8. Denmark's History

8.0 Neolithic

The Neolithic or New Stone Age marks the beginning of agriculture and animal husbandry in Denmark. The period is known for its polished stone axes, magnificent ceramics and many of the numerous mounds, which are scattered all over the Danish landscape.



A mound from antiquity at Raklev on Refsnæs - painted by J. Th. Lundbye in 1839.

Through least 6,000 years, the ancient hunters had hunted and fished in Denmark. They had faithfully preserved their ancient customs. The women adorn themselves with tooth gems, they sprinkled red ocher over the deceased at funerals, and they liked zig-zag patterns.

The transition from hunters' stone age to the Neolithic period took place during historically very short time, perhaps only 100 to 200 years.

Why it happened is still the biggest mystery in connection with our knowledge of the Stone Age.

Tooth Beads were completely replaced by amber beads, they began to bury their dead in big constructed funeral facilities and all traces of ocher disappeared gradually from the burials. And, the most epoch-making, the original forest, which had hitherto covered the whole country, was partly cleared and they began keeping cattle and cultivating the land. It was the biggest change in civilization during many thousands of years.



Pottery a thick-necked flint ax and a flint chisel from the early Neolithic. Photo Danish Antiquity by Johannes Brøndsted – Lennart Larsen.

There is no shortage of theories about what caused that sudden change

Some believe that the transition to a life as farmers rather than hunters was caused by the good times and the following population growth during the Ertebølle period, so that there no longer were prey and wild plants enough for so many people. But the finds from the late Hunters' period suggest in no way that they lacked food. Furthermore, the early agriculture did not give very big yield and, that is not much food. Other explains the transition with that influence from the south spread to the Danish tribes. One can say that peasant culture became fashionable. They started keeping domesticated animals instead of hunting wild animals. They started using cultivated plants instead of natures' random supply of berries, roots and fruits. Maybe it happened in connection with a new religion.

Especially previously many researchers explained the switch from hunting to farming culture with a regular arrival of a new and culturally superior people, who displaced or absorbed the original tribes.



Neolithic periods in Denmark: The Funnel Beaker culture left us dolmens, passage graves, outstanding ceramics and polished stone axes. The Pit Ceramics culture were coastal hunters, who might be descendants of the ancient hunters. The Single Grave Culture existed particularly in West Jutland and had many features in common with the Central European cord ceramic culture. The Dolk Period was the last period of the Stone Age when manufacturing of flint tools reached a marvelous climax.

American scientists have come up with the idea that the grain not so much was used to make bread and porridge, but was primarily intended for brewing of beer. Since beer contains alcohol, which is intoxicating, one might think that it was very suitable for religious celebrations in connection with a new religion. It must have been something completely new and extremely interesting for the old hunters to feel influenced by alcohol. This new intoxicating experience may explain the suddenness, with which the old life and the old customs were rejected.



Left: Typical pottery from the Funnel Beaker Culture - Found at Volling - Skive Museum.

Middle: Fragment from Pit Ceramic pottery with the typical pits found at Grammahagen in Mjällby county in Blekinge photographed on 18 October 2005 by Harri Blomberg.

Right: Typical battle ax from the single grave culture found at Volling. Photo Viborg Museum.

Compared to the Hunters' stone age, Neolithic was a culturally eventful period. It started with the dominant Funnel Beaker Culture, which differed greatly from the previous Ertebølle Culture. The new funeral customs, the elaborate ceramics and the very most important, namely the beginning of agriculture and animal husbandry in Denmark, was a cultural tiger-leap forward.

The "kitchen middens" (heaps of oyster-shells) from the Ertebølle period continued to grow well into the Neolithic period, indicating that some of the old hunters continued their traditional life as hunters and gatherers without regard to the new times.



Flint dagger from the dagger age. Photo Stockholms Auktionsverk

The older part of the Neolithic period, 3.800-2.800 BC, is called the Funnel Beaker Culture after the characteristic funnel-shaped and often beautifully

decorated pottery vessels that we know from the period. This pottery, the polished flint axes and the visible burials in long barrows, dolmens and passage graves are the characteristics of the Funnel Beaker Culture, which was the dominant culture in the Neolithic period. The Funnel Beaker people was with a certain probability descendant of the ancient hunters.

The Single Grave Culture advanced in western Jutland. It had many similarities with the contemporary cord ceramic culture, which dominated further south in Europe. In some locations in Western Jylland, it seems to have displaced the Funnel Beaker Culture. Many believe that the Single Grave people represented a migration from the European cord ceramic culture, which some consider having been the Indo-Europeans.

The pit ceramic culture is so called because they decorated their pottery vessels with characteristic pits, dotted with a stick or similar. They were fishermen and coastal hunters, and some believe that they may have been descendants of the ancient hunters. But there are many differences in their weapons and tools, so nothing can be said with certainty. Pit Ceramic findings have been done along the coasts of eastern Sweden, at the great Swedish lakes, along the coasts of southern Norway and at the Danish Kattegat coasts.



8.1 Geography and Climate

About 15,000 years ago - 13,000 BC - the ice sheet, which covered almost all of Scandinavia, began to slowly melt away. The reindeer wandered north, followed by the reindeer hunters. The temperature rose and Denmark was covered with primeval forest, in which the Maglemose hunters hunted and fished. It was not until the neolithic that people began to keep livestock and cultivate the land. Around 500 BC the Bronze Age was replaced by the three periods of the Iron Age. The Viking Age started with the attack on the monastery of St. Cuthbert on the island of Lindisfarne in England AD 793. and ended with the killing of Canute the Saint in 1086 AD. The Middle Ages ended in 1536 with the civil war Count's Feud and the Lutheran Reformation. For 60% of Denmark's history, the main occupations have been hunting and fishing. For 75% of the time, a form of stone age has prevailed.

The Littorina Sea (which later became the Baltic Sea) had at beginning of Neolithic significantly broader and deeper connections with the World Ocean than present Baltic Sea has; therefore, the salt content was also higher. However, the worlds sea surface level declined because of lower temperature and ice formation at the poles, and the land uplift in Scandinavia after the Ice Age continued. This caused the connections with the World Ocean through the Danish Straits to become narrower and shallower, and this caused less saline water to stream into the Baltic Sea Basin. During the Neolithic period, the salty Littorina Sea was therefore replaced by the brackish-water Baltic Sea that we know today.

The Ertebølle period's almost subtropical climate was in the Neolithic replaced by more moderate temperatures but was still slightly higher than today's. However, in some period of a few hundred years, the temperature sank to just below today's level. It must have been some kind of "Little Ice Age".



Pollen analysis from Abkær Mose near Vojens. Around 3,900 BC pollen analyzes show clear changes, with elm, linden and ash declining sharply, while birch and alder gaining ground - although it is not entirely easy to see on the figure. That was because of the first farmers, who created a more open forest. In the single grave period, around 2,800 BC. grasses and dry bottom herbs, which are the typical field weeds, willow herb, dandelion, plantain, etc., began to grow. becoming increasingly common, indicating the forest was being cleared little by little and large parts of the landscape were now being used for grazing for livestock.

In the past Denmark was more water-rich than today, there were small lakes and bogs everywhere. They developed into the numerous peat bogs that we know so well. In the layers of peat is pollen from ancient plants that have grown around the pond over time. Pollen analysis provides a unique detailed knowledge of the historical fauna around such a pond.

Pollen is seed plants' male gametes. Each plant has pollen with a very characteristic appearance, which is easily recognized in a microscope. Pollen is built up by the substance sporopollenin, which is very difficult degraded in nature. Each finding of pollen can be dated using the carbon-14 method or similar.



Pollen grains of some pollenbearing plants:

1 linden, 2 white clover, 3 willow, 4 budra grass, 5 red clover, 6 sage, 7 mustard, 8 dandelion, 9 sainfoin, 10 hazel, 11 white acacia, 12 fireweed, 13 sunflower, 14 buckwheat, 15 cotton.

Photo Helpiks.

Using pollen analysis, it has found that the first traces of cultivated grain in Denmark appeared around 4.000 BC. One can also see that at this time elm and linden decreased dramatically. Maybe it had been

the dreaded Dutch elm disease or the like. It may also have been due to that foliage from these two trees were used as feed for animals, or that they simply were cut down to provide space for the animals on the high-lying ground. It can also be seen that at the start of the Neolithic pollen from ragweed, wild garlic and narrow-leaved plantain showed up, all of which today are common on land that lies idle. Around 3.500 BC pollen from grasses and white clover up showed up, indicating that cattle grazed on the land around the pond. By the way, we can also notice that the forest returned around AD 500, which was the time for the big migrations. First, around the year 1.100 AD at the beginning of the Middle Ages, the land was again cultivated.

8.2 Weapons and Axes

In many ways, the beginning of the Neolithic period represents a breach of many of the old hunters' thousand-year-old traditions. But the transition from hunter-gatherer societies into a cattle breeder and agricultural community was not complete suddenly. The start of the livestock and agriculture farming was a natural continuation of the creativity that was unfolded in Ertebølle period in efforts to provide food for a growing population, which among other things was reflected in the Ertebølle periods large and advanced fishing constructions.

It was the hunters' tradition to spread ocher on the deceased at funerals. Far into the Neolithic period traces of ocher have been found in graves from the subsequent Funnel Beaker Culture.



Two handled thin-necked flint axes found at Arnakkegård in Odsherred. Photo Danmark I Oldtiden by Johannes Brøndsted after C. J. Becker.

Not everyone was buried in the new burial mounds. In the early Neolithic period, a man was buried in a plain grave on the small islet of Dragsholm near Kalundborg. In the grave were his bow and arrows, a small drinking vessel of baked clay,

some flint blades and a battle-ax. The deceased must have been wearing his suit at the funeral, but only those pieces of amber, which had been attached to it, were preserved.



Typical battle axes from the New Stone Age. The red one on the left is from Zealand and the black one is from Scania. Photo Denmark i Antiquity by Johannes Brøndsted

He wore a wristguard of bone attached on the left wrist. He was a hunter and warrior, and perhaps also a peasant. The arrowheads were of the characteristic Ertebølle transverse style that was common well into the Neolithic period. The drinking vessel may have been his personal cup, used when he participated in important beer drinking ceremonies with other men.

