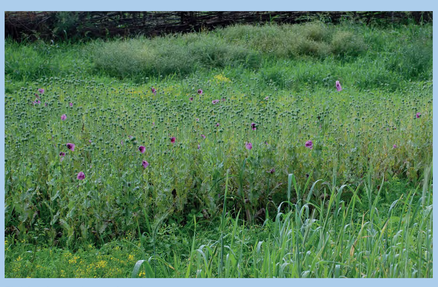
Forest clearing, hoeing, harvesting, baking ...

There were significantly fewer tools and equipment available on Neolithic farmsteads than what can be found on modern farms today. After clearing the land by fire, the ground was loosened using simple wooden ploughs, hoes and digging sticks. To prevent the fields from becoming completely overgrown with weeds, farmers had to constantly weed their patches after sowing their crops. Once the grain was ripe, it was harvested using sickles and reaping knives made of flint. Rare discoveries of wheels and yokes potentially attest to the transportation of grain from the fields to the nearby settlements on ox-drawn carts. Naturally curved limbs of trees were probably used as threshing sticks. After threshing, the kernels were separated from the chaff using winnowing baskets. As shown by threshing residues found during excavations, this was done in the village. The grain was then kept in large storage vessels made of pottery or wood. Using stone querns, it was ground to produce flour. The oldest bread roll in Canton Thurgau was found at Arbon and dates from almost 5400 years ago.

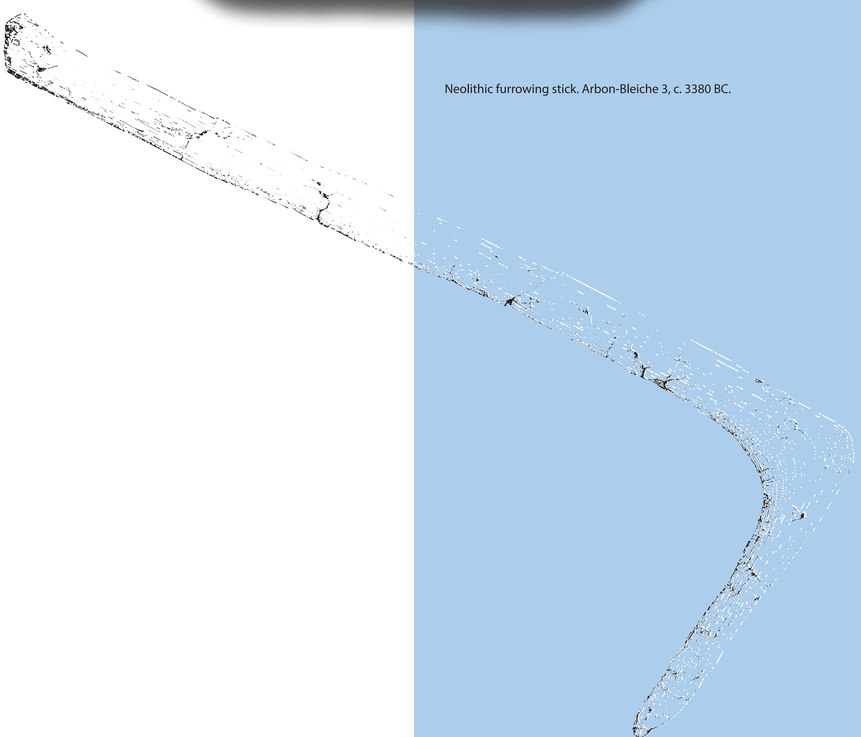


Fields of poppies and grain.

Phalanges of a Neolithic bovine with changes to the bone structure from years of pulling heavy loads. Arbon-Bleiche 3, c. 3380 BC

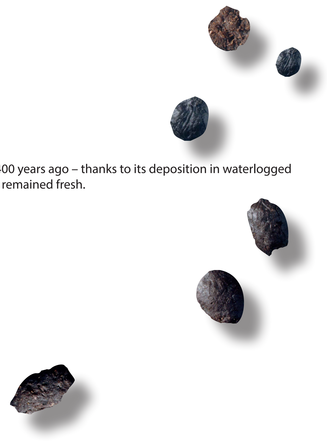
Neolithic yoke, reconstruction. The original is on display in the showcase on the opposite side of the room. Arbon-Bleiche 3, c. 3380 BC

Neolithic furrowing stick. Arbon-Bleiche 3, c. 3380 BC.



