

## **Peoples through Space and Time – Archaeology in Germany**

Historical research is directed to man in his time and in his social and geographic environment. Archaeology particularly contributes to reconstructing previous worlds in which men lived.

Archaeology is efficiently organized in Germany. Laws serve to protect ancient ground monuments. State and local historic preservation offices undertake research in cooperation with museums, research institutes and universities.

The stock of archaeological findings has greatly increased in the past 25 years. This is due not only to lively construction activity but also to a more sensitized consciousness with regard to historic preservation. Using improved and new scientific methods, the evaluation of this stock has led to important progress in our knowledge of past cultures.

An exhibition organized by the Museum of Prehistoric and Early History, Staatliche Museen zu Berlin – Preußischer Kulturbesitz and the Association of State Archaeologists of the Federal Republic of Germany in cooperation with the Art and Exhibition Hall of the Federal Republic of Germany, Bonn.

The exhibition is under the auspices of the President of the Federal Republic of Germany.

## **The Long Road of Science**

Prehistoric finds were of great interest to scholars from early on. Already by the 15<sup>th</sup> century, fossils, grave and treasure finds that were discovered by chance found their way into princely art chambers and curiosity cabinets.

Around 1800 the first laws were passed which included protective measures for archaeological monuments. Antiquity associations dedicated to collecting and researching archaeological artifacts began to appear in the course of the 19<sup>th</sup> century.

The oldest true historic preservation law was passed in 1902 in the Grand Duchy of Hesse. Another legal milestone is represented by the Prussian excavation law of 1914, which with its provisions of execution, passed in 1920, became valid nation-wide. The legal basis for all areas of archaeological historic preservation in all states was not created until mostly after 1970.

## **01**

### **Habitat Earth - Alternating Between Warm and Cold**

Everything on earth is dependent on climate. Beginning with the evolution of the first life forms, up through the emergence of the earliest human species and to modern civilization, everything has been subject to a series of changing temperatures and precipitation. To this day intense periods of warm and cold alternate.

One of the most important insights of the last 5 years of paleoclimatology has been that climate change can have a global impact within just a matter of decades.

Besides reconstructing past habitats, an essential goal is therefore to develop models for future climate changes. The most important sources for this are so-called climatic archives in which environmental conditions have been recorded through natural processes.

## **Climate Dating from Mud**

The bottoms of placid lakes without outlets or tributaries are excellent climatic archives. Over a long period of time everything settles on to the bottom of these lakes, whatever has grown in, been spilled or dropped into them by the wind and weather. Alternate layers of light and dark sediment form an annual stratum.

One of the best preserved examples of such sedimentary strata has been found at the bottom of the Holzmaar in the Eifel. Here a 30-meter-long profile was raised, providing data on the past 22,500 years. Sedimentation from the Ice Age contains very little organic material and at 11 meters' depth is clearly different from that of the post Ice Age era. About 13,000 years ago algae suddenly appeared in great amounts once again, leading to darker layers of sedimentation and thus documenting climatic warming.

Based on layers of ashes found in the sediment, two volcanic eruptions can also be dated: 12,560 years ago the Laach Lake volcano erupted and 11,200 years ago another volcano erupted creating the Ulmen Maar. In other places Volcanic ash from these eruptions appear in earth layers and as a result serve as a time mark.

## **Polar Ice - A Cornerstone of Climate Research**

The most reliable form of archives for climate change are ice cores taken from the polar areas, particularly from Greenland and the Antarctic. These cores are taken from inland ice where almost no immediate human influence exists.

Air becomes trapped in ice and remains unchanged for up to 450,000 years, providing information on the atmosphere of the past. Readings showed that greenhouse gases have greatly increased, beginning after the last glacial maximum approximately 21,000 years ago and lasting 11,000 years. The increase has been particularly dramatic in the last 200 years, well above any value during our entire human history.

Temperature fluctuations are also visible in Greenland ice. Changes have even been detected for the time 70,000 years ago during which in just a matter of a few decades annual temperatures increased approximately by 16° Celsius. In the past 80,000 years, 24 such abrupt climate changes have been registered.

## **Geological History - The Time Before Humans Existed**

In some federal states, fossils and their deposit sites are placed in the same category of historical monuments as human archaeological remains. As such they are the responsibility of the geological departments of the respective state's Archaeological Historic Preservation Office.

Paleontology is a geological discipline encompassing the scientific study of plant and animal fossils. Fossils are the oldest testimony to the earth's hundreds-of-millions-of-years-old history, and provide information on the development of plants, animals and ecosystems. What is conspicuous is that there are frequent breaks in the composition of organisms, pointing to the emergence and disappearance of species, sometimes under catastrophic events.

Reconstructing primeval correlations helps us to better understand today's ecosystems and allows us to develop models for our planet's future.

## **Hagen Was On the Equator**

During the course of the earth's history, the continents constantly shifted and changed their appearance. 320 million years ago, Hagen in Westphalia was situated near the equator. Separated from the open sea, a lagoon stretched out and led into a larger river system.

The former brickworks excavation site at Hagen-Vorhalle with its numerous and excellently preserved fossils provide us with information about this time, especially through the oldest completely preserved flying insects to have been found to date.

Fossils washed into the lagoon prove that the coast was densely wooded with ground pine and horsetail that grew to 30 meters height. Its swamp forests housed many different animals, of which its insects and spiders are of particularly great importance to research. The rivers of these carbonized forests and the lagoon's brackish water were teeming with now extinct fish and amphibians.

## **Hunsrückschiefer - A Treasure Chamber**

The 390-million-year-old fossils found in the Bundenbach region have been the object of paleontological research for the past 150 years. One of the newest of these, the 'Project Nahecaris', named after the typical fossil found in Hunsrückschiefer (slate), the Nahe Crayfish, is breaking new research ground.

In an abandoned slate quarry, an 18m<sup>3</sup>-large square stone block was carved from the fossil-rich surrounding stone, reduced to 300 individual blocks and transported away. After these blocks were split up, the most modern technology was used to analyze the sediments; each fossil was documented and individually measured in units of layering. This method helps to record the various species living at the same time, thus allowing archaeologists to grasp the dynamics that existed within the ecosystems of the 'Budenbach Habitat'.

To date, more than 250 former ocean plant and animal species have been scientifically determined. All of them existed during the geological era known as the Lower Devonian Period.

## **02**

### **Prehistoric Giants**

Numerous fossils found in Germany have long since become world-famous: for example the primeval bird Archaeopteryx, or Solnhofen limestone or Budenbach slate, and finally the ancestral horse found at the Messel excavation site.

What is little known, however, is that genuine prehistoric giants also existed in Germany. Impressive examples of this are the bone remains of a 160-million-year-old carnivorous predatory dinosaur, an enormous ocean ammonoid that lived 80 million years ago during the

Cretaceous period, or the fossilized skeleton of a 10-million-year-old baleen whale measuring 6,50 meters in length.

### **03**

#### **The Messel World Natural Heritage**

Since 1995 the Messel fossil pit has become Germany's only Unesco World Natural Heritage site and is of particularly great importance for understanding how modern mammals developed. In the 1980s, the Messel pit was still scheduled to be filled in as a waste disposal site.

The fossils were created 49 million years ago through sedimentation in a volcanic lake. The Messel oil shale contains a wealth of unique traces of animal and plants that once thrived in a lush primeval forest with an almost tropical climate.

The excellent preservation conditions existing at the Messel site, resulting even in the conservation of stomach contents and 'skin shadows', made a detailed reconstruction of the appearance and lifestyle of this diverse animal world possible. Research at the pit has as yet not been completely finished. As a result, research can expect to uncover more surprises.

### **04**

#### **Neanderthal Man - Our Ancestor?**

Archaeological and anthropological research is being carried around the world to determine the Neanderthal's phenotype, his material and intellectual capacities as well his environment and survival strategies. Since this first skeletal remains were found in the Neander Vally near Düsseldorf in 1856, approximately 300 other remains of individuals have been found in Europe and western Asia.

The Neanderthal with his characteristic skeletal structure emerged 200,000 ago and became extinct about 30,000 years ago. The evolution and demise of this human species are the object of much controversy in the scientific world.

The controversy involves whether the Neanderthals were capable of the kind of language that modern man has, and in what relationship they stand to Homo sapiens, who appeared approximately 40,000 years ago in Europe. Did they mix, or could the Neanderthals have died out without leaving traces in the genetic make-up of modern Homo sapiens, even though they must have existed side-by-side for thousands of years?

#### **Eye to Eye with a Neanderthal**

As soon as the first Neanderthal skeleton was found in 1856 first attempts were made to reconstruct his appearance. Popular images produced in the 19<sup>th</sup> century of a not-quite upright figure with an underdeveloped intellect still prevail today.

Yet modern research has been able to develop a totally different picture: an intelligent being perfectly adapted to his environment, possessing an appearance that is little different from our own.

This is most remarkably demonstrated by recent 3-dimensional reconstructions which have recreated the skull's soft tissue. To do this, all data available on individual characteristics were used. However, the only comparative data available to us is that of modern man.

## **The Neanderthal in a Genetic Laboratory**

Modern technology allows us to extract small samples of DNA from the remains of persons who died ages ago. In this process it is important to extract the mitochondria which are responsible for cell metabolism. Mitochondria DNA, which is independent from that of the cell core, can only be inherited from the mother and only changes by mutation. Through tracing common mutations occurring over time questions of origin may be answered.

In 1997 mitochondrial DNA was extracted for the first time from the humerus bone of the first Neanderthal skeleton to be found. The genetic differences to humans living today point to the fact that the Neanderthal was not a direct ancestor.

## **Genetic Fingerprints of an Extended Family**

When skeletons were found in the Lichtenstein Cave near Osterode in 1980, they were thought to be the remains of human sacrifices from the late Bronze Age.