Battle axes of this type, but of rather variable design, are found mainly in Western Jutland in graves from the Single Grave Culture. But they are also, to a lesser extent, found in the rest of the country, which was dominated by the Funnel Beaker Culture, as we see it in the grave on Dragsholm.



The battle axes are mostly made of greenstone rock, available in Danish deposits from the Ice Age. Some axes are made of rocks, which are found far from Denmark. There have been found almost a hundred battle-axes, which are made of materials from Norway or Sweden



Thor with his war hammer Mjølner in battle with the Jats. Painting by Mårten Eskil Winge from 1872, "Thor's battle with the Jats". The Aesir belief was of course somewhat later than the Neolithic, but the Neolithic battle ax was undeniably reminiscent of a hammer. Photo Mårten Eskil Winge - National Museum Wikipedia

War axes may not have been as sharp as axes of flint or steel; it would be more descriptive to call them war hammers; we remember that the god Thor later was armed with his war hammer Mjolnir. One can imagine that they also have been symbols of dignity for local village kings that symbolized power and status.

For thousands of years the ancient hunters made their axes, so they were good enough and could be used for their purposes, which was probably to kill wounded animals, chop a little brush to the kitchen fire and the like. But the Neolithic flint smiths were some far more perfectionist types; axes should be smooth, they thought, even if they had to grind on them for days.

Moreover, Neolithic axes were much larger than the hunters' axes. A typical axe from Ertebølle period is about 7-8 cm. long, while a typical grinded working axe from the Neolithic period often is longer than 15 cm.



Typical Ertebølle ax for comparison. It is only 8-9 cm. long. Foto DBA.

Ax anatomy: an axe consists of an ax-head and an ax-handle. The part of the head that sits above (behind) the handle hole is called the neck, and the part that sits in front of the hole is called the blade, which ends in the sharp edge.

There are three main types of polished axes

from the Neolithic period: pointed-necked, thin-necked and thick-necked axes.

Pointed-necked axes are the oldest. Behind a fictitious handle-hole, they decrease gradually in both thickness and width. They have oval cross-section. They were shafted by a hole in the ax-handle. Thanks to their conical shape they wedged themselves firmly in the hole during use. The shape of the pointed-necked axes was a natural continuation of the hunters' axes, only bigger and sharper.



Pointed neck flint ax found on Fyn. Length 22,5 cm. Photo antik.dkau.dk.

Thin-necked axes seem to have been dominant when the deforestation was going on. They were real working axes, suitable for logging. Behind the fictional shafthole the neck decreases in thickness, but they also have a small taper in width. They are shafted in a hole in the handle, in which they also wedge themselves firmly during use.

Thick-necked axes have a rectangular or square head. They have a slightly triangular ax-blade, and thereby the whole head becomes conical. They were somewhat smaller than the thin-necked axes, and they seem more

to be designed for different occasional work than the hard work on logging. They too were mounted in a hole in the handle, whereby the head wedged itself firm in use because of the conical shape. The shape was a forerunner to the later bronze axes.



Grinded thin-necked axe of flint. Length: 24.2 cm. Site of discovery - Espegods near Boserup in South Zealand. Photo Lauritz.com.

Modern experiments with axes from the Neolithic period have shown that the ax head must press against the edge of the hole in the handle in the longitudinal



direction, as the handle will otherwise split.

Thick-necked stone ax from late Neolithic. The length is approximately 19 cm. Photo Steen Agersø.



During the archaeological investigations prior to the upcoming Fehmarn Belt connection, archaeologists from Museum Lolland-Falster have found an incredibly well-preserved handled flint axe. It had been sunk into the seabed near what was then the beach along with other objects such as paddle oars, two bows and around 14 ax-handles. Photo Museum Lolland-Falster

8.3 Animal Husbandry

In a kitchen midden (heap of oyster shells) at Krabbesholm near Skive, that was built up through late the Ertebølle Culture into early Funnel Beaker Culture, were found bones of domestic animals such as pigs, cattle and sheep. It is not yet clear how old the domestic animal bones are, but this alone that domestic bones have been found in one of the Ertebølle culture's shell heaps must indicate that it was the hunters' descendants, who still lived there with their domestic animals in the early Neolithic Age. Thus, it is not the case here that an intruder people have invaded the country and introduced animal and arable farming.



Typical pottery from the funnel beaker culture. Photo De -byggede Riget by Palle Lauring – Lennart Larsen.

In another kitchen midden from the Ertebølle period at Egsminde near Løgstør has been found a molar from a domestic ox, indicating that domestic animals were known already in the late part of the Ertebølle period.

Stone Age pigs reminded a lot about wild boars. They could go without care in the woods, where there was plenty of food for most of the year. The animals were shorter than today's modern

domestic pigs and had a big head in proportion to the body and probably also the boar's long bristles.

All domestic cattle descend from aurochs. The stone age farmers domestic cattle belong to the largest that we know about from ancient times. After the Neolithic period animal size decreased steadily, and in the Iron Age, the cows had become very small. The Roman historian Tacitus described in his book "Germania" from 98 AD the Germanic cattle as "miserable", but despite this: "The Germans feel happy over the size of their livestock, and it is their only and dearest wealth."



Left: Stone Age pigs looked like wild boars, shown here on a photo from Lejre Forsøgscenter. Right: Aurochs-like bull from Lille Vildmose. Photo Malene Wikipedia. Sheep was the first animal that was domesticated. We know for sure that it was kept in Neolithic, but textiles or remains of textiles made from wool have never been found from the Stone Age; we do not know if they used the sheep's wool to spin yarn and weave it for clothing. Wool garments are known only from Bronze Age - over 1,500 years later.



Gutesheep, which is a very old Scandinavian breed of sheep. Photo gutefår ved Håle-Täng kirke i Sverige Sinika Halme Wikipedia.

Sheep bones that have been found from the Stone Age, comes from young sheep, whose wool cannot be used for processing. It suggests that they have slaughtered the sheep before their wool could be used to spin yarn.

One can imagine that they could have used the wool to make felt, which is produced

from entangled and compacted wool. It's pretty straightforward, but we have to make a discovery showing this. The earliest piece of felt in Scandinavia has been found in a tomb in Hordaland in Norway from 500 AD.



A molar from a domestic ox that has been found in an Ertebølle Culture kitchen midden at Egminde near Løgstør. Photo Ertebølle Tidens Biotop udnyttelse under Statens Humanistiske Forskningsråd.

In some places, scientists have been lucky to find parts of textile from the Late Hunters Stone Age and early Neolithic made of plant fibers, probably nettle. On the underwater Ertebølle settlement in Tybrind Vig was found a piece of fabric made of linden- or willow-bast. In Hans Christian Andersen's fairy tale, The Wild Swans, Princess Elisa knitted precisely nettle shirts with magical properties to her bewitched brothers; Andersen was very inspired by the popular fairy tales and stories that he heard in his childhood on the island of Funen. Nettle shirts may have been a very old tradition.

It is also possible to create textiles from tree bark. The Ainu people of northern Japan manufactured their traditional textiles from the bast of the Japanese elm tree. The bark is peeled off the felled tree, and then the innermost layer of the bark is peeled off. These fibers from the inner bark are then softened in water, dried in the sun, and thereafter they can be decomposed into fine fibers, which are twisted together into threads, which can be woven making a relatively stiff brown textile.

At Myrhøj in western Himmerland and at Limensgård on the island of Bornholm have been made a discovery from the late Neolithic period of unfired lumps of clay with holes, which can be interpreted as loom weights.

8.4 Arable Farming

It is usually assumed that the first arable farming in Denmark was slash and burn agriculture, in which primeval forest was burned, and the cleared area was cultivated for a few years until the soil was exhausted; whereafter the primitive farmers moved to somewhere else and started over again with burning forest.



Left: Stumps on land cleared of trees - Removal of stumps and roots can be a big problem. Some contractors offer to mill them away with heavy contractor equipment. Søren Ryge in the Danish TV's garden broadcasting chose to blow away the roots of a large fruit bush with dynamite. But to imagine that the Stone Age farmers could remove roots from large trees and the underground matted roots from hawthorn, elder and hazel, etc. from a larger area only equipped with stone-ax and a digging stick of wood, that is unrealistic.

Right: Some suggest removing stumps with a large weight rod of tempered steel, which the stone age farmers did not have.

Now, it is the case that Denmark also then had a rainy Atlantic climate. The forests were deciduous forest, which consisted of old oak, elm and linden trees mixed with hazel bushes. That kind of woods cannot burn. All forest fires that we hear about in TV are in forests dominated by resin containing conifers or of dry eucalyptus trees. Many of us have tried to burn fresh hardwood in the fireplace or in a midsummer campfire, and we have discovered that it burns only if one adds sufficient quantities of flammable liquids.

Stone axes are quite effective in cutting down trees, it has been verified in modern times. But it is not enough to fell the trees to make the land usable for farming; also, the branches must be removed from the stems, the stumps must be dug up and removed, shrubs and bushes cut down and their roots removed. Possibly they could drag branches and twigs together, let them dry over the summer and then burn it all. As we well know large logs do not burn immediately, they must be chopped first. And when they had finished all this, they could begin to remove stones.



Typical Greek mountains on the island of Tilos. In Greece's ancient past the mountains were covered by forests, but the Greeks felled the forest and let sheep and goats graze on the mountains. Over time, the earth eroded away, and today the mountains are bare and naked. - It shows the efficiency of sheep and goats in holding a forest stand down.

Photo Greeka

Stumps and their roots are very difficult to remove, even with modern tools. Even a steel ax may have difficulty biting into a tree root, often it bounces back like the roots were made of rubber.

Søren Ryge in Danish television's garden program chose to use dynamite to remove an old bush in his garden. Stone axes could not have been very effective in removing shrubs and bushes, not to talk about their roots

All in all, with Neolithic tools it must have been an enormous amount of work to clear forest for farming. It is really unlikely that the Stone Age farmers "just" cleared or burned part of the forest only for using the area a few years and then started all over a new place.

