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**"Those who admire the brilliance of Classical Greek culture should not overlook the background glow of Old Europe."**

Harald Haarmann

Over the last few years, archaeologists have been finding more and more evidence for the existence of a civilisation on the Balkan peninsula, which, between the 6th and 4th millennia BCE, was using a writing system long before the Mesopotamians. In this book, Harald Haarmann provides the first comprehensive insight into this enigmatic Old European culture, which, until recently, was unknown. He describes trade routes and settlements, arts and crafts, the mythology and writing system of the Danube Civilisation; he traces its origins to the Black Sea area and shows which cultural influences it had on Ancient Greece and the Near East.

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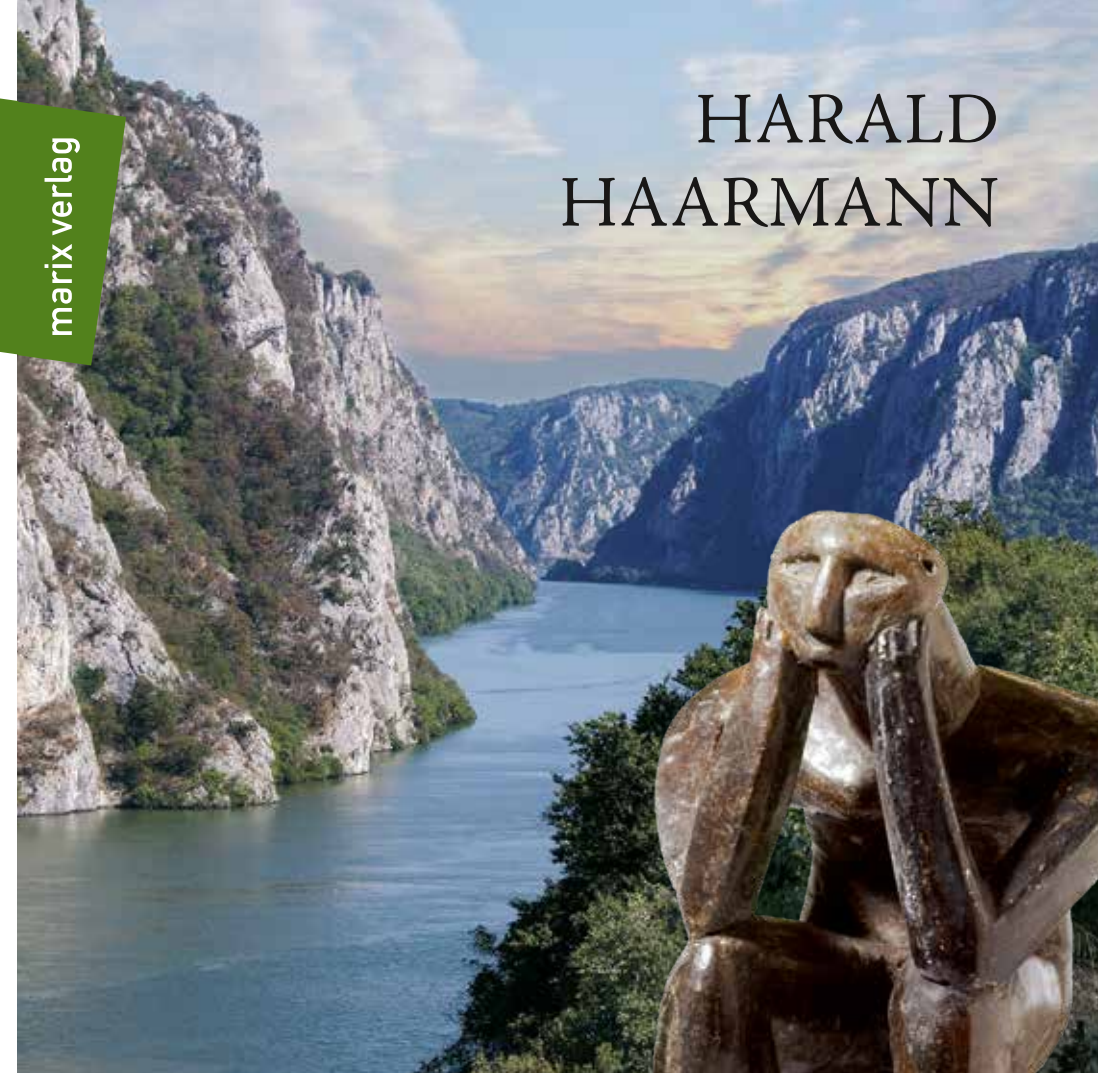


HARALD HAARMANN

THE MYSTERY OF THE  
DANUBE CIVILISATION

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THE MYSTERY  
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CIVILISATION

The discovery of Europe's oldest civilisation

"In recent years, a series of amazing discoveries have been made about the life of early farmers in the valleys of the Danube and its tributaries, and in the catchment areas of the water-ways: There was already a rudimentary writing system in this area, long before writing came into being in Mesopotamia; metalworking had reached a level of development seen nowhere else in the world; the visual arts produced amazing masterpieces; and there were large urban-scale settlements. We do not (yet) know what the Old Europeans called their cities and the modern names of some of the new sites, such as Tallyanky or Majdanec'ke south of Kiev, are still unfamiliar to us. But we have now mapped out their ground plans and know that thousands of people lived in these settlements. Majdanec'ke had between 5,500 and 8,000 inhabitants. Some of these settlements were two to three times the size of the early cities in Mesopotamia. A few years ago, I coined the name 'Danube Civilisation' for this highly developed culture. In the meantime, the terms 'Danube Civilisation' and 'Old Europe' tend to be used interchangeably."

(from the introduction)





(Map based on Anthony 2009b)

0 50 100 150 km

Harald Haarmann  
The Mystery of the Danube Civilisation

HARALD HAARMANN

# THE MYSTERY OF THE DANUBE CIVILISATION

THE DISCOVERY OF EUROPE'S OLDEST  
CIVILISATION



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## THE PUZZLE OF A 7,000 YEAR-OLD CIVILISATION

To this day, there is still a widespread belief that it was the Greeks who built the first European civilisation, illuminating a shining light to dispel the darkness of prehistory. For this reason, most of us feel indebted to the Greeks for laying the foundations of our modern world. And it is not often that anyone asks if the Greek civilisation really was as original as our school books suggest. The aim of this book is to introduce the reader to another European civilisation, one that is much older than Ancient Greece, and research over the last twenty years has enabled its contours to become ever clearer: The achievements of the Danube Civilisation, whose beginnings lie in the Neolithic (Younger Stone Age) and which experienced its heyday in the Chalcolithic (Copper Age), created the conditions that enabled the rapid rise of Greek culture in the first millennium BCE.

“In the 5th and early 4th millennia B.C., (...), Old Europeans had towns with a considerable concentration of population, temples several stories high, a sacred script, spacious houses of four or five rooms, professional ceramicists, weavers, copper and gold metallurgists, and other artisans producing a range of sophisticated goods” (Gimbutas 1991: viii).

Twenty years ago, the term “Old Europe” tended to be familiar only among experts, and knowledge of the advanced culture of this pre-Greek population was somewhat sketchy. Much of what the American-Lithuanian archaeologist Marija Gimbutas (1921–1994) had reconstructed for her mosaic of Old Europe was hypothetical. But a lot has happened since then. The political turnaround in Eastern and Southeast Europe after 1989 has led to an upturn in research and cultural activity in the newly independent states and, as a result, to an intensification of excavation activities, both in Southeast Europe and in the Ukraine, where important Old European sites are located. Since the end of the 20th century, the amount of material evidence has grown considerably, and recent findings leave no doubt that the cultural level of this pre-Greek society can only be described as a civili-

sation. “At its peak, about 5000–3500 BCE, Old Europe was developing many of the political, technological, and ideological signs of ‘civilisation’” (Anthony 2009 a: 29). What we considered to be part of prehistory until just yesterday actually belongs to the historical period.

The beginnings of the cultural upswing in Old Europe can be traced back to a period of ecological upheaval. The hypothesis of a Great Flood, in which the waters of the Mediterranean broke through the Bosphorus land bridge that had existed until then, is now well established. It can be assumed that people from Anatolia, who were already familiar with arable and livestock farming, were able to migrate westwards via this land link. Around 6700 BCE, as a result of the flood, the Black Sea was formed and the coastal regions underwent a lasting transformation. This drastic change in living conditions set in motion a process during which the indigenous (Old European) population became acculturated to an agricultural lifestyle, local-scale internal migrations, socio-economic advances and technological innovations. This was the transition process from the Mesolithic to the Neolithic in Europe. The severe climate change that followed in about 6200 BCE – which in the meantime has been well researched – initially inhibited cultural development, but accelerated it in the longer term.

