https://doi.org/10.15388/vu.thesis.624 https://orcid.org/0009-0005-8091-4156

VILNIUS UNIVERSITY LITHUANIAN INSTITUTE OF HISTORY

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Early Metal Period Burial Customs in the Western Part of the Southeastern Baltic Region

SUMMARY OF DOCTORAL DISSERTATION

Humanities History and Archaeology (H 005)

VILNIUS 2024

The dissertation was prepared between 2015 and 2023 at Vilnius University.

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The text of this dissertation can be accessed at the libraries of Vilnius University and Lithuanian Institute of History as well as on the website of Vilnius University:

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https://doi.org/10.15388/vu.thesis.624 https://orcid.org/0009-0005-8091-4156

VILNIAUS UNIVERSITETAS LIETUVOS ISTORIJOS INSTITUTAS

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Ankstyvojo metalų laikotarpio laidosena Pietryčių Baltijos regiono vakarinėje dalyje

DAKTARO DISERTACIJOS SANTRAUKA

Humanitariniai mokslai Istorija ir archeologija (H 005)

VILNIUS 2024

Disertacija rengta 2015–2023 metais Vilniaus universitete

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Disertacija ginama viešame Gynimo tarybos posėdyje 2024 m. birželio mėn. 28 d. 15 val. Istorijos fakultete, 211 auditorijoje. Adresas: Universiteto g. 7, LT-01131 Vilnius, Lietuva), tel. (85) 268 7280; el. paštas if@if.vu.lt

Disertaciją galima peržiūrėti Vilniaus universiteto ir Lietuvos istorijos instituto bibliotekose ir VU interneto svetainėje adresu: https://www.vu.lt/naujienos/ivykiu-kalendorius

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INTRODUCTION

Significant changes in the economic, social and ideological spheres of the communities of the East Baltic region occurred in the Early Metal Period (Bronze and Pre-Roman Iron Age). Agriculture and animal husbandry increased, the first metal artefacts were used and produced, and a new type of settlement - hillforts - emerged (Grigalavičienė 1995, 100-101, 56-97; Grikpėdis, Motuzaitė-Matuzevičiūtė 2018, 264-279; Podėnas 2019, 1-17; Minkevičius et al. 2020, 327-338). Significant changes also took place within burial customs, which are the focus of the analysis and interpretation in this work. In the Bronze Age, the first wave of the cremation custom emerged and spread, and burial mounds became widespread in certain parts of the region (Engel 1935; Граудонис 1967; Lang 2007; Merkevičius 2014). According to available data, prior to this the deceased were not cremated, and were instead mostly buried in graves without mounds (Engel 1935, 176-182, 323–327; Žukauskaitė 2007, 71–90; Piličiauskas 2018, 114– 119).

The most common conclusion in the literature is that the inhumation custom lasted until 1300/1200 BC, after which the cremation custom spread. Cremation is thought to have originated with the Urnfield culture in central Europe, which then spread to the Lusitanian culture before finally reaching western Balts (Gimbutienė 1985, 69). These cremation burials lacked grave goods, making it difficult for researchers to more accurately pinpoint the timing of the emergence and spread of the cremation custom using the typological method and to analyse the factors underlying this phenomenon. For a long time, the burnt bones that were found in these graves were not radiocarbon dated, but recent studies have shown that the cremation of the deceased must have occurred at an earlier date in some places (Legzdiņa et al. 2020, 1845–1868; Vasks et al. 2021, 3–31). However, the reasons underlying these changes in burial customs have not yet been analysed in detail, nor has their spread across the wider

Southeastern Baltic region. It is therefore necessary to assess this phenomenon in the context of the region in question in order to more precisely determine the practice of the cremation custom in different localities. The possible reasons for its emergence should be discussed and the relationship between cremation and inhumation should be established.

Relevance. Previous works have analysed burial customs in individual parts of the East Baltic region according to the borders of current or former states (Engel 1935; Граудонис 1967; Hoffmann 2000, 26-48; Merkevičius 2014; Vasks, Ciglis, Urtans 2021, 271-278). For this reason, there is no general synthesis that would comprehensively analyse changes in burial customs across the wider region. These earlier works, written before World War II, analysed data which included the western part of present-day Lithuania - at that time, part of East Prussia (Hollack 1908; Engel 1935). However, with the change of borders after World War II, the analysis of burials in northeastern Poland, Kaliningrad (Russia) and western Lithuania was usually conducted separately (Okulicz 1970; Merkevičius 1993; Hoffmann 1999; 2000, 26–48). Before then, it had been noted in some works that there was a cultural connection between Bronze Age burial mounds in the Sambia Peninsula and the Klaipėda region (known as Kreis Memel in German) (Engel 1962, 50).

With the growing amount of data and the availability of new methods, the analysis and interpretation of burials in the coastal region is becoming increasingly important. It is appropriate to analyse the origins of the cremation custom in more detail, not only based on the typological method, but also by using radiocarbon dating. It should also be established whether the first wave of cremation is linked to any other changes in the Early Metal Period. It is also important to note that the custom of inhumation does not completely disappear, and some places contain both inhumations and cremations, so establishing the relationship between these two customs is key.

In recent decades, a number of Early Metal Period settlement sites and hillforts have been discovered and investigated (Čivilytė, Podėnas,

Vengalis 2017, 69–73; Balsas, Masiulienė 2017, 52–63; Urbonaitė-Ubė, Ubis 2018, 115–119; Urbonaitė-Ubė, Vengalis, Ubis 2019, 82– 87; Pranckėnaitė, Masiulienė 2020, 70–72; Urbonaitė-Ubė 2021, 132– 138; Piličiauskas et al. 2021a, 26–29; Piličiauskas et al. 2021b, 29– 33). These studies offer a range of data that provides insights into economic and social aspects of this period. However, it is crucial to incorporate data from burial sites to achieve the more comprehensive reconstruction of the lifestyles and customs of these communities.