It is more likely that they used goats' and sheep's well-known efficiency to keep forest stands down. Sheep and goats graze an area much more efficiently than cows. They eat not only grass but also buddings, shrubs and trees.

When Socrates and Plato walked around in the streets of Athens, the Greek mountains were covered with forest. The Greeks felled the trees, and let goats and sheep graze on the green slopes. However, during centuries rain washed the soil away from the unprotected mountain slopes, and today the mountains are naked and barren, with no forest or grass.



Pottery fragments from the Neolithic period with imprint of grain. Photo De Byggede Riget af Palle Lauring – Lennart Larsen.

One can imagine that Stone Age farmers really used the following procedure: First, they felled large trees, collected branches and twigs together into a kind of bonfire stack and let it dry during summer. Some of the branches they used for fences and similar, and the rest they burned. Then they let the sheep and goats graze the area for many years and thus prevented the stumps and

roots to shoot again. The felled tree trunks were allowed to dry on the spot and were eventually used for different purposes, for example, dugouts, house-building and the like.

After that sheep and goats had kept the woods down for many years, roots and stumps had rotted away, and then they could think of to grow grain on the land.

The Jutland teacher, Frode Kristensen, from Tørring noticed in 1894 the small imprints that grain can leave in fired earthenware. He showed that it was possible to determine which grains that had left the prints. This method has been used by archaeologists with great success to determine, which crops older agricultural cultures cultivated.



The first varieties of cereals in Denmark. From left to right: Einkorn - a type of wheat. Emmer - also a type of wheat. Common wheat. Dwarf wheat is a type of spelt, which is also a type of wheat. Six-row awn-clad barley, which is normal barley today. Some recent sources report six-rowed naked barley Photo Danmarks Oldtid by Johannes Brøndsted after G. Hatt.

Already from the beginning of the Neolithic period, five grains were known in Denmark: einkorn, emmer, dwarf wheat, six-rowed naked barley and sixrowed naked awnclad that is normal

barley. None of these species are found as wild plants in Denmark, they must have been introduced along with arable farming.

Einkorn is a kind of barley. It has a really bad baking ability, and when used alone it gives a puttylike dough. It is said that if you use honey-salt raising, it can be an excellent bread. Einkorn comes from the "fertile crescent" in the Middle East, where it still can be found as a wild plant.

Emmer is a kind of wheat. It is not suitable for making bread because of a very low gluten content. It is used in the manufacture of beer that gets dark, murky and very spicy. Possibly it could also be used for porridge. Wild emmer still exists in the fertile crescent of the Middle East.



During the restoration of the passage grave, Jordehø,j near Stege in 1998, traces of plowing with ard were found. The plow tracks stood out faintly as dark-colored stripes in the lighter ground. Photo: Svend Illum Hansen and Torben Dehn in Historisk Atlas

Common wheat as we know it well.

Dwarf wheat (Triticum compactum) and **bread wheat** (Triticum aestivum) are kinds of spelt, which is also a kind of wheat. Spelt is suitable for porridge

and bread and maybe beer. There has been found spelt in the Caucasus, dating to 6.000-5.000 BC. In Moldavia, some findings are dated to 4.000 - 3.000 BC.

However, modern sources say that only scanty traces of six-rowed **awnclad barley** have been found, from the Peasant Age as six-rowed **naked barley** was preferred.

That the barley is naked means that it has an easy-to-remove peel, which otherwise sticks on the grain and must be removed before we can eat it. Awnclad barley gives a good yield. Barley porridge has in thousands of years been an integral part of the Danish menu. It was called the Nordic region's rice because it can be eaten in the same way as rice, for example as fill in the soup. Barley is also used for barley malt, which is an indispensable part of beer brewing.

It seems that the dominant crop in the early Neolithic was emmer closely followed by six-rowed naked barley. Einkorn and dwarf wheat occurred, however, only in smaller quantities. But during the period einkorn seems to have gained ground, among other places in Scania.



Several of the types of grain can still be found as wild plants in the "fertile crescent" - which was more fertile 5,000 years ago than it is in the present. Foto ThoughtCo.

In layers of burned remains of food on the inside of pottery, fragments have been found of many seeds from wild apples; also, we often find shells from hazelnuts, so apples and nuts appear to have been an important supplement to their diet.

8.5 Ceramics



The Skarsalling vessel from Himmerland - You recognize the hatching and zigzag patterns of the old hunters. Photo National Museum Wikipedia

The pottery of Neolithic represents a giant leap forward compared to the Ertebølle period's coarse vessels. They are thinner, and they are very regular round.

The most famous piece of pottery from the Neolithic period is the Skarpsalling vessel, which was found in 1891, during the clearing of stones from a passage grave on Oudrup Hede near Skarpsalling in Himmerland. Today it can be found in the National Museum.

Similar to the Ertebølle pottery the Skarpsalling vessel has no flat bottom, on which it can stand. The conical bottom seems to be designed to be wedged between stones, or maybe it should hang. It is beautifully decorated, and we recognize the old hunters' zigzag patterns.

Later in the Neolithic, the vessels got a real flat bottom so that they could be placed on an even surface



collar bottles are characteristic for the oldest part of the Neolithic period that is around 4.000-3.400 BC Especially in the Funnel Beaker Culture, ceramics were decorated with many different patterns made with the edge of sea-shells, a bone or a pointed stick. Subsequently, patterns could be filled with a chalky mass as a contrast to the clay. Then it was dried and finally burned at temperatures



between 500 and 700 degrees

Advanced ceramics from the funnel beaker culture. The bottom one is a spoon with a hole for the wooden handle. Photo De Byggede Riget by Palle Lauring -Lennart Larsen

No one knows how the Neolithic Stone

Age farmers made their pottery. It had thin walls, and the vessels were near perfectly round. It is often said that the vessels were built up of thin sausages of clay. But it seems unlikely that they could built up such thin-walled vessels from clay sausages without any support.

One can imagine that the clay-sausages were supported by a for example of

beeswax with a filler or of a combustible resin material. The core would then melt or burn away when heated for example during the burning of the pottery. Such

One wonders how Neolithic potters could produce the vessels so perfectly, round without using a potter's wheel, while they were quite thin-walled, around 5-10 mm. One must believe that the wet clay would collapse. One can imagine that they had attached the clay sausages on a core, which later in the process would be melted, burned or scratched out with a stick.

We can guess that the cores were made of beeswax, resin-containing materials or sand with an organic binding agent.

The use of cores would have been a logical precursor to the later advanced bronze casting, where the use of cores was a very important casting technical detail.

It is believed that the impressive pottery, which we find from the first half of the Neolithic period is intended for use in religious ceremonies, for example, in connection with funerals, and this is the reason for their perfect shape and artistic decoration. Later in the period, the ceramics got a more everyday look.



8.6 Fishing and Sailing in Neolithic

Fishing fence from Neolithic found at Olelyst near Halskov. It was made up of rows of two-meter-high poles, which can be traced 40 m into the water from the south. A wickerwork panel of 5.5 x 1.75 m. hazel canes was found between the posts. Photo: Ancient Maritime Communities and the Relationship between Peoples and Environment along the European Atlantic Coast.

During the construction of the Storebælt bridge in 1989, archeologists found at Olelyst near Halskov Overdrev remains of an advanced fish plant from the

Neolithic period about 3,300 years BC. It was a natural further development of the Ertebølle periods extensive fishing plants.

The fish fence from Olelyst was the first one, which was excavated in its entirety in Denmark. Each section consisted of long tapered hazel rods that were braided around with crossing branches. From the excavated braided section, a whole row of vertical poles could be followed 35 m. out into the bay. This was pound nets stakes, on which the braided sections, like the excavated one, had been tied up. Located transverse with an inclining angle of the current in the bay it had directed the fish towards a catching device, probably a fish trap.



Braided fish trap from Irish Neolithic. Photo Indymedia Ireland.

The fishing fence seems to have been built in prefabricated sections, which could be taken on land in the autumn and reinstalled in the spring. Each section was approximately 5.5

times 1 meter; a section contained 12 vertical hazel poles and in between these were braided thin,

closely packed hazel rods. Each of the vertical poles was tapered so that they easily could be put into the soft bottom.

In one end of a section, there was a single vertical pole so that the ends of the horizontal braided hazel rods here stuck out to both sides of the pole and seen in horizontal section formed a dovetail shape, a groove. In the other end, the vertical pole was doubled, and the ends of all of the horizontal braided rods were here led in between the two poles, so that this end of the mat was pretty flat, and so to speak formed a tongue.



A fishing fence manufactured in sections with tongue and groove. Own drawing.

This difference

between the two ends made possible that the sections could be connected, so that the flat end could be inserted into the V-shaped end after the tongue-and-groove principle. This may have allowed the fish fence easily and quickly to be put out in the spring, section after section.



Old fish fence of stones on the island of Lasqueti near Vancouver Island at North America's west coast. - Such simple fish fences have probably also existed in the Danish Neolithic. The fish fence is low enough to allow the fish to swim over it and closer to the shore by high water, but at low tide, the fence protrudes above the surface and thereby prevents them from swimming back to deep water. Photo Nordwest Coast Archaeology

So many branches from hazel in such lengths and that quality may have come from systematic nursing of closely spaced hazel bushes.

Sønderjyllands Museum excavates fishing plant at Slivsø south of Haderslev. Photo Sønderjyllands Museum

We can imagine how the vegetation around the bay in Neolithic had included "plantations" of nursed and cut hazel, which were used for fishing fences and housebuilding. This shows that in the Neolithic, there has been a social power, perhaps a chief or a local king, who could dispose of hundreds of persons' labor and plan far into the future.

At Slivsø south of Haderslev Sønderjyllands Museum has excavated a 50 m. long fish plant from the Neolithic period 3.000 BC. Similar to the plant from Halskov it was divided into prefabricated sections.



Drawing of a traditional type of eel fence with trap, which often could be seen along the Danish beaches in the nineteenth century, for example on Røsnæs. The willow-braided panel is shown in an unusually short version, perhaps for the sake of the drawing format. The panel directed the eels to deeper water, where they were led by a funnel-shaped net into a fish trap. In this case, the construction is provided with a walkway that made it possible

to empty the trap also in case of bad weather. Photo Nordisk Familjebok

In Denmark, the remains of about thirty dugouts from the Neolithic period have been found. They are all of exactly the same design as the dugouts from the Ertebølle period. It has been a very traditional type of vessel, which must have served its purpose to the users' satisfaction in countless years.