In recent years, a series of amazing discoveries have been made about the life of early farmers in the valleys of the Danube and its tributaries, and in the catchment areas of the waterways: There was already a rudimentary writing system in this area, long before writing came into being in Mesopotamia; metalworking had reached a level of development seen nowhere else in the world; the visual arts produced amazing masterpieces; and there were large urban-scale settlements. We do not (yet) know what the Old Europeans called their cities and the modern names of some of the new sites, such as Tallyanky or Majdanec’ke south of Kiev, are still unfamiliar to us. But we have now mapped out their ground plans and know that thousands of people lived in these settlements. Majdanec’ke had between 5,500 and 8,000 inhabitants. Some of these settlements were two to three times the size of the early cities in Mesopotamia. A few years ago, I coined the name “Danube Civilisation” for this highly developed culture. In the meantime, the terms “Danube Civilisation” and “Old Europe” tend to be used interchangeably.

There is already a wealth of contemporary specialist research literature on Old Europe available in English (e.g. Marler 2008, Anthony 2009 b), German (e.g. Hansen 2007, Haarmann 2010 a), Russian and

Ukrainian (e.g. Videjko 2003, Tkachuk 2005) and in the Balkan languages (e.g. Kolištrkoska Nasteva 2005, C.-M. and Gh. Lazarovici 2006–2007, Nikolov 2007 b). The New York exhibition “The Lost World of Old Europe – The Danube Valley, 5000–3500 BCE”, which was organised by the Institute for the Study of the Ancient World (New York) and was on view until April 2010, was the first event to present a comprehensive review of the most recent findings to a larger audience. Up until now, however, a book that presents Europe’s earliest civilisation to a broader readership has been an unfulfilled wish.

The documentary evidence of the cultural level attained by the Old Europeans presents many surprises and this includes a number of world firsts:

- The oldest city-size settlements (megasettlements) – significantly larger than Çatalhöyük in Anatolia or the oldest Mesopotamian cities – were founded in Old Europe.
- The oldest, continuously inhabited places in Europe are not cities such as Athens or Rome, where the earliest traces of settlement only date back to the 2nd millennium BCE; Larissa in Thessaly and Varna in Bulgaria are more than twice as old.
- The Old Europeans already had individual houses with over 100m<sup>2</sup> of living space.
- The world’s first two-storey row houses were built in some of Old Europe’s larger settlements.
- The early potter’s wheel was developed in Old Europe; this technical innovation did not arrive in Mesopotamia until much later.
- The world’s first cylinder seals were utilised in Old Europe.
- The first kilns for the production of high-quality ceramic products, in which the temperatures could be controlled and regulated, were operated in Old Europe.
- Metal casting technology (copper smelting) was first used in Old Europe towards the end of the 6th millennium BCE but not until a few centuries later in Anatolia.
- The oldest gold artefacts were found in Old Europe and are dated to around 4500 BCE (the Gold Treasure of Varna).
- The earliest system of notation using conventional symbols was developed in Old Europe; this included symbols for numerical notation and for writing.
- Thousands of years before the Greeks, Old Europeans were pressing wine and producing olive oil; and they were also eating cherries, peas and parsley long before the Greeks.



Neither the Minoans of Ancient Crete nor the Mycenaeans had to start from scratch when they built their civilisations, and this was certainly also true of the Greeks of classical antiquity. They all benefited in one way or another from the achievements of previous generations, whose knowledge was not lost but assimilated and developed. The Greeks in particular adopted many of the Old European accomplishments and even took over their names.

It can perhaps be argued that the achievements of the Old Europeans are not so exclusive, since their sedentary way of life and their expertise in arable farming and livestock keeping were brought over from Anatolia. It could also be said that the Old Europeans simply adopted a different way of life and reorganised their communities to suit it. But the Old Europeans could not simply take over the food-producing techniques that were introduced from Anatolia, because Europe has completely different climate zones and different types of vegetation. This required considerable adaptation and targeted experimentation with the domestication of native species, both plants and animals. Although the idea of agriculture came from outside Europe, the socio-cultural upswing experienced in Southeast Europe in the 7th and 6th millennia BCE owes its dynamism to the initiative, flexibility and creativity of the indigenous population. Southern and western Ukraine were also part of this cultural area.

The innovative thrust of the Old European culture can be summed up in a simple straightforward way: The spark may have blown over from Anatolia, but soon the Europeans were tending their fire all by themselves. And this book is all about how they did it.

## 1. THE TRANSITION TO THE NEOLITHIC IN EUROPE (CA. 7500–5500 BCE)

Like all of the world's early civilisations, that of Old Europe was built by sedentary people who practised arable farming. This already gives rise to some fundamental questions and, often, the answers that we find to these questions will confront us with further questions. For it is precisely the transition from hunter-gathering to farming in Europe that presents one of the trickiest topics in archaeology. Discussing which conditions were responsible for bringing farming to Europe might seem to be an irrelevant topic when it comes to portraying the civilisation of Old Europe. But this is not the case, because the way in which the Old Europeans dealt with this new technology reveals a great deal about the development dynamics of their communities. Strictly speaking, arable farming is not a single technology either, but a whole package of individual technologies, the so-called "Agrarian Package", which includes not only the know-how needed to cultivate crops, but also the basics of storing the harvest and animal husbandry.

Was the shift from hunter-gathering to crop cultivation a revolution or a gradual transition? There is a conclusive answer to this question. The transition to agriculture marked the beginning of the Neolithic (Younger Stone Age) era. The notion that the changeover to arable farming was a swift change, a kind of revolution, is now outdated. For a long time the term "Neolithic Revolution" was used, but for some years now there has been more cautious use of the term "transition". After all, in the Near East, the changeover from the first experiments with the seeds of edible plants to fully developed arable farming took about 2,500 years, i.e. from about 10,000 to 7500 BCE. If it took such a long time, how can anyone call it a revolution? Did arable farming technology come from Asia to Europe, or did the Old European hunter-gatherers spontaneously develop their own

form of agricultural food production? The transition to the Neolithic first started in the Near East. The beginnings of crop cultivation took place somewhat later in all other regions of the globe. However, this does not automatically mean that arable farming technology was exported from the Near East to the rest of the world, including to Europe. As is the case with other technologies, in different parts of the world and at different times, people were just as innovative in their transition to agriculture and succeeded in making the necessary changes – independently of the know-how gathered by the first farmers in the Near East.

### Early farmers in Southeast Europe

A sedentary lifestyle is a prerequisite for crop cultivation, because once the field has been sown, the growth of the plants has to be supervised, the crop has to be harvested at the right time, and arrangements have to be made to store the harvested crops such as grains or legumes. The relationship between sedentary living and agriculture is generally understood to indicate that people deliberately chose to establish permanent settlements in order to produce food. In fact, however, recent research has shown that sedentariness does not necessarily lead to soil cultivation.

In the oldest archaeological layer of Can Hasan in Western Anatolia, evidence has been found of a largely sedentary population that had storehouses but no agriculture. Sedentariness is not directly linked to agriculture in Europe either. The earliest indications of “at least seasonally sedentary communities” (Thorpe 1996: 25) date from the 8th millennium BCE; they can be found in the Danube valley, at Lepenski Vir in the Iron Gates gorge on the Serbian-Romanian border. However, agriculture did not arrive there until much later (beginning of the 6th millennium BCE).

How the transition from the hunter-gatherer stage to crop cultivation and livestock keeping occurred is primarily dependent on the region’s climatic conditions and its local flora and fauna. And, during the Neolithic, conditions in the areas where the first farming settlements in Southeast Europe were founded differed from those in the Near East in a number of respects. There is no doubt that the developments in Anatolia were related to those in Europe. However, had the Old Europeans only remained at the technological level of

Anatolian farmers, it would have taken a very long time for agriculture to spread throughout Europe. And it is also certain that arable farming and livestock keeping would not have reached all of the regions of Europe where they were later practised. In fact, crop cultivation spread relatively quickly from the Balkans to Central and Western Europe. In the search for an explanation, however, a number of other questions arise.

