing dark about it. Then suddenly you find yourself in Sicilian light with its ancient Greek architecture, which is so different to the historical monuments in this country,’ the architect says. He goes on to explain the differences: ‘In Germany, most monuments are incorporated in built-up ensembles. In Sicily, in the archaeological zones or parks, you are often alone with the monument, confronted with it.’ When he takes visitors to Agrigento, he is delighted every time by their enthusiasm.

As a construction history specialist, Beste is always interested in the historical context of the buildings he is examining and so he asks questions that go far beyond the science of architecture. For instance: ‘Who were the people that put up these buildings? What kind of lives did they lead? What type of society did they live in?’ The structures Beste works on are the Domus Aurea imperial palace in Rome, the amphitheatres in the ancient city of Capua in Campania and in Ancona on the Adriatic coast, and the Temple of Olympian Zeus at Agrigento.

But his favourite project is the Colosseum in Rome. He considers the Flavian amphitheatre to be one of the supreme achievements in Roman architectural engineering. ‘It’s a monument of stupendous dimensions and was constructed in just ten years.’ And that’s not all. Crowds of spectators numbering fifty thousand were managed with perfect organization. ‘The Colosseum is so famous but at the same time so little known and barely understood,’ Beste says. Today, archaeologists and architectural historians seek answers to questions of a different kind. In the past, no one asked how the Colosseum’s subterranean level functioned. Nobody wanted to go down into the basement,’ Beste adds with a laugh.

It was agreed with the Soprintendenza Archeologica della città’s antiquities authority, that construction history specialists from the DAI and their Italian colleagues would conduct investigations in the neglected hypogaeum of the Colosseum. ‘And it revealed surprise after surprise,’ Beste reports with enthusiasm.

Beste’s way of looking at a building encompases its social context and its history and even what might seem an insignificant detail: ‘For me, construction history begins with the building site,’ he says. The building site for the Colosseum was by no means lacking in historical significance, and it also happens to unite two projects Beste is working on. The Colosseum was erected on land that previously formed part of Emperor Nero’s Domus Aurea, on the site where an artificial lake was to be created at the Emperor’s behest. But that lake remained on the drawing board. It’s the complex construction history of ancient Rome at places such as this that fascinates the specialist – places where art, architecture, economy and sociology all overlap and have to be considered in conjunction if meaningful statements are to be made about what happened in the ancient world.

‘It’s a great privilege to live and work in a city like Rome,’ Beste says with enthusiasm. ‘Italy is a culturally highly developed nation with unbroken traditions. Antiquity and modernity stand side by side with great self-assurance. That’s easy to see not just in Beste’s field, architecture, but also in fashion and design, where there’s a natural elegance, indeed even in the food culture – “in all spheres, highly accomplished self-presentation”.’

The modern melting pot of Rome with its many faces, cultures and languages is an object of fascination for Beste where the links to antiquity are constantly in evidence. Also when he takes his children to the football stadium to watch an AS Roma match. ‘It must have felt exactly like this in ancient Rome.’

When Le Corbusier came to Istanbul in 1911, what fascinated him even more than the grand monuments were the wooden houses that typified the city, with their proliferation of forms and colours and filigree construction. The DAI’s Martin Bachmann knew exactly how he felt. ‘Here the architect in me comes out,’ says the trained architect and construction history specialist, who has been Second Director of the Istanbul Department since 2006.

In 1996, after completing his architectural studies, Martin Bachmann became a member of the scientific staff at the Institute of Construction History at Karlsruhe University. He obtained his doctorate there in 1999 with a thesis on Karlsruhe Castle and the evidence of a palatial residence in the town of Durlach. In 2000 he joined the Istanbul Department of the DAI as a construction history specialist. He taught at the BTU Cottbus and then at Dortmund University before resuming his activities at the DAI in 2005.

‘100 years ago Istanbul was still almost entirely a wooden city,’ says Martin Bachmann. The old wooden houses that fascinated Le Corbusier displayed very diverse building forms, decorations and colours. But the advent of modernity and a sea change in urban planning from the start of the 20th century led to their demise and now little remains of ancient architectural substance. Bachmann’s favourite project was entrusted to the DAI’s researchers over 50 years ago.

