INTRODUCTION

The Ural area can be defined in terms of its geographic location as a natural boundary between Europe and Asia. It is characterized by great landscape and environmental diversity: steppe, forest-steppe, forests, and mountains. In late prehistory, these areas were occupied by societies on different social and economic levels (nomadic, half-nomadic, settled pastoralists, specialist metallurgists), and different ethnic attributions (supposedly proto-Iranian and proto-Finno-Ugrian speakers). This area offers an interesting opportunity to examine cultural behavior at an important crossroads, where the influences of the East, the West, the North, and the South meet. This interaction resulted in a great variety of cultural traditions that had either European or Asiatic origins. Therefore, it is quite difficult to separate the prehistory of the Urals and Western Siberia area from that of the rest Eurasia.

This book will focus on the problems of the archaeology of the Bronze and Iron Ages, which are characterized by dramatic changes occurring all over Eurasia in later prehistory.

Historical evidence about the Uralian population is extremely sparse and vague. It goes back to Herodotus, later to the Arabian travellers and merchants. In the tenth century CE, they knew the northern lands called "Ugra," but Russians from the city of Novgorod, who first crossed the Urals in the eleventh century and met the Finno-Ugrian population,[1] undertook the first systematic exploration of this territory. Russians colonized the southern Urals and most of Siberia from the fifteenth century onward. The aboriginal Ob-Ugrians settled in the forest, whereas the Bashkir and Tatar peoples, speaking Turkic languages, occupied mostly the southern Ural and the southern part of western Siberia. They were incorporated into the Russian State, which then consisted of two parts: Moscovia and Siberia. The earliest information concerning environments, resources, peoples, and their culture was collected in the eighteenth century by the first academic expeditions.

Archaeological study of Trans-Urals and Western Siberia, which started before revolution by episodic excavations, became more organized in the

1920 and 1930s. The foundation of Uralian and Western Siberian archaeology is associated with the names of V. N. Chernetsov, K. V. Salnikov, M. P. Gryaznov, E. M. Bers, M. F. Kosarev, and many others. Since the time of the first discoveries, the database has greatly increased, especially during the 1970s and 1980s, and local and regional archaeological sequences based on relative chronologies have been introduced into academic circulation. The territory between Urals and Ob river basin is huge, and obviously not all of its regions have been equally studied. There are still a lot of "blank spots" on the archaeological map of Eurasia.

The aim of this book is to summarize very complex archaeological material and to give insights into the past of the large area, which is little known to Western archaeologists and almost completely unknown by a wider audience. Despite the larger scope of cooperation between Russian and Western specialists, many misunderstandings relating to archaeology and prehistory of that area can be found in English-language publications. This circumstance forces us to devote a part of the book to description of archaeological data relating to the period under review. However, we also will discuss major trends in cultural and social development of the region.

ENVIRONMENTAL SETTING

In geographic literature, the concept of "Ural" has several meanings. First, it is accepted that the Ural mountain ridge forms the boundary between Europe and Asia in the northern part of the Eurasian continent. Second, the river Ural[2] flows in the southern portion of this ridge. The third meaning, which at present is known under term of "Great Urals" and which will be used in our book, sees the Ural in a wider context as the region with common cultural and economic characteristics. This concept does not conform to the physical definition of the Ural as a highland. It also does not include the Polar Ural, which is not populated, nor any part of the Northern Ural. However, it embraces not only the middle and southern Urals but also the piedmont lands of the Cis-Urals and Trans-Urals, and a part of the western Siberian lowland.

Therefore, the area under study comprises the central part of northern Eurasia, including the Cis-Urals or easterly part of eastern Europe, the Trans-Urals or the westerly part of Siberia, coinciding with the basin of the river Irtysh, mainly its western bank. In terms of administrative divisions, this area covers several provinces (oblast') of the Russian Federation as well as a part of northern Kazakhstan (Fig. 0.1).