The ancient hunters preferred to produce dugouts of linden tree, but in the Neolithic period el and oak became more common.



Fragment of a dugout from the Neolithic period found at Korsør. It has 22 repair holes for sewing, which testifies the owner's care to keep the vessel in usable condition. It was really the beginning of a new technique, as the later hjortspring-boat from Iron Age also was sewn together. Foto Kalundborg Museum.

The length was often close to 10 m., the width depended on the diameter of the tree-trunk, but was perhaps 0.5 to 0.8 m. The sides' thickness was worked down to 1-2 cm thickness, while the bottom was 3-5 cm thick. The bow was tapered and the transom was cut straight and closed with a bulkhead. This loose bulkhead plate was attached to the inside of the boat using dowels and sealed with resin, pitch or tar, perhaps produced by gentle heating of birch bark. The unladen weight has been about 250-350 kg.

Stenalderens Danmark var langt mere vandrigt end nutidens.



Finding a dugout. Photo from the first half of the 1900's.

There were small lakes, marshes and shallow inlets everywhere, and the rivers were not made straight, as they are today. It has been quite convenient to sail from one fishing area to another so that a fisherman would not have to carry all his equipment on his back through impassable forests and bogs. The Neolithic fishermen and

hunters also brought embers to a fire, as it can see by the fire spots in the bottom of the dugouts.

The dugout from Broksø has been found in Holmegårds Moses in South Sjælland. The boat is from the beginning of the Neolithic period, that is, approximately 3,500 BC. It is made of oak and was 3.80 m. long and 0.55 m. wide at the stern. It can be seen at the National Museum. Several more dugouts from Neolithic have been found in Åmosen on Sjælland near Kalundborg.



Worked wooden parts in the form of oak planks, beams and moldings from the Early English Stone Age Somerset Levels. Note the tapered ends, the round holes, flat surfaces, fat, grooves and notches. Photo The Megalithic Portal.

If the wood cracked, the damage was sewn together and sealed with pitch or clay. A fragment of a dugout found at Korsør, for example, had 22 repair holes for sewing. This indicates moreover that Neolithic people must have had quite strong cords or leash, perhaps made of bast, possibly from the outer phloem of linden trees - today one would have used steel wire for such a purpose.

However- a dugout has a stability that is comparable to a kayak. Its ability to return to upright position after a heel is negligible. Dugouts may not have been suitable for navigation on the high seas or for the

heavy work with, for example, fishing-nets, long poles or large willow-braided parts of fishing plants.

There have been found no traces of other types of boats from Neolithic, but many believe that they must have had some more stable boats for sailing on the high seas and for working with heavy equipment.



Willow-braided house side found at Somerset Levels in England. - Willowbraiding was a Neolithic specialty, used for many purposes. Photo The Megalithic Portal.

The Roman poet Avienus quoted fragments from a Phoenician "Periplus" (sailing instruction) from the sixth century BC describing a meeting with native Britons in skin boats: "To Oestrimnides (Scilly Islands) come many enterprising

people, who are engaged in trading and who navigate the monster-filled ocean far and wide in small vessels. They do not know how to build a ship of wood in the usual way. Believe it or not, they're making their boats by sewing hides together and perform their journeys on the open sea with them."

Also, the Roman historian Pliny the Elder has a reference to skin boats. He retold in 77 AD. information from an older historian, Timaeus, whose original work has been lost. The historian Timaeus wrote that there is an island called Mictis, located six days sailing inward from Britain, where tin has been found, and to which Britons crossed the sea in boats build of braided willows covered with sewn hides." (Pliny, Natural Histories, IV, 14, 104). It is not quite clear what he means by "inward", but perhaps he meant inward toward the continent, that is against the east.



Irishmen, who are interested in history, sail in a reconstruction of an Irish curagh, a boat built by wooden frames and wattle and coated with hides. Photo The Irish Post.

Of course, here we are talking about reports that are significantly younger than the Neolithic period, but they nevertheless provide a clue that there may have been an original European tradition of building skin boats.

Neolithic farmers used wattle for many purposes, such as fish plants, fish traps, house sides and probably fences. Pollarded willows must have been a common sight in

the Neolithic period. It must have been an obvious idea to make a boat of wattle and cover it with hides, as we know from the traditional Irish curragh. They had the technological preconditions; they had the materials and they had the need. It-is reasonable to assume that they also did it?

8.7 Bog Bodies

Violence has been a common cause of death in the Neolithic period, judged by the many injuries, which we can see on the skeletal findings. Life was difficult and for some, it was also short and brutal.



The head of one of the women from Sigersdal Mose between Copenhagen and Frederikssund from 1949 - The large hole in the skull is very likely to have been done in connection with the peat digging. She still has the rope around her neck with which she was strangled. Photo National Museum

In two cases the method of killing suggests that the persons in question have been sacrificed to the gods or spirits in the bog; because they have been strangled.

Peat workers in Sigersdal Mose in northern Sjælland encountered in 1949 the skeleton of a young girl,

lying with a rope around her neck. She partly lay down, with one foot stuck in the mud in bog bottom, while the rest of the body was embedded in peat. The geologist Svend Thorkild Andersen, who was present, imagines that she had been led out to the site with a rope around her neck, and then had been strangled and thrown into that time lake. She was 18-20 years old when she died. Close by was found another skeleton of another young girl, who presumably also have been sacrificed to the spirits of the bog - simultaneously or almost simultaneously. The other girl in Sigersdal Mose was about 16 years old. Her cause of death cannot be determined. Perhaps she also has been strangled. The two girls' skulls are similar, and they may have been siblings. However, some believe that at least the oldest one was not a woman, but a young man.



The Porsmose man was hit by an arrow in the nose when he bent forward in pain over the shot in the chest. Therefore the arrowhead sits like he was hit in an angle from above. Photo <u>Bullenwächter</u> (Andreas Franzkowiak) Wikipedia.

Because at least one of Sigersdal girls was strangled, it is assumed that they represent a sacrifice to the gods or the spirits of the bog. Close to the finding place is a stone pavement, and not far from there was made a great discovery of 13 thin-necked axes. Therefore, one can assume that this locality in Sigerdals Mose has been a traditional place of sacrifice.

At Boelkilde on the island of Als, there is also found a bog-body from the Neolithic period, who has been strangled prior to immersion in the bog. Because of the method of killing, it is, in the same way, believed that it is a case of sacrifice to the gods.

In connection with peat cutting a skeleton of a 35-40-year-old man was found in Porsmose near Næstved; he died around 3.500 BC. When he was found in 1946, he still had two arrows in the body. A bone-arrowhead had hit him in the head like he was shot with an angle from above, and it still sticks down diagonally through his nasal cavity and the right half of his upper jaw. It must have been extremely painful, but he must have been killed by another arrow that had pierced into his chest.



arrowhead type belongs to the Single Grave Culture.

Two skulls with holes after trepanation. The skull on the left was found in a bog near Sorø. He has been trepanned twice, and the edges have healed, showing that the patient survived both times. The skull on the right was found in the giant's room at Næs on Falster. Here the edges are also healed. Photo De Byggede Riget by Palle Lauring – Lennart Larsen.

Maybe he curled together of pain after the first arrow that hit him in the chest and was then hit by the next arrow in the head. The man may have been surprised by his enemies, or perhaps he was executed. After the killing, the body was thrown into that time lake. The

Trepanations are known from Danish Neolithic. A trepanation is a surgery, where the skull is opened exposing the brain, in order to relieve the pressure from a bleeding, remove splinters of bone or tumors. Many trepanations were made on the left side of the head, where a battle ax would hit in melee against a right-handed opponent. There are several examples of patients, who had survived such surgery



Drawing of a skull found in the passage grave Jordhøj near Stege 1837. The person, probably a man, has eyebrow arches, like the old hunters and many living men, but not a particularly sloping forehead, like some of the old hunters had. Photo Om Hovedskallerne og Benraderne i vore gamle Gravhøje af D.F. Eschricht, published in Historisk Atlas.

In 1942 two skeletons were found in a bog near Sorø on Sjælland. Both their skulls have holes after trepanations. In the middle of one of the skulls is a hole with a diameter of 15 mm.

I In connection with the trepanation can be seen an elongated depression of the skull, which may

have been caused by a blow with a battle ax. The reason for the trepanation may thus have been this

breach of the skull; by cutting a hole to the brain, they relieved the blood pressure and saved the man's life. The inclined edges of the trepanation show signs of healing, indicating that the man had survived his injury. Another and less visible trepanation can be seen further back on the skull in the left side. This hole measures 7 mm. in diameter.

The other person's left arm-bones are deformed and much shorter than the right. He has been disabled, perhaps because of an injury in childhood. Both men were immersed in the bog around 3.500 BC.



On a skull found in the passage grave Hulbjerg at Bagenkop on the island of Langeland we can see that a tooth has been drilled into the root; it has also changed color as root-treated teeth do. Moreover, it is seen that the teeth are very worn. Photo Langelands Museum.

In a stone tomb at Keldrød in Central Sjælland has been found the skull of a man, who was 35-40 years, when he died around 3.300 BC. Like many Neolithic men, he bears traces of having participated in heavy fighting. Over the right eye, he has a damage after being hit by a blunt weapon, probably a battle ax, but the wound had healed, and he must have lived on some years after this blow. However, he later received a blow to the left temple, which broke through the skull. They have tried to save his life by trepanation, but the fracture is not healed, and he must have died shortly after.

In Hulbjerg passage grave on the island of Langeland, archaeologists found a skull with signs of the world's oldest known dental treatment. They had with a flint-drill drilled into and punctured a tooth with infection in the root.

It is seen that the Funnel Beaker people's skulls are very similar to modern ethnic Danes', the

frequency of the typical "Cro Magnon" type seems to have somewhat reduced since the Ertebølle period, whatever that may be caused.