It was not until 1992, when systematic excavations began to take place, that 38 human remains of both sexes and all ages were recovered, of which it was possible to analyze 21 with regard to their 'genetic fingerprint'. Fortunately, low temperatures existing in the cave created an excellent environment for preserving DNA. Because of this, it was possible to determine family kinship with 99-percent certainty, which is the necessary standard for modern paternity tests, for example.

As a result, it was possible to reconstruct kinship for the first time within a prehistoric group without any archaeological indication of family relationships existing previously. The analysis proved that kinship among the skeletal bodies is similar to what you would find in a graveyard of the same era, making it possible to identify the cave as a place of burial.

## **The Thermoluminescence Method**

Some minerals store energy from radioactive elements and cosmic radiation. The older the mineral, the more energy is stored in its crystal lattice. This energy is set free at temperatures over 500°C and the process of absorption begins again. For analysis, heat (over 500°C) is applied to samples so that the energy stored will be emitted in the form of light (=Thermoluminescence). This light is measured and determines the age of the sample. The Thermoluminescence method is especially used to determine the age of samples that are 50,000 to 100,000 years old.

## **05**

### **The Middle and Late Stone Age of Hunters, Gatherers and Fishers**

The Middle and Late Stone Ages together form the longest period in human history, comprising more than a million years. During this time, hunters and gatherers were subject to intense climatic change.

Already in the 19<sup>th</sup> century interdisciplinary research was being carried out to determine the kind of conditions under which humans lived during the Ice Age. Archaeology's main concern was at first to study and classify the stone tool forms found at ancient resting places, to assign them within a stratigraphic-chronological order and to chronologically order this era.

Excavations of the past decades have been carried out with great accuracy, allowing a systematic analysis of Ice Age hunting camps. Apparently they were set up according to functional criteria. Recent research has shown that prehistoric hunting communities were intelligently organized, even those of *Homo erectus* 400,000 years ago. As a result, views of our ancestors' primitive life have begun to change. In determining the dates, the kind of climate and environment that prevailed, as well as in reconstructing ecological correlations, other related scientific disciplines are of prime importance.

### **The Oldest Spears in the World**

Since 1992 more Paleolithic sites are being excavated at the brown coal mining works in Schöningen, south of Helmstedt in Lower Saxony. These massive 10- to 15-meter-thick Ice Age deposits with their interglacial layers are rich reservoirs of animal and plant remains. As such they offer a chance to more accurately reconstruct the climate, vegetation and environmental history of Central Europe for the time ranging from 400,000 years ago to today.

Of particular importance is the discovery of a camp of wild horse hunters spread over an area of approximately 2500 m<sup>2</sup> in which thousands of bones, flintstone tools and various campfire sites have been found. A major advance in research is represented by seven wood spears found in total and dated at 400,000 years old - the oldest preserved human hunting tools ever to have been found. In addition, the discovery at Schöningen proves that the Central European *Homo erectus* was capable of producing effective projectile weapons and of organizing a systematic hunt for big game.

### **Neanderthal Hunting Grounds**

The Neanderthals lived as nomads and left numerous traces of the places where they camped, worked and slaughtered animals, in the open as well as beneath protective rock shelf.

In 1993 in Ochtmissen near Lüneburg, an exceptional discovery was made of more than 50 carefully worked hand-axes which were approximately 150,000 years old. The fact that no scrap pieces were found indicated that these hand-axes must have been produced at an other site. In addition, scrapers, knives and points were found.

From 1987 to 1993 archaeologists studied a Neanderthal hunting ground originally situated in the midst of a lake landscape near Lichtenberg in Lower Saxony. The sands containing the layers were analyzed by means of thermoluminescence dating, and were determined to be 57,000 years old.

### **Friesack – A Resting Place of the Middle Stone Age**

As in the Old Stone Age, hunters of the Middle Stone Age were dependent upon conditions of their environment. About 11,500 years ago there was a sustained increase in climate temperatures, marking the beginning of the 'Post Ice Age', which has continued to this day. The ice steppes slowly turned into sparsely wooded landscapes and the animals of the Ice Age disappeared. Hunters and gatherers, however, adapted to their changing environment.

In Friesack, Brandenburg, a resting place was excavated originally situated on the edge of a lake, now dried up. Here archaeologists found tools, the remains of a hunting bag and collected plants. What was particularly important about this find is that the organic materials, bows and arrows, wooden projectiles for the hunt, as well as nets and harpoons for fishing

were all excellently preserved. Together they offer an insight into the kind of economy and the state of Mesolithic technology.

## 06

### **The Art of the Ice Age**

The origins and development of art in the Ice Age is one of the most fascinating chapters of human history. Recent finds and reconstructions have allowed us to gain a considerably greater understanding of Ice Age art. Besides the discovery of jewelry consisting of animal teeth through which holes were drilled, as well as stone and ivory beads, an exceptional cache of small ivory figures of a lion, bear, bison, horse and humans was found in the caves of the Swabian Alb. These figures were created 30,000 years ago and are therefore the oldest sculptural works of art to have been found in the world.

About 15,000 to 12,000 years ago prehistoric artists used slate to carve stylized female figures and make naturalistic drawings of animals, especially of horses and reindeer. They also produced statuettes from ivory, antlers and stone. Although the most magnificent cave paintings have been found in Southwestern France and Spain, archaeologists have recently discovered traces of cave painting in Germany as well.

## 07

### **New Stone Age - Evolution or Revolution?**

The emergence of a production economy is one of the most important events to have taken place in human cultural development. In Central Europe this process becomes evident with the first *Bandkeramik* settlements of the 6<sup>th</sup> millennium B.C.

For a long while it was considered proven that agricultural and livestock breeding practices spread from the Near East to Central Europe exclusively via the Balkans. However, according to the most recent scientific findings, these practices spread over various routes. Certain pottery forms, for example, point out parallel civilizing trends radiating from Southwestern Europe. Pollen diagrams taken from Southwestern Germany provide evidence that wheat was cultivated there even before the *Bandkeramik* culture emerged.

Independent of this, archaeologists and anthropologists have been debating whether farming and livestock breeding was imported only by immigrants to Central Europe, or whether - and to what extent - native Mesolithic hunters were responsible for these 'neolithic innovations'.

### ***Bandkeramik* Culture – The First Farmers**

The *Linienbandkeramik* culture with its typical clay vessels, sharpened stone tools, silex tools and living-storage buildings measuring up to 30 meters in length, is a homogenous independent archaeological appearance that existed over a period of 500 years in the loess soil areas of Central and Eastern Europe. As of 5500 B.C., these culturally homogenous farming societies apparently spread in waves from the South East into North Western Europe.

Extensive excavations and settlement analysis in the Rhine Valley brown coal quarries or in Saxony have provided insights into the acquisition of land and settlement processes during the Late Stone Age. A region became developed through the establishment of 'pioneer settlements' - consisting of a few long houses - along rivers and valleys in an otherwise densely wooded area. These settlements soon grew into larger, main hamlets for an agricultural settlement area.

The end of the *Linienbandkeramik* on the threshold to the middle Neolithic around 4800 B.C. is characterized by crises. This is reflected in, among other things, reinforced settlements and the discovery of the remains of persons killed in the settlement near Talheim on the Neckar River.

### **Well Construction 7000 Years Ago**

In 1990 the remains of a formerly 13-meters-deep well were found in the *linienbandkeramik* settlement of Erkelenz near Mönchengladbach. Archaeologists excavated seven meters of the well-casing made of huge oak planks, which was preserved up to 7 meters in depth. The discovery of this well was not only sensational in that it solved the mystery of how the settlements were supplied with water in the dry loess soil areas. It also ended the decades-long debate on the *bandkeramik* culture's age in that dendrochronology determined that this well was dated from 5090 B.C.

From another destruction level which is younger by thirty years, thousands of organic remains - wooden tools and vessels, basket work, strings and ropes, numerous plants and seeds - were salvaged. As such they put research on the ecology and economy of the early Neolithic Age on a new footing.

Only seven years later south of Leipzig in Eythra in Saxony, other *bandkeramik* wells were examined which were of an older date than the one discovered in the Lower Rhineland. These wells belong to the oldest wooden constructions found in the world and prove that the first farming settlements in Germany enjoyed a high standard of civilization.

### **Earthworks and Sacred Spaces**

So-called earthworks are typical archaeological monuments of the Late Stone Age. Excavations have shown that they were defensive enclosures surrounded by deep ditches and wood-enforced embankments or palisades, often with complexly constructed entrance gates. In the past twenty years the number of known earthworks has increased 100-fold through the systematic application of archaeological aerial photography. The function of such earthworks, however, is still unclear: were they places of ceremony, central meeting places or fortresses? In Central and Southern Germany these earthworks took on the characteristic form of ring encampments during the Middle and Late Stone Ages. They were first identified as such through aerial photographs. Astronomical considerations determined the exact location of entrances to these geometrically constructed ditch and palisade works. As such they represent the first cult facilities to have been constructed according to the movements of the heavenly bodies.

### **Cult and Magic**

The numerous facets of New Stone Age cults and religions can best be exemplified by the varied burial traditions existing during that time. Body graves and fire graves appear at the same time and side-by-side in the same graveyard. There are also other forms of burial in which bodies are treated in a peculiar, yet evidently religious manner, baffling our modern understanding.

The New Stone Age was not an image-friendly age. This is why portrayals of humans and animals in the form of statues and vessels are always attributed to the religious sphere. They may represent gods or ancestors, or they may have been used as cult instruments. Different interpretations have also been given to explain the function of the numerous Neolithic earthworks to have been found. They are understood to be profane as well as sacred, in the sense that they are cultic meeting-places.

### **Skeletons in Graves, Pits and Ditches**

Real graveyards containing hundreds of graves do not appear until populations began to increase during the early *Linienbandkeramik* period. The dead were either burned or buried in fetal position along with burial gifts. According to anthropological research, the first farmers had a life expectancy of only about 28 years. The broad spectrum of burial gifts - weapons, jewelry and food - point to differences in status, prestige or esteem of those who died, although it is not possible to determine a social structure from them.