The term "Ural" is of Turkic origin, meaning "a belt." Such a "stone belt" stretches from the Kara Sea to the Kazakhstan steppe over a distance of over 2,000 km. It consists of several parallel mountain ranges, alternating the large depressions with river valleys. The Urals's relief is characterized by a strong

Cambridge University Press
978-0-521-82928-1 - The Urals and Western Siberia in the Bronze and Iron Ages
Ludmila Koryakova and Andrej Vladimirovich Epimakhov
Excerpt
More information

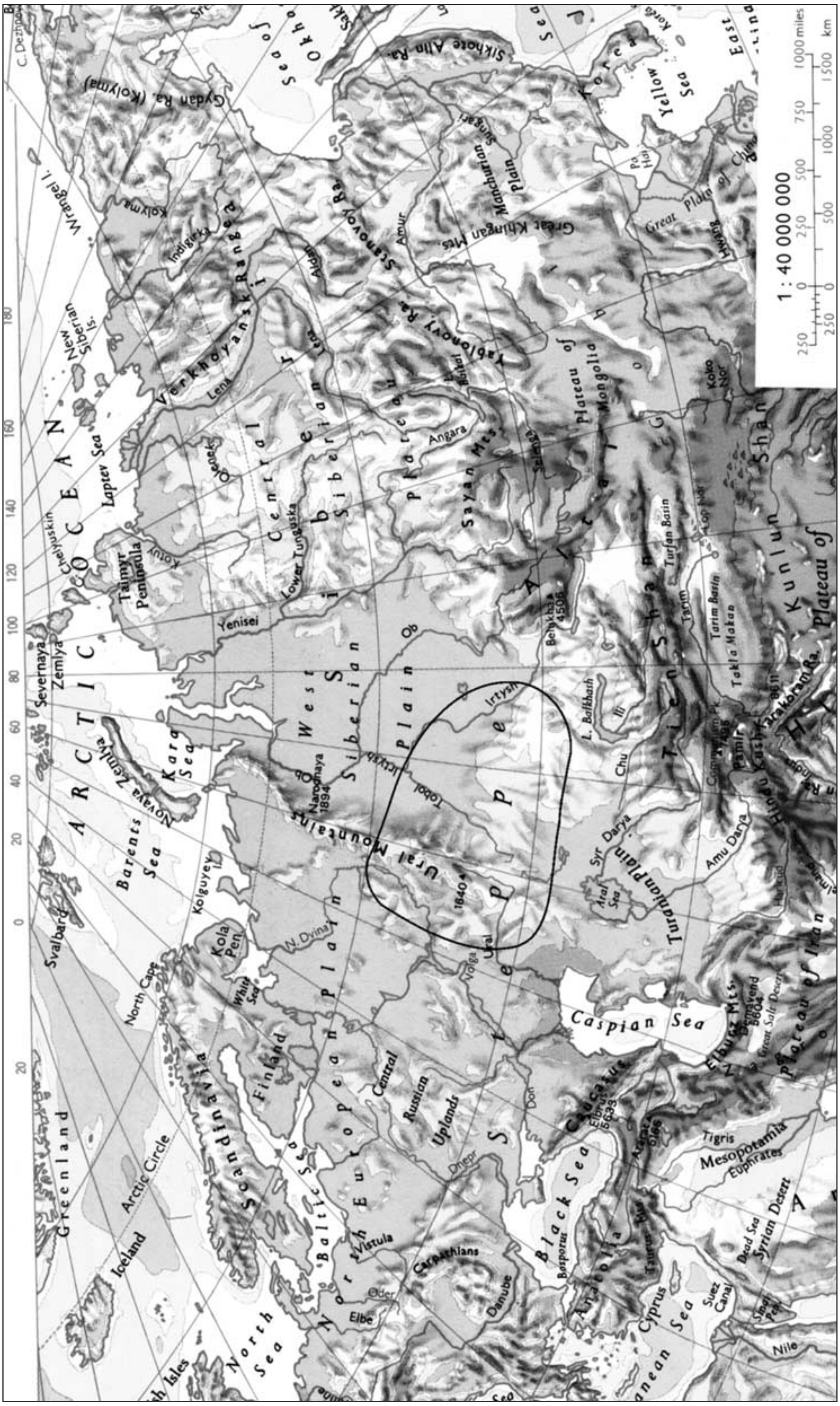

Figure 0.1. Physical map of Eurasia, with area under study.