Cattle, pigs, sheep, goats, dogs

The people who lived in the area in the Neolithic period kept cattle, pigs, sheep, goats and dogs. Thanks to the large number of animal bones found in pile-dwelling settlements, we know what species of animals the farmers kept more than 5000 years ago, how big their herds were, how they were bred and what slaughtering strategies were employed. Faeces of the animals allow us to determine what they were fed and whether they were healthy. Pollen of ivy, hazel and silver fir show that in the winter months they were mainly fed twigs and leaves. Because large-scale grassy meadows were still rare at the time, there was very little hay. Dung remains contain very few eggs of parasites, which shows that the domestic animals in the Neolithic period were very healthy. The horse was added to the range of species in the Bronze Age, while the chicken was introduced in the Iron Age. The cat then came with the Romans.



Goat dung from 5400 years ago – thanks to its deposition in waterlogged layers of soil, it has remained fresh.

Woolly pigs are similar to Neolithic domesticated pigs.

The skeleton of a dog, Arbon-Bleiche 3.

What does domestication mean?

Domestication includes all processes involved in transforming wild animals into domestic ones – a development that can take many generations. It involves keeping animals in captivity, taming them, selecting particular animals and crossbreeding them with wild animals. Not all "domestic animals" are domesticated to the same degree. In contrast to dogs and cattle, for example, honeybees and fallow deer are not true domestic animals. Only a few wild animal species are even capable of adapting to human behaviours and thus suitable for domestication. This was something that the early farmers in the Near East had to learn.

Goats' horns. Arbon-Bleiche 3, c. 3380 BC.

The goat was one of the first species to be domesticated ... photo: Schweizer Fernsehen.

... and was a popular supplier of milk. Based on scientific analysis of cooking pots, we can show that milk was used as a foodstuff.

Hunting and fishing

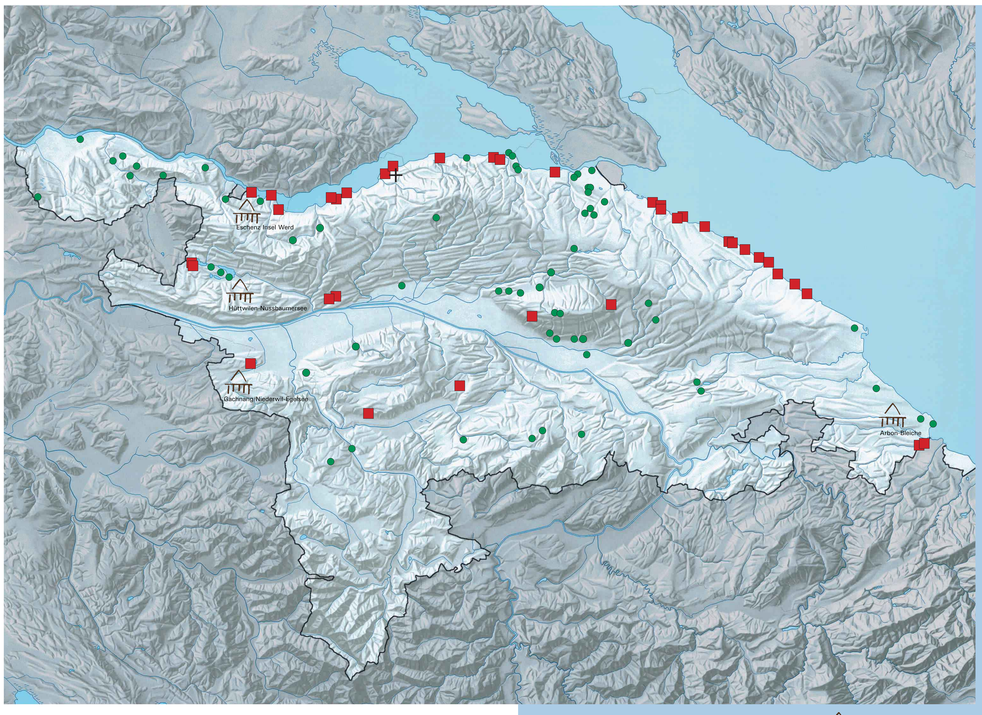
Although people had begun to grow crops and keep animals, hunting and fishing were still an important source of food in the Neolithic period. In some cases, wild animals provided more than two thirds of the meat consumed. The hunters used bows and arrows with flint heads or antler bolts. The quarry included deer, boar, roe deer, aurochs, bear and marten. Fishing was very important in lakeside settlements. Nets, rods, harpoons and fish traps were used. The nets have long since perished, leaving behind innumerable flat pebbles with notches, so-called net sinkers. Fishhooks were carved mainly from boars' tusks. As shown by fish scales and bones found in excavations, whitefish, perch, lake trout and pike were the most popular species of fish consumed.