Problem. The changes in the burial customs of the Early Metal Period have not yet been examined in detail across the wider region. It has not yet been revealed how new customs developed and changed, nor what influenced the emergence and spread of the new cremation custom. The emergence of cremation and the long duration of this tradition raises the question of which part of the region it originated in, and whether it is linked to any other changes that took place in the period in question. The main reason for the emergence of cremation that has been supplied in earlier literature is the adoption of the custom from the Urnfield culture, in which the deceased were buried in flat cemeteries. In contrast, in the western part of the Southeastern Baltic region, barrow mounds were the most common burial type throughout the Early Metal Period, and the number of flat cemeteries in the region was small. Such differences make it relevant to evaluate the available data in order to determine whether the emergence of the cremation custom can be attributed to other causes.

Subject, territory and chronological limits of the study. This work analyses Early Metal Period burials (burial mounds, flat cemeteries, individual graves) in the western part of the Southeastern Baltic region. The region in question is characterised by distinctive economic and cultural development that differs from the continental, eastern area (Luchtanas, Sidrys 1999, 15–55; Merkevičius 2016, 130–147). This region is identified based on both geographical and cultural aspects. Culturally, the region covers part of the territory of the West Balt Barrow culture, which has been identified by numerous researchers (Grigalavičienė 1995, 239–242; Luchtanas, Sidrys 1999, Figs. 3, 8,

10; Brazaitis 2005, 314). The northern range of this culture was chosen for this work. Geographically, this area covers the Baltic coastal zone, with the Venta River flowing in the north and the Prieglius River in the south. The Deimena and Prieglius Rivers divide the Sambia Peninsula (located in Kaliningrad region, Russia), which covers an area of around 3,700 km² between the Curonian Spit and the Vistula Spit. The western part of Lithuania and southwestern Latvia each cover an area of around 3,900 km².

The chronological period chosen for this work covers the Bronze Age and the Pre-Roman Iron Age (together known as the Early Metal Period). The beginning of the Bronze Age is usually associated with the importation of bronze artefacts or the beginning of metalwork production. The date given for the beginning of this period varies across different scientific works, from 2200 BC to 1700 BC or 1600 BC (Engel 1935, 291; Luchtanas, Sidrys 1999, 15; Brazaitis 2005, 257, Table 73). In this work, both radiocarbon dating and the Montelius system are used for dating burial sites. The beginning of the Bronze Age is considered to be the date of Montelius period I (1800 BC), established in his 1903 work (Montelius 1986, 14). The periodisation of the Montelius system has been repeatedly revised and refined - including by O. Montelius himself and, later, on the basis of radiocarbon and dendrochronological dates (Olsen et al. 2011, 261-275; Ling et al. 2014, 106-132). In light of these works, the present study is based on these established dates and divides the period into the Early Bronze Age (Montelius periods I-III) and Late Bronze Age (Montelius periods IV-VI) as follows:

Period I: 1800/1700–1500 BC;

Period II: 1500–1300 BC;

Period III: 1300–1100 BC;

Period IV: 1100-900 BC;

Period V: 900–700 BC;

Period VI: 700–500 BC.

The Pre-Roman Iron Age is usually referred to in the literature as starting from 550–500 BC and continuing until the turn of the

millennium or the 1st century AD (Engel 1935, 291; Luchtanas 1999, 16; Hoffmann 2000, 7; Brazaitis 2005, 310), and in some works is further subdivided into two periods (Engel 1935, 7; Hoffmann 2000, 7). This division is more relevant for the northeastern region of Poland, where some differences are evident from the 2nd century BC to the 2nd century AD. In the region under consideration, no distinct differences can be observed in the burial customs of the 2nd century BC; therefore, the Pre-Roman Iron Age is not subdivided in this work. **Methods.** To clarify the timing of the cremation custom, burnt bones were selected for radiocarbon dating. Samples were collected for dating from burial mounds in western Lithuania considering the location of the grave in the burial mound, the arrangement of the burial mound and the grave, and the arrangement of stones (Muradian 2022, 157-183). Various studies have shown that the contamination of cremated bone and the accuracy of dating results are determined by the cremation temperature. Bones cremated at temperatures above 600 °C have been found to be best suited for 14C dating, and such bones are usually white in colour (Van Strydonck, Boudin, De Mulder 2009, 553-568; Minami et al. 2019, 1823-1834; Zazzo et al. 2012, 855-866). In the sampling process, skull or diaphyseal fragments that were burnt at high temperatures, and thus are white in colour both externally and internally, were selected for dating. Inhumated bones from the Ėgliškiai barrow site were also radiocarbon dated during the preparation of this study.

The dates of samples from burial mounds in southwestern Latvia have been published in several works (Ciglis, Vasks 2017, 35–61; Legzdiņa et al. 2020, 1845–1868; Vasks et al. 2021, 3–31), and are used in this work to establish the emergence and spread of the cremation custom. Conventional AMS 14C radiocarbon dates were converted to absolute ages using the OxCal 4.4 program (Bronk Ramsey 2009) with the IntCal20 curve (Reimer et al. 2020, 725–757). Calibrated dates were interpreted with a 95.4% confidence interval. Statistical comparisons between dates were performed using the Combine function of Oxcal 4.4.4, and the duration of the cremation custom was calculated using the Sequence, Interval and Span functions.

Based on the construction of the burial mounds, the artefacts found in them, and the available radiocarbon dates, a classification of barrows was then produced.

Information on the burial sites of the Early Metal Period in the region, along with corresponding finds (ceramics, artefacts, and osteological material), was evaluated at the National Museum of Lithuania, the Kretinga Museum, the Latvian National Museum of History, Vytautas the Great War Museum, and the Faculty of Medicine of Vilnius University. Material was also collected from various manuscripts and published works, as one of the tasks of this thesis was to collect and summarise all available material.

The **aim** of this thesis is to identify the main features, changes, and development of Early Metal Period burial customs in the western part of the Southeastern Baltic region, and to analyse and interpret burial customs from the cultural, social, and ideological perspectives.

Objectives:

1. To review the history of research on burial sites in the Southeastern Baltic region and summarise current research directions.

2. To compile a database (burial mounds, flat cemeteries, and individual graves) and form a classification of barrows.

3. To clarify the chronology of these sites and determine the start date and duration of the first cremation custom in the region.

4. To systematise the anthropological research data and use it to discuss the possibility of providing interpretations related to age, gender and grave arrangement.

5. To analyse the pottery, artefacts and other finds found in the graves, clarify the chronology and distribution of artefacts, and compare the grave goods found in cremation graves and inhumation burials.