Cambridge University Press
978-0-521-82928-1 - The Urals and Western Siberia in the Bronze and Iron Ages
Ludmila Koryakova and Andrej Vladimirovich Epimakhov
Excerpt
More information

difference between its western and eastern slopes, which form a watershed of the rivers of the Russian Plain from those of western Siberia. Geomorphologically, three basic parts of the Urals are distinguishable: the Northern, the Middle, and the Southern. Traditionally, according to this division, one distinguishes geographical areas: northern, middle, and southern Cis-Urals and northern, middle, and southern Trans-Urals. These parts have differences in their ecological parameters.

The relatively low Ural Mountains are composed of ancient aqueous and igneous rocks. The most elevated mountains are in the north (Narodnaya – 1,894 m), and in the south (Yamantau – 1,640 m). The lowest mountains (600–800 m) are situated in the middle Ural. Within the mountains are widely spread carst caves.

The mountain area of the Urals and also the Trans-Urals are famous for a high concentration of numerous minerals. The ores (iron, copper, gold, etc.), which are chiefly deposited in the eastern slopes, constitute the richest concentrations on earth. Furthermore, a huge variety of semiprecious stones (jasper, crystal, malachite, serpentine, agate, sardonyx, and others) is contained in the Ural metamorphic rocks beneath the surface.

The most significant characteristic of the area under study comprises the alternating landscape-climatic zones, which influence all forms of human adaptation (Fig. 0.2). The climate changes from the cold conditions in the north, where the mean July air temperature is 6–8°C, to the dry steppe in the south, where it is 22°C. The climate is subject to several factors, including the distance from the Atlantic and the closeness to the Arctic, Siberian, and Central Asian high-pressure areas. Nevertheless, the Atlantic air masses influence the Ural climate rather significantly. Because the Urals lie perpendicular to the direction of the predominant westerly winds, the western slopes are considerably more humid than the eastern slopes. This difference is especially noticeable in winter when the forests of the western slopes are bathed in snowdrifts, but the eastern slopes receive much less snowfall. The difference in precipitation is about 100–150 mm. The influx of cold arctic or hot air masses is stronger in the Trans-Urals, where the fluctuation of weather conditions is greater, especially in the transitional seasons.

Although the Ural Mountains are not very high, they can be considered as a west-east ecological factor forming a boundary between the two main climatic regions (Kremenetsky 2003). In addition, their western side, or Cis-Urals, have a more developed river network. The Kama River (the Volga's left tributary) is the largest and most important. In terms of relief, this area relates to the eastern part of the East European Plain with some hills, high bluff interfluves, and large river valleys. Here, the climate is moderately continental, with long cold and snowy winters, warm summers, and well-defined transitional periods – spring and autumn. The precipitation in the plains area reaches 400–500 mm during warm seasons and about 500–600 mm during the entire year. A vast portion

Figure 0.2. Landscape zones of Eurasia.

of this province is occupied by forests: dark coniferous taiga slowly changing first to mixed forest and then to the forest-steppe and then the dry steppe. The river valleys are usually flooded, possessing rich biological resources. In the forest zone, the sod-mid-podzol soils are concentrated, in the left Belaya River bank the podzol-chernozems are spread out. Mixed forests consist of pine, spruce, fir, birch, aspen, oak, rowan, black cherry, and wild apple trees. There is a great deal of frutescent plants, including wineberry and raspberry. The Kama meadows contain many steppe plant species.

The geographic environments of the southern Ural are characterized by arid conditions, which are, however, varied depending on the ecological situation. In the north, there are some high areas and a developed river network, which in the summertime produces rich vegetation in the river valleys. The Ural River, the most southern of the big rivers, flows southward along the eastern slope of the south Ural Mountains, then it sharply turns to the west near the town of Orsk, and it again turns southward and flows into the Caspian Sea (Fig. 0.1). The southern and eastern parts of the southern Urals are represented by dry steppe with poor pastures where there are many salt lakes. The hydrography of this area is influenced by the alternating of wet and dry seasons, each lasting usually about ten years. An important role is played by lakes, which vary in size and origin (elevated, karsts, oxbow). Fresh water lakes are found alongside salty and bitter-salty lakes, which are widely distributed.