• **Phase 1: Contact via the Bosphorus land bridge (ca. 7500–6700 BCE)**  
When, from where and how did agriculture reach Europe? Was the technology of crop cultivation brought to Europe by migrants, or did the new way of life spread through the transfer of ideas? How did people, agricultural implements and animals manage to cross the Aegean Sea? Although no remains of prehistoric boats have been found that could point to the construction of sea-going vessels, there are clear indications that the hunter-gatherers of the Mesolithic (Middle Stone Age) who lived on the west coast of the Aegean were also able to navigate coastal waters. Remains of tuna, which can only be caught in open waters, have been found at their campsites. The people of the Mesolithic were not only skilled fishermen, they were also the first to exploit maritime trade routes.

One of the earliest goods transported by sea was obsidian, a shiny black substance made of volcanic glass. This commodity was particularly valued because of the sharp-edged flakes that could be used as tools. The structure of obsidian is site-specific, meaning that modern analytical methods can be used to determine the precise origin of the volcanic material used to make a particular artefact. The material used to make the obsidian tools found in the Franchthi Cave on the Gulf of Argos in the eastern Peloponnese comes from the island of Melos in the Cyclades and dates back to around 11,000 BCE (Cunliffe 2008: 71). Melos is about 120 km away from the Greek coast, so the Mesolithic seafarers must have been able to cover that distance with their boats that long ago.

In the early Neolithic period, the time when agriculture came to Europe, it was certainly already possible to cross the Aegean – with intermediate stops at the islands. And those who built the boats and navigated the sea must have been proficient specialists. It must be remembered that “boat construction reveals a level of planning and design and an understanding of the concept of seaworthiness” (Farr 2010: 20). Longer sea voyages, possibly lasting several days, required



1/2 Early Neolithic  
figurines from the southern  
Aegean

Left: Crete,  
7th millennium BCE  
(Sakellarakis 1985: 134)

Right: Karpathos,  
5th millennium BCE  
(Fitton 1989: 19)

nautical skills. It will probably never be known for sure exactly what methods these Neolithic seafarers used for orientation. We can only imagine that the configuration of the constellations, prevailing winds, or ocean currents played a role. In any case, the Neolithic peoples had already mastered amazing distances by sea.

There is clear evidence of the seafaring skills of the inhabitants on the Aegean coasts and the seaworthiness of their vessels at the end of the 8th millennium BCE: by 7000 BCE at the latest, arable farming technology had reached Crete.

Those responsible for the transfer of know-how either came as traders or as new settlers to explore the island. The route taken by these early pioneers crossed the sea via the various islands between Crete and the Anatolian coast: Rhodes, Karpathos and Kasos. They brought agricultural implements and seeds to cultivate the fields in Crete. The first crop to be cultivated was wheat for bread (*Triticum aestivum*), which originated in Anatolia.

But there were a number of things that the migrants did not bring with them. There is no pottery to be found in the oldest archaeolog-



ical layers of Knossos. The people who brought the Agrarian Package to Crete lived in the preceramic Neolithic period. As far as livestock farming was concerned, they only brought the basic idea, because they came without cattle or sheep. But Crete did have its own wildlife, which they domesticated in the course of the 7th millennium BCE. "Aurochs, the beasts from which modern cattle descend, appear to have been domesticated by 6000 BCE in Crete" (Roberts 1996: 11). Among other things, the colonists of the southern Aegean islands also produced items that were not intended for practical use. These were small stone sculptures, female figurines (Figs. 1/2). These artefacts reveal the stylistic and aesthetic features of early Neolithic artistic expression. The art of figurine making developed rapidly on the European mainland, both technically and stylistically (see Chap. 4).

On the one hand, the colonisation of Crete by arable farmers illustrates the technological ability of Neolithic people to build effi-

cient vessels and to travel hundreds of kilometres across the open sea. On the other hand, the transfer of people and goods to Crete shows us that the capacity for transporting larger loads was still quite limited at that time. Thus, even though voyages across the sea were already being undertaken in prehistoric times, it is quite a different matter to assume that the migration across the Aegean was purposeful and involved large numbers of people. To this day, generalised explanations are still being given to describe how people and animals could have crossed the sea that separates Europe from Asia Minor. The images of early mass migrations require a great deal of imagination, and some belong in the realm of pure fantasy.

One theory holds that in the 7th millennium BCE, Europe experienced a mass immigration of farmers from Anatolia, who allegedly crossed the Aegean in open boats and came ashore on the coasts of Greece. This is the Diffusion theory, first put forward by Renfrew (1987). There is something almost comical about this imagined scenario:

Farmers in western Anatolia feel a collective urge to migrate, leave their fields and trek to the east coast of the Aegean. Exactly what the motivation for such a move might be remains a mystery, because there is no archaeological evidence of any overpopulation in Anatolia during the early Neolithic period. When they reach the coast, the farmers start building boats, even though they have never done this before. And they would have to build a lot of boats to be able to transport the masses of people and their belongings – even if the farmers had taken full advantage of the transport capacities of the coastal fishermen.

Some scholars believe that the farmers would have built rafts to transport all their possessions. However, wood suitable for raft construction simply does not exist on the Aegean coast, neither in the past nor in the present. The trees that grow there are twisted and gnarled. To build a raft you need long straight timbers, which have to be as light as possible, so that the raft does not sit too deeply in the water from its own weight – because if it did, it would not be able to carry much cargo. But even if the farmers had been able to successfully construct their boats and rafts, they would still face the problem of loading their seeds and various kinds of implements on board – not to mention their livestock. And at this point it really takes a fantastic imagination to be able to envision how sheep and cattle were loaded onto these ancient vessels.

The domesticated cattle of Anatolia were quite a heavy species. The cows weighed in at over 500 kg live weight, and bulls were over 700 kg, perhaps as much as 1,000 kg. It would be impossible to load such beasts onto small prehistoric boats. Not only that, the farmers-cum-seafarers would have to carry huge quantities of feed for the livestock they were transporting – even if the voyage was only going to take a few days. Nevertheless, there appears to be no lack of ludicrous speculation about prehistoric cattle transports.

Another hypothesis goes even further than migration theories about crossing the Aegean. This one claims that the early farmers on the Mediterranean coast of Anatolia, i.e. in the south of present-day Turkey, would have built rafts and then – along with their livestock – sailed hundreds of kilometres along the Mediterranean coast, into the Aegean Sea and through the chains of islands straight to the northern Aegean coast (Nikolov 2007 a: 18f.).

This theory makes no sense, its basis is clearly absurd. Nevertheless, the remains of cattle and sheep found in the oldest farming settlements in Greece really are domesticated animals of Anatolian origin. If the idea that the migrants brought their livestock to Europe over the sea is absurd, what alternative routes were available for the prehistoric cattle herders? The overland route, of course.

Some branches of science have been finding increasing evidence that Europe and Asia Minor were originally linked by a land bridge in the Bosphorus region between the Black Sea and the Sea of Marmara. Up until the 7th millennium BCE, the area where today the Bosphorus Strait separates Europe from Asia Minor was a hilly region where people and animals could wander unhindered from east to west and from west to east. To the south, the land bridge was bounded by the Sea of Marmara, which at the time was a body of water connected to the Mediterranean by the Dardanelles Strait. To the north stretched a large body of fresh water, the Euxine Lake of antiquity.

Both geologists and oceanographers agree that such a land bridge existed. Exactly when this land bridge was breached and whether this breakthrough resulted in a catastrophic flood event or was a gradual overflow is still debated today. In the meantime, a wealth of research literature documenting the various positions has become available (see the edited volumes of Marler/Haarmann 2006 and Yanko-Hombach et al. 2007).

The Black Sea Deluge Hypothesis of William Ryan and Walter Pitman, who presented their spectacular discovery of “Noah’s Flood”



to the world in 1998, asserts that the mass of sea water breaking through from the Mediterranean via the Sea of Marmara was the greatest natural disaster the region has ever experienced (see below). It is hardly surprising that this narrow strip of land was breached precisely at the Bosphorus. The region is among the world's most seismically active, and countless smaller or larger earth tremors shake the folded sandstone formations at irregular and unpredictable intervals (Yilmaz 2005, Yilmaz et al. 2010). Perhaps an earthquake triggered the cataclysmic flood. Just how violent such quakes can be was experienced in autumn 1999 by the people who live along the coast of the Sea of Marmara, when their villages were devastated by earth tremors.