Beside such 'regular' burials, the Late Stone Age often presents strange habits in treating its dead. Skeleton parts found at a settlement site, smashed bones of at least 1,000 previously flayed bodies found in the graves of a late *Linienbandkeramik* settlement near Herxheim in the Palatine and more show that Neolithic farming cultures observed a much wider variety of burial rituals than previously expected.

## **08**

### **Technological Change and Innovation**

During the later Neolithic Age, arable land areas were extended and land was put to different use, allowing production to increase, thus also effecting a rise in population. An increased demand for textiles from plant fibers and wool was met by expanding the cultivation of flax and sheep.

In the 4<sup>th</sup> millennium B.C. an innovative leap occurred through the invention of ox-driven plowshares, the wheel and wagon, which produced technological and economic change. Many cart paths in the moors of Northern and Southern Germany give testimony to the expansion of a traffic system.

Another innovation with an equally wide impact is represented by the use of metal and the productive division of labor connected with it. Copper was first imported, and then extracted from quarries and mines.

### **The Discovery of Metal**

The oldest metal objects were found in the Near East. Yet copper mining took place in South Eastern Europe soon after, from where it began to be exported into Central Europe as of the 5<sup>th</sup> millennium B.C.

Further production centers were established subsequently in the area of today's Slovakia. Because of the impurities typical of the copper mined from this area, the origin of the one of the oldest metal objects to have been found north of the Alps can be attributed to it: a copper disk found at the Hornstaad settlement on Lake Constance.

From the turn of the 5<sup>th</sup> to 4<sup>th</sup> millennium B.C. copper technology began to play an important role next to that of traditional stonework in Central Europe. However, it was not until later in the 4<sup>th</sup> millennium B.C. that copper first began to be quarried and then later mined on an independent basis.

### **The Invention of Wheel and Wagon**

One of the most significant technical innovations for mankind was the invention of the wheel and wagon. Up until recently it was considered to be an irrefutable fact that both originated in the Near East. Yet this theory has come into doubt through the discovery of wooden wheels in the marshland settlements in Switzerland and in the Federsee Moor from the foothills of the Alps, dated at 3000 B.C. It is possible that the wheel and wagon were invented in various places independently of each other.

Recent excavations at the foothills of the Alps have provided valuable insights into the construction of New Stone Age wagons. Here the only type to have been found was a two-wheeled cart with a revolving axis and a width of circa 1.2 m, apparently used for transporting agricultural goods. The chassis sat loosely on the axis and was removable. In contrast, four-wheeled wagons with immovable axes were found in Northern Germany and the central Danube area.

### **Living on the Water**

Research on settlements built on stilts is being carried out throughout the Alpine region and on the shore regions of the Baltic Sea. Intense research has proven that since 4200 B.C., buildings were erected not only on stilts but also directly on land in shoreline and moor settlements. As a result, a long research controversy was resolved.

An excellent example for research on a stilt settlement in which archaeological and scientific methods were applied is the Hornstaad Settlement on Lake Constance from 3900 B.C., excavated since 1983.

More important than the building finds are the diverse general insights gained on the environmental, economic and cultural history of the late Neolithic Age. The whitewashed walls of cult buildings found in the stilt settlements in Ludwighafen and Sipplingen on Lake Constance, dated at 3850 B.C., are decorated with reliefs, symbols and naturalist ceramic depictions of female breasts.

### **Textile Remains Found in Settlements Built on Stilts**

The lakes, rivers and marshes of the Alpine foothills are the most important sources of information on the economy, interlacing and weaving work of the New Stone Age in Europe. Marshlands and lake sediments provide the best conditions for preserving organic materials. As a result, settlements built on stilts offer the most comprehensive and diverse spectrum of such artifacts.

Next to wooden tools, antler shafts, weave work from plant fibers for baskets, bags and mats, mostly complete articles of clothing have been found: including sandals, hats and cloak remains. The only other comparable find was the discovery of the mummified body of the Ötztal Iceman. Once the textile remains had been conserved and restored it was possible to reconstruct the village residents' manner of clothing to the last detail.

### **Underwater Archaeology**

In the past years underwater archaeology has become increasingly important, in particular in the Baltic Sea region and at Lake Constance, where shipwrecks and submerged settlements are systematically being examined by nautical archaeologists. In addition, excavations are being carried out in flat water, shoreline zones and in marshlands.

Underwater conditions provide an excellent environment to preserve organic materials such as wood or textiles, which because of the possibilities of interdisciplinary research, represent an overwhelming source of information.

### **Dendrochronology - A Wooden Calendar**

Annual weather changes have an impact on tree growth in that they create tree rings in varying sizes, with different effects for different kinds of wood and different places. The annual rings of wood specimens of various ages are compared, the data is transferred to a graph and brought into chronological order. Absolute dating requires an unbroken series of annual rings up to the present. Because their rings are particularly pronounced, a tree ring sequence was created for oak trees in Central and Western Europe - the preferred building material until the 18<sup>th</sup> century.

The chronology goes back to the first oaks appearing in Central Europe approximately 10,000 years ago. Archaeologists have, for instance, discovered that the New Stone Age existed for 3,300 years in Central Europe (5500 - 2200 B.C.), which is twice as long than previously understood. Modern research goes beyond dating in that it provides important information on the development of climate and environment over the past centuries.

## **09**

### **The Bronze Age - The First Golden Age**

The Bronze Age (2300 - 800 B.C.) is an era characterized by major social, economic and technological development. Because of bronze metallurgy, various European regions that had previously almost no cultural contact to each other grew more closely together.

Traffic and trade routes to ore deposits were established, specialized craftsmen were employed in extracting raw materials and in producing bronze objects. The flow of bronze goods over wide areas resulted in the establishment of foreign relations and fashion trends, and inspired the development of weapons and tools as well as the spread of religious ideas.

### **Trade and Foreign Relations**

Numerous deposits of Early Bronze Age (2300 - 1500 B.C.) copper loop rings with a standardized weight found between the north of the Alps and the North and Baltic Sea coasts give testimony to the intense trade in copper as a raw material. It was produced at Alpine ore deposits and ultimately alloyed to make bronze by experienced metal workers.

As of the Middle Bronze Age (1500 - 1300 B.C.), the intercultural exchange of goods and ideas resulted in a dynamic process of social stratification throughout society, while making the material culture of various regions seem uniform.

Ultimately, fortified hill settlements and other flatland settlements protected by water which have been identified as centers of political, economic and religious life in the surrounding area make evident that the first establishment of territories in Central Europe began during the Late Bronze Age (1300 - 800 B.C.).

### **Gifts to the Gods**

Valuable tools, weapons, jewelry and also vessels made of gold, bronze and clay are found time and again in specific combinations at special sites. These sites include rivers, lakes, moors, mountain tops, passes and former holy sites, now inconspicuous to the modern eye. The valuable goods were obviously buried with the intention never to be brought to light again.

Because of its regularity, it is given cult significance and interpreted as a universal religious act. The so-called hoard finds entailed gifts to the gods, furnishings for the after-life or cult instruments that were to be divested of their sacred or profane use forever.

### **Warrior and Charioteers**

The examination of entire settlement areas and cemeteries with regard to the constellation of burial gifts, burial rights and architecture form the basis of reconstructing the social structures of Bronze Age societies.

During the Bronze Age, settlements were increasingly established on protected hills and property was accumulated in ever better quality - reflected in the burial gifts and hoards - all testifying to the establishment of a powerful social elite.

Control over the sources of raw material and over trade formed the basis for power and wealth. Already by the middle Bronze Age, a warrior elite emerged with the beginnings of

social and thus also territorial differentiation, as reflected by the 14<sup>th</sup> century B.C. warrior grave found in Hagenau near Regensburg.

### **The Wagon Grave in Poing**

Four-wheeled spoked wagons are characteristic of the highest social rank in late Bronze Age society. The rare testimonies to this all originated from rich graves or hoards and first appear in Central Europe in the 13<sup>th</sup> century B.C.

According to the distinguishing construction marks and the rich symbolism of their ornamentation – only the metal parts of the wagon box, wheels and harness are preserved – they were sumptuous carriages used for hierarchic or cult processions.

The wagon grave in Poing in Upper Bavaria provides an insight to the religious world of the late Bronze Age elites. References to the South East are evident in their mortuary architecture, in the canon of burial goods and particularly in the symbolic content of the wagon's ornamental fittings. The construction details of the wagon parts are also unthinkable without a wide-ranging exchange of technological know-how.

## **10**

### **Lavish Accessories for the Afterlife**

Since the end of the 19<sup>th</sup> century, Early Iron Age graves with particularly luxurious burial goods have been described as chieftain graves. These burial sites are mostly characterized by the inclusion of golden rings, prestige objects imported from the Mediterranean, and often a four-wheeled wagon with ornamental metal fittings. These graves provide an understanding of the upper hierarchical level of early Celtic society.

The oldest chieftain graves from the 7<sup>th</sup> to 6<sup>th</sup> century B.C. were found in Southwestern Germany, Northern Switzerland and Eastern France. In the course of the 5<sup>th</sup> century these graves are also to be found elsewhere, particularly around the Middle Rhine area, in the Palatinate and in Saarland. This may have a correlation to the extraction of iron from deposits existing in those areas.

During the era of the great Celtic migrations in the first half of the 4<sup>th</sup> century, archaeological traces of these rich burials have disappeared. This is most probably to be explained by a basic change occurring in the Celtic societal structure.

### **The Hochdorf Chieftain Grave**

The most magnificent chieftain grave of the Hallstatt Era to have been found to date was excavated at Hochdorf near Ludwigsburg in 1978/79, within sight of what is considered to be the chieftain's seat at Hohenasperg.

The undisturbed, luxuriously decorated burial chamber was situated in a 2.4 meters-deep shaft under an almost entirely plowed-off hill, formerly 6 meters-high and with a circumference of 60 meters.