Studies of early central European peasant societies show that death was a frequent visitor to Neolithic settlements. Live-born could expect to achieve an average age between 20 and 35 years. Only 30-40% reached adulthood; the rest either died at birth or within the first twenty years of life. There is no reason to believe that it should not also be valid for the Danish population in the Neolithic period.

Some have estimated that the population size during this period in Denmark may have been between 100,000 and 200,000 persons.

8.8 Sarup Constructions



Plan of Sarup I, which is the largest facility, and of Sarup II, which was built a few years later. Sarup I included the peninsula itself and a corresponding area north of the peninsula as shown. Sarup II included only the peninsula as shown. The yellow areas are those already examined. The scale represents 100 meters. Photo Graphic 2. Survey of Sarup plant 2 by Niels H. Andersen.

At the village of Sarup between Faaborg and Assens was in 1967 discovered a very large construction from the early Neolithic period. A sandy peninsula between two rivers had been fenced by an about 3 meter high and 572 m. long palisade made of 1,800 split oak logs each 30-40 cm thick. The fenced area was 8.5 hectare, which corresponds to 7-8 football fields.

The Sarup Construction is from the beginning of the Stone Age around 3,400 BC. - 500 years after the Ertebølle hunters' transition to farming society. However, there were still large forests and thus plenty of timber.

The entrance to the fenced area was – similar to foreign Sarup facilities – designed as a kind of labyrinth. The entrance itself was only 1.4 meters wide.

All the way along the outside of the long palisade there have been 19 square enclosures, also made of palisades. In addition, there have been other parallel rows of palisades,

which may have marked access roads or marked boundaries between areas intended for different purposes.



Reconstruction of the complicated entrance to the fenced area in Sarup I. You can see the parallel pits (system pits) along the fence and the special enclosures. The entrance construction brings to mind the Chinese Feng Shui teaching, which says that a house should be arranged in such a way that one cannot see through it from the front door to the back door, because then happiness and wealth will quickly blow away. Drawing Louise Hilmar, N. Andersen og M.O. Baldia 1997-2001. In the area outside along the palisade there has been a double row of ditches or oblong pits, which are called system pits

At the bottom of these system graves, finds have been made of potsherds, whole jars, skulls of cattle, sheep or pigs, a fire-tipped dagger staff, the neck of a flint axe, human skulls, parts of such and other bones. But not finds in large quantities, about one find per meter.

It was during this period that the giants' huts were built and very high-quality pottery was produced, which was sacrificed in front of the tombs.



Artistic rendering of a Sarup plant in Essex, England. The system trenches are seen along the inner circle. Construction of the Sarup plant seemed to have been an international movement. In England, 90 Sarup plants have been detected, and a similar number have been detected in France, Spain and Northern Germany. Photo Megalitismo Atlantico

In one grave was the lower jaw of a human, probably a man of barely 30 years of age. The jaw seems to have first been stored in a place where it has been dried out, affected by wind and weather. In foreign Sarup facilities with good preservation conditions, human bones have also been found, especially skulls, which show traces of having first been stored elsewhere.

The shards of a beautifully decorated clay bowl have been found, which are distributed in seven different system graves. It must have been a very special dish.

On the outside, but close to the palisade, were found quantities of pottery, burnt bones - including human bones, burnt stones and charcoal from hearths.



E An artist's rendering of a Sarup plant at Whitehawk in Sussex, England, which was built in 3650 BC. and was in use for 200 years. Its concentric ring design brings to mind Plato's description of Atlantis. Note the rather symbolic fence on the outermost circle, which was also used on Sarup II. Note the system pits along each ring and the convoluted access to the innermost area. Photo Daily Mail drawn by Ian Dennis Cardiff University. But the fenced area itself is practically empty of finds.



Reconstruction of the entrance to Sarup In seen from inside. After N. H. Andersen 1988

Professor Niels H. Andersen from the Moesgård Museum writes: "The whole of Saruppladsen was surrounded by a three-metre-high palisade fence made of oak logs. No finds have been made inside the fence, but plenty outside. I therefore imagine that they might not have dared go in there. Because it has been reserved for dead souls as part of a funerary cult."

"The peasants from the Sarup area are some of Denmark's first full-time farmers." continues Niels H. Andersen, "The Sarup site has been enormously demanding to build and shows a great surplus. It has required the work of at least 170 men full-time for three months, during which the men have had to be freed from their other duties."

150 years later, around 3250 BC a second and smaller plant was built at Sarup (Sarup II). It was shaped like a crescent, delimiting an area of approximately 3.5 hectares on the southern tip of the sandy headland. The construction also included a palisade fence, square palisade enclosures along the outside, and two parallel rows of system ditches outside the enclosure. Sarup II was, as can be seen, somewhat smaller than its predecessor, and they settled for a more symbolic fence of posts at intervals.



At the Blakbjerg site near Ryomgård, midway between Grenå and Randers, a Sarup facility has been identified. On the site itself, Museum Østjylland has set up the plate shown here. It shows the characteristic system pits and mounds of excavated earth. The water in the background is the then existing Kolindsund.

Since the discovery of the Sarup constructio, 800 similar plants have been found throughout Europe. In Denmark alone, we know of 36 such facilities, among others at Haderslev, Jægerspris, Skævinge in North Zealand, at Kjelderbakke Øster Lem Hede and at Blakbjerg in Djursland. A circular Sarup-like facility at Goseck in Central Germany from around 3,000 BC was constructed so that a person placed in the center at the winter solstice could see the sun rise through one opening and see it set through another opening.

The post tracks show that the facility, both Sarup I and Sarup II, was abandoned shortly after they were built. They were essentially a one-time event. But the facilities remained sacred and untouchable.

It is very tempting to try to give an explanation for the activities at the Sarup facilities.

We remember that the old hunters had a special relationship with the bones of their ancestors. They could take skulls and other bones of famous ancestors from the grave and place them in their dwellings so that they could bring happiness and prosperity to their still living descendants.



Relic of Hermann von Reichenau. Upper part of the skull of Hermann von Reichenau in St. Michael Castle Church in Altshausen. Photo Andreas Praefcke Wikipedia.

We may think that it is a creepy custom, but in reality, it still exists, as pieces of the bones of Catholic saints and things that have been attached to

them are considered to be holy and auspicious. Not to mention splinters of Christ's cross and Veronika's sweat cloth.

The Stone Age peasants were descendants of the old hunters. One can imagine that at an agreed time they appeared at Sarup bringing the bones of their famous deceased heroes or things that had belonged to them. By placing the relics in the system tombs all around the fenced area, they wanted to use the power of the relics to create a very special spiritual event in the fenced area. After the event, they again took up their precious relics and went home to their villages.

8.9 Long Barrows, Round Dolmens, Long Dolmens and Passage Graves

The Funnel Beaker culture's many different kinds of tombs can be seen everywhere in the Danish countryside, together with the later Bronze Age burial mounds.

I During the earliest Funnel Beaker Culture Stone Age farmers built **long barrows**. At this time, there were still widespread forests in Denmark, and there was plenty of timber. Therefore, they built long barrows of wood and presumably turf. They could be up to 90 m. long and 14 m. wide. They are usually oriented in an east-west direction. Here they have buried their dead of all ages, from infants to elderly people aged 50 to 60 years.

About a hundred of this type of burial mounds are known in Denmark.



The long barrow Givehøje near Silkeborg. Photo Danske Fortidsminder

They often seem to have been built in several stages. There can be wooden rods in rows across the hills, most likely to prevent sliding of the soil. The eastern end of the mound has been provided with a sort of facade built up of timber. Here are often found many pottery fragments,

which indicates that there have been performed burial ceremonies.

Several features from these early Neolithic graves are pointing backwards towards the hunter's Stone Age. More people can have been laid in the same grave sprinkled with ocher, as had been the custom in hunter's Stone Age. Up to five people have been buried in the same grave.



Traninger of randdyssen ved Kochel, Moly. Efter A. P. Madurn, 190

Floor plan for the dolmen Porskær Stenhus drawn by AP Madsen in 1900. The burial chamber is located on the east side. It is assumed that initially there have been several burial chambers.

Later, when supplies of timber became less abundant, a shift towards building tombs of large stones (megaliths) was introduced, these graves are called dolmens.

All the thousands of dolmens, which can still be seen in the landscape, were built during a relatively short period of time, namely 3.500-3.200 BC. Actually, very much in the same way as the Danish village churches, which were also built over a few hundred years in the early Middle Ages during a religious

revival. And similar to the numerous bronze age burial mounds that were built during the early part of the bronze age only, that is a period of 5-600 years.

It has been estimated that during this period were built at least 25,000 dolmens. One must say that they represented a fairly wasteful consumption of manpower and good farmland; especially as one considers that the filling very likely was turf, which was peeled off the nearby fields.

Today are known only approximately 700 passage graves and approximately 4,700 dolmens. Of which well 2,500 are preserved as visible, protected prehistoric remains.

We distinguish between the **round dolmens**, which are surrounded by a circular ring of stones, and the slightly later **long dolmens**, which are surrounded by an oval circle of stones.



The round dolmen, Poskær Stenhus, on Djursland. It consists of a stone chamber surrounded by a circular ring of large stones. Note that the soil which originally covered the stone chamber is completely gone. One cannot be certain about that the dolmens originally were covered with earth or turf, but it seems unlikely that the Stone Age farmers had left the dolmens uncovered on an open field so that animals could get access to the bones of the

ancestors. Photo Old Dane Wikipedia.

When the poet Grundtvig visited the dolmen in Gunderslev Skov in 1808, he became so captivated by the sight, that he threw himself down and praised the Aesir's altar. Shortly before, Grundtvig namely had completed his book "Nordic Mythology or view over the Edda Teaching", and he was convinced that he was facing one of the Norse period's visible memorials. He wrote a poem about his experience, called "Gunderslev Forest" which, among other verses, sounds:

"To the sacred from North leads only faint tracks What rises yonder? Oh, is it not the altar's mossy stones



Grundtvig's Dysse in Gunderslev Forest as it appears today. Photo YouTube video by Torben Kristiansen.