Fish scales. Arbon-Bleiche 3, c. 3380 BC.

Fowling with a blunt arrow. A scene from "Pfahlbauer von Pfyn", a 2007 TV programme. Photo: Schweizer Fernsehen.

The pile-dwelling idyll: Fisherfolk. Painting by Alfred-Henri Berthoud (1848–1906. Musée d'art et d'histoire, Neuchâtel).

The Neolithic period in Canton Thurgau

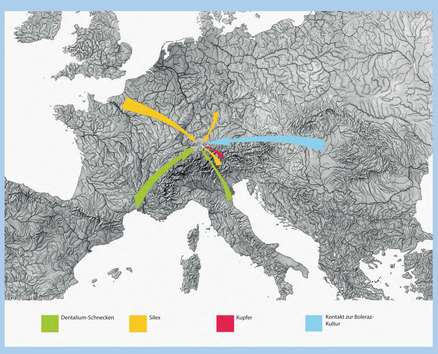


Settlement Isolated find Grave UNESCO-World Heritage

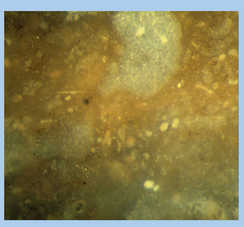
Many Neolithic sites have come to light in Canton Thurgau. They were mainly found on the shores of Lake Constance and near the smaller lakes and bogs. These wetland settlements are widely known by the term “pile dwellings”. However, remains of settlements dating from between 4300 and 2400 BC have also been found on prominent hilltops like Thurberg hill near Weinfelden and Sonnenberg hill near Stettfurt. Isolated finds of stone axes and arrowheads show that the entire area of what is Canton Thurgau today was used at the time. Graves have rarely been found. The only burials examined in detail so far have come to light at Steckborn-Wiesli.

The Stone Age ...

For prehistoric people, stone was one of the most important raw materials. They used stone for a variety of purposes; to make tools, weapons and cooking utensils and as a building material. The most suitable type of rock was chosen for each individual utensil. Knives, borers and arrowheads, for instance, were made from flint, which is hard as steel, stone axes were made from greenstone, which is very tough, querns from gneiss, which has a rough surface, and hammerstones from hard quartzite. If the best suited raw materials were not available from the immediate vicinity of the settlement, they were imported from elsewhere, sometimes from far away. Pile-dwelling sites in Canton Thurgau have yielded flint from the Champagne region, from Upper Italy and from Bavaria, seashell jewellery from the Mediterranean and the Atlantic Ocean and, in rare cases, Stone Age copper objects have come to light which originated from the Eastern Alps.



Various commodities known to have been imported in the Neolithic period (Arbon-Bleiche 3, c. 3380 BC).



A flint dagger (left) and a microscopic image of the fossils contained within the stone. Arbon-Bleiche 3.

Textile processing for the past 5800 years

Thanks to the favourable conditions in the waterlogged layers, weaves and textile remnants from the Neolithic period have sometimes survived. The fine textiles and weaves from flax and lime bast attest to highly developed textile processing techniques. The threads were spun using spindles with clay disks (spindle whorls) and then woven on vertical looms. The warp threads were kept taut by means of clay weights. Such loom weights are often found in clusters in the corner of a house, which shows us where the loom once stood. Wooden weaving swords were used to pack down the weft threads. The fabrics were probably dyed in a variety of colours and perhaps adorned with select items of jewellery.

3 spindle whorls from the excavation at Arbon-Bleiche 3.

Loom from the TV programme "Pfahlbauer von Pfyn". Photo: Schweizer Fernsehen.