Martin Bachmann always wanted to specialize in Baulorschung, studying buildings as an archaeological source. ‘At the end of my studies I did a wave for a moment and considered becoming an architect,’ he recalls. But his doubts were resolved by his work at the Karlsruhe Institute of Construction History and since then he has found the alternative paths – architecture and archaeology – united in his work at the DAI. Bachmann’s projects and coordinates the conservation projects at the world heritage site of Pergamon. ‘It’s the best possible combination of scholarly research and creative architectural practice,’ he says.

One of the main challenges for the construction history specialist is the work in the modern town of Bergama, where the Istanbul Department in cooperation with German and Turkish partners is carrying out extensive restoration measures on important monuments and is implementing a tourism plan for the old district, integrating its many examples of Ottoman and multi-ethnic architecture. ‘With projects like this one you have to not only understand the structure and function of ancient buildings, but it’s also necessary to understand how a modern town functions, so the past and present don’t get in each other’s way,’ Bachmann explains. When it comes to structural analysis and restoration, the age of the buildings concerned is not important. For the architectural historian, the approach is always the same – as is the smooth cooperation between the various disciplines and specializations involved. ‘Careful planning is of the essence when heterogeneous teams come together to accomplish complex tasks. ‘In a way I have to design the architecture as if I were an architect, designing the planning, coordination and execution.

Having become a member in 1998, Martin Bachmann has been chairman of the Koldeweys Gesellschaft, the professional body of construction history specialists, since 2010. ‘Construction history is treated in a rather cursory manner at universities now,’ he notes. For that reason the Koldeweys society’s work is important and Bachmann feels an obligation towards it, especially since he sees his own position as privileged. ‘Construction history has always been highly appreciated at the DAI and always will be,’ he says. And the days when some people thought construction history specialists may have done useful things but couldn’t work in a scientific conceptual way are luckily long gone.

For 15 years now Martin Bachmann has lived and worked in one of the most dynamic cities in the world. ‘Istanbul in many respects cannot be compared to any other place,’ he says. ‘Four thousand years of history and then rapid development and change at a pace known only otherwise from Far Eastern cities, and a growth rate that knows no bounds.’ The population of Istanbul now stands at 18 million. ‘The dynamism does mean that some things are lost,’ Bachmann says with regret. ‘The situation is similar to what it was in Germany in the 1960s. People generally look forwards rather than back into the distant past.’ While this attitude puts historical heritage at risk, attachment to that heritage is no less strong, he says. ‘There’s a creative tension between the desire to be part of the modern world and to preserve one’s identity from cultural heritage, and that [tension] can be very fruitful.’ As developments unfold, Bachmann advises against jumping to conclusions. ‘Many of what goes on can be understood better if you live here.'
It's hot and dusty; sandstorms blow particles into the delicate lens. In other places it's so cold that the fingers start to seize up. Sometimes getting the right light, the best view or a particular detail means climbing up wobbly towers or scaffolding. At other times, there is no light, no electricity, nor crowds constantly getting in the way.

The tradition of using professional photographers at the DAI goes back a long time. We ask three of them about their day-to-day work.
Explains, "Photography is writing with light," Behrens says, the etymology encapsulating her way of approaching her profession. "I try to use as few light sources as possible since our eye was originally used to only one source of light, the sun. Where there is no natural light, she resorts to flash lamps, continuous light kits and hand-held flash units, but these have to be used with care, as she points out: "If I produce more than one shadow by using several light sources, it confuses the viewer."

At the start of a new campaign, your thoughts are invariably on the technical equipment. "But in the course of the campaign the objects start to speak to you. You notice little faults, for example, and you like them. They make the difference and reveal something like the personality of the object," Behrens says. Sometimes the makers of the artefacts become physically tangible. "When I look at the rear side of terracottas under raking light, I see the fingerprints of the people who made them," Heide Behrens says.

Photography requires illustration. When the German Archaeological Institute's precursor was established in 1829, photography had just been invented. It was some time before the new technology was accepted as a means of documentation in the archaeological sciences. The method of choice was still drawing — and it did not disappear as photography progressed. Today both methods are in use, especially in the representation of archaeological objects. Photography is no longer inferior when it comes to precision rendering, and digital photography, initially eyed with suspicion, is now long past its teething troubles. Digital technology has made photographing easier, something that professionals appreciate too, though the introduction of digital photography did beget misunderstandings about the nature of the photographer's craft. This is most definitely about more than just pressing the shutter release. It takes an artist's eye to know what detail to focus on or when to apply the golden section. Without that expert eye, the composition won't work, without a sense of proportion and colour, the result will be as muddled and unsatisfying as snapshots so often are. Even when what is to be documented is located in wild, trackless terrain, in deep excavated trenches or in gloomy corners of provincial museums where there's no electricity, or when time is short and improvisation necessary, the photographer has to see the subject in painterly terms, as a coherent composition, which will present what is of archaeological interest in the most appropriate way.
When the daylight is harsh and glaring, Irmgard Wagner attaches a diffuser to create artificial shadow. Conversely in a six-metre-deep excavation trench it can be so dark that powerful lamps have to be used if worthwhile photographic records are to be made. Not infrequently the photographer climbs up scaffolding and edges along gantries in pursuit of the best possible image. It is experience that tells her how and where to position herself to achieve the result she wants – even when she is wrestling with a nine-metre-long camera crane in order to photograph inaccessibly objects, like the horizontal section of an excavation site.