The chamber, built of massive tree trunks, was protected against robbery by stone walls and wooden reinforcements. On a bronze sofa lay the remains of a male, aged 40, who was buried around 550 B.C. with all the accouterments of chieftain status and the noble ambiance of his time.

Scientific analysis of the finds was carried out with unprecedented interdisciplinary cooperation, pointing the way for future archaeological projects.

### **The Kappel Chieftain Grave**

The grave of a chieftain found in Kappel on the Rhine in 1976, is exemplary in understanding the establishment and increasing concentration of power of a leading elite in the early Hallstatt era. Around 600 B.C. a hill was erected to bury this dead chieftain. Its central chamber contained 14 bronze vessels, one large drinking horn and clay vessels, a dagger, spear heads and iron knife. A neck ring and cloak buckle made of bronze indicate the high rank of the person, whose social status is particularly emphasized by the addition of a four-wheeled wagon.

Even though the Kappel grave is but a pale reflection of the extravagant luxury with which the chieftain of Hochdorf was buried 50 years later, it does exhibit the essential attributes of this particular social class.

### **The Rottenburg Stelae**

One of the most conspicuous Iron Age burial customs is the erection of stone burial stelae and megaliths. Three early examples of these are to be found at the Hallstatt era burial site at Rottenburg on the Neckar, dated to the 7<sup>th</sup> century B.C. They consist of locally quarried sandstone blocks. Two of them have heads with carved stylized human features.

The Rottenburg Stone stelae served to cover and mark the place of underground graves in which an individual had been cremated. The two human-like stone stelae in particular are to be understood as depicting a glorified dead person, marking the beginning of a new ancestor cult. This development culminates generations later in the life-sized Celtic stone figures found at Glauberg in Hessen.

## **11a**

### **Continuity in East and West**

Although the core region of the Celtic Latène culture in Southern Germany was subjected to dramatic changes brought about by the invasion of Germanic tribes and the Romans, the neighboring regions to the west, north and east often exhibit a surprising line of cultural continuity.

### **Liebersee – From the Bronze Age until the Early Middle Ages**

The Liebersee burial site on the Elbe River in Saxony contains more than 2000 graves and is one of the largest graveyards in Central Germany. The site exhibits a continuity of over 1800 years, beginning from the Early Bronze Age until the Slavic migration.

Identified as a traditional burial site for select families, it gives vivid testimony to the area's cultural constancy which, although not excluded from many changes in burial customs and forms, does not show any form of foreign influence through direct immigration or mass migration.

### **Continuity on The Middle Rhine**

While Celtic civilizations and their hill forts (Oppida) were disappearing in Southern Germany, the burial sites on the Middle Rhine and Moselle give evidence to an unbroken line of tradition from the Celtic era to the end of the Roman era.

In the 5<sup>th</sup> century B.C. the early Iron Age Hunsrück-Eifel culture came under the influence of the Southern, i.e. Celtic civilization, and remained a center of Celtic art and culture until the middle of the 3<sup>rd</sup> century B.C. Its graveyard sites continued to be used without any obvious break until the end of the Roman period, although the native population preserved its Celtic traditions despite Romanization.

### **The Martberg - A Gallo-Roman Holy Shrine**

It has been known for long while that Roman temples were erected on the Martberg near the Moselle river which, according to inscriptions, were dedicated to Lenus Mars, the main god of the Celtic Treveri tribe.

The rich spectrum of archaeological finds from the late Celtic and early Roman era, as well as the discovery of a Celtic fortified wall of the type *murus gallicus*, prove that the Martberg was not only the site of a shrine, but that the entire facility must have been a Celtic hill fort (Oppida). In Roman times the Oppida was left open, the central Celtic cult area, however, was retained and even augmented by stone in the 1<sup>st</sup> century A.D.

Archaeological research was able to uncover for the first time a more differentiated understanding of how a cult area originated, developed and was structured over an unbroken period between the 1<sup>st</sup> century B.C. until the 5<sup>th</sup> century A.D.

### **On the Threshold to High Culture**

From an archaeological perspective, the entire late Celtic region between France and Hungary presents a predominantly homogenous picture, characterized by the so-called Oppida Civilization. It is distinguished by reinforced cities according to the Mediterranean model, luxury and everyday goods in series production, foreign trade and coinage, as well as a conformity in cult practices and religious ideas.

Celtic culture in Southern Germany declined gradually, its decline is considered to have been brought about by the invasion of Germanic tribes from the low mountains in the 1<sup>st</sup> century B.C. Archaeological research has proven that, in comparison, the region west of the Rhine was continuously populated from the Celtic to Roman era.

## **11 b**

### **Archaeological Aerial Photography**

When in 1987 an aerial reconnaissance plane flew over the Glauberg and discovered a large circular ditch, it was the first archaeological hint of a monumental ensemble of European rank.

As in the area around Glauberg, aerial reconnaissance can systematically examine large tracts of land for past traces of human settlement, and can record them in photographs. These traces are more or less evident on the ground according to the year, ground humidity, light or vegetation density.

The first coincidental images were taken already before World War I, yet scheduled searches did not take place until the 1960s in the Rhineland, and in most other states not until the 1970s. After the fall of the Berlin Wall, aerial surveys were also extended to Central and Eastern Germany. In just a matter of six years more than 50,000 photographs were taken and approximately 3200 new sites were identified in Saxony-Anhalt.

### **Geophysical Sensing**

Geophysical sensing allows a detailed view into what is beneath the earth's surface without having to dig with a shovel. Wherever the ground has been disturbed by human activity, for example by digging graves, ditches or laying foundations, the physical properties of these sites change. These changes are picked up by highly sensitive tools and projected in the form of graphic images onto a screen.

Methods of geophysical sensing include, in particular, magnetic survey, electrical resistivity and ground penetrating radar. Applying several of these sensing methods in combination helps to gain a deep insight into the archaeological site before the first hole has been dug. As a result, excavations can be planned more efficiently and precisely, and the exact boundaries of the archaeological site can be determined.

An excellent example for the implementation of magnetic survey at an archaeological site is the examination of the area around Glauberg. As one of the biggest survey projects to have been initiated world-wide, it uncovered over an area of 2,5 sq.km innumerable information on the prehistoric topography of the entire surrounding landscape, including the monumental burial and cult site of early Celtic chieftains.

### **The Mystery of Late Celtic Four-Sided Entrenchments**

These four-sided entrenchments, visible from afield as a square embankment with trenches, each side measuring ca. 100 meters long, are characteristic of the late Celtic era in Southern Germany. Until recently they were thought to have been erected only on grazing land and primarily in wooded areas far from prehistoric centers. Through systematic aerial survey carried out over the past few years, however, numerous new facilities in the old settlement areas have been discovered and examined by archaeologists.

As a result, the previous interpretation of these four-sided entrenchments as separated holy sites, containing a temple structure and deep shafts for sacred offerings, could not be confirmed. Rather, an earlier interpretation was given greater weight in that these sites represent reinforced estates. The fact that such estates were established in areas that were heretofore considered to be poorly settled throws light on new aspects of the Celtic civilization's economy.

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### **The Celtic City of Manching**

20 of the 380 hectares encompassing the fort hill of Manching near Ingolstadt have been examined by archaeologists, who have identified its development from a small open settlement from 300 B.C. to a political and economic center.

Technological progress in the late Iron Age is characterized by a high level of specialization in craftsmanship. Written records, weights, measurements and diverse imports from the Mediterranean, as well as an ordered circulation of money, give testimony to the urban character of the late Celtic civilization at the threshold of high culture.

Up until 25 years ago, the Celtic city of Manching's demise was considered to have come about as an outcome of war due to the Roman invasion of the Danube. Today, however, it is considered to have come about already by 50 B.C. through gradual economic decline.

## 11c

### **Glauberg – Chieftain Seat and Sacred Shrine**

Between 1994 and 1997 a unique early Celtic monumental ensemble from the 5<sup>th</sup> century B.C. was excavated at Glauberg, north-east of Frankfurt on the Main River. This sensational archaeological discovery, its importance going far beyond Germany's borders, throws new light on the world of the Celtic ruling elite.

On the Glauberg plateau an early Celtic chieftain seat once stood, at the foot of which a monumental burial hill measuring 48 meters in diameter was erected. A so-called 'processional way', 350 meters long and 10 meters wide, led in a direct line from the plateau to the tomb. The surrounding area is encompassed by entrenchment works measuring hundreds of meters in length.

On the edge of the burial hill further spectacular discoveries were made: a life-size stone statue of a Celtic warrior and the broken pieces of three other statues. They all stood at one time within the sacred area, which served as a place of ancestor worship.

The sacred shrine and the burial hill were situated at the center of a sacred area that extended into the landscape in un-dreamt of proportions. As such, the site at Glauberg proves to have been an important site in the early Celtic world, despite its geographically marginal location.

### **Chieftain Grave 1**

The timber-lined chamber of Chieftain Grave 1 was dug 2,5 meters-deep into the ground and protected from theft by a stone packing.

Because of the earth's pressure, all of the artifacts except for a spouted bronze vessel in the burial chamber were compressed into a few centimeters-thick layer. These were salvaged in blocks and later prepared under laboratory conditions, archaeologically analyzed and conserved.

The grave contained the body of a circa 30-year-old man. The chamber floor was laid out with leather, all burial goods were individually wrapped in cloth, the entire burial site was also covered by cloth.

Besides the magnificent weapons and lavish bronze mask fibuli, other artifacts such as the unique golden neck ring in particular and other golden ring jewelry, as well as the Celtic spouted vessel, point to the man's status as a chieftain.

### **Chieftain Grave 2**

The human remains and burial goods found in the major burial hill's second grave were placed in an uncovered trough-like wooden tub. The cremation burial of a 30 to 40 year-old man was much less magnificent than that of Grave 1.