The western Siberia area is an almost flat plain with a small northward incline and no abrupt changes in geographic zones, and this is where the largest water systems in Eurasia can be found. The Ob'-Irtysh water basin and a great number of swamps that are predominantly concentrated in the taiga zone. As a consequence, this area possesses the most extensive swamps on the surface of the earth. In the middle Trans-Urals, large areas are occupied by peat bogs and, as a result of higher humidity, unique archaeological objects made from organic materials can be preserved. However, the river network is not very dense. The big transit rivers – the Ob', Irtysh, Ishim, and Tobol – are of the Kazakhstzn type, which is characterized by a high level of spring water (up to 90 percent) and a small water level during other seasons. The rivers flow from steppe to the forest zone, and from early prehistory they have served as the main way of communication between the south and north. Although the navigational season of these rivers ranging from six to three months was a serious obstacle to transportation, pathways formed by the frozen surface of rivers were usually used for overland movement.

The climate is continental. In the warm seasons, warm air comes to the forest-steppe mostly from Kazakhstan and Central Asia and results in droughts and arid conditions. Cold air comes from the Arctic, usually in winter but sometimes in summer, which creates a severe and unstable climate. Additionally, the Ural Mountains retain moisture coming from the Atlantic, and the Altai, Pamir, and Tien-Shan often serve as obstacles to hot air masses.

The general characteristics of the western Siberian climate are the following: rather limited winter snowfall, cold winters, and quick transition to spring, hot summers and constant winds. In the taiga zone, the climate is colder and moister.

Beyond the Ural, the steppe area moves more northward than in eastern Europe (Fig. 0.2). The forest-steppe, situated to the south of the small-leafed forest and represented by multigrass meadows and birch-aspen coppices passes to the steppe, north of which multigrass and feather grass vegetation until recently was predominant. Overall, the landscapes of the Ural-Siberian forest-steppe are characterized by geographic zonality and a mosaic distribution of vegetal assemblages – forests, meadows, swamps, and steppes. Droughts are recurrent here every eight to twelve years. This results in many Trans-Uralian lakes that alternately dry out and then fill with water.[3] The forest zone is inhabited by many species of large animals, including elk, deer, bear, and lynx. The small fur-bearing animals, such as sables, fox, ermine, and squirrels, are also typical in that area.

In the forest-steppe, the fauna is mixed. It is here that both forest and steppe species of animals are found including elk and bear. The Urals and western Siberia represent a variety of landscapes caused by the complex relief, their vast longitudinal extent, and climatic difference between the Cis-Urals and

Trans-Urals. The fauna and flora, naturally, are closely connected to the various landscapes. The differentiating features are clearly manifested in the boundary areas between the basic landscape zones, where there have been some interzonal displacements that resulted from climatic fluctuations. These changes are more pronounced for western Siberia, but they are not as visible for the Ural, primarily because of the complex character of its relief. As we have pointed out, in terms of climatic zones, the western Ural is related to the Atlantic-continental region of the temperate zone, but the eastern Ural is included in the continental western Siberian part with its forest and steppe areas. The northern part is almost completely influenced by the Atlantic-Arctic winds (Khotinsky 1977: 22–3). One can say that the climate of the western Urals was changing according to eastern European regularities, whereas the eastern territories demonstrate more "Asiatic scenarios." Moreover, different landscapes, naturally, do not react synchronically to the temperature and humidity fluctuations.

CLIMATIC CONDITIONS IN THE BRONZE AND IRON AGES

The problem of interrelation between society and environment has always been a focus of attention of various disciplines. This interest was intensified among Russian environmentalists and archaeologists during the past few decades.