A shuttle and a weaving sword.

Humans become sedentary

One of the most important steps in the history of humankind is the transition from a hunter-gatherer lifestyle to one of farming and animal husbandry. More than 10,000 years ago, people in the region known as the Fertile Crescent between the Rivers Euphrates and Tigris began to cultivate cereals and domesticate wild sheep and goats. From the 7th millennium BC, agriculture and village-like settlements quickly spread from the Near East via the Mediterranean coastline and the Danube Valley to central Europe, gradually replacing the hunter-gatherer communities from the Mesolithic period. In Canton Thurgau, the Neolithic period lasted from 5500 to 2200 BC. During that period, farming villages were built on lakeshores and in bogs. Cereals, flax, poppies and peas were cultivated, and cattle, pigs, sheep, goats and dogs were kept as domestic animals. The menu was further enriched with the addition of hunted animals and fish. And, of course, berries and other fruit as well as hazelnuts were gathered.

In the sweat of thy face ... "Adam and Eve Expelled from Paradise"
by Marc Chagall 1961, Chagall Museum Nice.

The El Kowm oasis (Syria) with a settlement mound from the 10th millennium BC.

The pile-dwelling settlement at Arbon-Bleiche 3 around 3380 BC (model).

Wood as a raw material

Wood as a raw material was essential for survival. In prehistoric times, most houses were constructed in wood. It was also used as fuel for heating, cooking and pottery making. Innumerable utensils such as stone axe handles, bows, looms, spindles, spoons and bowls etc. were made from a variety of wood species. While objects made from this perishable material have long since decayed at most archaeological sites, it can be preserved for thousands of years in waterlogged, oxygen-poor conditions. The lakeside and bog settlements in Canton Thurgau, which have been inscribed on the UNESCO list of World Heritage since 2011, are veritable "treasure troves" of wooden objects and other organic materials.

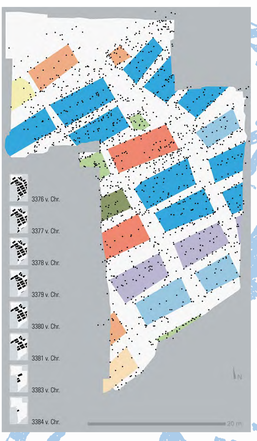
A hearth. Scene from the TV programme "Pfahlbauer von Pfyn".
Photo: Schweizer Fernsehen

A wooden floor. Pile-dwelling settlement at Gachnang-Niederwil, Egelsee (c. 3600 BC).

House construction in the Neolithic period

The prehistoric settlers used an astonishing array of construction techniques. Depending on the type of site, the loam-coated wooden floors were laid directly on the ground or were slightly raised. The upstanding components consisted of piles or posts. The walls were constructed from wattle, stakes or from boards fitted together side by side. Any gaps were then filled with moss and loam plaster. Ropes of bast were used to tie the different components together. Other ways of securing them were forked branches, mortises, grooves and even log construction. Construction elements such as doors were found at the archaeological sites of Zurich-Parkhaus Opéra, Pfäffikon-Burg and Wetzikon-Robenhausen. Shingles were used as roof coverings, but strips of tree bark, reeds, sedges or straw may also have been used.

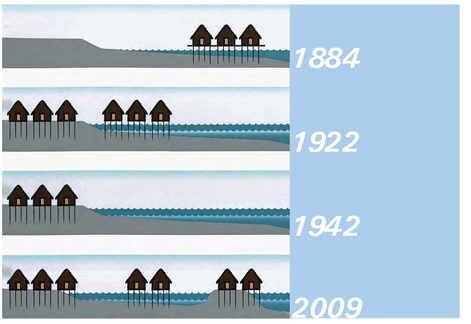
This is what a pile-dwelling village from the 4th millennium BC could have looked like. Reconstruction for the TV programme "Pfahlbauer von Pfyn". Photo: Schweizer Fernsehen.



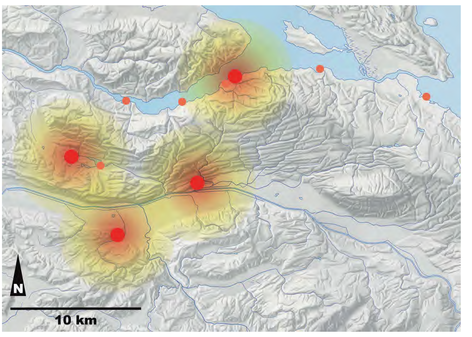
Thanks to tree-ring dating, it was possible to determine the precise construction sequences of the individual houses at Arbon-Bleiche 3 from the confusing tangle of piles.