At that time, it was thought that the dolmens were pagan sacrificial altars, but later it had been realized that they are tombs from Neolithic.

Since the poet's visit, the dolmen in Gunderslev Forest has had the name Grundtvig's Dysse.

Saxo Grammaticus wrote in his preface to "The Deeds of the Danes": "In the old days Denmark may have been developed and cultivated by a kind Giants, for that can be seen on the very huge stones over the grave-cellars and Passage graves".

Originally the stone chambers have been covered by a mound of turf and soil so that they were underground chambers. But over the past 5-6,000 years, rain, sun and wind have done their work, and today the stone chambers stand naked, and that is the visual characteristic of dolmens.

One cannot know for sure if they were covered with soil, but it seems unlikely that the Stone Age people had allowed the dolmens to stand uncovered on open field so that animals could have access to the ancestors' sacred bones.

In front of dolmens and passage graves the Stone Age farmers sacrificed big amounts of food and drink in outstanding pottery. At a passage grave near Sarup were sacrificed not less than 350 pots, which were found in form of 26,000 pottery fragments.

These sacrifices ended rather abruptly around the time of 3.000 BC. Next, it became the habit to sacrifice tools of flint at funerary ceremonies. It could be flint axes, flint chisels or flint scrapers apparently in no particular order. But often it was tools that were completely destroyed by fire.

The first stone dolmens were quite small, and often with closed rectangular grave chambers; the burial mounds were almost circular and they are therefore called **round dolmens.** The mounds are enclosed by circular stone rows along the edge called edge-stones.



Lay-outs of some Danish round- and long-dolmens and long barrows on Mols, at Slots Bjergby, Stenstrup, Alsbjerg, Sønderholm and Gunderslevholm. Drawing by A.P. Madsen år 1900.

During the following centuries, dolmens developed into large polygonal burial chambers with adjacent corridors through the enclosing mound. A very common type is **long-dolmen,** which had an oval mound of earth. They may very well include only a single long burial-chamber but usually, there are several that might have been added regularly over time. Also, long-dolmens are enclosed by boundary stones around the edge of the mound.

Round dolmens and long dolmens were probably all originally built as tombs for some important persons. However, the chambers of long-dolmen and polygonal dolmens have almost always been re-used for new burials; earlier burials and grave goods were thus pushed to the side and often completely removed from the tomb.

Thus, the skeletons and grave goods found in the dolmens represent not necessarily those, who originally built them.



The passage grave Mårhøj on Hindsholm north of Kerteminde is a distinguished piece of engineering. Photo Jens V. B. Taastrup Tripadvisor

Around 3,100 BC the Neolithic farmers developed the dolmens into the big **passage graves** built of very large stones. Compared to the previous dolmens, passage graves have a much larger and more spacious burial chamber, which is accessed through a corridor. Around its outer edges, they placed a circle of big stones.

Passage graves are building-masterpieces. The design is so well thought that they have been able to stand in good condition until present. In contrast to round- and long-dolmens, the soil, which covers the burial chamber, is still in place even sun, wind and rain have affected the mound in 5.000 years.

The structure's ability to resist the ravages of time is supported by a series of ingenious details: The spaces between the vertical supporting stones have been cemented with flat slabs of sandstone. The spaces between these have been sealed with clay, a cretaceous mass or with flakes of birch bark.



In the interior of the passage grave Mårhøj, it can be seen that the spaces between the side stones are have been filled out with flat slate stones. Photo Peter Larsen Wikipedia

The spaces between the big stones making the ceiling of the chamber have been made watertight with clay and a layer of crushed flint; over this were placed another layer of clay, which in turn was covered with flat stones. The outer surface of the mound was covered with stones to make it water-

repellent and give strength. The spaces between the boundary stones around the edge of the mound are also bricked with flat stone slabs, which prevented the soil of the mound from sliding out.

Passage graves are also very carefully designed in terms of strength. The side stones are leaning inward toward the chamber that they can better withstand the weight of the large stones forming the ceiling.

A very large cover stone measures perhaps 2.5 * 2.0 * 1.0 m. in length, width and thickness, which give a volume of 5.0 cubic meters. Since the density of granite typically is 2.75 ton each cubic meter that gives a weight of 13.8 ton.



Der fyldes op mellem sidestenene og opbygges ramper på begge sider. Dækstenene trækkes op på slæder eller ruller



Fyldet i kam<mark>meret graves væk og højen</mark> bygges op til færdig højde.

Proposal for a construction method building of passage graves.

- But even this method can have problems, because the filling between the side stones can be too soft for a load with a double-digit number of tons.

Unlike round- and long-dolmens, passage graves were from the beginning built to be common graves. For example, in the passage grave, Rævehøj, near Slagelse, have been found skeletal parts from more than 100 persons. In several locations can be seen room divisions in the chamber floor, which most likely were reserved specific persons. Similarly, 29 of the approximately 700 Danish passage graves have small adjoining chambers that were built simultaneously with the main chamber. The large passage graves may also be divided into two separate chambers by a transverse

wall each with their own entry. They are called double passage graves. An example of this is Troldestuerne on Sjællands Odde.



The Agri mound is a round dolmen in the Mols Bjerge a little northwest of Agri. It is a well-preserved small round dolmen that looks like hundreds of other dolmens in Denmark. Just apart from the cover stone, which weighs close to 20 ton. The dolmen has been visited by several famous archaeologists throughout the ages. The director of the National Museum, Sophus Müller, had the mound protected in 1877. Photo Villy Fink Isaksen, Wikimedia Commons,

License cc-by-sa-3.0

8.10 Society, Houses and Roads in Neolithic

The dolmens were the ancestral graves, which legitimized a tribe's ownership of this particular piece of land. What could be more compelling than the fact that here rest the bones of our ancestors, here we have always lived, and therefore this land belongs to us, as it always had!

Archaeologists have made thorough examinations of the area between Horsens Fjord and Aarhus for settlements, graves and Sarup like constructions.



Post holes uncovered at Mossby in Skåne, which indicate a house 12 x 6 meters with an oval ground plan and supporting central posts. A similar pattern of postholes has been found in several places and one must believe that this type of house was common in the early Stone Age. Photo Building History Journal no. 33 1997 Poul Otto Nielsen.

Like the old hunters, the Neolithic farmers seemed to have had a fondness for living overlooking the sea. As one can

see, tombs and settlements were all located near the sea, rivers or big lakes. The country's interior seems to have been more or less uninhabited. The dolmens are almost all situated on hills overlooking the sea. On average, the distance from a dolmen to open water is about one and a half kilometer. Even very meticulous search has not been able to reveal graves or settlements in the empty interior areas.



Left: Post holes uncovered at Limensgård on Bornholm, which indicate a construction with load-bearing central columns, but also with rows of load-bearing columns along each wall at a distance of just over a meter. The oval ground plan was abandoned in the middle of the Stone Age. The house was 8 meters wide and 16-22 meters long. Photo Building History Journal no. 33 1997 Poul Otto Nielsen.

Right: Reconstructed cross-section of the house at Limensgård. The cross beam cannot be concluded from post holes, but it is obvious that it makes the construction much stiffer. It can be seen that if the central posts are removed, the construction will resemble the three-nave design that we know from the Iron Age and the Viking Age. Drawing: Leif Hammelev in Building History journal no. 33 1997 Poul Otto Nielsen

From Horsens to Aarhus have been found seven Sarup like constructions, also known as gathering places. It seems that to every Sarup construction are linked 2-4 main settlements and a greater

number of temporary fishing and hunting settlements. One can imagine that the settlements, which shared a common Sarup construction had a common identity; they were a tribe with a special name, and they may have understood themselves as descendants of a famous ancestor. The tribe's territory was defined by natural boundaries, such as rivers, streams, marshes, fjords or ridges.



Post holes, from a longhouse found at Hemmed Plantage in East Jutland which shows a 40meter-long house approximately 9

meters wide with supporting posts in the middle and along the walls. Photo Building History Journal no. 33 1997 Poul Otto Nielsen.



Reconstructed cross-section of the longhouse found at Hemmed Plantage in East Jutland. The cross beam cannot be concluded from post holes, but it is obvious that it must have been there. Drawing: Leif Hammelev in Building History Hournal no. 33 1997 Poul Otto Nielsen.

According to the nature of the matter, so to speak, no remains of houses from the Peasant Stone Age have been found, but many postholes, and from these it can be concluded that at the beginning of Neolithic were 10-12meter-long houses with an oval ground plan and supporting posts in the central axis common. There are

indications that the long walls consisted of vertical buried planks. Other cases indicate that the long walls consisted of wattle and daub. Entrances most often faced south.

In the middle part of the Peasant Stone Age, many postholes have been found, which may remind us of the three-aisled design that we know from the later Iron Age and the Viking Age, but the design was abandoned again in the later part of Neolithic in favor of relatively narrow longhouses with a few strong posts in the center and along the walls to support the roof.



Bornholm's Museum has made a physical reconstruction of the "three-nave" design found at Limen's farm. Photo Bornholm Museum.

At Limensgård on southern Bornholm, the Bornholm Museum has excavated house plots from several different parts of the Neolithic. Best preserved were the remains of 14 longhouses from 2,350-1,700 BC. The largest has a length of 44 meters and a width of 8 meters, which gives a floor plan of more than 350 m2. The house was oriented east-west with a dwelling at the western end and presumably a stable at the eastern end.

The roof was supported by a series of strong posts along the middle of the house, in addition, in some of the houses there were a series of roof-supporting posts on both sides about a meter from the walls. The walls consisted of wattle and daub. It is assumed that the side height of the long walls was quite low, perhaps less than one meters. There was probably also a hearth and a door, but it has not been possible to demonstrate this. It is assumed that the roof was covered with straw.



Denmark's first wheel found in Kideris Mose near Herning from approx. 2,700 BC This type of wheel is called a disc wheel, as opposed to a wheel with spokes. It was made of a few planks joined together, the hub being part of the disc. A total of three wheels from the Peasant Age have been found in the Herning area. The diameters are from 73 and 78 cm. The discs are thickest in the middle, namely 6 to 9 cm. around the navel, towards the periphery they are 4-6 cm. thick. The edge itself, is 2-3 cm wide. Photo Herning Folkeblad about an

exhibition in Klosterlund Museum between Herning and Silkeborg.