6. To determine the distribution of burial sites, distinguish the most densely populated zones and microregions, and analyse cultural features from the social and ideological perspectives.

7. To provide interpretations of possible reasons for changes in the transition from inhumation to cremation, and interpret changes in burial customs from the cultural and ideological perspectives.

1. MATERIAL

In the western part of the Southeastern Baltic region, 125 sites are known to contain burial mounds, flat cemeteries or single graves (Fig. 1). They are located in the Sambia Peninsula, western Lithuania and southwestern Latvia. However, the exact chronological affiliation or contextual material of around 30 sites is not entirely clear. In some cases, Bronze Age or Pre-Roman Iron Age artefacts have been discovered, but it is not clear whether they belonged to graves, as even minimal archaeological research has not been carried out at some sites. Therefore, of the 125 sites, 95 can be attributed to Early Metal Period burials. The remaining 30 sites still lack data, although it may be possible to refine the contextual material of these sites in the future as additional data or archival sources become available.

These burials date from the Early Bronze Age to the Pre-Roman Iron Age, with most belonging to the 1st millennium BC and a much smaller number dated to the Early Bronze Age. The majority of the burials are located on the Sambia Peninsula, with a decreasing concentration to the north, where fewer are known, and a particularly low density of sites further north of the Šventoji River.

Archaeological research in the region began in the 19th century, and was first conducted by German archaeologists. At that time, a large number of the currently known sites were explored. Until 1945, the material discovered during these archaeological investigations was stored in the Prussia Museum, several smaller museums and private collections (Neumayer 2018, 42–48; for more on this, see Stöckmann, Heske and Jahn 2021, 22–28). After World War II, some of these artefacts disappeared and some were taken to the Museum of Prehistory and Early History in Berlin and the Museum of Warmia and



Figure 1 Map of the distribution of the sites analysed in this work

Masuria. Some of these artefacts were also kept in the Kaliningrad Museum of History and Art. Since the mid-20th century, the intensity of archaeological research has decreased on the Sambia Peninsula. In western Lithuania, the frequency of archaeological investigations has increased since the middle of 20th century, after which point 15 sites containing burial mounds and 1 site with a flat cemetery have been excavated. In southwestern Latvia, among the most important excavations were those carried out in 1962–1963 and 1979–1981, when the Pukuli barrows were excavated.

2. BURIAL CUSTOMS

2.1. Inhumation

In the Early Bronze Age, evidence of continuity from the Neolithic period, during which inhumation was practiced, is apparent. On the other hand, the first cremation burials appeared in some parts of the region in the Early Bronze Age. Sometimes, it is very difficult to answer the question of whether cremated and inhumated graves present in the same barrows were separated by long periods of time. This is mostly because of the lack of grave goods or chronologically informative artefacts in graves, and difficulties in determining the exact time of burials. The long-term use of burial mounds is illustrated by numerous examples - such as the Kveciai burial mound, where the deceased were buried more than 1,000 years after the main period of use of the mound (Muradian 2022, 170). Another problem is posed by the preservation of the skeletal remains. In many publications or excavation reports, it is noted that the bones were not preserved. The identification of inhumation is often based on the discovery of stone structures or darker soil containing grave goods.

Chapter 2.2 discusses the emergence and spread of the cremation custom in more detail. Based on radiocarbon dates, few cases of cremation occurred in the western part of the Southeastern Baltic region between 1671 and 1456 cal BC, while in the Late Bronze Age the custom became dominant. In addition to cremation graves, the Early Metal Period also features inhumations. Some of these burials are dated to the Early Bronze Age, while the remainder date to the end of the Pre-Roman Iron Age. It is appropriate to analyse this custom in more detail in the context of individual burial mounds where both cremation and inhumation graves were found. According to the literature and the material stored in museums, such inhumations were found at: the Wiskiauten/Моховое, Rantau/Заостровье, Šlažiai, Ėgliškiai, Kurmaičiai, and Vārves Strīķi burial mounds, and possibly the burial sites of Alknicken/Priбрежное, Pukuļi, Bašķi, Fritzen Forst/–, and Dārznieki (Heydeck 1877, 650–662; Sitzung am. April 1890, Bezzenberger 1900a, 81–85; Heydeck 1914, 80–84; Šturms 1936, 103, 108–112; Граудонис 1967, 60–62, 75, 19–22; Kulikauskas 1968, 12–56; 26; Grigalavičienė 1979, 5–43; Hoffmann 1999, 41–43; Ciglis, Vasks 2017, 41).

The earliest inhumation grave in this region was found at the Wiskiauten/MoxoBoe burial mound, where the deceased was buried with a flat bronze axe or chisel and a bronze pin with a rolled and flattened head (Germ. *Rollenkopfnadeln*). This grave was dated to Montelius periods I–II. In addition, earlier Neolithic graves and a later urn cremation were also found in this mound. The depths at which the graves were found can clearly be seen on the surviving drawings of the mound. The Neolithic graves were found below a Bronze Age grave and above an urn with burnt bones (Randsborg et al. 2016, 94, Fig. 13).

Further barrow cemeteries with inhumations were found in Rantau/3aocrpobbe and Šlažiai, both of which belong to Montelius period III. In Šlažiai, they were found in barrows 2, 4 and 5. Barrow 2 was partly destroyed, and in it a part of a jaw and a small assemblage of grave goods (ornaments) were found. A small number of noncremated bones were also found in barrow 4. However, the largest number of burials was recorded in barrow 5. According to A. Bezzenberger's article, in which he cites an anthropological assessment by Stieda and Zander, there were at least 7 individual remains between the 3rd and 6th zone of the mound (Bezzenberger 1900a, 84), with more graves found in other parts of this barrow. It is important to note that not only non-cremated bones, but also cremations were found in the Šlažiai barrows, and they all contained similar grave goods. For example, eye pins were found in zone 2 of barrow 5, as a grave good accompanying a cremation burial, and in zone 8 of barrow 5, as a grave good accompanying an inhumation grave. To summarise the available data from Šlažiai, most of the finds are typologically identical and were found in both types of burial, i.e., cremations and inhumations, which would indicate that both burial types may have been practised in Montelius period III. This demonstrates that this was a period of transition from inhumation to cremation.