Villages with lake views

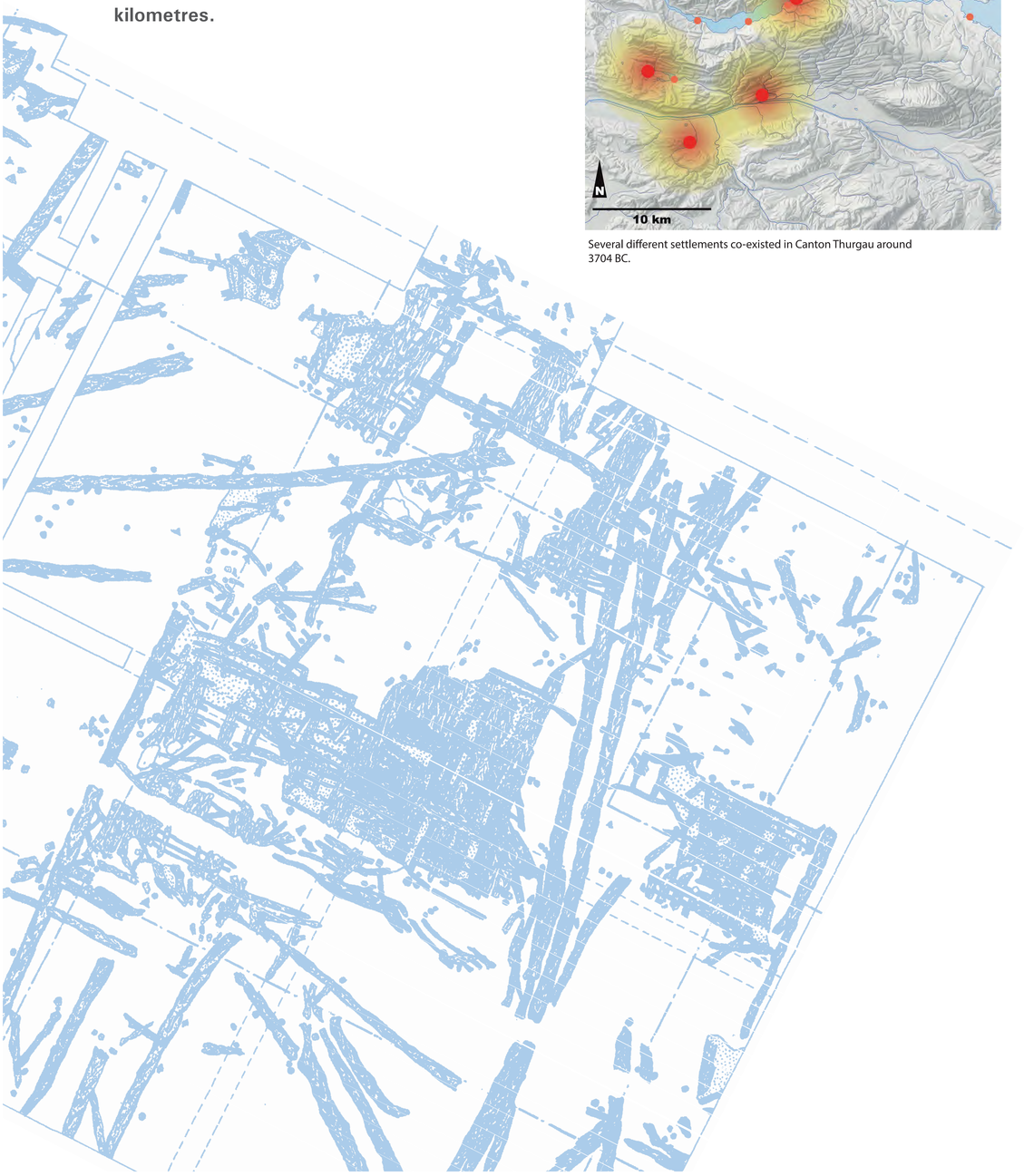
A sedentary lifestyle and house construction were characteristic features of the Neolithic period. At the beginning of the central European Neolithic in the 6th millennium BC, people lived in hamlets made up of large houses, which measured up to 50 m in length. When they began to move to the lakeshores and bogs from 4200 BC, the settlement pattern changed and was now characterised by villages with regular rows of houses measuring 8 m by 4 m and built close together. The houses often faced onto wither a central alleyway or the shoreline. Tree-ring dating has allowed us to almost seamlessly piece together the construction history of the pile-dwelling villages at Arbon-Bleiche 3 and Pfyn-Breitenloo. The average Neolithic village in the region around Lake Constance had a catchment area of about three to five kilometres.