The first wheels in Danish history were found in 1933 and 1940 in Kideris and Bjerregårde Moser near Herning. They are from approx. 2,700 BC. These are so-called disc wheels, which means that they are basically a piece of flat wood that is round. It can be joined by several planks, as such a large piece of wood can otherwise easily split.



I England har man rekonstrueret fund af vejanlæg over fugtige områder. Foto The Megalithic Portal.

Only later in history were real modern wheels invented, which are made up of hubs, spokes and rims. A prerequisite for a cart with wheels to be an advantage is that it has sufficient even and flat areas to operate on, free of trees and large stones, and this first arose in the Neolithic.

In Slesvig-Holsten have been found traces of wagon wheels under an excavated burial mound from about 3,500 BC. In the Netherlands has been found at least 9 wheels from Neolithic.

In Ellemosen at the foot of Tibirke Bakker in North Zealand, a 150 m long road structure from 2,800 BC was found in the 1940's. Some poles had been driven into the soft ground in two parallel rows. They were flimsy and made of hazel. They probably maintained a roadway of plaited twig mats laid out on the surface of the marsh.



Single Grave Culture.

Stone heap graves under excavation. Photo Danmarks Oldtid by Johannes Brøndlund.

Some scientists see the spread of the wheel and vehicle to northern Europe in connection with the spread of the cord ceramic cultures (the Single Grave Culture in West Jutland). A historian named Marstrander believes that it is reasonable to assume that use of wagons belonged to the cultural elements that the Single Grave People brought with them when they immigrated into Jutland. Although a large immigration of Single Grave people has been questioned in recent years, the carriage and wheel have been a part of the cultural influence, which was the result of the appearance of the

In western Jylland have been found the so-called stone heap graves, located in long rows, most likely along that time roads. At Torsted south of Holsterbro, have been excavated 91 Stone heap graves, which lay in a 1.2 km. long row. At Vrou south of Skive have been excavated a row that was almost two kilometers long. However, human bones had never been found under the stone heaps, so one cannot be sure that they really are graves. In some cases, have been found some ox bones. Claus Deleuran has suggested that the stone heaps are symbolic oxcarts. One can imagine that the Stone Age farmers have been fascinated by the new vehicles with wheels in the same way, as we today are fascinated by automobiles. They may have thought that when one day they had to go to heaven, it must be in such a new fancy.

8.11 The	Pit	Ceramic	Culture
----------	-----	---------	---------

Ertebølle -	Cragtbæger kulturen	Fragtbæger kulturen		tiden Bronze -
kulturen De	Den grubekeramiske kultur	Enkeltgrav	s kulturen 🧲 💶	alderen
3.800 5.800	f. Kr. f.vt.	1 2.800 f. Kr. 4.800 f.v.t.	1 2.300 f. Kr. 4.300 f.v.t.	1.700 f. Kr. 3.700 f.vt.

The Pit Ceramics were contemporaries with the dominant Funnel Beaker people. Later came the Single Grave Culture and the Dagger Period.

The Pit Ceramic Culture is named after the special decoration of their pottery. The pots were dotted with a wooden stick or the like, maybe for the purpose to avoid that the pots cracked during burning. Like the old hunters' pots, they had a pointed bottom, so they could be wedged between some stones near the fire.



Finding places for the Pit Ceramics Culture in Denmark – as can be seen, it is mainly around the Kattegat. Efter C.J. Becker, Årbøger for Nordisk Oldkyndighed og historie 1980.

The culture is known from the Swedish east coast, the area around the large Swedish lakes, the south coast of Norway and the Danish Kattegat coast.

The Pit Ceramics lived the same time as the dominant Funnel Beaker people in a relatively short period between 3,100 and 2,900 BC.

They were highly specialized coastal hunters and lived mainly from sea hunting and fishing. In Denmark collection of shellfish seemed to have played a significant role. A big number of

shells from blue mussels, cockles, oysters and various snails have been found in their settlements. Analysis of bone material from settlements in Sweden shows that fishing and seal hunting played an important role. They kept some livestock, especially pigs.



Pottery fragments with the characteristic pits. Photo Nordisk Arkeologi. Gropkeramik, boplatsfynd från Grammahagen i Mjällbysocken i Blekinge. Wikibooks.

They used specialized spearheads of flint, fish hooks and harpoons of bone and antler with barbs.

Curiously enough, they used tanged arrowheads, which was not seen in Denmark since the Bromme

hunters hunted reindeer during the Allerød warm period at the end of the Weichsel ice age.



Pit Ceramic tanged arrowhead made of flint with three-sided cross-section. Length: 8 cm., width: 1.5 cm. Photo SOL Samlingen Online Sydvestjyske Museer.

As the Ertebølle hunters, they adorned themselves with tooth gems - from seals.

Some Swedish researchers believe that pit ceramics were people who had started farming but gave it up. Others believe that pit ceramics were descendants of the Ertebølle coastal hunters, who had continued their traditional lifestyle of hunting and fishing. Still others suggest that they were an entirely new and previously unknown people.

8.12 Enkeltgravskulturen



Single grave burial mound in the landscape at Almind south of Viborg. Photo Danmarks Oldtid by Johannes Brøndsted.

The single grave culture is also called the battle ax culture or the corded ware culture.

The Single Grave Culture's burial mounds can be seen particularly in the Jylland heathland, where they can form long rows of mounds. The culture emerged in western Jylland around 2,800 BC. Measurements of Greenland ice core drillings from the inland ice shows that at this time a significant cooling occurred with temperatures below modern level. It seemed to have been the beginning of a kind of "Little Ice Age", which lasted for the next approximately 300 years.

The Single Grave People's arrival in west Jylland was previously dated to have taken place about 2,000 BC, which was believed to have been simultaneously with the Aryans invasion of India. Therefore, the Single Grave people was assumed to be the Indo-Europeans, Aryans or the ancient Teutons.



Left: Ceramics from the Single Grave Culture with the typical cord-decoration, which also is known from contemporary Europe. Photo Herning Museum.

Right: Grave Gifts from a Single Grave tomb found at Lærkeholt north of Bryndum - note the arrowheads of the transverse type, which were also used by both the Ertebølle and Funnel Beaker Cultures. Note also the "the battle-ax" that more descriptive could be called a battle hammer as it is in no way sharp. Photo Esbjerg Museum

Many believe that the Single Grave people represents a migration from the contemporary European Cord Ceramic Culture because their ceramics were also decorated by means of a cord. In particularly previously the European Cord Ceramic Culture was considered to be the original Indo-Europeans.



The spread of respectively Funnel Beaker Culture and the Single Grave Culture - Drawing by Claus Deluran in "Danmarkshistorie for Folket" 2. del. The left picture shows the distribution of dolmens and passage graves, and the right picture shows the area inhabited by the Single Grave People. Drawing by Claus Deluran in "Danmarkshistorie for Folket" 2. del.

The Single Grave People settled in west Jylland, which until then only had been subject to limited interest from the Funnel Beaker People. Apparently, the sandy soil had remained almost deserted until the new immigrants arrived.

The Single Grave Culture is also called the Battle-Axe Culture. During this period the battle ax, which we may rightfully call battle hammer, continued to be a very important weapon and status symbol for men. Just as it had been for men of the Funnel Beaker Culture.

About 1880 amateur archaeologists found at Itzehoe in Holsten some small, low mounds with a new type of tombs. That time head of the Archaeological Museum in Kiel, Johanna Mestorft, gave some lectures about them. She sent a letter to the National Museum's director in Copenhagen, Sophus Müller, and encouraged him to look for the new type of tombs north of Kongeåen (that time border between Denmark and Germany).

In the following years Captain A. P. Madsen examined several hundred of this kind of burial mounds in Jylland. The new tombs were quite different from the already known dolmens and passage graves. They could be found throughout Western Jylland up to Lemvig. They were named Single Graves.

Such a mound typically consists of several individual graves. At the bottom is an "under-grave" dug into the ground and covered by a small mound on which a following "bottom-grave" was placed and sealed with yet another small mound, over this can often be found another "over-grave".



The women's liberation movement's perception of the Single Grave Culture was that they were some cruel invaders that suppressed the peaceful matriarchal original culture - Drawing by Claus Deluran in "Danmarkshistorie for Folket" 2. del. The text goes: "Ha! it was just what you needed weakling" and the women replies: "Does this means that you are not doing the dishes today?"

In 1898, Sophus Müller could present the results of the studies to date. He was in no doubt about the interpretation. Single graves originated from an advanced part of the Neolithic period. They were completely different from anything archaeologists have ever known about burial

mounds. The passage graves and individual graves may represent two different tribes of people. "Single graves are traces of new, from the south coming tribes", he said. Then the ball was given up to one of the classical discussion topics of Danish Stone Age research, namely if the Single Grave culture in west Denmark represents an immigration or whether it was merely a development of Funnel Beaker Culture.

The authoress Thit Jensen, who was a sister of the famous author and Nobel prize winner, Johannes V. Jensen, picked up the ball and described how the cold and fierce patriarchal Indo-Europeans arrived in Denmark from the south and destroyed the original Danish Stone Age farmers natural and

harmonious matriarchal community. Her vision was extensively used by the 70's women's movement.

It should be emphasized that Thit Jensen's novel about the matriarchy on the island of Fur is complete fiction. There is nothing, absolutely nothing, to suggest that the Funnel Beaker Culture community was led by women. Neither it can in any way be detected what language the immigrants spoke.

In the early twentieth century, it was believed that the Single Grave People arrived in Jylland around the year 2.000 BC. It was thought that it was about the same time as the Aryans' invasion of India. Therefore, the Single Grave People was perceived as the Aryans, Indo-Europeans or original Germani. Only at the end of the century scientists got a more accurate carbon-14 dating, which dated the Single Grave Culture to 2.800-2.400 BC.