The Rantau/Заостровье barrow cemetery is perhaps the most thoroughly discussed of these sites, having been analysed in various works. This is one of the most important sites for analysing changes in cremation and inhumation customs. The spatial arrangement of the graves can be analysed based on published plans and drawings of the burial mounds (Engel 1936, Fig. 54). No bones were preserved in barrows 1–3; the presence of inhumation graves was inferred from the stone structures and the preservation of darker earth with grave goods inside (Šturms 1936, 109-111). Approximately 17 inhumations and some urn cremations were found in these burials, while the exact number of graves is unclear (Šturms 1936, 139; Engel 1935). These graves were found at various depths: in barrow 1, the earliest grave was found in the central part (grave A), while the remainder of the graves were arranged on different sides of the inner and outer parts of a stone circle. Almost all of the grave goods were found accompanying inhumation burials (Bezzenberger 1904, 15–18), and these finds allow the graves to be dated to Montelius period III. Based on the pottery (urns) and the placement of graves, cremations were later in sequence than inhumations, belonging to the Late Bronze Age or Pre-Roman Iron Age. Some of these cremations have small stone boxes, which have also been found in other burial mounds (e.g., in Mišeikiai).

Very similar grave goods were found at the Alknicken/Прибрежное barrow site (Nortycken-type axe, eye pin, knife, tutul, amber bead, etc.), which also belongs to Montelius period III. These artefacts were discovered by locals in 1899 while collecting field stones. K. Kretschmann examined the site and did not find any urns or burnt bones, because of which it is believed that these grave goods probably belonged to inhumation graves. The stone structures at the site were typical of burial mounds, and it is assumed that inhumated bones likely decomposed (Šturms 1936, 103). It is important to note that this site is located very close to Rantau/Заостровье.

Other Early Metal Period inhumation graves are later in sequence, dating to the Pre-Roman Iron Age. Such graves have been found at the Ėgliškiai, Kurmaičiai, and Vārves Strīki barrow cemeteries. At Ėgliškiai, inhumated burials were found in barrows 1-3. The largest number of inhumations was found in barrow 3, which held a total of 22 graves, of which 13 were cremations and 9 inhumations. According to the excavation drawings, two layers can be distinguished in the barrow mound. The upper layer contained cremated graves 1-7 and inhumations 1–5 and 7–9. The deeper layer contained cremated graves 8–13 and inhumation 6. The excavation report notes that inhumation 8 and cremation 6 were found at the same depth. According to E. Grigalavičienė, who excavated the burial mound, both cremation and inhumation were practised contemporaneously (Grigalavičienė 1979, 32). Radiocarbon dating of the material from barrow 3 was used to compare the dates of cremations and inhumations within this barrow. The cremation burial was dated to 746-400 cal BC and the inhumation burial to 366–160 cal BC (FTMC-TH47-1, 2186±29 BP). Therefore, the barrow mound may have been used for a long period of time. Cremation graves occurred first, as evidenced by their discovery in the central part of the stone structure in the barrow. Only later were the non-cremated deceased buried here. Nevertheless, the depths of some of the inhumation burials and cremated graves coincide, indicating that they may be contemporaneous. More radiocarbon dates for both types of grave (inhumations and cremations) would help to clarify the period of use of a single burial mound. However, of the 12 inhumation burials, only one, the aforementioned grave, has survived

with clear metric recording in museum storage (mound and grave number).

The Kurmaičiai barrow cemetery is located very close to Egliškiai. In barrow 1 (A), 1 inhumation and 6 cremations were found (Kulikauskas 1968, 12–56). The excavation drawings show that all of the graves were found in the central stone circle of the mound, on the stone-paved floor. The cremations contained no grave goods, while 6 temple ornaments and spirals were found in the inhumation. Such ornaments are typical of a broad period, and have been found at Dół (Poland), east of the Vistula River. Several artefacts were found in grave 29, including two bracelets, rings, and a neck-ring with attached temple ornaments. The burial was dated to 550 BC-1st century AD. Spiralplate temple ornaments were found in a cremated grave in an urn at the Biesowo cemetery (Poland), dated to 550-120 BC (Hoffmann 1999, 18, 32-33, Figs. CL:9-12, CXXIII:3-5). Two spiral temple ornaments were also found in Raudonenai (Lithuania, Jurbarkas municipality) in inhumation grave 3, dated to the Pre-Roman Iron Age (Merkevičius 2014, 132–136). Based on the dating of the burials found at other sites, and taking into account the radiocarbon dates from other cremation graves at Kurmaičiai (the results of which can be found in Chapter 2.2), it is likely that there was not a significant time gap between the inhumation grave and the cremation graves at Kurmaičiai barrow mound 1(A).

Another inhumation grave was found in the Vārves Strīķi burial mound, where, unlike the other burials, no cremated remains were recorded. This grave, according to the grave goods found in it, can be dated to the second half of the 1st millennium BC (Γраудонис 1967, 75).

It is assumed that an inhumation grave was also present at Fritzen Forst/– (also called Dammwalde), where a cremation grave and likely the remains of an inhumation burial were found in the central part of

the mound (Hoffmann 1999, 42–43, Figs. XXV:1, 2; XXVII:1, 2; Engel 1935, 333, Fig. 61).

Stone constructions found in the barrow mounds of Pukuli, Bašķi and Dārznieki were possibly arranged for inhumation burials based on their size and shape (Ciglis, Vasks 2017, 41; Граудонис 1967, 61, Fig. 43:A). However, the bones have not been preserved, so one can only assume the presence of inhumation burials at these sites.

In summary, it can be noted that 6 burial sites have been found with inhumation graves, and it is presumed that 5 more sites could have contained inhumations. The earliest inhumation burials belong to the Early Bronze Age (Montelius periods I–III). There is no clear evidence of Late Bronze Age, i.e., Montelius periods IV-VI, inhumated burials in the western part of the Southeastern Baltic region thus far. However, graves from this period have been found to the east of the region in question (Vasks et al. 2021, 6–7). The latest inhumated graves in the western part of the Southeast Baltic region belong to the Pre-Roman Iron Age. The analysis of the material from each individual burial mound shows that in some cases the cremation and inhumation graves belong to slightly different periods, whereas in other cases it is probable that these graves were not separated by a large time span. The fact that inhumation graves have only been found from the beginning and end of this period indicates that inhumation was likely only characteristic of the transitional periods from inhumation to cremation, and from cremation to inhumation.