Numerous recent publications present historical data on global climate change combined with palynological data, oxygen-isotope analysis, and data concerning lake fluctuations show that there were at least four phases of synchronous climatic change in both hemispheres: (1) 560–800 BP – "minor glacial epoch"; (2) 1300–800 BP – climatic optimum of the Early Middle Ages; (3) – 2900–2300 BP – cold of the Iron Age; (4) 6000–7000 BP – last climatic optimum (Dergachev et al. 1996: 13). According to Klimanov (2002), in the northern hemisphere there were several periods of extreme cold and warm climate. Statistical correlation between twenty-four-hundred-year cycles in C^{14} concentration and long-lasting climatic changes has recently been revealed (Vasily'ev et al. 1997).

The cycles of global climate were reflected in regional and local fluctuations, forming regional ecological systems. The landscape reacts differently even on synchronic periodic influences. This is expressed in the heterogeneity of moisture in different territories (Koryakova & Sergeev 1986; Tairov 2003). Pollen and soil analysis, investigation of Eurasian peat bogs, and new hydrological and geological research undertaken recently in combination with radiocarbon dates did not contradict, in general, these theories, but they detailed more complex climatic dynamics. The scale of regional fluctuation of temperature can differ from one global period to another. In particular, even small global warming (up to 1–1.5°C) is accompanied by greater warming in temperate and high latitudes and smaller temperature changes in northern subtropics. Regional fluctuations also can take place before or after cycles of global climate (Klimenko 1998; 2000; 2003).

The environment of the Volga-Ural–Kazakhstan steppe has been actively studied during recent decades. This research was based mostly on paleosoils under kurgans (Alexandrovsky 2003; Demkin 1997). In the Trans-Urals, a large program of paleoenvironmental research was carried out in the territory of the Arkaim museum-reserve, where a series of pedological analyses comes from (Ivanov & Chernyansky 1996; 2000; Lavrushin & Spiridonova 1999). Substantial information also has been obtained from the middle Urals peat bog sites (Khotinsky 1977; Nemkova 1978) and important evidence has been obtained from the research of lake deposits in the mountain-forest piedmonts of the southern Ural (Duryagin 1999) as well as rich paleogeographic materials received from western Siberia (Ryabogina et al. 2001a; Ryabogina & Orlova 2002; Ryabogina et al. 2001b; Semochkina & Ryabogina 2001). A large series of Holocene sequences also has been received from northern Kazakhstan (Ivanov 1992; Kremenetsky 2003).

Considering all this, we will try to summarize some basic environmental trends, which could have taken place during the period under study.

A society reacts differently to environmental change, depending on its pace (speed) and magnitude. This is most evident in the steppe zone, which, in turn, also has been studied more by archaeologists. Overall, in eastern Europe the fluctuation of moisture did not entail a substantial displacement of the landscape-climatic zones, whereas in western Siberia and Kazakhstan the situation was more complex. Here, the magnitude of fluctuation was greater, and whole zones of landscapes were displaced. As a result, the eastern European population reacted to the environmental change according to an adaptive model, but the Asiatic population chiefly had to follow a migration model.

In terms of geological classification, the Bronze and Iron Ages are related to the middle and later Holocene – its Subboreal and Subatlantic periods, each divided into three subzones. Ivanov (1992) and Ivanov and Chernyansky (2000) summarized all paleogeographic materials of the territory from eastern Europe to Mongolia and correlated them with archaeological periodization (Table 0.1).

The Atlantic period (especially its final stage) is usually considered the time of the climatic optimum of the Holocene, combining the thermal peak with the late Atlantic moistening and when the northern shift of the large leafed forest reached its maximum (Khotinsky 1977: 81; Nemkova 1978: 43). Although there are some data in favor of the statement that this period was not homogeneous, one can distinguish several stages of aridization, which has been reflected in the southern Urals pollen spectrums (Lavrushin & Spiridonova 1999: 100). Archaeologically, the Atlantic period is synchronized with the

Cambridge University Press
978-0-521-82928-1 - The Urals and Western Siberia in the Bronze and Iron Ages
Ludmila Koryakova and Andrej Vladimirovich Epimakhov
Excerpt
More information

TABLE 0.1. *Climatic fluctuations in the Eurasian steppe (after Ivanov and Chernyansky 1996)*