Over the course of time, archaeologists have proposed different interpretations of the pile-dwelling features they excavated.



Several different settlements co-existed in Canton Thurgau around 3704 BC.



The history of discovery

The gold cup was found in 1906 by a construction worker doing maintenance on the railway tracks east of today's train station in Eschenz. The precious find was kept by those who discovered it and a crude brass copy was forwarded to the district office of the Swiss railway company SBB. From there the copy was sent to the National Museum in Zurich, where it was placed in a drawer and forgotten about. In 1974, a physician by the name of Otto Schirmer from Eschenz donated the original gold cup to the cantonal authorities; his father, Albert Schirmer, had probably bought the piece from the finder and added it to his collection. The cup was found at a depth of 1.5 m. It appears to have been accompanied by a number of bones, which were not retained, however. It is therefore no longer possible to ascertain whether there was a link between the cup and the bones (perhaps a grave?).

The bell-shaped gold cup measures 111 mm in height, its rim is 0.8 mm thick and the diameter of its mouth measures 112 mm; it weighs 136.39 g.
The alluvial gold is a natural alloy of 74.5% gold, 25% silver, 0.45% copper and 0.02% tin.

The train tracks outside the station in Eschenz. Aerial photo 2009

The brass copy.

The date

Unfortunately, no features or associated finds were recorded when the Eschenz gold cup was found. Therefore, the object can only be dated on its own merits. Based on typological comparisons, experts have dated it to the period between 2400 and 1600 BC. It is not possible to pinpoint the date more precisely because the artefact seems to be earlier or later in date, depending on whether the emphasis is put on its shape or on its style of decoration. The s-shaped profile and the horizontal banding of its decoration are strongly reminiscent of ceramic bell beakers. Named after its most prominent artefact, the Bell Beaker Culture is dated to around 2400 BC. However, the Eschenz gold cup also has very close formal and stylistic similarities with later, Early Bronze Age gold vessels from Rillaton (GB), Ringlemere (GB) and Gölenkamp (D).

The gold cup from Eschenz, Decorative detail

Bell beaker, Mechtersheim (D).
GD Kulturelles Erbe Rheinland-Pfalz, Direktion Landesarchäologie, Aussenstelle Speyer, Winkelmann.

Gold cup, Rillaton (GB).
British Museum

Gold cup Ringlemere GB
British Museum

Gold cup, Gölenkamp D
Original in the ownership of the Prince of Bentheim and Steinfurt

The interpretation

In the prehistoric period, the Eschenz gold cup must have been a highly prized object and was probably not used as an ordinary drinking vessel. It was an object either of representation or of ritual. Prehistoric gold objects have sometimes been interpreted as “calendars” and the number of decorative patterns on them is viewed in association with the astronomical values of lunar cycles and solar years. However, it is rather unlikely that this object was used as a calendar similar to our diaries or wall calendars today. It would be interesting to know how the cup came to Eschenz and from where. Because of the circumstances of its discovery, we are left with only vague assumptions. It is still not clear today whether the piece originated from the area or whether it came to the shores of Lake Constance from further afield. There are three possible explanations why the cup was buried at Eschenz:

- It was placed in a grave with the remains of an influential person
- The precious object was buried as a votive offering near the outlet of the lake
- It was concealed, and its owner was never able to retrieve it