Originally, Ryan and Pitman had calculated that the Great Flood had happened in about 5600 BCE. But it turned out that this was far too late, and based on new measurements of sediment layers, Ryan has pushed the date back to 6700 BCE. The new dating was first discussed by Ryan at a conference in Italy in June 2002. Since then, this time frame has been substantiated by investigations of sediments in the Marmara Sea and the Bosphorus region (Ryan et al. 2003). Sometime between 6700 and 6400 BCE is currently being debated as the most probable period for the waters of the Mediterranean breaking through to form the Black Sea.

Whether the flood event happened at the beginning (6700 BCE) or the end of the range (6400 BCE) does not significantly impact the hypothesis that the farmers migrated via this prehistoric land bridge. In any case, there was sufficient time for the early wanderers from Anatolia to cross the isthmus to Europe with their cattle. The cattle and sheep could graze during the hike, and there would have been no shortage of food. The hike over the land bridge was certainly not a planned migration with a specific destination in mind. It makes much more sense to imagine that the farmers from the eastern side were going west in order to search for areas of land suitable for agriculture – possibly supported by information provided by the fishermen who had sailed along the coast. The westward migration of Anatolian farmers was most likely not a one-off event, but rather a succession of smaller groups that made the journey at different times.

If Anatolian arable farming technology crossed over into Europe and particular groups of people were involved in this transfer, passing on their know-how to the Europeans, then it is easy to imagine

that these migrations across the land bridge took place exclusively from east to west. However, human geneticists have found that there must also have been population movements in the other direction, i.e. from Europe to Anatolia, and this genetic transfer has been dated to around 7100 BCE (Cinnioglu et al. 2004: 131ff.). This means that it was not only farmers migrating from Anatolia to Europe, but hunters were also following game on forays from Europe to Anatolia.

On the European side of the land bridge, it would have been possible for the migrants from Anatolia to travel northwards, along the west coast of the Black Sea. That would have brought them into the territory of present-day Bulgaria. However, the new arrivals did not take this route, and there was a good reason. The forested region of the eastern Balkans belonged to a different climate zone than the agricultural areas in Anatolia. To settle there, the newcomers would have had to adapt to another environment with climatic conditions different from those they were familiar with in Anatolia. So agriculture did indeed begin later in Bulgaria than it did further south. Instead, the farmers from Anatolia wandered along the north coast of the Aegean Sea and then turned south. They left traces along their migration route: the remains of old settlements have been found near the land bridge in the European part of modern Turkey (Çilingiroglu 2005: 2).

But the area that they eventually migrated to is much better known. The migrants obviously found ideal conditions for new settlements in the fertile plain of Thessaly, as well as further south in Arcadia and the Peloponnese. This is where the oldest remains of agricultural settlements on European soil have been found. These early Neolithic settlements in Greece date from between 7500 and 6500 BCE (Cunliffe 2008: 96f.). The pioneers from Anatolia made Thessaly their home, i.e. they began to build settlements and develop the land for farming (Fig. 3).

Recent genetic studies on the relationship between male Y chromosomes and female X chromosomes in this region have shown that the migrants from beyond the Aegean were predominantly men who took indigenous (i.e. European) wives (Budja 2005: 58f.).

The settlements in Thessaly formed a niche, which would later be integrated into the economic area and cultural fabric of Old Europe, at a time when the indigenous Old Europeans were becoming more accustomed to this new way of life. "The exchange of goods, certain livestock species, and technologies may have accelerated the Neo-



3 Early Neolithic farming settlements in Greece (Gimbutas 1991: 14)

lithic transformation in some ecological niches, but the archaeological evidence for large-scale movements by farmers [...] is, in my opinion, missing” (Yakar 1997: 66f).

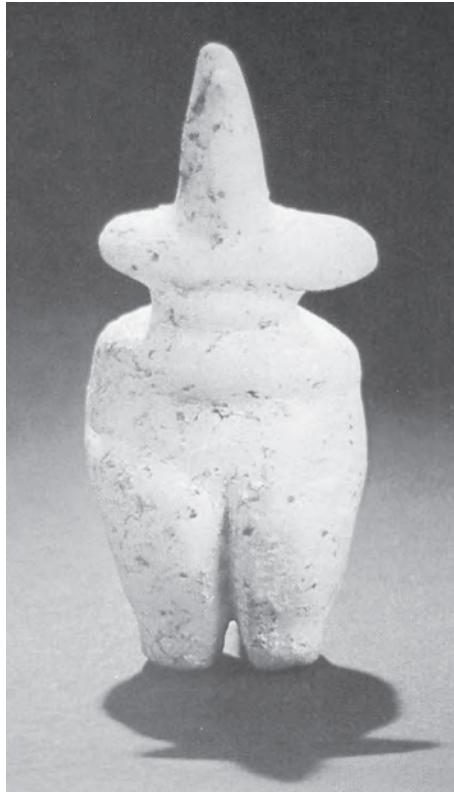
The settlement of Thessaly by sedentary farmers marks the beginning of an era that can be regarded as the incubation period of the Danube Civilisation. Here, the contacts between Mesolithic hunter-gatherers and Neolithic arable farmers manifest themselves in family ties and cohabitation. When, some generations later, descendants of the first settlers explored the region further north (up to the middle Danube), they were no longer pure Anatolians, their genes had become mixed. In Bulgaria, the proportion of Anatolian genes declines

rapidly, suggesting that by the end of the 7th millennium BCE, it was acculturated Old Europeans who were determining the dynamics of population development and the spread of agriculture in the Balkans.

This part of the early Neolithic is called the preceramic era, meaning that the technology of fired pottery had not yet been introduced. No fragments of earthenware have been found in settlements from that time. This applies to both Anatolia and Southeast Europe. The craft of pottery did not develop until about 6500 BCE. It may never be known exactly when the first settlements in Thessaly were built, because some scholars believe it is possible that the plain of Thessaly was also affected by the Great Flood, as a side effect of the breach at the Bosphorus. It is not difficult to imagine that the constant influx of meltwater from the melting Ice Age glaciers in the north caused the Mediterranean to rise to such a high level that the lowest parts of the coastline were flooded, such as in Thessaly, leaving the entire plain underwater. The floodwaters then ebbed away after the massive breakthrough at the Bosphorus. The early settlers in Thessaly, whose homes and fields were affected by the local flood, probably built new settlements in other places that were safer.

The typical settlements of Thessaly are Tell settlements built on hillsides (e.g. Sesklo). The preference for elevated locations shaped the settlement geography of the future and is also characteristic of the settlements of the formative period of Old Europe, such as Karanovo in the Bulgarian lowlands and Paří in Romania (Chapman 2009). Settlements in river valleys were built on raised embankments (e.g. Vinča on the Danube, Tărtăria on the Mureş). The large Copper Age settlements in Ukraine also tended to prefer hilly terrain. Many settlements were inhabited for centuries and some, like Karanovo, for millennia. New buildings were erected on the foundations of the older ones and, over the generations, the settlements grew not only in size, but also in elevation. The mounds that settlements were built on grew higher with each successive layer of human habitation. “In the Balkans and the fertile plains of the lower Danube valley, villages were rebuilt on the same spot generation after generation, creating stratified tells that grew to heights of 10–17 metres, lifting the village above its surrounding fields” (Anthony 2007: 162).

It was not until the transition from the Copper to the Bronze Age (4th millennium BCE) that the settlement geography began to change: The Tells were abandoned and new, smaller settlements were founded on the plains (see Chap. 9).



4/5 Early Neolithic marble figurines

Left: Thessaly, beginning of the 6th millennium BCE (Gimbutas 1982, 133)

Right: Sparta region, early 6th millennium BCE (Gimbutas 1989, plate 14)

Remarkably, there is a Greek flood myth that involves Thessaly and it tells of the recreation of the world after the waters receded. The oldest version is recounted by Pindar (ca. 522–446 BCE) in his “Olympian Odes” (Gantz 1993: 165f.). It is the story of Deucalion (son of Prometheus) and Pyrrha (daughter of Epimetheus, brother of Prometheus). The hero and heroine save themselves from the flood in an ark (Greek: *larnax*), which later comes to rest on the slopes of Mount Parnassus. Zeus sees to it that the flood subsides and after their rescue at the behest of Hermes – Deucalion and Pyrrha set about creating (new) people from stones.