2.2. Cremation

One of the most important changes in burial customs during this period was the spread of the first cremation custom in the region. Some authors have pointed out that the emergence of the cremation custom may be related to a new attitude towards the body, in which the immortal soul or spirit is separated from the body through fire

(Harding 2000, 112-113; Vasks 2009, 94-97). The emergence of the cremation custom led to a decrease in the number of grave goods. Most cremation graves contain no grave goods at all, so it is difficult to date these cremations more accurately. The decrease in the number of grave goods is confirmed by a comparison of their quantity in inhumation and cremation graves (Muradian 2017, 62-63, 66-67). In the Early Metal Period, a large number of artefacts made of bone, wood and other organic materials were used (Grigalavičienė 1995, 144, 163-173), so it is possible that some (if they were initially present in these graves) may not have been preserved. It should be noted that these objects may have been burnt in a pyre together with the deceased, which is confirmed by the remains of melted metal objects present in some graves (Michelbert 1963, 55-72; Kulikauskas 1968, 26; Grigalavičienė 1979, 17, 26; Merkevičius 2011, 77-79). Recent research at the Kvietiniai cemetery has shown that some of the grave goods in the cremated graves are much earlier in sequence than the graves themselves. The Fine-Rusticated Ware urns in which the burnt bones of the dead were stored also yielded many earlier Corded Ware sherds (Vengalis et al. 2020, 40-45).

2.2.1. Typological dating

The first work to compile a detailed study of the types of barrows and the chronology of the Southeastern Baltic region (formerly East Prussia) was published in 1931, and later supplemented in 1935 (Engel, 1931; Engel 1935, 82–98). At that time, there were 5 known barrow cemeteries (Armalėnai, Ėgliškiai, Kretingalė, Mišeikiai and Šlažiai) in the present-day territory of western Lithuania. The Ėgliškiai and Kretingalė barrow cemeteries were classified as type III (mounds with a stone circle and a central stone structure where the burnt bones of the deceased were buried), and dated to Montelius periods IV–VI (Engel 1935, 83, 333). The Šlažiai burial mound was classified as type I (where the central grave contains one or more non-cremated deceased and has a stone structure and several stone circles), and was dated to Montelius period III. The Mišeikiai burial mounds are of type V (where the burials have irregularly arranged stone circles and the cremation graves were placed in stone boxes) and are dated to the Pre-Roman Iron Age (Engel 1935, 83–84, 331–332, 336). The barrows from the Sambia Peninsula are also divided into these types (see Engel 1935, 331–342 for details).

The typological scheme of burial mounds drawn up by C. Engel was later used to date burial mounds from this period. The mounds at Ėgliškiai were dated to the end of Late Bronze Age and Pre-Roman Iron Age (Grigalavičienė 1979, 29). The earliest graves were found at barrow mounds 2 and 3, and were located in the central part of the mound, without urns, beneath oval and quadrangular stone structures. These burials were classified as type II and type III barrows. Barrows 1, 4, 5 and 6 were dated to a slightly later period. The graves found in barrow mounds 5 and 3, which were equipped with stone boxes, were dated to 300-200 BC (Grigalavičienė 1979, 31). The graves between the stone-paved floor (grave 3 of barrow 1 and grave 8 of barrow 3) were dated to 200-150 BC due to the discovery of a bronze pin with a swan's neck-shaped head (Grigalavičienė 1979, 31-32). The graves in the mound without stone structures (graves 4 and 5 in barrow mound 2, graves 1-7 in barrow mound 3, grave 2 in barrow mound 1, and grave 6 in barrow mound 3) were dated to c. 150 BC (Grigalavičienė 1979, 32).

The Kurmaičiai burial mound does not exhibit a significant chronological variance between the differently arranged cremation graves found in the same mound. These burial mounds were divided into three main groups: I - burial mounds with 2 and 3 stone circles

(burial mounds 1 (A)¹, 4 (5)² and 5 (4)³); II – burial mounds where stones and stone paved floors were primarily used (burial mounds 8 (3)⁴, 9, 10)); and III – burial mounds with a single stone circle. P. Kulikauskas classified the first group of mounds as types I and VII, and dated them to the Late Bronze Age, while the second group of mounds was dated to the Pre-Roman Iron Age (Kulikauskas 1968, 20–21).

I. Jablonskis explored smaller burial mounds and did not distinguish individual groups of burial mounds. He dated the cremation grave found near the mound in Gintarai to the first half of the 1st century BC (Jablonskis 1977, 7–8). The mounds found in Šlikiai were dated to the 3rd–2nd centuries BC (Jablonskis 1988, 49–50), and the cremation graves found in the mounds at Sūdėnai were attributed to the 3rd–1st centuries BC (Jablonskis 1984, 53–55). At Ėgliškiai, the cremation burials in mounds 7 (6)⁵ and 8 (7)⁶ were dated to the 5th–3rd centuries BC (Jablonskis 1982, 35–37). No burials featured grave goods and only some contained urns, so the dating, although very narrow in chronology, is not based on clear parallels with other burial mounds or artefacts. In his work, I. Jablonskis does not specify the data used to date the burials in question.

The cremations found in the Kveciai barrow cemetery were dated to the Pre-Roman Iron Age (Merkevičius 1963, 33). The stone structure of grave 2 in Barrow 1 was significantly different from the others. In this burial, the burnt bones were piled between three small patches of stone-paved floor. The absence of grave goods or urns in this grave

¹ Barrow 1 is also referred to as barrow A in some works.

² Barrow 4 is also referred to as barrow 5 in some works.

³ Barrow 5 is also referred to as barrow 4 in some works.

⁴ Barrow 8 is also referred to as barrow 3 in some works.

⁵ Barrow 7 is also referred to as barrow 6 in some works.

⁶ Barrow 8 is also referred to as barrow 7 in some works.

saw it dated to the same period (the Late Bronze Age) as the whole mound (Grigalavičienė 1995, 79–80; Merkevičius 2014, 76, Fig. 5; Muradian 2017, 59), but the radiocarbon dates showed that it dated to 1047–1260 cal AD, chronologically coinciding with other cremations found further from the mound which were dated to the 10th–11th centuries. The burial mound may have symbolised a link between the living community and their dead ancestors, and may have been a symbol of identity reflecting belonging to a particular community. Graves from later periods have also been found in the territories of the Kurmaičiai, Padvariai, and Sūdėnai barrow cemeteries (Kulikauskas 1968, 34–53; Jablonskis 1980, 46–48; Jablonskis 1986, 47–49).