A lavishly ornamented sword and four lances found in the grave identify the dead person as a warrior. His garment jewelry was spread out on the floor in the way it was worn in life. The cremated remains were covered closely with cloth, weighed down by the sword and a belt. One very unusual burial gift is a more than 50 cm large Celtic tube tankard filled with mead, which together with the exceptional burial site make evident that this dead person must also have been a chieftain.

## **Excavation Landscape Germany**

Circa 600 archive show cases, filled with archaeological artifacts symbolize the comprehensive standard of Germany's archaeological historic preservation.

16 display boxes projecting out from this mosaic of fragments and containing artifacts of state-wide significance also symbolize the cultural sovereignty of the German States, the federation principle and this exhibition's claim to national importance.

## **13**

### **Romans and Teutons**

As a result of Julius Caesar's conquest of Gaul, the first clashes between the Roman military power and Germanic tribes from beyond the Rhine and Danube took place around the middle of the 1<sup>st</sup> century B.C.

The borders on the Rhine and the Eastern frontier were secured by the Romans ever since 16 B.C. In 15 B.C. the Alpine military campaign took place, which included the regions on the Upper Rhine and the Alpine foothills up to the Danube.

According to the will of the Emperor Augustus, the area between the Rhine, North Sea, Elbe and Donau Rivers were to be brought under Roman control. This has been confirmed by the most recent archaeological discoveries, proving that the Romans planned a civilian city near Waldgirmes in Hesse and that military camps on the Lippe River in Westphalia were refashioned into civil administrative centers after the turn of the century.

### **The 19<sup>th</sup> Legion's Path**

Roman legions were responsible for carrying out Augustus' policy of Roman expansion. The 19<sup>th</sup> Legion took part in this expansion from the first transversal of the Alps in 15 B.C. until the catastrophic campaign in the Teutoburg Forest in 9 A.D.

Inscriptions and stamps on military artifacts identify the presence of this legion's divisions in the Dangstetten military camp on the Upper Rhine as of 15 B.C. and near Oberammergau in Southern Bavaria at what is assumed to have been an offering place.

A lead ingot weighing 64 kg and bearing the stamp L.XIX also proves that parts of this unit were stationed at a major camp in Haltern an der Lippe before the legion was annihilated, together with the 17<sup>th</sup> and 18<sup>th</sup> Legions, in the Varus Battle in 9 A.D. The Roman military command never gave these numbers to any other Roman unit again.

## **14**

### **The Battle at Teutoburg Forest**

Rome's endeavor to make Germania a Roman province was obstructed by an alliance between the Germanic tribes from the Rhein and Weser rivers. At the head of the anti-Rome alliance stood Arminius, or Hermann, chieftain of the Cherusci, Roman citizen with equestrian status and experienced officer.

The Governor of Lower Germany, Publius Quinctilius Varus, provocation forced him to carry out a campaign within the interior of Germany, whereby his army - consisting of three legions of heavy infantry, six auxiliary cohorts of light infantry and three cavalry regiments amounting to a strength of 20,000 men - was ambushed at *teutoburgiensis saltus* and completely annihilated, together with its entire baggage train, on its return march to the army's winter camps at Lippe and on the Rhine.

Plans to conquer Germany were abandoned by the Emperor Tiberius in 16 A.D. and for many centuries the borders of the Empire were marked by the Rhine, the Upper Germanic Limes and the Danube.

### **Kalkriese – The Place of Battle**

Archaeologists have been attempting to localize the Varus Battle for generations. Scholars even caused an entire mountain range to be renamed into the ‘Teutoburg Forest’; and in a wave of national exuberance the ‘Hermann Monument’ was erected, unfortunately in the wrong place.

Meanwhile, coin findings, scientific research and, most importantly, comprehensive excavations have unequivocally proven that the Roman army was annihilated in battle in 9 A.D. in the area north of Osnabrück near Kalkriese in Lower Saxony.

What is conspicuous is that Roman *militaria* artifacts have been found in many small parts at the site, indirectly confirming antique sources who reported that the Roman General Germanicus, during his punitive expedition against the Germanic tribes six years later, visited the battle field to collect the bones of the Roman soldiers lying there and give them an honorable burial.

## **15**

### **Roman Cities and Settlements**

The interior expansion and safeguarding of the Roman provinces on the Rhine and Danube was a process that lasted centuries. Except for the areas on the Middle Rhine and Moselle, none of the Roman settlement structures in Germany were built from older ones. Particularly the region in Southern Germany had been depopulated since the middle of the 1<sup>st</sup> century B.C. and had to be re-populated by settlers from Italian and far-off provinces.

The most important factor for the economic upswing in the border provinces was the Roman military. Protected by the Roman Limes border, cities began to develop from the improved infrastructure, becoming centers of trade and administration; and rural settlements and agricultural manors were established.

### **Waldgirmes – A Roman City in the Midst of Germany**

Excavations carried out in the Lahn valley near Waldgirmes led to the discovery of a Roman city in the midst of a Germanic settlement area.

Living and trade quarters, open commerce areas, covered walks, a forum with a basilica and portions of a gold-plated bronze equestrian statue, presumably depicting Augustus, the discovery of a proportionally high number of Germanic ceramics, as well as the lack of *militaria* emphasize the civil character of this city, which was developed according to plan around the turn of the millennium.

Its establishment must be brought into connection with the Augustinian policy of Roman occupation and with the intention to carry out the administrative control of a planned province of Germania. As a consequence of the Varus Battle in 9 A.D., the Romans were forced to abandon this city.

### **Roman Craftsmanship**

Almost all areas of Roman craftsmanship have been passed down to us through written and pictorial sources and archaeologically confirmed, also for the economy in the Roman border provinces.

In the cities and rural settlements there evidently existed trade zones for manufacturing craftsmen. Their craft was carried out in gabled, so-called 'line houses' with street-side openings. The sale room was at front, ovens and stoves lighted the working spaces in the middle area, and toward the back were the living rooms.

### **Rheinzabern – Roman Pottery Industry**

Already by the 1<sup>st</sup> century A.D. the pottery producing settlement of Rheinzabern in the Palatinate became established near rich clay deposits of excellent quality. This settlement continued to produce pottery until late antiquity. Initially established as the brickworks for the double legion camp in Mainz, Rheinzabern soon attracted settlers producing a wide variety of ceramic vessels.

In the 2<sup>nd</sup> century A.D. ceramic-producing entrepreneurs from Western Gaul transferred their production to Rheinzabern because of its advantageous position with regard to raw materials, energy sources and markets.

To date, the names of 600 different craftsmen, who were either organized manufacturers of seals, other vessels and construction ceramics such as bricks, roof tiles or pipes, are known to us through their seals. Of Roman Samian Ware alone 1 to 1.5 million pieces were produced here annually. It was distributed from Rheinzabern to the Roman provinces, even to Britannia and far into the northern and eastern barbarian territory.

## **16**

### **Along the Roman Road**

The Roman road system was the basis for its entire infrastructure. It connected cities with the surrounding area and Rome to its provinces.

The Romans built roads - characteristically running in a straight line and sometimes still visible today - which made the flow of economic resources, communication and trade possible, not least also the military safeguarding of its provinces. As a feat of organization and engineering these roads are to be considered one of Rome's greatest achievements of civilization.

Milestones, gravestones and small sacred shrines line these state-sponsored roads. Gravestones, for example, give testimony to these roads' importance for trade by depicting scenes in which goods such as wine are transported or sold, or by exhibiting stone inscriptions written by tradesmen.

### **Agriculture on a Grand Scale**

The Roman rural estates or so-called *villae rusticae* produced enough agricultural surplus to supply the military and the cities.

The *villa rustica* was situated amidst its fields and meadows, fed with water by a courtyard well and connected to the regional system of roads. In densely populated areas the distance from one manor to another measured 500 to 3000 meters, and sometimes even less. The area of cultivated land in the facilities examined in Germany alternated between 50 and 200 hectares.

As a rule, a manor consisted of a main building, a bath house, working quarters such as sheds for livestock, storage buildings, tool sheds and workshops. Field sheds and the usual manor graveyard lay beyond the enclosure area. No more than 15 persons lived in the average manor.

## **Shipwrecks**

Up until a few years ago, the only existing testimonies to Roman inland navigation were stone monuments and images on coins.

A few recent discoveries of shipwrecks have meanwhile provided us with information on the exact size, construction and function of civil as well as military inland navigation vessels.

## **The Sacred Area of Osterburken**

500 meters north-east of the fort of Osterburken in Baden-Wurthemburg a Roman spring shrine was found, its wooden construction parts in an excellently preserved state, and numerous consecrated alters donated by *beneficarii* were excavated.

*Beneficarii consulares* were legion soldiers selected by and under the direct orders of the provincial governor. Their duty was to control trade and traffic in the border provinces. In order to prevent corruption they were only stationed for 6 months at one site.

In 160 A.D. the *Beneficarii* enclosed the area between the wooden temple over the spring and the station building. From the middle of the 2<sup>nd</sup> to the middle of the 3<sup>rd</sup> century A.D. they placed at least 200, originally colored, consecrated alters in various rows here.

## **The End of Roman Land Settlement**

The invasion of Germanic tribes in the 3<sup>rd</sup> century A.D resulted in the economic decline of the once prosperous border provinces. Markets dried up and rural areas became increasingly insecure, leading to a general abandonment of the *villae rusticae*, especially in the hinterlands of the Upper German and Rhaeto Limes.

In the region of Mainz, Speyer and Trier a number of considerably wealthy manors continued to exist until late Antiquity. In other places, for example in the abandoned manors in the Hambacher Forst, glassworks and other handicraft trades were established. In some cases these manors were reinforced and used for military purposes.

Once the Roman population and administration left the area, the infrastructure along the Limes fell to ruin. The new Germanic settlers rarely appropriated abandoned Roman manors, and if so then only for a short period of time.