Are these perhaps allusions to the oldest sculptures, which the early farmers of Greece had carved out of marble and alabaster (Figs. 4/5)?

• **Phase 2: The Flood scenario and the myths woven around it (ca. 6700 BCE)**

The Ryan-Pitman theory is supported by various facts from which a possible flood scenario can be reconstructed:

(1) At the point where the Bosphorus waterway opens into the Black Sea, a deeply incised trench runs along the seabed, like an extended estuary. Such geological formations are formed when huge masses of swirling water under great pressure churn up the seabed.

(2) The surface water of the Black Sea (to a maximum depth of 200m) is salty. Below this layer, in the lower basin of the Black Sea which is up to 2,000m deep, there is a reservoir of former freshwater that has been turned into a highly poisonous soup by the influx of sulphurous substances from the seafloor. No oxygen penetrates into this zone from above, so there is neither plant life nor fish. This separation of these water layers points to a catastrophic incursion of saltwater into an originally freshwater lake, in which the fresh and salty water did not mix together, as would have been the case with a gradual inflow.

(3) On the edge of the continental shelf, at water depths of up to 100m on what was once the shoreline of the prehistoric lake, lie the remnants of the former lakeside vegetation, which to this day has still not completely decomposed. From time to time, large bubbles of methane rise to the surface and the gas is released into the atmosphere. Such emissions are particularly feared by workers on the oil rigs. The fact that remnants of lakeside vegetation are still rotting in the shallow waters of the Black Sea is an indication of a dramatic inundation of the former shoreline by a massive incursion of floodwater.

The water burst in from the direction of the Mediterranean, having previously pushed into the Sea of Marmara, whose water level



rose so high that it needed to find an outlet to the north. It is certain that the direction of the flood was from south to north. The sediments at the bottom of the Sea of Marmara only contain the shells of saltwater molluscs. If the water had penetrated from the north (from the former freshwater lake) to the south, as Russian scholars assumed back in the 1980s, it would also have been possible to find freshwater mollusc shells. But there is no trace of these in the Sea of Marmara. Even though the lake received the meltwaters from the massive glaciers of the last Ice Age, the influx of freshwater was not enough to cause it to overflow. Until about 10,000 years ago, the weight of the ice cap was still depressing the land in central Russia, while the ice-free south was higher, forming a barrier. The meltwaters discharged into the Caspian Sea and the North Sea, but not to the south; this contributed to a rise in sea levels worldwide, i.e. from the North Sea to the Atlantic Ocean, through the Straits of Gibraltar and into the Mediterranean Sea, a process which culminated in the Great Flood.

The masses of salt water gushing from the Mediterranean Sea into the freshwater lake hit its surface with such force that metre-high waves (tsunamis, similar to those seen in the catastrophes in Southeast Asia in December 2004 and in Northeast Japan in March 2011) built up, which moved like giant walls, speeding towards the coasts and causing enormous destruction.

The archaeological layers show a clear developmental leap and thus a clear phase separation between the periods before and after the Flood (after 6500 BCE) (Bailey 2000: 39). The colonisation of Thessaly by farmers marked the beginning of a process of change that would shape the lifestyle and cultural development of Europeans over a long period to come. The introduction of pottery was a major change in the everyday lives of the ancient farmers. The oldest pottery dates back to around 6500 BCE.

Even if the surroundings of Thessaly were not so dramatically affected by flooding as the region around the former freshwater Euxine Lake, the Thessalians were still affected by the ecological changes that followed in the aftermath of the Great Flood. The Flood of about 6700 BCE was not the only drastic natural event that dramatically changed the environment in Southeast Europe. Climatic swings soon followed, and these posed considerable challenges for the Old Europeans. Dealing with these challenges required a special

readiness to adapt to a constantly changing environment. The people who lived through the Flood had to develop such a readiness. Of course, there is no contemporary evidence of the impression that this natural disaster left in the minds of the inhabitants of the Aegean and Black Sea coasts. However, there is one medium that has been able to maintain its significance across the millennia and whose narratives still bring these traumatic events to life: Flood myths.

Myths are narrative tales that have been handed down over countless generations. Our memory plays an important role here, because remembrance hinges not only on events themselves, but also on the way they are reported. Recollections of personal events are stored in our own individual memories. The sum of the memories of an individual is always different from that of another person, regardless of the extent to which the subject matter of individual memories overlap.

Folk memories also exist, but this type of collective memory is far more complex than that of individuals. The accumulated contents embedded in collective memory are based on the behaviour and actions of individuals in various reference groups and environments. These frames of reference can be summed up by the term “culture”. Collective recollection constitutes what is called cultural memory (Assmann 2000), which can be transmitted in a rudimentary oral form or via written versions. The accumulated narrative of all myths – in our case the Flood myths – handed down to us both orally and in writing is extremely diverse.

Flood myths have been passed down by all of the civilisations in the region around the Black Sea, the Aegean Sea and in the Near East. The most famous of all these stories is undoubtedly the biblical account of Noah's flood (Genesis 6:9 – 9:17). For a long time it was believed that the story of the Great Flood was a biblical object lesson, an invented story that provided material for general moralisation. This is because the punishment chosen by God for the immoral people in the old world – sending a flood to wipe out everything and everyone – fit well into the mindset of the people of antiquity whose obligation to observe strict social norms was inculcated through vivid horror stories. No one seriously believed that Noah's flood had actually taken place.

Then, in the 1920s, the news of a sensational archaeological discovery went around the world. British archaeologist Charles Leonard Woolley, who was directing excavations of the ancient city of Ur,



had discovered a layer of mud more than three metres thick, which was easily recognisable as alluvial deposits. For Woolley there was no doubt: his discovery was proof that Noah's flood was a historical reality. And the public lapped his story up. Scientists did the same, because in keeping with the spirit of the times, it was a particularly honourable task to provide archaeological evidence for the authenticity of biblical stories, as this could support the veracity of one of the cultural cornerstones of Western culture.

But then – long before the discovery of the Black Sea catastrophe – archaeologists began to question the credibility of Woolley's flood theory. It soon became clear that the layer of mud in Ur was not the result of a single great flood, but of several smaller ones. It was discovered that Mesopotamia had been flooded every year, spreading fertile mud over the river banks and onto the surrounding fields. Small floods were apparently a seasonal phenomenon and they would hardly have given rise to any literary dramatisation such as the Great Flood of the Bible. There were other weaknesses in Woolley's claims. How was it possible that flood myths were also recounted in Syria and Palestine, even though such natural phenomena were not known to have occurred there? The easy explanation was that the Syrian flood myths were a cultural import from Mesopotamia.

But there were other inconsistencies that made scholars think again when they re-read the oldest of the recorded flood myths. This is the story of Atrahasis, written in the ancient Sumerian language. The hero, Atrahasis, is the Sumerian counterpart to the biblical Noah. In this flood story, he is presented as a citizen of Šuruppak. Archaeologists have discovered that the alluvial deposits of mud in the Šuruppak area are younger than those of Ur, and the layer there is not as thick. This means that the numerous floods that also affected Šuruppak were less significant than those in Ur. If Atrahasis was the hero of the Great Flood, why isn't his story set in the ancient royal city of Ur, the place where a greater flood really did take place?

A closer look at the text of this particular flood myth throws up further contradictions. In one section it is written: "The Flood roared like a bull, like a wild ass screaming, the winds howled" (Atrahasis III, OBV iii; Dalley 1998: 31). The annual floods in Mesopotamia have little in common with this scenario. The waters of these floods moved stubbornly forward, but they flowed silently. There were no

storm waves that would have burned a lasting impression onto people's memories.

But the other Great Flood, a truly mighty event that unleashed monumental forces of nature, fits very well with the terrible scenario painted in the story of Atrahasis. The breach of the Bosphorus land bridge in around 6700 BCE unleashed truly unimaginable forces. The roar of the rapidly surging floodwaters must have been deafening, the thrust of the masses of water alone made the earth tremble all around, and on the other side, on the shores of the Euxine Lake, the huge cascades of plunging water must have triggered terror on an apocalyptic scale. Those who lived around the Euxine Lake and survived will have been profoundly traumatised by this experience for a long, long time. The tremendous noise created by the tsunami waves as they struck the coastline must really have given the impression of wild animals roaring.