Time		Periodization					
					Archaeological		
						Cultures	
Thousands years BP	Centuries	Geological	Thermic epochs	Epochs of humidification of Eurasian steppe	Epochs	Eastern Europe	Urals, Northern Kazakhstan
1	2	3	4	5	6	7	8
0	20		Warming		Contamporanity		
1	15	SA^3	SA^3 Cooling, “minor glacial period”	SA^3 Moistening	Middle Ages: Late	Late Nomads	Late Nomads
	10		SA^2 Warming, “minor climatic optimum”	“Early medieval aridization”	Middle Ages: Early		
2	5	SA^2		Early Sub-athlantic alternation of micro-pluvilas and micro-arids	Iron Age	Huns; Sarmatians: Late	Early Nomads
	0		SA^1 Cooling			Sarmatians: Middle	
3	5	SA^1		Late sub-boreal moistening		Sarmatians: Early; Sauromatians	
	10	SB^3	SB^3 Cooling		Bronze Age: Late	Scythians; Cimmerians	Sargary
4	15	SB^2	SB^2 Thermic optimum		Bronze Age: Middle	Srubnaya	Fyodorovo Alakul
	20			Early Sub-boreal aridization		Catacombnaya	Petrovka Sintashta
5	25	SB^1	SB^1 Cooling		Bronze Age: Early	Late Yamnaya	Tersek-Botai cultures: Late
	30		AT^3 Thermic maximum	Late Athlantic Moistening		Early Yamnaya	Tersek-Botai cultures: Early
6	35	AT^3			Eneolithic	Eneolithic cultures	
	40						Late Neolithic

Eneolithic although in the forest territories the Eneolithic cultures can be seen in parallel with the Yamnaya culture of the Early Bronze Age.

Different scholars studying eastern European and Asiatic areas agree about the characteristics of Subboreal draught and that it was accompanied by significant weather cooling at the beginning of the Bronze Age. To the north of the Caspian Sea, aridity started to increase in the interval between 5200–3700 BP. This process went together with the rise of climatic continentality, and it reached its maximum in the early Subboreal (Early and Middle Bronze Age). This caused the landscape zonation to be displaced at least on one subzone (Demkin & Demkina 1999: 25; Demkin 1997: 158).[4] The second millennium BC is characterized by maximal soil-landscape diversity, and scholars regard this as the time of the beginning of the modern pedological and geographic zonation (Demkin 1997: 152). The continuance of aridity and moisture, if to judge by comparative data from eastern Europe and northern Kazakhstan, was different on either side of the Ural mountains. In the Asiatic part, the warmest period proved to be longer than in the west, and it embraced not only Subboreal-1 and Subboreal-2 but also a part of Subboreal-3; that is to say, it lasted up to the Final Bronze Age. This rise in aridity is diagnosed as gradual (Ivanov & Chernyansky 1996: 152). Some scholars believe the aridity of the second phase of the Bronze Age had catastrophic consequences (Lavrushin & Spiridonova 1999: 100–1).

For the period of the Late Bronze Age of eastern Europe, the humidity is determined as close to modern humidity. It was accompanied by climatic warming, the peak of which coincided with the second and third quarters of the second millennium BC. As mentioned earlier, in northern Kazakhstan aridity continued until the Iron Age and tended to increase. At the second millennium BC, the climatic situation in the Trans-Urals was closer to the climate of eastern Europe. At the beginning of the first millennium BC, it was characterized by a more favorable pattern compared to the western territories, the climate of which evolved to the rising continentality. Consequently, in the mid-second millennium BC, the areas beyond the middle and southern Ural were partly occupied by "insular" forests. The Siberian vegetal complex coexisted together with a prairie one. The end of the second millennium was marked by a general cooling, which resulted in a climatic pattern comparable to the modern pattern. This does not exclude some fluctuation such as a "minor glacial period" of the Subatlantic-3. In the south of eastern Europe, the period of favorable climatic conditions, which provided the flourishing of the Late Bronze societies, in particularly the demographic phenomenon of the Srubnaya culture, ended by the twelfth–eleventh centuries BC (Medvedev 1999a; b). The general cooling reached its peak by the ninth–eighth centuries BC.

The beginning of the Iron Age was characterized by a rise in humidity, which has been recorded for many areas: the northern Black Sea coast, the