In producing photographic documentation for research purposes, the scientific dimension comes first. “Although that doesn’t mean you dispense with aesthetics and beauty, because the quality of the photograph is what determines how archaeological work is perceived,” Irmgard Wagner says.

At 2 p.m. the first part of the working day is over. Now begins the computer work. The images have to be sorted and processed. Then they are put on a network server so the archaeologists can label them. Often work goes on after dinner, six days a week and sometimes Sundays too.

“The quality of the photograph is what determines how archaeological work is perceived.”

Sometimes there are curious onlookers who insist on being photographed too.

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HANS-PETER WITTERSHEIM

Hans-Peter Wittersheim knows the problems of heat and dust all too well. The photographer and illustrator has worked for the DAI’s Commission for Archaeology of Non-European Cultures (KAAK) since 1986. He began as a graphic artist for the institute’s publications and was responsible for the graphic documentation of excavation finds. Photography entered his skill-set in the late eighties. Heat as well as wind, sand and dust that dirtied the lenses were daily problems, for instance in Togo, west Africa. “In Togo in the early nineties I still did drawings in parallel,” Wittersheim remembers. That was the transition period from drawing to photography as the preferred method of archaeological documentation. Later, while he was working at Karakorum, the ancient capital of Genghis Khan in Mongolia, came the change-over from analogue to digital photography. For a while he still continued to work with film: “The first digital cameras weren’t up to scratch yet.” That has since changed, but what has remained throughout these developments is Wittersheim’s high level of professionalism. “When photographing objects, small finds or architectural remains, I have to pay particular attention to the lighting,” Wittersheim says. “I have to know how to employ light and shade to avoid excessive contrasts. Shadowing and creating diffuse light using films and reflectors is essential then.” All of that has to work on an icy cold morning in front of a Mongolian yurt when the fine motor skills of the fingers fail and objects need to be photographed using a copy stand.

Wittersheim has experienced the humid conditions of the tropics too. In Sri Lanka, he had to be up on the photo tower even before sunrise – before the tall palm trees cast their shadows across the excavation area. On the Sri Lankan site, poisonous snakes and monitor lizards, and once a highly dangerous chain viper, were among unwelcome visitors.

In Morocco a big challenge he faced was called Ifri n’Ammar, a cave in the eastern Rif mountains. “The cave is only open on one side, of course, and consequently dark,” Wittersheim says. “Later on we acquired a power unit to power the lamps with. But it was still very difficult to cope with the light and shadow.” In contrast, the courtyard at an old Berber farmstead where the excavation team was accommodated provided ideal conditions for photographing finds. “The whitewashed walls supplied regular light by reflection,” Wittersheim recalls. Until the cooks lit a fire at lunchtime and white ash was strewn all over the black cloth on which the finds were arranged.

Photography a Deposit of Rubbing Stones at an excavation in Tissamaharama, Sri Lanka. Photo: Weisshaar

IFRI N’AMMAR, a cave in the eastern Rif mountains of Morocco. Inside the cave, the natural lighting in the excavated section was a challenge for the photographer. Photo: Wittersheim

KARA KORUM, GENGHIS KHAN’S ANCIENT CAPITAL has been partly built over by Erdene Zuu monastery, which is here being visited by pilgrims. Photo: Wittersheim

A MONGOLIAN MARMOT HUNTER reported the discovery of a tomb in the cleft of a rock in the mountains of Bayankhongor. The photographer accompanied a team of archaeologists – all heavily laden with equipment – to the find spot at an altitude of 2,200 m. Photo: Ir I

POISONOUS SNAKES AND MONITOR LIZARDS are among unwelcome visitors at archaeological digs. Photo: Wittersheim