The cremated graves of the Pukuļi burial mounds were particularly difficult to date prior to the availability of radiocarbon results, not only because of the lack of grave goods, but also because of the lack of urns in the graves (Vasks 1979, 1980, 1981). The Bašķi burial mound was dated to the 2nd–1st centuries BC before radiocarbon dating was applied (Граудонис 1967, 60–61). The Dārznieki mound, located on the bank of the Zilupe River, was dated to the broad period of the 1st millennium BC, as the graves lacked the grave goods that would allow dating to be refined (Граудонис 1967, 60–61).

In the Sambia Peninsula and the wider region (northeastern Poland), the dating of cremated graves is based on a typological approach (pottery, mound arrangements, and artefacts) (Okulicz 1970; Hoffmann 2000, 26–36, 85–102; 2001, 5–21). Although there are more grave goods than in western Lithuania and southwestern Latvia, most of these artefacts consist of jewellery, which has a rather broad chronology. There is no data available on whether there is extant material (cremated bones) from the cremated graves of the Sambia Peninsula and whether these graves have been radiocarbon dated, so it is not possible to compare the accuracy of the proposed typological dating method in this region.

A survey of the dating of the graves found in burial mounds reveals that different grave arrangements are usually associated with chronological changes. Some researchers have dated burials based on the construction of the burial mound, others on the basis of urns or artefacts. The case of barrow mound 2 at Kveciai shows that cremated graves without grave goods may belong to a completely different period, which is why radiocarbon dates are of relevance for the assessment of the chronology of graves.

The majority of the cremation graves were found in burial mounds, which were collective burials that usually featured a large number of deceased individuals. The arrangement of the stone structures found in these barrows often varied within the same mound. The factors responsible for this variance might include changes in burial customs over time, or perhaps other factors such as social or ideological reasons may have been involved.

2.2.2. The results of radiocarbon dating

The spread of cremation in Europe is associated with the Urnfield culture in the Late Bronze Age, when cremation became the dominant burial practice in Central Europe and spread from there to other areas. However, it has been discovered that the custom of cremation was already practised in some regions prior to this period (De Mulder et. al. 2007, 499–514; Makarowicz et al. 2021, 669–692). In the Early Bronze Age, the custom of cremation appeared in Hungary and Great Britain. It should be noted that there are cases in which both inhumation and cremation were practised at the same sites. In some burial sites, the use of these two different burial methods coincides chronologically. For example, in Slovakia, at the Dolny Peter cemetery, 50 inhumation burials, 5 cremation burials, and 1 double grave with both an inhumation and cremation burials were found (Harding 2000, 111–112). Studies of the Pitten cemetery in Austria have revealed important social insights: a total of 221 graves were

found at the site, of which 74 were inhumations and 147 cremations. There is a clear pattern of more males being buried in inhumation graves and more females in cremation graves, but this data is still insufficient to draw statistically valid conclusions about the overlap between gender and burial method (Harding 2000, 111–114).

Until recently, cremated bones had not been used for radiocarbon dating due to the changes that occur within the bone structure during cremation. The majority of Bronze Age and Pre-Roman Iron Age material from burial sites consists primarily of cremated osteological material, and in the absence of grave goods these bones may provide the only means of establishing a more precise chronology for burial sites. As recent decades have shown, the radiocarbon dating of burnt bones can deliver reliable results, with a few considerations in mind. Non-cremated and cremated bones possess different limiting factors in regards to radiocarbon dating and its results. The high-temperature (>600 °C) cremation process causes changes in bone structure, and a range of studies have found that the greatest possible influence on the accuracy and interpretation of radiocarbon dates is attributable to the old wood effect (Van Strydonck et al. 2005, 3-10; Zazzo et al. 2009, 601–611; Snoeck et al. 2014, 591–602). Meanwhile, diet (particularly if a person consumed primarily fish or shellfish) and the pertained reservoir effect are of lesser concern. Firstly, the reservoir effect is difficult to quantify, as bone cremation changes stable isotope ($\delta 13C$ ir δ 15N) values which are normally used to examine a person's diet and thus assess its potential impact on radiocarbon dating. Evidently, the values of $\delta 13C$ and $\delta 15N$ depend on the temperature and duration of the cremation (Van Strydonck et al. 2009, 553–568), and accurate stable isotope analysis is only possible in low-temperature cremations (up to 300 °C) (Harbeck et al. 2011, 191–200). However, the exchange of carbon between fuel/wood and bone that occurs during hightemperature cremations (>600 °C) may help circumvent the reservoir effect since the date would pertain to the fuel used in the pyre, and the diet of the deceased would have no impact on the result (Zazzo et al. 2012, 863).

If aged wood (for example, an old tree) was used as fuel for the cremation pyre, the burnt bones may yield an earlier date (Zazzo et al. 2012, 855-866; Snoeck et al. 2014, 591-602; Olsen et al. 2013, 30-34). The old wood effect can age a date by a few hundred years or more (Snoeck et al. 2014), and the date would only reflect the true age of a bone if the tree used for fuel and the deceased were contemporaneous. Presumably only a few graves within a single burial site could potentially be affected by this, as it is highly unlikely that aged wood would be used for every single cremation pyre. Radiocarbon dates obtained from cremated bones in western Lithuanian barrows are largely consistent with other archaeological data, and most dates overlap in a statistically reliable manner. However, dates from the Sūdėnai barrow cemetery merit separate mention: a comparison of date intervals from one of the barrows at the site exposed a lack of statistically reliable overlaps. It is unclear whether the old wood effect was in play in this instance, or if the barrows had simply been in use longer than anticipated. Future research would benefit from dating a broader range of organic material from the same burial site and using statistical methods to compare the calibrated intervals.