# **17**

## **Confrontation**

For over 200 years the Upper German-Rhaeto Limes between the Rhine and Danube symbolized the relationship between Romans and Teutons. On this side of the demarcation line, which was open for trade and traffic, Roman life fully blossomed in the 2<sup>nd</sup> century A.D. and radiated into barbarian territory.

The internal crisis and wars in the East weakened the Roman empire and disturbed the equilibrium along the Limes in the 3<sup>rd</sup> century. Coin treasures and zones of destruction in the forts and settlements give testimony to the increasing number of invasions of Germanic marauding bands in the border provinces and even far into Gaul and Italy.

Around 260 A.D. the Upper German-Rhaeto Limes was abandoned and the border was relocated to the Rhine, Iller and Donau. From now on it was the Teutons – Juthungs, Alemanni and Franks – who dominated the relationship between barbarians and Romans, which alternated between confrontation and cooperation.

## **Killed in Regensburg-Harting**

Germanic invasions dramatically changed the border provinces. The forts along the Limes were cleared, the land was abandoned, and residents left their settlements and manors.

Settlements situated even in close proximity to heavily reinforced garrisons, like that of the 3<sup>rd</sup> Italian Legion in Regensburg, were no longer secure from marauding tribes.

In this context 13 human skeletal remains were excavated from two wells on a former Roman manor near Regensburg-Harting. Some of the skulls had been gashed and damaged by blows, and showed signs of having been scalped.

Evidently the entire family of the manor was killed during a Germanic raid in the 3<sup>rd</sup> century A.D., and their bodies thrown into the wells.

### **The Weissenburg Treasure Find**

A treasure found in 1979 in direct proximity to the bath house of the strategically important Weissenburg fort in Bavaria gives testimony to the catastrophic situation that existed along the Rhaeto Limes during the Middle of the 3<sup>rd</sup> century A.D.

Originally buried in a wooden crate, the treasure consisted of 114 artifacts, including 18 statuettes of Roman gods, 10 additional figurative bronzes, 11 silver votive panels, four dress helmets, 18 bronze fittings and 33 iron tools.

According to the artifacts found, they represented booty from robberies of various Roman house shrines, a temple and a military camp's banner shrine which Germanic marauders buried and for unknown reasons never recovered.

### **Excavated Booty in Hagenbach**

The pillaging of Roman provinces around 275 B.C. by Germanic marauding bands is exemplified by a site discovered in a gravel quarry near Hagenbach, situated on the upper Rhine between the legion camps of Mainz and Strasbourg. The site marks the place where the Alemanni lost their rich booty on their return from Gaul to Germania while crossing the Rhine.

Beside a large number of damaged bronze and silver vessels, jewelry, weapons and tools, the find included 129 silver votive panels. The names engraved on the panels and the style of ornamentation of a majority of the artifacts point to South-Western France as their place of origin. The markedly fragmented state of this booty shows that the precious metals such as bronze and iron were exclusively robbed for their material worth.

## **18**

### **From Late Antiquity to the Early Middle Ages**

From an archaeological perspective, the period of transition from the 4<sup>th</sup> to 5<sup>th</sup> century was a dynamic time alternating between continuity and breaks, characterized by the end of the Roman Empire in the West and the rise of the Frankish kings.

Large graveyards like the one in Krefeld-Gellep were used continuously until the 7<sup>th</sup> century. In areas with a verifiable population continuity, major breaks tend to be rare. In other areas, such as in Northeastern Germany, entire regions were deserted.

Archaeologists have discovered that various population groups were highly mobile in the 5<sup>th</sup> century in Southern Germany, resulting in short-term settlements and a mixing of foreign elements.

New findings and modified approaches to the continuously growing amount of uncovered material have ultimately led to an exemplary explanation of the development of Germanic tribes in the Early Middle Ages, who under the leadership of the Frankish kings determined Germany's further history.

### **Germanic Settlements**

The smallest Germanic settlement was the small family-run farm. Hamlets or villages with more than 25 small farmyards were rare. The farms were constructed according to the same plan: the main building was mostly enclosed and represented combined living quarters and animal shelter.

Other buildings of different functions surrounded the main building, such as stilted houses for storage or pit houses for housework. Wells of various construction styles served the farm with fresh water. Separated zones for technical facilities such as limework ovens and tanning pits were found in larger settlements.

In the past few years our knowledge of Germanic settlements has greatly increased due to comprehensive excavations particularly in Mecklenburg-Vorpommern and Brandenburg, where more than 100 partly large-scale archaeological examinations of settlements from the 1<sup>st</sup> to 5<sup>th</sup> century have been carried out since 1990.

### **Haarhausen – Roman Potters Far From Home**

Germanic vessel pottery handed down to us in the form of urns, burial vessels or as broken shards found in settlements has a long, regionally variable tradition. Initially produced at home, it was increasingly produced by specialized potters and distributed to far-off places.

A special form of pottery center was examined in Haarhausen in Thuringia. Found at the site were ovens built according to Roman technology in which not only native pottery was fired but also Roman imitations.

It is still not known who built the firing ovens in Haarhausen and produced the ‘Roman import ware’ in the 3<sup>rd</sup> and 4<sup>th</sup> century A.D. They were probably potters from the Roman provinces who - either freely or as forced labor - practiced their highly specialized craft in Germany.

### **Wolkenberg – 1200 Ovens Blow Smoke**

Recent excavations carried out in Germanic settlements provided proof that the Germans were highly specialized craftsmen, especially with regard to the smelting of ore.

In Wolkenberg near Cottbus the largest late Germanic ore-smelting center in Germany has been examined as of 1994, whereby a 2.2 x 1.2 km area has already been uncovered. More than 1200 smelting facilities once stood here, organized in several ‘batteries’ of 20-30 ovens, which produced iron as a raw material on a grand scale for the surrounding settlements. The necessary charcoal needed to fire the ovens were extracted from numerous charcoal quarries nearby.

A particular characteristic of the site at Wolkenberg is the unusual separation of smelting facilities and settlement. Thus, the craftsmen entered this area only to produce iron, while their living quarters were situated in settlements a few kilometers away.

### **Germanic Chieftain Graves**

The construction and burial rites of Germanic graves of the upper class, particularly the luxury goods of mostly Roman origin placed in them, are markedly different from the mass of the rather meagerly equipped cremation burial sites found in the large urn graveyards of the 1<sup>st</sup> to 5<sup>th</sup> century A.D.

### **The Chieftain Grave in Gommern**

The ‘chieftain’ of Gommern near Magdeburg was buried under a raised barrow in a chamber built of massive wood beams that was covered by a layer of heavy stones. His body was laid out in a dress richly ornamented with precious metals and surrounded by numerous burial goods.

The burial gifts are high-quality Germanic and Roman artifacts made of gold, silver, bronze, glass, ceramic and of organic materials such as wood and leather. They reflect the position of

power and wealth of the Germanic elites along the Elbe River and their connection to the Roman world beyond the Rhine and Danube

Beside the rich display of burial gifts and the fortunate circumstance that this site had not already been robbed during antiquity, what is of particular importance to archaeological research is the documentation that resulted from the excavation of this burial site from 300 A.D.

## 19

### **Lauchheim in the Early Middle Ages**

Together with historical sources, the uniformity of burial rituals between the late 5<sup>th</sup> and 8<sup>th</sup> centuries in Western, Central and Southern Germany make systematic research on the history of settlements, ethnography and social structures in the Merovingian period possible.

A maximum amount of information was gathered during archaeological research in Lauchheim on the eastern border of the Swabian Alb. Since 1986 a unique early Medieval settlement group has been completely excavated, consisting of a village, its graveyard, various manor houses and their respective grave sites from around 700.

### **Lauchheim Reflected in Interdisciplinary Research Work**

The burial site and settlement of Lauchheim offer favorable conditions for interdisciplinary research. In this respect our knowledge of vessel forms and furniture made of wood have not only been enriched by the artifacts found in the burial site's damp soil, but also with the help of dendrochronology it was possible to establish absolute dating. Important information on textile technique and clothing in the early Middle Ages was provided by the analysis of scraps of cloth found at the burial site.

Anthropological analysis of the skeletal remains produced instructive information on the age structure, gender proportion, injuries, diseases and causes of death among the Lauchheim population. All animal bones found in the settlement were also collected and analyzed, as well as the numerous plant remains found in the graves.

For the first time phosphate tests were able to clearly determine the various types of working areas in the settlement and houses of an early Medieval settlement in Southern Germany.

### **Settlement and Farmstead Graveyards**

This early medieval village, secured by a ditch, was situated 200 meters away from the graveyard on the Jagst river flats and has been excavated since 1989. To date, approximately 9 hectares have been uncovered and more than 18,000 finds from the 6<sup>th</sup> to 12<sup>th</sup> century have been documented. Lauchheim has therefore become the best examined early Medieval settlement in all of Southern Germany.

The village consisted of a few individual farmsteads enclosed by fences. The main buildings, which combined human living quarters and animal shelter, were predominantly single-bay post and beam constructions. The farmstead also included small animal stables, grain storage and pit houses.

Five such Lauchheim farms had their own small burial sites situated within their enclosures at a time when the major village graveyard was no longer in use. One farm, or rather manor, encompassing an area of 3,400 square meters with more than eleven buildings, was situated at a distance on the eastern edge of the settlement. Towards the southeast of this manor, six wooden chamber tombs of an aristocratic family were placed along the fence. Although robbed already during Antiquity, one of the graves includes five gold-plated crosses and

another a magnificent cross fibula, putting them in the category of the richest burials of the time around 700.

### **The Graveyard**

With its more than 1,300 excavated graves Lauchheim is to date the largest known Alemanni burial site. Laid out within a rectangular space, the graveyard first began to be used in the 2<sup>nd</sup> half of the 5<sup>th</sup> century, with graves arranged in loose groups in the west. In the following phases the graves began to be laid out in rows, which were extended toward the east without interruption until the end of the 7<sup>th</sup> century. The graveyard borders were ignored in the southeast, where towards the end of the 7<sup>th</sup> century a group of aristocratic families sought to disassociate themselves from the simple public.