TOGO IN THE EARLY 1990s, the rock art is photographed but also copied from the rock face 1:1 on transparencies. Photo: Moser

AT AN OLD BERBER FARMSTEAD, lunch is prepared in the courtyard for the excavation team. Photo: Wittersheim

YURT AS RESEARCH FACILITY: The icy cold of the morning gives way to high-summer temperatures at midday on the Mongolian steppe. Photo: Zick

IN TROPICAL SRI LANKA, the photographer has to climb his photo tower before sunrise – before the tall palm trees cast their shadows across the excavation site. Photo: Weisshaar

Pilgrims in front of Erdene Zuu monastery. Photo: Pohl

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EVERYDAY ARCHAEOLOGY

HANS-PETER WITTERSHEIM

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Germany and Iran have a long tradition of scientific cooperation. What is today the Tehran Branch was established in 1961 as an independent department of the DAI. It conducts research on the archaeology of Iran from prehistory until Islamic times. The long-lasting excavations at central sites like Takhri-i Suleiman, Zendan-i Suleiman, Bastam, Bisutun and Firuzabad have a significance that goes beyond the borders of Iran and have decisively influenced our view of the Urartian to the Sassanid period of this cultural region. Furthermore an extensive specialist library and an image archive have been built up at the institute’s building in Tehran. In addition to archaeological fieldwork, the branch publishes a journal as well as several series of publications.

In 1996, the branch was incorporated into the Eurasia Department, founded one year earlier and based at the head office in Berlin. After 30 years, the Tehran Branch acquired premises in Tehran, from where the management organizes projects. The branch office also functions as a meeting place for German and Iranian scholars and researchers. Since 2005, the branch has assisted the Iranian Cultural Heritage, Handcrafts and Tourism Office (ICHHO) in salvage excavations. On 18 October 2015, during German Foreign Minister Steinmeier’s visit to Iran, a Memorandum of Understanding was signed between the DAI and the ICHHO. It is envisaged that programmes for cultural heritage protection and for “soft tourism” at major archaeological sites should be developed and implemented jointly with the ICHHO. Planning specifically concerns ancient buildings at Firuzabad (among them Qaleh Dokhtar of the Sassanid king Ardashir II), archaeological surveys and structural documentation at the world heritage site Bisutun/Bagistan (Kermanshah), and archaeological fieldwork on the 100 hectare site of Rivi in North Khorasan Province (Iron Age to Sassanid).

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40,000 Years of Music

The European Music Archaeology Project

Archaeologists and scholars of antiquity describe ancient cultures, investigate buildings and writings, explore landscapes and lifestyles, and study the art of ancient societies. At the mention of art we think immediately of sculpture, painting and of course literature of the great authors of the past. When it comes to prehistoric art, our imagination is put to the test somewhat – partly because our contemporary conception of art is very often clearly separated from ‘real life’. That’s true not only of what we would call today the plastic and graphic arts. It’s true also and most especially of a form of human utterance, that, more or less uniquely, is common to all known cultures in human history: music.

What could possibly be known about musical life in the hundreds of thousands of years of the Stone Age? Not a lot, one might think. But in recent decades more and more finds have come to light that enable us to say something about the musicality of that long-gone age. The oldest musical instruments in human history have been found in Germany, in the valleys of the tributaries of the upper Danube, and they are flutes. Recovered from caves and approximately 40,000 years old, the flutes are made from the bones of vultures and swans or from mammoth tusks.

Music is a primary need in human civilizations and it can tell us a lot about ancient cultures,” says Arnd Adje Both, who is directing an innovative music archaeology project at the DAI’s Orient Department. “Today we know that music and musical instruments – along with other forms of cooperation – contributed to interaction via, in some cases, widely spread-out networks.”

The European Music Archaeology Project (EMAP) is itself a widely spread-out network. An EU-funded collaborative project involving several European research institutes, EMAP proposes to explore the long and rich history of European musical culture in the coming years. It will not only host theoretical discussions between archaeologists but will also bring together science and art, ancient knowledge and modern technology – as the only project of its kind.
ARCHÆOMUSICA

The centrepiece of the project is a multimedia travelling exhibition that displays professionally made replicas of ancient instruments and reproduces their sound. With their theoretical ground-work, music archaeologists place the instruments in their cultural context, while professional instrument makers ensure that the replicas come as close to the originals as possible. There are musicians whose task is to give the instruments a voice and to coax out sounds that make the audience think: “That’s how it might actually have been.”