If the apocalyptic horror of the Black Sea catastrophe is compared to the substance of the old flood myths, it becomes clear that at some point, the traumatic event of the Great Flood was incorporated into literature as one of the central themes of cultural memory. And why should the Sumerians in Mesopotamia, who experienced local flooding every year, have expanded these many, less significant events into a single invented story about a Great Flood that was so devastating that the old world was destroyed and a new one was created?

Precisely because the memory of the catastrophe was so deeply rooted, it can be assumed that this story was told again and again and that the narrative material was passed down from one generation to the next. At the beginning of the tradition were real memories of this existential event. Narratives that are so impressive that they circulate constantly in the mind, are made the subject of discussion again and again, and are frequently recited, take on the character of memes (Blackmore 1999: 40f.). Memes are patterns of memory, building blocks of legends and myths that can be used over and over again. The historical event of the flood of 6700 BCE triggered an oral narrative tradition due to its traumatic after-effects, which were transformed into memes and finally crystallised as myths.

From the multitude of individual stories about the Great Flood, a major version was filtered out over time, in which stereotypical features replaced individual aspects. The narrative strategies used in

a myth aim at typification (Harvilahti 2000). Everything that is recounted about people and their experiences takes on the character of a collective explanatory mechanism. The storyline woven around the event becomes a stereotype and can then be used freely, for example as an instrument of moral guidance. This is also the case with the biblical version of Noah's Flood. The heart of a flood myth may be historical, but in myth the events are typified in a way that is timeless. This applies to both the written versions and the countless oral variants of a myth in different civilisations. The biblical version is undoubtedly the world's most successful flood myth.

It is almost impossible to reconstruct the original version of a flood myth. This is because as new versions of a narrative are created, older versions will gradually disappear with the passing of the millennia. In this respect, expecting to be able to discover a possible link between the mythical flood motif and fragmented memories of actual events is utopian.

Nevertheless: In the flood myths of Mesopotamia, the Near East and Greece there are numerous striking parallels: "(...) the flood myths of Semitic-speaking West Asia and Indo-European-speaking Greek cultures show considerable overlap in detail with the Mesopotamian stories. In addition they contain the two motifs of mountain flooding and lake bursting. The lake-burst motif could fit several locations both in Greece and Turkey, but the mother of the legend could have been superfloods surging either way between the Black Sea, the Sea of Marmara and the Aegean" (Oppenheimer 1998: 261).

• **Phase 3: The formative period of Old Europe (6th millennium BCE)**

The ecological balance in the Black Sea region changed several times as a result of the Great Flood, the first time drastically, on other occasions more slowly and intermittently due to the subsequent climate swings. The effects of these natural events were reflected in the landscape, in the character of the settlements and in the local economic structures. In the 7th and 6th millennia BCE, there were also extensive changes in the cultural environment. The overall sequence of events appears like a dynamic chain reaction.

The flood directly changed the landscape, the increased water surface of the newly created sea increased evaporation and had an influence on the amount of rainfall, which in the long term triggered a climate swing, starting with a dramatic cooling, followed a few centuries later by a warmer period.

The vagaries of the climate affected the intensity with which arable farming could be carried out. Lifestyles were adapted to the general rhythm of the vegetation, and cultural needs were refined with each shift in the ecological balance.

The Great Flood was an ecological catastrophe, but even after the inundation – more precisely, as a result of it – there were other radical ecological upheavals, albeit less dramatic. The process of global warming, which started about 12,500 years ago, continued for some time after the flood. But then the climate fluctuations led to further changes, which had lasting effects on the natural environment of Southeast Europe. Just a few centuries after the flood, the climate became noticeably cooler.

Around 6200 BCE, one of the Earth's "little ice ages" (or Bond events) set in. This period of global cooling is known to archaeologists and climatologists as the "8.2 kiloyear event" (as it occurred 8,200 years before the present). Abrupt climate swings "occur when the climate system is forced to cross a critical threshold; this triggers a transition to a new regime, at a rate determined by the climate system itself and faster than the cause" (Alley et al. 2003: 2005). Scholars became aware of this "little ice age" during the analysis of drill cores from the ice layers in Greenland and sediment layers from Lake Ammersee in Bavaria.

In the Black Sea region, and particularly in Southeast Europe, the colder climate had direct consequences for the development of the arable farmers' settlements: It inhibited the spread of agriculture and relatively few new settlements were established. As long as the cold period continued, the cultivation of crops was limited to areas south of the Danube. In Anatolia, the climatic conditions deteriorated even more drastically than in Europe. The wet lowlands around Çatalhöyük – the second oldest city in the ancient world after Jericho, founded in around 7400 BCE – dried up, as did the cultivated fields nearby. As a consequence, Çatalhöyük was abandoned by its inhabitants in around 6000 BCE.

The cold period lasted until 5800 BCE. Then there was another swing, the little ice age ended and a warm period suddenly began. The people who lived on the shores of the Black Sea, as well as those who had settled further inland, experienced a radical change in their natural environment within just a few generations. Where mixed woodlands had thrived during the cold period, grassland and scrubland now started to dominate. This had far-reaching consequences

for the spread of arable farming. During the cold period, the forest had stood in the way of rapid expansion, but during the warm period meadows and pastures provided favourable conditions for the cultivation of crops.

In fact, the development of Southeast Europe by farmers – and, consequently, the cultural development of the region – followed the rhythm of dramatic climate events:

- the Great Flood of 6700 BCE
- the little ice age ca. 6200–5800 BCE
- the rapid warming after 5800 BCE

This gives rise to fundamental questions that we need to answer before going further: How did people adjust their lifestyles to the changing environment? Did they have to give up traditional ways of working and develop new lifestyles because the climate was deteriorating? Were they able to stay in their old homeland or did they have to migrate to areas with a better climate? Were people able to react flexibly to changes and solve problems by devising improved technologies? Which particular new technologies were developed? How did the boost in technological innovation develop into what we now call “civilisation”?

The dynamics of development on this continent were determined by the way in which the Old Europeans, the Europeans of the Neolithic era, took advantage of the Agrarian Package that the first settlers had brought with them from Anatolia to Thessaly. The adaptation of agricultural technology to local environmental conditions was symptomatic of the detachment from the traditional hunter-gatherer way of life (see below). It seems that the new settlers from Anatolia had already adapted to the conditions in their new homeland west of the Aegean Sea and had not introduced all of the older traditions from their region of origin. For example, on the European side there is no equivalent to the Çatalhöyük-type of urban settlement ground plans, with nested complexes of houses built wall to wall, where the residential units could only be accessed by ladder through an opening in the roof (Stevanovic 2006). “Çatalhöyük was part of a different, not Indo-European culture” (Duhoux 1998: 31).

The ground plans of the early settlements in Thessaly show that free-standing rectangular houses were erected here, with doors set into the side walls. The differences between the basic architectural forms of Anatolia and Thessaly may be due to the fact that inhabitants of Çatalhöyük were not involved in the migration to Europe and

thus their distinctive urban complex design was not transferred. Or, perhaps right from the outset, the migrants from Anatolia adapted the design of their new homes in Thessaly to the local landscape and used the materials available in the area they now intended to live in (Perlès 2001).

The inhabitants of Thessaly also explored the region to the north of the cultural landscape they had created. There are two geographical corridors that provide a transport link between northern Greece through Bulgaria to the Danube valley. These are the river valleys of the Vardar and the Morava, which run in a north-south direction. The Vardar rises in North Macedonia, runs south and flows into the Thermaic Gulf, part of the Aegean Sea to the west of the Chalkidike Peninsula. The Morava also originates in North Macedonia, but flows north through Serbia, where it flows into the central Danube to the east of Belgrade.

A number of Neolithic settlements grew up along these corridors. “There may have been some limited pioneering movements setting out along the main corridors such as the Vardar/Morava valleys, but at each stage there would have been interaction with indigenous foragers” (Cunliffe 2008: 104). And then, via the river valley of the great Danube waterway, the settlement network extended as far as Bulgaria and Romania (Fig. 6).