From rich burial goods found in Lauchheim archaeologists conclude that important personages were laid to rest here already by 500 A.D. Barrowed graves enclosed by circular ditches point to a person's high position in the village. Beneath one of these barrows a noble family was buried around 600.

Anthropological examination determined that the median life span of the population was 40 years, and that 250-300 residents resided in the settlement.

### **Mills in the Early Middle Ages - A Legacy of Antiquity**

For many years it was considered that with the end of the Roman Empire all knowledge of the water mill was lost to Central Europe. Until recently, we only knew from written documents that mills also existed in the early Middle Ages.

Archaeological proof, however, was not given until recent excavations uncovered early Middle Age mills at Dasing and Großhöbing in Bavaria, as well as a ship mill near Worms. In Lauchheim the first mill was discovered within a closed settlement.

Thus, there is a proven unbroken tradition of mill technology from late Antiquity to the early Middle Ages, once more casting doubt upon the theory that there was a break from Classical Antiquity to Medieval times.

## **20**

### **Early Medieval Nobility**

For times and places in which finds from grave sites are the major source of information for archaeologically and historically interpreting social make-up, elites become identifiable through the exclusivity of their burial sites, the way in which they were buried, their burial architecture, as well as the quality and combination of burial goods.

In the Merovingian period the establishment of an aristocracy has become identifiable through the examination of burial sites of the 6<sup>th</sup> and 7<sup>th</sup> century, which are particularly marked by their elitist disassociation from burial rituals of 'simple people' and their luxurious burial goods.

Their claim to privilege, originating in Germanic tribal rights, are also justified by their ownership of land, their economic and fighting potential as well as their heritage and proximity to royal or ducal power.

### **Five Warriors in Großhöbing**

The early Medieval graveyard of the 7<sup>th</sup> and early 8<sup>th</sup> century at Großhöbing near Greding was discovered in 1996 while construction was underway on the new rapid transit train section

between Nuremberg and Ingoldstadt. Some of the burial sites, like grave chambers nos. 138 and 160, were remarkable with respect to their size, construction, burial goods, or traces of above-ground structures.

An unusual discovery was made in barrow no. 143 of the early 8<sup>th</sup> century which was encircled by a ditch. In a large burial chamber, five armed men of imposing stature lay next to each other, arm in arm and holding hands. The five men had evidently died together and consisted of one nobleman and his followers. The lord lay on the right, equipped with a valuable sword and a blue cloak with gold brocade hem. During life he was certainly a man of high social and political position in the border area between the Franks and Baiuvarii.

## 21

### **Slavs and Vikings**

Recent research on the culture and history of the Slavs has been dedicated to examining the beginning and further development of their immigration, their construction of fortified castles, their religion and trade relations with neighboring peoples.

According to current knowledge, Slavic tribes began to immigrate in various waves beginning in 700, settling in regions that the previous Germanic populations had left widely deserted.

From the 8<sup>th</sup> century until the end of the Slavic period in the 12<sup>th</sup> century, Slavic tribes maintained broad trade relations and alliances. They had contact for example to the Vikings, to the Franks and even to Byzantium, archaeologically reflected in discovered artifacts of foreign origin.

### **Baltic Sea Trade**

In the states of Schleswig-Holstein and Mecklenburg-Vorpommern archaeological research has established proof of early Baltic Sea trade market centers in Haithabu near Schleswig, Groß Strömkendorf, Rostock-Dierkow, Ralswiek on the island of Rügen and Menzlin.

These trade sites were deliberately established in either secure bays or on rivers near the coast, yet far from political centers. The spectrum of findings is characterized by a wealth of different foreign goods as well as by refuse and half-finished products from local craftsmen.

Troy scales and Arabic coins document foreign trade during the Viking era. The burial sites include cremations and body burials, and as in Menzlin or Groß-Stömkendorf, also Scandinavian boat burials, which testify to the multi-ethnic character of these trade settlements on the Southern Baltic Sea.

### **Religion of the Slavic Peoples**

Cult activities carried out at sacred sites - at groves, springs and rivers - and the placement of offerings were the main elements of Slavic religion. Various names were given to a god of the underworld and a god of heaven. An important aspect was the worship of the eldest as bearers of knowledge and social values. This worship found expression in the erection of 'ancestor columns', or wooden planks that were given human features.

In the late Slavic era central sacred shrines became established that were primarily connected to main tribal sites, such as in Oldenburg and Holstein. The destruction of the temple facility at Arkona on the Island of Rügen symbolizes the end of Slavic independence and worship of a heathen religion. In 1168 this main shrine of the Baltic Sea Slavs was conquered by Christian Danes and burned to the ground.

### **Slavic Fortresses**

In Slavic times, ramparts and their strong reinforcements made of wood and earth pointed to regional centers of political and economic power.

Excavations carried out over years at the Berlin-Spandau rampart have proven that this site was an important center of trade situated at the Havel crossing on the trade route from Magdeburg to Kiev. From the beginning of the 9<sup>th</sup> century the fortified facility developed in phases into an early urban settlement.

### **The Saxon Graveyard at Issendorf**

Issendorf on the Lower Elbe River is long renowned for its ancient Old-Saxon urn burial site with more than 5000 cremation burials from the 4<sup>th</sup> to 6<sup>th</sup> century.

In addition, 79 body burials in wood-lined chambers, dated between 400 and 550 A.D., were excavated in the 1990s. The bodies were buried in tree or wood-planked coffins. The comparably rich burial goods found there identify them as an elite family who for more than 250 years dominated the settlement area around today's Issendorf.

## **22**

### **Conservation**

Up until a few years ago conservators were not given any special training. However, the profession does entail a comprehensive knowledge of cultural history, science and other practical specialized knowledge, which today is taught at universities especially for conservators.

The tasks of conservators includes carefully conserving and effectively protecting artifacts, while making as little changes to the original substance as possible.

Because archaeological artifacts are subject to many corrupting influences through their long storage in the soil, they must be carefully examined and analyzed and an appropriate conservation measure developed before they are restored in any way.

In applied research, materials are checked for their suitability before they are used, and new methods are experimented with, such as laser technology for cleaning surfaces or plasma reduction for treating metal artifacts.

### **The Analysis and Conservation of Textiles**

In contrast to metal, glass or ceramic objects, textiles are highly corruptible and therefor are only preserved in soil if conditions are favorable. Since the 1950s, it has become increasingly possible to examine the fabric and leather remains adhering to metal, and to determine the material and weave technique.

Ever since textile conservation was integrated in historic preservation offices in the 1980s, diverse insights into prehistoric clothing have been won from more exact excavations and exposures of organic materials and from comprehensive and costly analyses.

### **A Pleated Garment in Woman's Grave No. 138 at Großhöbing**

In wooden chamber grave no. 138 an aristocratic woman was laid out with a valuable golden brooch, bronze arm rings and necklaces made of glass, silver and amethyst pearls, her ears were decorated with gold earring pendants. Like the woman buried in grave no. 160, she wore leather gloves.

Under the dead woman's pelvis scraps of clothing were preserved which were salvaged en bloc. Viewed through a microscope, two overlying layers of linen became visible, that of an upper as well as under garment. A 12 cm long iron brooch was found fastened to the undergarment, which gathered a portion of the material into a pleat and held it fast.

Only through the exact analysis of grave no. 138 was it possible to establish proof of the oldest known pleated garment north of the Alps. Most probably imported from Italy or Byzantium, the pleated cloth was worn by a woman of the upper class.

## 23

### **Burial Treasures From the Early Middle Ages**

Magnificent jewelry made of precious metals, and valuable glass as well as bronze vessels always accompany unusual burials during the entire Merovingian period.

The different fibula forms of the late 5<sup>th</sup> and 6<sup>th</sup> centuries mark the ethnic membership of those that wore them. Large cloak clasps made of silver and gold-plate, together with small fibulas worn in pairs, constitute the so-called Four-Fibula-Dress. Later on in the 7<sup>th</sup> century, an aristocratic lady wore only a single lavishly ornamented brooch worn at her chest to keep her cloak closed.

Precious glass work gives testimony to a refined dining culture, and prove that the glass manufacturers from the former Roman Rhineland as well as trade relations to the Mediterranean still continued to exist.

## 24

### **Mining Archaeology**

Mining archaeology is as yet still a young field of science directed towards the history of mining. In cooperation with Medieval history and the natural sciences, this field of archaeology may gain new insights into iron mining and smelting or into the technological processes of production in metalwork.

An interdisciplinary research project on mining archaeology has been carried out for more than ten years in the Harz. In this respect archaeological and metallurgic examinations have been conducted near Dönnitz, among other things to map out the use of iron deposits in the time before Christ, and to gain fundamental insights into the development of a coherent German landscape in the 10<sup>th</sup> century with regard to mining, metal industry, mining rights and administration.

### **Iron Smelting in the Mark-Brandenburg's Sauerland**

Although no written documents make reference to iron smelting in the state of Mark-Brandenburg's Sauerland, surveys as well as archeometallurgical examinations and excavations have meanwhile been able to localize more than 1500 iron smelting sites. This region thus belongs to the most important centers of Medieval iron production in Central Europe, which came to be abandoned by the early Modern Age.

Between the 8<sup>th</sup> and 13<sup>th</sup> century, small oven batteries were already producing pig-iron. From the 13<sup>th</sup> century on, novel technology was used to produce iron in blast furnaces, which were capable of achieving higher oven temperatures through blowers powered by water mills. As a result, the region's oven facilities were moved from plateaus and spring hollows to a few sites along larger stream reaches. To date, proof of five such early floating ovens has been established in the state of Mark-Brandenburg's Sauerland.