Radiocarbon dates from cremation graves found in Latvia suggest that cremation may have occurred in the Southeastern Baltic region as early as the 16th (or even 17th) to 15th centuries BC, which is the case for the Pukuli barrow cemetery (Legzdiņa et al. 2020, 1845–1868). In Lithuania, 6 samples from cremated graves found in flat cemeteries (Tamulynas 2004, 18; Piličiauskas 2012, 13, 16; Vengalis et al. 2020, 37–38) and 12 samples found in mounds (Muradian 2022, 157–183) have been dated so far, as well as an inhumation grave from the Ėgliškiai mound, the results of which have been discussed in Chapter 2.1.

Samples of cremated bones found in different barrows from the western part of Lithuania are stored at the Faculty of Medicine of Vilnius University, the National Museum of Lithuania, and the Kretinga Museum. When selecting samples for dating, efforts were made to choose differently arranged barrows and graves, and the results of radiocarbon dating were compared with each other. In total, 12 samples from 6 burial cemeteries were dated: Ėgliškiai, Gintarai, Kurmaičiai, Kveciai, Sūdėnai, and Šlikiai. Previously, a piece of charcoal found in grave 9 of the Kvietiniai cemetery in western Lithuania had been dated (Vengalis et al. 2020, 17–50). Radiocarbon dating results from barrow cemeteries in the southwestern part of Latvia have already been published in several articles (Ciglis, Vasks 2017, 35–61; Legzdiņa et al. 2020, 1845–1868).⁷

Thus, a total of 46 radiocarbon dates are available for use in determining the outline of the cremation custom, of which 23 dates are from the Southeastern Baltic region. Current data indicates that cremation was practiced here from approximately 1671–1456 cal BC to 380–114 cal BC.

When comparing the radiocarbon dates using the OxCal 4.4.4 program and evaluating their statistical reliability with the Combination function, it was determined that in Égliškiai, the dates of graves from burial mounds 3 and 5 do not statistically reliably coincide (Acomb = 41.1% (An = 50.0%)). However, other Égliškiai dates statistically reliably coincide. Archaeological data also confirms that barrows 1–3 were likely constructed at a similar time, as their mounds and stone circles were interconnected. However, due to the large number of differently arranged graves in the barrows, the question arises as to whether the deceased were buried at the same time or

⁷ There is no data on the radiocarbon analysis of the cremated graves from the burial sites of the Sambia Peninsula.

whether the barrows were used over a long period, with certain graves being constructed later. It is noteworthy that data obtained from Ėgliškiai barrow 7 (6) statistically reliably coincides with the dates obtained from barrows 2 and 3, although the construction of these barrows differs significantly in terms of their respective stone structures. Only one individual was buried in barrow 7 (6), at the very centre of the barrow, while in barrows 2 and 3, the graves of 10 and 23 individuals were found, respectively. If these barrows were constructed at a similar time, this raises the question of why the deceased buried in barrow 7 (6) were separated from the community and buried separately, rather than together with other community members. Perhaps this is related to certain social or ideological factors. However, it should be noted that the probability interval of the radiocarbon dates obtained from the Egliškiai cemetery is large, around 300 years, so there remains the possibility that several hundred years could have separated individual barrows, and the deceased may not have belonged to the same community.

When analysing the separation of certain individuals during burial rituals, attention should also be paid to graves located outside the boundaries of the barrow, i.e., beyond the external stone circle. Such graves have been found in various burial sites, and data shows that the practice of their burial could have coexisted alongside burial within barrows. The radiocarbon date obtained from the Gintarai barrow cemetery (771–423 cal BC) falls within the same period as the cremation graves found in the barrows. Statistically, this date reliably coincides with the radiocarbon dates obtained from the Ėgliškiai, Kveciai, and Kurmaičiai barrows, and Sūdėnai barrow 1.

Following the dating of two differently arranged barrows in Kurmaičiai, very similar radiocarbon dates were obtained: 750–408 cal BC for grave 1 in barrow 5 (4), and 766–425 cal BC for barrow 8 (3). Originally, these two barrows were assigned to separate chronological groups. These radiocarbon dates statistically reliably

coincide, indicating that the barrows could have been used between 751–418 cal BC (combined date). It is also noteworthy that noncremated horse teeth were found in barrow 8 (3). According to the researchers, a separate grave containing horse remains was found in Kveciai barrow 1. The date obtained from barrow 1 in Kveciai indicates that the cremation grave located at the base of the barrow belongs to the period of 771–423 cal BC. Based on this data, it can be inferred the custom of burying horses could have emerged between the 8th and 5th centuries BC, at which point the custom of cremating the deceased still existed.

The barrows in Sūdėnai were arranged in a linear pattern from south to north. In order to determine how long the cemetery could have been in use, one sample was taken from the base of barrow 1 in the southern part of the site, and another from barrow 5 in the northern part. The dates obtained were 734–397 cal BC and 387–198 cal BC, respectively. In this case, these dates do not statistically reliably coincide (Acomb = 7.3% (An = 50.0%)). Both samples were taken from cremation graves located at the bases of the barrows, i.e., from the earliest burials in the cemetery from a stratigraphic perspective. Perhaps the cemetery was used over a longer period and these barrows are thus not contemporaneous. However, the construction of all barrows found in Sūdėnai is similar, as are the urns found within them. The barrows here feature 2 to 3 stone circles, and some of the cremated bones were placed in urns with smooth surfaces or in Fine-Rusticated Ware.

The same situation applies with the Bašķi cemetery, where two obtained dates do not statistically reliably combine (Acomb = 25.6% (An = 50.0%)), even though both cremation graves were found in the same barrow. This indicates that the barrow could have been used over a longer period, and two stages of its use should be distinguished: 811–779 cal BC and 789–551 cal BC. Alternatively, these dates may differ due to the old wood effect.

From the Pukuļi cemetery, there are 7 radiocarbon dates available, some of which combine. The cemetery may have been used over a longer period. This is also indicated by the fact that there are 14 barrows, a significant number considering the typical quantity of barrows in one burial site in this region. Three dates, from barrows 11 and 5, statistically reliably combine, indicating that the cemetery was in use from 1447–1318 cal BC (combined date). Three dates are earlier – two obtained from barrow 11 (1536–1425 cal BC; 1607–1421 cal BC) and the other from barrow 13 (1507–1415 cal BC). The latest date from this cemetery was obtained from barrow 5, grave 2, where it was determined that the grave dated from 1222–1016 cal BC.