The contacts between Mesolithic and Neolithic people must have been predominantly peaceful, otherwise it would not be possible to explain why the indigenous Old Europeans, the Mesolithic hunter-gatherers, would have accepted the Agrarian Package and, after some time, become farmers themselves. It is quite conceivable that an initial exchange of goods between hunters and farmers might have led to social interaction, through which farmers from the south took wives from the north, founded bicultural families, and their northern relatives became more and more familiar with an agrarian way of life. There is evidence of cohabitation among early Neolithic arable farmers and hunter-gatherers in a number of Southeast European regions (Budja 2005: 59f.). A rather detailed reconstruction of the living conditions in mixed-ethnic settlement zones has been created for a contact area in the Baltic region, where Finnish hunter-gatherers were interacting with Baltic farmers as early as the middle of the 3rd millennium BCE (Zvelebil 2008: 52ff.).

As the Thessalians explored further, they soon discovered that the development of new farmland was also about adapting to the



6 Spread of farming in Southeast Europe (Cunliffe 2008: 102)

conditions in other climate zones. At that time, the climate in the area of today's Bulgaria was much more humid than in Thessaly. It seems that transference of ideas had already brought the concept of plant cultivation and livestock keeping to the Old Europeans as early as the 7th millennium BCE. This can be concluded from the fact that the Thessalians, when they made contact with the people further north, found that the locals had already domesticated the dog, had also started to cultivate hazelnuts and were keeping wild boar in protected places as a meat reserve (Cunliffe 2008: 89). The hazelnut (*Corylus avellana*) is very nutritious and may have served as an important seasonal food source for the hunters. The distribution of this plant species had strongly decreased after the cold shock of 6200 BCE. With the increasing warming (after 5800 BCE) the hazel-

nut started to spread noticeably again, and this was used by the Mesolithic people of Old Europe

Among the oldest settlements north of Greece are those in the Azmar river valley in southern Bulgaria, including Karanovo, which was probably founded before 6200 BCE and was to become of decisive importance for cultural development. The real upswing of Karanovo did not happen until a few centuries later, in around 5800 BCE. It can be assumed that the Thessalians brought the Agrarian Package to Bulgaria, but that the indigenous hunter-gatherers acculturated themselves quickly and productively. The genetic profiles of the local population also show clear decreases in Anatolian genomes and a preponderance of the genotypes of the local Old European inhabitants. Studies into the continuity of the male Y chromosome show that the Mesolithic hunter-gatherers of Old Europe were the ancestors of the Neolithic agricultural populations in the Balkans. The genetic footprint of the settlers from Anatolia is essentially limited to the region of Thessaly. Clearly there was no large-scale migration from Anatolia to Southeast Europe, as the after-effects of "demic diffusion" would have been discernible. The genetic vestiges of the "new" Thessalians can only be found in tiny traces in the gene pool of the native populations of Bulgaria and Macedonia. These are obviously the genetic markers left behind by small pioneer groups from Thessaly who interbred with the local populace in the Eastern Balkans. The gene pool of farmers in the Balkan region is otherwise dominated by the genes of indigenous Old Europeans, the Mesolithic hunters who had become acculturated (Budja 2005: 58f.).

This acculturation process whereby the indigenous Mesolithic people became farmers can also be seen in the development of representational art. The styles of the female figurines, one of the defining artefacts of the Danube Civilisation, soon exhibit regional differences, indicating that the aesthetics of the indigenous Old Europeans had become decoupled from the Anatolian artistic precepts of the Thessalian immigrants. "While female statuettes with arms placed under or on the breasts are relatively common in Thessaly – a type of representation that is also common in Anatolia and the Near East – such statuettes are absent in the Balkans. [...] With the Middle Neolithic, i.e. around the middle of the 6th millennium BCE, a transformation in the style of figurative sculpture can be identified throughout Southeast Europe. [...] It has an upright form with an extremely stylised body" (Hansen 2004: 194). This indicates



that the indigenous Old Europeans were dealing with the Agrarian Package from the south in their very own way, just as they were with artistic tradition.

The Old Europeans soon started to experiment with the seeds of local food crops and made particular strides in the domestication of native animal species. It is only logical that the animal species most suitable for use as livestock were those that were already adapted to local climatic conditions. At settlement sites north of Greece, there is a dramatic drop in the number skeletal remains found that belong to domesticated cattle imported from the south – instead, the bones of native species become much more common. The Old Europeans experimented with the domestication of the native aurochs. Genetic examination of Neolithic cattle bones has shown that the Old Europeans crossed native cattle with the Anatolian breeds brought by the early Thessalian farmers (Anthony 2007: 138). The offspring were manifestly more resistant to bad weather and less susceptible to disease.

How long it took for the Old Europeans to adapt their Agrarian Package still remains unknown. But in the end, cultivating crops and keeping livestock became part of a self-sufficient lifestyle. The domesticated species were all native to the area: goats (*capra hircus*), pigs (*sus scrofa domesticus*) and cattle (*bos taurus*) (Budja 2007: 197). “This marks the beginning of a roughly 2,000-year period of agrarian civilisation known as the two ‘golden’ millennia. The archaeological timeline links the culture of these earliest producers of material goods on the European continent to the New Stone Age (Neolithic) and the Copper Age (Chalcolithic)” (Nikolov 2007 a: 7).

The period of global warming, which began in 5800 BCE, facilitated the rapid spread of the modified Agrarian Package. The people who spread the technology of plant cultivation, livestock keeping and other agricultural practices throughout the Balkans and in the areas north of the Danube (Southern Hungary, Transylvania, Moldova and Southern Ukraine) were not the descendants of the first farmers from Thessaly, but acculturated indigenous hunter-gatherers who had become accustomed to living in permanent settlements and who successively opened up new tracts of arable land. Apart from smaller, local population movements, the spread of arable farming was not due to large-scale migration, but to the diffusion of agricultural technology among an increasing number of local hunter-gatherer groups, who recognised the advantages of the new way of

life and readily adapted to it (Séfériadès 2007). There was plenty of land suitable for agriculture, and within a few centuries farming had spread throughout Southeast Europe.

There was only one major migration, but that was an internal movement of population within Europe. Around 5500 BCE, some population groups set out and migrated from the area northwest of the Black Sea, moving into Central Europe and Northeast France (Zvelebil 2001: 6ff.). They settled there, founded settlements and cultivated the fields. These were real colonists, who spread agriculture across Central Europe. In today's Central Germany, immigrant farmers and indigenous hunters lived side by side for quite some time. It remains to be explored whether the indigenous hunters were hostile to the newcomers, or whether they traded peacefully with them.

A mass grave was found in Talheim, Germany; it contained 34 bodies, 16 of them children. All of them had clearly died a violent death. They were beaten to death and some were shot from behind with arrows. Was an entire agricultural clan killed here by hunters who feared for their hunting grounds, or did land-grabbing farmers kill hunters who did not want to surrender land suitable for agriculture to them? Whatever the case, the newcomers were not expelled and their settlements were able to develop and grow steadily. Named after the typical decoration of their clay pots, the cultural horizon of these farmers from the south is now known as *Linearbandkeramik* (LBK or Linear Pottery culture) (Cunliffe 2008: 105ff.).

Some older hypotheses claimed that the linear band potters had come to Europe from Anatolia and, very soon after their arrival, had migrated directly to Central Europe. But these are wild speculations that, for various reasons, are completely untenable. Firstly, the genetic profiles of these potters, which were determined on the basis of DNA analyses of their bones, do not match those of the Anatolian population. And secondly, there is another reason why it makes no sense to look for the origins of linear band pottery in Asia Minor: The pioneers from the south had brought their cattle with them and introduced dairy farming. In a surge of accelerated evolution, these early arable farmers had developed lactose tolerance over a period of just a few dozen generations. This was a result of their ancestors' sedentary lifestyle and livestock keeping. Lactose tolerance is not particularly well-developed in the people of Anatolia, where it is 40% or less. In Central Europe, on the other hand, lactose tolerance

in adults is over 80%. It is assumed that the linear band potters migrated from a region to the northwest of the Black Sea, roughly where western Ukraine and parts of Hungary are today. This is the area where increased lactose tolerance first developed. The linear band potters were therefore indigenous Europeans, just like the hunters they learned to live with as neighbours until they too finally acculturated.

At some sites in Southeast Europe, it is possible to follow the transition from hunter-gathering to the early Neolithic in the legacies from both phases of development. The most famous site is Lepenski Vir in the Danube valley, in the border area between Serbia and Romania. Lepenski Vir is situated on the Serbian side of the Danube, where the river cuts through the rock formations of the imposing Iron Gates gorge. The Mesolithic cultural age for this region is dated between 9300 and 7200 BCE. In the 8th millennium BCE, hunter-gatherers built a place of worship here.