### **Ore Smelting and Environmental Pollution in the Harz**

Iron mining industry was responsible for destroying forests as early as the Middle Ages, which pollen analyses and geo-chemical examinations have established proof of. The charcoal needed for iron smelting meant that wood was cut on an extensive basis.

This massive human intervention in the environment is exemplified by the levels of harmful substances found in the Harz. Research has determined that high levels of pollution consisting of heavy metals such as lead or sulfur emissions, which were set free during iron processing and smelting, already existed during the Middle Ages. The accumulation of harmful environmental substances in the soil created a unique environment which preserved corruptible materials, such as paper-thin leaves.

### **Modern Wildernesses**

Due to the extensive quarrying of brown coal, numerous archaeological sources are threatened. One of the most important tasks of modern historic preservation is to examine these before they are finally destroyed. This task is often financially supported by mining companies.

In the course of open-cast mining in the Rhineland, Burg Reuschenberg, which had been entirely occupied until 1998, had to be completely dismantled. At the same time the archaeological as well as building monument was comprehensively documented to serve archaeological, building and art historical purposes. As a result, it was possible for the first time to examine an entire castle and its facilities with all of its preceding buildings under various perspectives.

The approaching destruction of Breundsdorf in the brown coal area of Saxony provided the occasion for a unique cross-disciplined research project. Archaeologists, building historians, folklorists, botanists and geographers dedicated themselves to examining the history of this village from its establishment in the 12<sup>th</sup> century to recent times.

### **Castles and Fortresses**

Research into castles and fortresses goes back to the 19<sup>th</sup> century. For years it was undertaken primarily by historical associations and interested laypersons.

Up until the 1970s, Medieval archaeology still took little notice of fortresses as they were hardly threatened by modern construction measures. It was not until later that castles and fortresses began to attract greater attention among archaeologists.

However, questions pertaining to these facilities' construction history and their importance to the history of settlements, to the arming of its residents, and to everyday life can only be answered in cooperation with specialists from various fields, such as archaeologists, art historians, building historians and natural scientists.

### **Early Bells**

As a means of measuring time, bells became increasingly important since Charlemagne (768-814) in connection with the ecclesiastical organization of the Frankish Empire. Bell rings summoned the faithful to mass and determine the every day rhythm of life. Cadenced ringing in cloisters and churches also served as a means to spread news as of the 9<sup>th</sup> century.

Yet no bells have been completely recovered from this period. Archaeological research has often uncovered traces of bell castings. Because of difficulties in transport, traveling craftsmen made bells in direct proximity to the site where they were to hang later. If important casting parts, the oven or even the bell are preserved, then ideally a re-casting is possible.

### **Jewish Culture**

The most recent archaeological examinations of Jewish ghettos have made an important contribution to Medieval urban topography and to social and cultural history.

The building history of synagogues in the centrally located Jewish quarters is characterized by destruction and reconstruction, which, in the Christian Middle Ages, is also reflected in the persecution and destruction that marks the history of the Jewish people in Germany.

### **The Jewish Quarter in Regensburg**

Excavations on the Neupfarrplatz in the old city of Regensburg produced valuable information on the Jewish quarter, destroyed in 1519, which included a Gothic synagogue that was known to us only through two etchings by Albrecht Altdorfer.

Archaeological examinations uncovered not only numerous cellar vaults but also the remains of the synagogue's Romanesque predecessor, which was destroyed in a fire in the 13<sup>th</sup> century.

The Jewish community's good economic position in Medieval Regensburg is exemplified by the synagogue's and private houses' solid architecture as well as by three recently discovered coin hoards. The last hoard to be salvaged, buried in the course of the 'Great War of Cities' in 1388, contained 624 gold coins.

### **The Genisa of Veitshöchheim**

In the course of renovation work on the Veitshöchheim synagogue attic near Würzburg, a comprehensive collection of religious and worldly works from the 17<sup>th</sup> to 19<sup>th</sup> century were found underneath the floorboards and behind the walls.

Besides bibles, prayer books, and Rabbinical texts there are folk tales and historical texts, in larger numbers also handwritten documents such as invoices and letters, which had been taken out of service. According to Jewish regulation they were not allowed to be thrown away and thus were preserved. The stock of writings comprises a so-called Genisa, which is also known from other old synagogues.

The Veitshöchheim Genisa is unique in that it is comprehensive. Studying the works provide an in-depth view to the faith and culture of this Jewish rural community.

## **25**

### **Urban Archaeology - The Rise of a Research Discipline**

Extensive destruction during World War II and the ensuing reconstruction during the 1950s and 60s wiped out invaluable archaeological sources in Germany's historic city centers. It was not until the beginning of the 1970s that urban archaeology developed into an independent research discipline.

Since the 1990s, due to large-scale construction and urban renewal - particularly in the new federal states - it has been necessary to carry out emergency excavations on a scale heretofore unknown.

Today, urban archaeology addresses a complex index of issues, including environment conditions and settlement history, historical topography and road systems, traffic, property and development structures, as well as house construction, commerce and trade, infrastructure, nutrition, health, death and defense and even religious life.

## **Urban Archaeology in Lübeck**

An introduction into urban archaeology can be provided by the example of the city of Lübeck. Since the 1970s, approximately 130 methodical excavations have taken place, documenting its development from a Slavic fortress into a medieval city.

The extensive levels of civilization and the city's damp subsoil, providing excellent conditions for preserving organic materials, yield diverse findings that help to illustrate Lübeck's powerful economic position during the Middle Ages.

A detailed land register of today's old city can be followed back in time as far as into the 12<sup>th</sup> century. In the 13<sup>th</sup> century, an early expansion of the city included the methodical development of the meadows at the foot of the city hill. Findings from the trade section point to a variety of crafts existing in the city; and objects discovered in the sewers provide insights into the material culture of the people living in Lübeck during the Middle Ages.

## **Toys**

Medieval toys are one of the most attractive medieval archaeological findings. They provide a striking view to everyday culture of the time; they directly stir our imagination and emotions.

Children played with figures representing knights, marbles, miniature crockery and weapons. Dice and board games, on the other hand, were predominantly reserved for adult amusement. With these findings, urban archaeology has contributed to correcting the popular dark view of the Middle Ages.

## **Social Welfare - Caring for the Old and Sick**

Hospitals were important institutions in medieval cities, as they took care of the needy, the sick and the old in the Christian spirit of brotherly love.

Insights into the kind of living conditions existing in a 'benefice', meaning an old people's home into which residents could buy themselves, are provided by a site at Bad Windsheim in central Franconia. Numerous objects from the 2<sup>nd</sup> half of the 15<sup>th</sup> century taken from a major sewer prove that the residents of the benefice did not live under poor conditions at all.

A high standard of living also existed in the hospital in Heidelberg, which is pointed out by the amount and quality of 15<sup>th</sup> and 16<sup>th</sup> century glasses found at the site of the latrines.

## **A Bath in Hildesheim**

In the Middle Ages, bathing not only played an important role with regard to hygiene, but it was also an important social event and a way of passing time. Baths were often placed beyond the walls of the city because, according to medieval concepts of morality, this rather permissive custom was prohibited from taking place within the city's boundaries.

In the course of excavations in the area of Hildesheim's old city the Almers Bath ruins were discovered, already known through historical records. Parts of the above-ground masonry were equally preserved as the conduit pipes for serving fresh water and disposing waste water. Combs and currycombs found at the site were used for personal hygiene. Bowls for blood-letting and cupping glasses prove that the bath was also used to provide medical help to the city's citizens.

## **Horst Castle - From Fortified Mansion to Castle**

Extensive excavations during the renovation of Horst Castle in Gelsenkirchen threw light on the castle's origins as a fortified mansion in the 11<sup>th</sup> century. Established by the von der Horst family, it was replaced in the second half of the 16<sup>th</sup> century by one of the most magnificent Renaissance castles in North Rhine Westphalia, furnished with the most luxurious interior architecture.

The findings provide a view to noble courtly life and the ruling class' desire for representation in Westphalia during the Renaissance. Silver and ivory cutlery, valuable cut glass, as well as drinking and draught vessels prove that the nobility cultivated exquisite dining customs. Technical glass vessels and ceramics found at the castle point to the existence of an alchemical laboratory.

## **26**

### **20<sup>th</sup> Century Archaeology**

Archaeological preservation entails documenting, salvaging and preserving the remains of even the most recent past. This may be surprising to those who associate archaeology with excavating sites of antiquity rather than World War II bunkers. Yet despite the comprehensive documentation available on the history of the 20<sup>th</sup> century, archaeological excavations may still serve to clarify individual aspects and events.

### **Hoffmann's Tales-Recollections of a Well-Known Pub in Berlin**

Until it was destroyed in a bomb attack at the end of 1944, the wine pub 'Lutter & Wegner' - established in 1811 and made famous by the opera 'Hoffmann's Tales' - was situated on the corner of Französische Strasse and Charlottenstrasse.

The property was left vacant until 1993, when archaeological excavations were to determine whether historical building fragments still existed under the surface. A cellar was uncovered in which the remains of an overturned and burned shelf was found containing dishes, glasses and cutlery carrying the name of the restaurant.

These artifacts, carrying the mark of the firebombs, are the last material witness to this well-known site.

### **Concentration Camps - Traces of A Dark Time**

The tendency to suppress unpleasant historical facts or even wipe them completely from collective memory is a widespread phenomena. Except for a few which were later established as memorials, the infamous concentration camps were all bulldozed after the war. As a result, archaeologists must treated them like sites of a very distant past.

Because of construction work, in the year 2000 archaeological research had to be undertaken at Rathenow in Brandenburg, where between 1944 and 1945 the Sachsenhausen concentration

camp had built an outpost. Prisoners interned there were put to work at the ARADO-works, which produced military aircrafts.

One of the many small artifacts found at the excavation site is an interesting aluminum box belonging to a prisoner, in which his name and prison number was scratched. Especially impressive are other aluminum containers that prisoners risked their lives to produce by smuggling the metal plate they needed from the aircraft works.