Canton Thurgau during the Bronze Age

The Bronze Age lasted from 2200 to 800 BC. During that time the population of what is today Canton Thurgau grew. Besides the Early and Late Bronze Age pile-dwelling villages on the shorelines (Arbon-Bleiche 2, Ürschhausen-Nussbaumersee, Eschenz-Insel Werd), settlements were now also established in the valleys and hinterland of the Thurgau region, and particularly on its easy-to-defend elevations (Thurberg, Sonnenberg, Wäldi-Hohenrain and Toos-Waldi). Such hilltop settlements were often fortified with massive defensive structures. Due to climate change and social upheaval, the Bronze Age must at times have seen much turmoil. Not just villages, but cemeteries (e.g. Bischofszell-Bischofsberg, Basadingen/Schlattingen-Buchberg, Müllheim-Maltbach) and cult deposits (e.g. bronze objects such as swords from the River Thur near Weinfelden) have also been found.

Arbon in summer 1945: Polish soldiers interned in the area excavate the Early Bronze Age settlement at Bleiche 2

Bronze Age burial mound on Bischofsberg hill near Bischofszell

The River Thur crossing near Weinfelden: a Bronze Age site.

Bronze – a metal with a golden lustre

A bronze casting experiment.
The loaded crucible is heated in a charcoal fire. To achieve the required temperature to melt the metal, air is added using a bellows.

The bronze, which has melted at a temperature of just under 1000°C, is poured into the mould.

The cast is taken out of the mould and finished.

Bronze is an alloy of approximately 90% copper and 10% tin. The copper ores used in the Bronze Age came from the Alpine region. The tin deposits were mined in the Erz Mountains, the Massif Central, Brittany, the north-west of the Iberian Peninsula and Cornwall

From the 2nd millennium BC onwards, weapons, tools and jewellery were made of bronze. Casting moulds and processing waste from Arbon-Bleiche 2, Eschenz-Insel Werd and Ürschhausen-Horn show that these Bronze Age settlements had their own small foundries

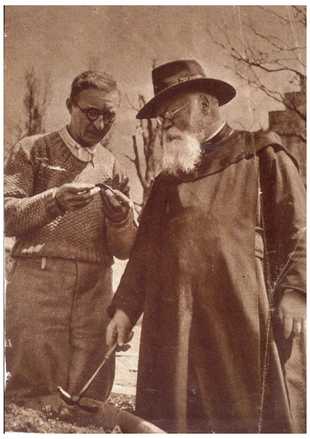
Founders were specialist craftspeople with the skills to employ complex methods such as the casting-on and lost-wax techniques.

Changes in the shape of the bronze artefacts over time allow us to date them quite precisely. Axes or decorative pins from the Early Bronze Age, for instance, are quite different in style to those from the Late Bronze Age. Fashion trends are not a modern phenomenon.

Werd Island 3000 years ago

A lakeside settlement was located on Werd Island in the Late Bronze Age. Between 1931 and 1935 the site was extensively excavated by Karl Keller-Tarnuzzer. The Late Bronze Age layers and piles were spread throughout the whole island. The ground-plans of several houses were identified on the basis of their loam floors and hearths. The buildings were renovated several times; two settlement phases were identified.

Aerial image of Werd Island from the north (2008).
The excavations took place on the main island (on the left).



Karl Keller-Tarnuzzer (left) in c. 1932 discussing the excavated features with Archbishop Raimund Netzhammer, who lived on the island at the time.

The insight gained from the excavations on the island were the basis for Keller-Tarnuzzer's Young Adult novel, "Die Inselleute vom Bodensee", which was published in 1935.

Ürschhausen-Horn, a Late Bronze Age village

The Late Bronze Age settlement at Ürschhausen-Horn (dating from around 850–800 BC) was located on a peninsula in Lake Nussbaum. Extensive excavations carried out in 1970 and again from 1985 to 1990 uncovered the ground-plans of more than 40 houses. The Bronze Age development on the peninsula originally included 100–150 dwellings and outbuildings (granaries, workshops). The preserved house floors generally consisted of a frame of sill beams with a wooden grating and had a loam coating to insulate the house against the damp ground.
The houses were post-and-plank or log constructions and had shingle roofs. Wood species found locally were used, including oak, alder, beech, hazel, ash, willow and maple.

Aerial photograph taken in 1989 of the Horn peninsula with the excavated ground-plans

The excavation in 1987: the corner of a house with a preserved floor and crockery stacked against the outer walls

This is what the village on the peninsula may have looked like around 800 BC