Trapezoidal floor plans are characteristic of the construction method. The buildings are dwellings, which were obviously only occupied seasonally; in addition, there were specially demarcated sections with platforms. The layout of the complex clearly shows that there was also a religious centre here, where hunter-gatherers from the region would meet on certain occasions for ceremonies and ritual acts. Arable farming reached the area around the Iron Gates towards the end of the 7th millennium BCE, and there is evidence of domesticated cattle from around 5900 to 5800 BCE (Borić/Dimitrijević 2007).

The characteristics of the Mesolithic culture of Lepenski Vir include anthropomorphic stone sculptures about half a metre high with zoomorphic features, with the mouths and eyes of fish (Fig. 7).

How can the exotic nature of Lepenski Vir's art be interpreted? Among other hypotheses, it has been conjectured that these stone monuments could be a physical representation of memory fragments of the traumatic events surrounding the sudden drop in global temperatures that occurred in around 6200 BCE (Bonsall et al. 2002: 1ff.). At that time, there were devastating floods in the Danube valley region at the Iron Gates (despite modern river regulation works, this continues to occur to this day with dramatic consequences, most recently with the great Danube floods of late 2010, when tens of thousands of people were evacuated from the inundated areas). According to this theory, the artists of Lepenski Vir had sought to



7 Mesolithic stone sculpture from Lepenski Vir, 7th millennium BCE (Gimbutas 1991, plate 23)

create a mythopoetic interpretation of the unbridled forces of nature, which manifested itself in bizarre, monstrous sculptures. Long after the natural disaster was over, these stone “eye witnesses” bore testimony to the restlessness of the river spirits, reminding the people of Lepenski Vir of the suffering of their ancestors.

The ensuing warm period, which began in 5800 BCE, had an overall positive effect on the ecology of Southeast Europe and, in the course of the 6th millennium BCE, hundreds of settlements were founded, some of which subsequently attained supra-regional importance. Among these are Karanovo in Bulgaria, Turdaş in Transylvania and Vinča in Serbia. At the same time as this period of rapid expansion of the area settled by farmers in Southeast Europe, there was a noticeable decline in the number of settlements in Anatolia. Characteristic of the overall situation there was the drying up of the farmland around the town of Hacilar, which was abandoned by its inhabitants around 5500 BCE. Development in Anatolia stagnated, while the agricultural society of Europe took a leap towards a more progressive level of culture, leading to the emergence of a civilisation more sophisticated than anywhere else in the Old World at the time.

### *Balkan-Anatolian parallels: Overview of climate and settlement developments*

7500 BCE	Settlements with agricultural populations: Anatolia (Çatalhöyük), Aegean Sea region (Knossos, Crete), Southeast Europe (Sesklo, Thessaly)
6500 BCE	Expansion of settlements in the Balkan region (Achilleion, Starčevo, Nea Nikomedeia)
6700 BCE	The Black Sea Flood and the Flood in Thessaly (?)
6200 BCE	Global cooling and beginning of the little ice age; settlement activity stagnates
6000–5500 BCE	Period of drought in Anatolia: Long-standing settlements such as Çatalhöyük and Hacilar abandoned
5800 BCE	Radical global warming; expansion of agricultural settlements in Southeast Europe
5500–5000 BCE	Formative period of the Danube Civilisation: Establishment of a trade network along the waterways; beginning of metalworking; development of visual communication systems, etc.

The threat of flood disasters was still omnipresent. Drilling into the sediment layers on the Black Sea bed, around 35 km off the Bulgarian Black Sea coast, has provided evidence that forests were cleared and fields cultivated in the coastal strip around the mid-6th century BCE. Changes in sea level resulted in the flooding of fertile farmland. The inhabitants of the coastal region were forced to leave their original homes “... perhaps moving to the interior from drowned sites now offshore into a dry, often windy continental ecozone with occasionally fertile areas such as Varna” (Chapman 2009: 76f.). The physical legacy of the flood refugees, who built new settlements in the interior, exhibits characteristics of the Hamangia culture (see p. 49).

### **The emergence of regional cultures**

References in the following to “Old Europe” or to the “Danube Civilisation” are used as overarching terms that apply to populations with similar economic interests, with supra-regional communication and value systems, with a similar material culture and cultural symbolism. Old Europe, as an area of interaction, comprises a number of regional cultural provinces: (1) Vinča (in Serbia, Bosnia, Albania,



8 The cultural areas of the Danube Civilisation (Gimbutas 1991: 53)

Kosovo, Southern Hungary), (2) Karanovo (Bulgaria, Macedonia), (3) Cucuteni (Romania), (4) Trypillia (Ukraine), (5) Tisza and Lengyel in Hungary. The regional cultures themselves are not homogeneous, but are subdivided in chronological order into further cultural levels with distinctive developments: Turdaș, Hamangia, Gumelnița, Suvorovo, Dimini, Petreti, Butmir (Fig. 8).

The individual profile of each regional cultural province can be seen in the stylistic forms of their everyday pottery and representational art. Among the most prominent artefacts associated with cultural development are figurines (statuettes) and small three- or four-footed altars (see Chap. 4). Each of the regional cultures had characteristic stylistic variations of these artefacts. Typical for the religious iconography of the Vinča region, for example, are hybrid

figurines with both anthropomorphic and zoomorphic features. They are female statuettes with bird's heads. The predominant art forms of the Karanovo culture, on the other hand, are obese figurines with stubby heads and no facial features. The figurines from the sites of the Cucuteni-Trypillia culture are, in contrast, strongly stylised idols whose abstract design is reminiscent of idols from the Cyclades.

The pottery ornamentation is also rich in variations. A broad spectrum of decorative motifs is to be found in all areas, but regional preferences for certain motifs are also apparent. For example, the widely used spiral motif decorating Cucuteni pottery is applied in complex linear patterns, an ornamental technique that is not typical of vessels from the Karanovo or Vinča regions. Among the distinguishing artefacts of the Vinča culture are vessel lids in the shape of an owl's head. Lids like these are not found in the Karanovo or Cucuteni regions.

#### • Vinča

The foundation of Vinča, south of Belgrade, dates back to around 5500 BCE. It was built on a high loess terrace on the southern bank of the Danube, which protected the settlement from the seasonal floods. Its modest beginnings give little indication that this place would have a decisive influence on the cultural development of the entire Balkan region in the years that followed.

The location of Vinča is ideal as a communications hub, as the Danube and its tributaries form the main transport corridor for an immense area: "During all development phases, the Vinča Group covered the central parts of the Balkan Peninsula and Southeast Pannonia. Its territory included all of the areas which – then and now – form the shortest links between Southeast and Central Europe, as well as the areas between the wider western Black Sea area and the Eastern Alpine region" (Brukner 2002: 66). These favourable conditions enabled the Vinča culture to influence the regional economy as well as the movement of people and trade goods. Innovations that spread from the Vinča region quickly reached the neighbouring areas and – albeit with a delay – the peripheries (e.g. Montenegro to the southwest or Moldova to the east).

Just as the Euphrates and Tigris provided the connections between the Sumerian city states and the Nile connected the settlements of Ancient Egypt, so the Danube and its tributaries established and guaranteed the cohesion of the Old European economic and cultural area. The convenient transport network offered by the waterways was par-

9 Typical figurine, Vinča regional culture (Gimbutas 1989: 12)



ticularly conducive to the exchange of goods and the dissemination of technological innovations, and Vinča played a central role in both.

Vinča gave its name to an entire cultural complex and to a chronological horizon of cultural development for a period lasting approximately from 5500 to 4100 BCE: "The Vinča culture was certainly the most developed, the longest lasting and territorially the largest culture in the Balkans and Southeast Europe. A whole series of regional groups in the area are genetically and culturally linked to it" (Garašanin 1998: 65).

The regional cultures in Thrace, the coastal area of the northern Aegean and Thessaly, as well as Muntenia and Oltenia (Romania) were significantly influenced by the Vinča culture. One of the local cultural traditions superimposed on and integrated by the Vinča complex is the area of Transylvania, where the oldest archaeological cultural layer goes back to the Starčevo-Criș period (Maxim 1999). Vinča's influence in the north reached as far as the Tisza valley (Hungary).

Characteristic artefacts of the Vinča culture include figurines, amphora-like vessels with decorated lids and certain types of pottery (Fig. 9).