Left: amber bead necklaces and a small jar or drinking cup from the rich single grave find in Klelund Plantage midway

between Esbjerg, Kolding and Grindsted. The amber bead chains are reconstructed according to the positions of the beads in the grave. The picture shows only some of the 720 amber beads. The jar is flatbottomed and measures 11.2 cm in height with a rim diameter of 12.3 and a base diameter of 11 cm. Photo Museet in Sønderskov.

To the right, a flint ax and a sandstone battle ax from the same grave. The battle ax is 24.5 cm long. Photo Museet in Sønderskov west of Vejen.

In the Single Grave Culture, it was custom to bury the dead lying on his side with knees pulled up. Men were put on the right side, facing south, while women lay on the left side also facing south. Over the tombs were built a small mound. In male graves, we will typically find an ax of flint or rock, which have been placed in front of the dead man's face, and amber jewelry from large lumps of amber. Contrary in female graves we will find amber beads, which the dead has used as a necklace. Such a woman's grave with no fewer than 720 amber beads was found at Klelund between Kolding and Esbjerg.

So, even the Stone Age farmers around Klelund lived far from the sea, they have had access to amber in large quantities. As we know, amber beads were also very important for the Funnel Beaker Culture.

Because of Western Jylland's decalcified soil, no organic traces are left behind of the deceased, but occasionally archaeologists by careful brushing succeed in finding discolorations, shadows of the dead, at the bottom of the tombs - otherwise all skeleton parts have disappeared in Western Jylland's sandy soil. But from the grave goods, it can be established whether it is a male or female grave.

The burial at Klelund was a rare double grave with both a man and a woman. In addition to amber beads, the woman had gotten a beautifully ornamented clay vessels with her in the grave. The man had two axes, one of them was a beautifully crafted battle ax in polished rock.

Excavations around Herning have shown that some of the earliest Single Grave graves have been made on top of settlement layers from the Funnel Beaker Culture. Which indicates that the Single Grave People in some places directly had replaced the Funnel Beaker people.



The Corded ware culture, also called the Battle Ax culture or the Single Grave culture, is a huge Neolithic and Early Bronze Age archaeological group that flourished around 3,200 – 2,300 BC. It included most of continental northern Europe from the Rhine in the west to the Volga River in the east, including most of modern Germany, Denmark, Poland, the Baltic states, Belarus, the Czech Republic, Slovakia, northern Ukraine, and western Russia, as well as southern Sweden and Finland. It got

its name from the characteristic ceramics of the time; wet clay, which was decorated by strings. Photo Dbachmann Wikipedia.

In general, one can conclude that the Single Grave Culture succeeds the Funnel Beaker culture in time. The new tomb forms and grave goods in the central, western and southern Jylland are most likely not caused by immigration with a merciless and bloody ethnic cleansing of the old Funnel Beaker people as a natural consequence, but by a kind of expansion into areas that previously had been lying desolate and sparsely populated. It can be shown that the Single Grave Culture is related to the simultaneous European cord ceramic culture that decorated their clay pots using cords.

8.13 The Dagger period



The Hindsgavl dagger is Denmark's finest example of flint smiths' excellent technique in the Dagger Age. It was found around 1867 on the island Fænø by a little boy, who was walking with his mother. The island then belonged to the estate Hindsgavl, hence the dagger's name. It has a blade of less than 1 cm. thickness and is

29.5 cm long. It was made at the end of the Neolithic and thus the end of the Stone Age as a whole. Photo Facebook.

The end of Neolithic is called the Dagger period and extends from 2,300 to 1,700 BC, it got its name because of the incredibly beautiful, flat cut flint knives, which are found in abundance in particular in Denmark. In no other European country have been found so many and so stunning flint daggers. The Danish flint smiths have certainly been good and probably professional.



Flint sickle from the Dolk period - found at Kalleshave west of Flensborg by Laurits Thomsen Pedersen - Photo: Steen Agersø.

In the chalky layers of the underground of Skovbakken in Hasseris near Aalborg has been found remains of a comprehensive flint-mine. There can be no doubt that such flint mines also existed elsewhere in the country. From these mining areas, the flint was distributed as semifinished or nearly finished weapons and tools throughout the country. To become useful weapons, they had only required a final processing that was made locally, which explains that the weapons had such a uniform design all over.





Left: Excavated flat stone chest before the cover stones were removed - From Vibjerg near Ølsted in North Sjælland

Right: Same flat stone chest after the cover-stones had been removed. As seen, it contained several funerals. Photo Danmarks Oldtid by Johannes Brøndsted

But the spread of the Danish flint extended far wider. It reached north to the Scandinavian Peninsula and came to Poland, northern Germany, Holland and East of England. Contact with the outside world was in these years considerable, and it was through these contacts that the first metal came to the country, and thus began a new era in the history of Denmark.

The dividing line between the east Danish Funnel Beaker culture and the west Jutland Single Grave Culture continued through the Dagger period and disappeared only in the beginning of the Bronze Age.

In East Denmark, people had stopped building new passage graves, but they continued for a long time to put the dead in the ancient tombs.

During the Dolk period, however, there were built some grave constructions of a new type, called **flat stone chests** in the Funnel Beaker region. They were constructed as an elongated space defined by and covered with large flat stones. The chest was covered with a mound of earth but had no actual access like the passage graves had. Therefore, at new burials, they had to dig into the mound and lift a cover stone. It seems that at such occasions they had reorganized bones from previous burials. The ancestors' skulls, however, have been treated with a special respect.

Some believe that the collective burials in east Denmark represent a collectivist system in which the extended family jointly had inherited the land from their ancestors. Thereby became religion, morality, agriculture, hunting and trade all activities that may have taken place in community within the extended family framework. So shortly told, they believe that the Funnel Beaker culture was a kind of communist society, where collectives, that are extended families, were basic units, quite unlike our modern individualistic society.

In the Single Grave area in western Jylland, the dead were contrary buried as single persons and the same debaters think so to see a much greater respect for the individual.

8.14 How did the Neolithic Farmers look like?



MAN OF THE LATE NEOLITHIC AGE

Reconstruction of a Stone Age man who lived in Belgium. Shaving with a flint scraper must have been a rather bloody affair, so we must believe that Stone Age men were bearded. Since all their descendants in this part of the world have had white skin, we must believe that they did too. But we cannot say anything about their eye color - and whether they were light- or dark-haired. Drawing from Pinterest.

In previous decades, archaeologists and historians have taken it for granted that agriculture was introduced to Denmark by a new immigrant people, and they have wondered where the old hunters went.

Had they been mercilessly wiped out by culturally and technologically superior immigrants? Had they been reduced

to an insignificant minority by a measles epidemic or other contagious disease, as happened to the North American Indians at the meeting with the Europeans. Were the few hunters displaced and relegated to living a poor and frugal life in small fishing villages on the coast? Were they driven to rugged mountain areas on the Scandinavian peninsula?



Claus Deleuran philosophizes about the fate of the old hunters. Photo Illustreret Danmarkshistorie for Folket 3. del.

Or - more likely - were the new farmers of the Neolithic really mainly descendants of the old hunters?

During the Stone Age, the average height of men grew from 165 to 176 cm. and for women from 152 to 162 cm. In the extensive bone material, it is also clear to see that during the neolithic, both men and women became slimmer built. The characteristic "Cro Magnon" features are less frequent on skulls from the Neolithic than on material from the Ertebølle period - I am thinking of sloping foreheads, strong eyebrow arches, strong jaws and so on.

The original average height of 165 cm. for men and 152 cm. for women corresponds very well to the height of the Ertebølle hunters and thus supports the theory that the Funnel Beaker People were at least originally descendants of the old hunters.



Deleuran points out that it was quite late in Neolithic that the first short skull appears in a passage grave. Which speaks against the theory that arable farming in Denmark was suddenly introduced by superior short-skulled conquerors. Drawing Claus Deleuran

Some argue that the increased average height was caused by better nutrition after the introduction of arable farming. But low growth in a population is very often due to a lack of proteins, and you can't say that the Ertebølle hunters didn't get enough proteins; after all, they ate basically nothing else. They have undoubtedly reached their maximum height. The Ertebølle hunters were all long-skulled – every single one of them – as their ancestors, the Cro Magnon people and possibly the Neanderthals had been. But at some point, or perhaps gradually, there was an influx of short-skulled individuals.

The first short skull in Denmark was found in a passage grave in Zealand near the village of Borreby. We remember that passage graves were built in the later part of the Stone Age, which indicates that the change happened very gradually.

We know nothing about how the change happened. It cannot be ruled out that the original hunters killed the newly arrived men and fathered their own children on the conquered women. It has probably happened many times in the history of man. Perhaps these new women have appeared to them more graceful, cheerful and attractive than their own more masculine types



Among people with "Danish origin", some are dark and some are light, and this is how it has "always been". As Deleuran says, it must be a very old phenomenon, the origin of which must be found thousands of years back in history, where some form of immigration must have occurred. But whether the original people were the dark ones and the immigrants the light ones or vice versa, it is uncertain. Drawing by Claus Deleuran.

We remember that there have been a number of mistakes in connection with the gender determination of skeletons from the Stone Age. Before modern genetic engineering, you had to determine the gender of a skeleton by measuring the size of femur bones, molars, etc., as it was assumed that women are slimmer built and have smaller molars than corresponding men. But some of the Paleolithic female skeletons were initially wrongly assessed as male. The old hunters' own women seemed to have been some rather manly

types

No matter how it happened, genetic changes must have occurred, which necessarily must have been caused by some form of immigration during Neolithic.

8.15 Literature

Bondestenalderens rituelle megapladser af seniorforsker dr. Phil Niels H. Andersen Moesgård Museum Skalk nr.3 juni 2022

<u>Eelers in Danish waters – interaction between men and their marine environment over 8.000 years Lisbeth</u> <u>Pedersen</u>

Bebyggelseshistorisk Tidsskrift nr. 33 1997 Poul Otto Nielsen - Nordic Journal of Settlement History and Built Heritage Forudgående afsnit: <u>7. Denmark's History – 7.0 Ertebølle Culture</u> Efterfølgende afsnit: <u>9. Denmark's History – 9.0 Bronze Age</u> <u>Dalum Hjallese Debate Club</u> dhdebatklub (snabel a) gmail (punktum) com

Bent Hansen 11-11-2023