André Acarie is curating the exhibition, which is a fairly extensive one. “The replicas we show in the exhibition are not enclosed in glass cases, as originals have to be,” he explains. “But instead they are playable instruments which visitors can touch and try out.” The exhibition designers have used the latest technologies for sound and visual reproduction so as to give as full an impression as possible of the ancient instruments and their music.

Stone Age bone flutes, thunder sticks, tooth rattles and other musical objects accompanied early humans from Neanderthal times, and certainly once anatomically modern humans arrived in Europe 40,000 years ago. This is the starting point of the project and the exhibition, which go on to track developments in music-making through the great civilizations of the ancient world right down to modern times. Music archaeology also looks at the question of how much has survived of the music of the past, and whether traces are still to be found in the living traditions of Europe’s musical cultures.

“Many of the instruments are impressive testimony to elaborate craftsmanship,” André Acarie both says. The instrument makers exploited the possibilities of their time in a creative and intelligent way. At the same time they continually referred to ancient knowledge handed down from generation to generation, and also had recourse to technologies that had been disseminated among cultures that in some cases were very remote from one another. The Neolithic is rich in ceramic finds; the Bronze Age by contrast produces stringed instruments as well as metal horns and trumpets. In the third millennium BC a host of new instruments come to the fore: lyres, harps and lutes in Mesopotamia, while harps appear in contemporaneous figural depictions in Greece. Harps were known in ancient Egypt too, as were lutes in the second millennium BC. Included in Tutankhamen’s famous grave goods were trumpets of silver and copper (2nd half of the 14th cent. BC).

In the exhibition, the instruments themselves are displayed and their cultural context is explained. From the beginning, music and sounds produced by instruments played a vital role in religion and rituals, and also served to transmit information and signals. When homage was paid to rulers and when victories were celebrated and obsessions held, music was never absent. Music, of course, also fulfilled the purpose of giving delight.

The European Music Archaeology Project (EMAP) was awarded first prize among 80 competing projects in a competition organized by the EU’s Education, Audiovisual and Cultural Executive Agency (EACEA) in 2012. The innovative project, which combines scientific research and artistic creativity, seeks to illuminate the ancient music history of Europe in an unusual way: musically, scientifically and hands-on. It is due to run for five years, from 2013 to 2018. Seven European countries and ten European institutions are involved in the project, which is coordinated from Tarquinia in Italy. It offers a far-reaching journey through time and space in the interactive exhibition ARCHÆOMUSICA, organizes workshops, conferences and concerts, and produces CDs, DVDs and teaching material.

www.emaproject.eu
Unfortunately we don’t know the artist shown here immortalizing one of the world’s most famous monuments. His subject is the palace terrace at Persepolis, one of the capitals of the Achaemenid empire. Research began there in the early 1930s under the direction of archaeologist and Assyriologist Ernst Herzfeld. This photograph was taken by one of his colleagues, the archaeologist and architect Friedrich Krefter.
A genuine Volkswanderung appears to have taken place upon the world’s largest ocean around 3000 BC. In 20 metre long canoes, people voyaged across the ocean and gradually established settlements on the islands of the Pacific. The Lapita people – named after a site on the Foué peninsula in New Caledonia – set off from the Bismarck Archipelago in Papua New Guinea and travelled to the Solomon Islands and Vanuatu. Later on, the Lapita culture spread to Fiji, Tonga and finally Samoa. But where did the Lapita people come from? From south China, Taiwan, the Philippines or perhaps even Indonesia? Or did they originate from the Bismarck Archipelago, where the oldest traces of that culture have been found? Migration is a phenomenon that constantly recurs in human history. Some migration routes and destinations are being investigated by the DAI, and are presented in the title story in this issue.
Near the Sea of Galilee in northern Jordan lie the ruins of the ancient city of Gadara. The Hellenistic-Roman site, today called Umm Qays, is the location of an unusual workshop where traditional stone masonry techniques are taught — skills that had been virtually forgotten in the region. Mastercraftsman André Gravert and trained craftsman Tobias Horn, stone masons and restorers, are teaching the basics of traditional stone masonry in a hands-on way to a mixed team of Jordanians and Syrians.

One objective is capacity building for the local population. Another is that the Syrian participants should be able to make use of their newly acquired skills in the reconstruction of their country.

The idea for this vocational training scheme, which the Foreign Office is supporting, came from an architectural historian at the DAI, Dr. Claudia Bührig, who also planned out the programme.