These dates indicate that cremation was practiced in western Lithuania from the 9th to the 6th century BC until the 4th to the 2nd century BC. However, it is important to note that some barrows were excavated by German archaeologists before the mid-20th century, with this material not surviving for further radiocarbon dating. In this regard, the Šlažiai cemetery, located around 500 m from the Ėgliškiai cemetery, is mentioned. This cemetery was excavated at the end of the 19th century, and both cremation and inhumation graves were found (Bezzenberger 1900a, 81–85). The grave goods discovered here indicate that these barrows can be dated to Montelius period III, demonstrating that the cremation custom spread a little earlier in western Lithuania than the radiocarbon dates suggest.

The six radiocarbon dates from flat cemeteries indicate a similar period for the cremation custom. In Kvietiniai (Klaipėda district), a piece of charcoal found in grave 9 was dated to 725–387 cal BC (Vengalis et al. 2020, 37–38); at the Paveisininkai cemetery (Lazdijai district), cremated bones in grave 12 were dated to 800–540 cal BC; at the Kernavė cemetery (Širvintos district), cremated bones in grave 5 were dated to 790–540 cal BC; in the Naudvaris cemetery (Jurbarkas district), cremated bones in grave 1 were dated to 410–230 cal BC, and in grave 2, charcoal from an urn yielded dates of 970–830 cal BC

(Piličiauskas 2012, 13, 16). In Strazdai and Ječiškės, by analysing a sample of the charcoal found in the outer part of urn 1, a date of 1125–803 cal BC was obtained (Tamulynas 2004, 18).

Radiocarbon dating conducted in Latvia indicates that cremation could have been practiced from the 16th (or 17th) to the 15th century BC (Pukuli cemetery), and that cremation persisted in different areas until the end of this period (Legzdiņa et al. 2020, 1851, 1852, 1860).

2.3. The classification of burials

Another significant change in the burial customs of this period is the widespread occurrence of barrows in the East Baltic region. Until the Bronze Age, the deceased were mostly buried in flat cemeteries; in the region under discussion, only in Wiskiauten/MoxoBoe have late Neolithic graves been found within a barrow, over which later burials were arranged (Engel 1935, 326–327; Randsborg et al. 2016, 109). This distinguishes the East Baltic region from other parts of the Corded Ware culture, where individual burials in barrows are a characteristic feature (Milisauskas, Kruk 2002, 247–269; Kristiansen et al. 2017, 334–347). It is difficult to determine the reasons for the massive spread of barrows and the fact that they became the main type of burial monument. Due to their widespread occurrence, C. Engel referred to this era as the barrow period (*hügelgräberzeit*) (Engel 1935, 197–199).

Various factors could have contributed to the mass spread of barrows. First among these are ideological changes, as the period of barrow expansion is closely associated with the spread of cremation customs. Barrows could have served as markers of the community's occupied territory because of their visibility; their longevity and memorial aspects create a powerful way of existing within the inhabited landscape, which may be related to social memory (Wright 2013, 406; Krištuf et al. 2023, 1–11). Moreover, social changes could have

accelerated this phenomenon, with the barrow possibly having various symbolic meanings in the communities of that time. In many studies, it is emphasised that the barrow is a symbol of belonging to certain social groups for socially differentiated societies (Brazaitis 2005, 291, 299; Merkevičius 2007, 102–103; Girininkas 2013, 108; Vasks 2021, 142–144).

In total, across the territory analysed, 125 burial sites dating to the Early Metal Period are known, of which 118 can be attributed to barrows and 7 to flat cemeteries (some of which also contained barrows). Although barrows are predominant, it is important to note that within them, graves were found not only inside the barrows themselves, but also outside the external stone circle of the barrow. Attention should be drawn to the fact that such data, where more barrows than flat cemeteries are known, can be influenced by the fact that barrows are easier to find, leading to a larger number of them being investigated. Additionally, in cremation burials, grave goods are not always found, so deceased buried in flat cemeteries without any grave goods may be attributed to a different period.

In a single barrow cemetery, up to 20 barrows can be found; in western Lithuania, the largest is the Kurmaičiai site, which comprises 14 barrows. In southwestern Latvia, the highest number of barrows found was also 14, at the Pukuļi barrow cemetery. The Sambia Peninsula stands out in terms of the quantity of barrow sites, although the number of barrows in a single location does not exceed 20. However, two locations in particular spark further discussion: the Rantau/Заостровье and Warnicker Forst/– barrow cemeteries (Hoffmann 2000, 185–192).

2.3.1. Barrows

Burial sites are grouped into typologies based on various data: 1) differences in stone constructions; 2) grave goods and their

complexes; and 3) the treatment of the deceased (cremation or inhumation). In earlier sections of this chapter, burial customs were analysed considering the type of remains present (cremation and inhumation); in this section, graves from the Early Metal Period are analysed based on their construction.

When creating this classification, C. Engel's works, which are particularly relevant when analysing the material from the Sambia Peninsula, are relied upon, and are supplemented by data from western Lithuania and southwestern Latvia. Other typological schemes for barrows are also taken into account (Hoffmann 1999, 26–36; Hoffmann 2001, 5–21). When analysing stone structures, archaeological reports, published data, and drawings are consulted. In total, it is possible to identify 99 barrow constructions in this region.

Four main types of stone constructions in barrows can be distinguished: 1) stone-paved floors; 2) stone boxes/cists – constructions made of large, flat stones forming square or rectangular shapes and containing one or more chambers; 3) stone circles in the central area – single-layer stone circles that are usually meant to surround only the central burials; and 4) oval and rectangular stone structures – multi-layered structures made of small stones arranged in oval, elongated oval, or rectangular shapes. It is worth noting that several different stone structures can sometimes be found in a single barrow. Therefore, when assigning a barrow to a specific classification group, the main focus is given to the primary stone structures located in the central part of the barrow. However, secondary burials in mounds and the stone structures formed for them are also evaluated.

It is notable that almost all Early Metal Period barrows have 1–3 oval or circular stone circles which are piled up in one or several layers, are mostly made of large stones, and sometimes feature smaller stones filling in the gaps between the larger stones. The exceptions to this are cases in which the barrow mound consists of a large quantity of stones making it difficult to distinguish stone circles, which are more characteristic of the Pre-Roman Iron Age in the Eastern Masuria region (Hoffmann 2001, 18, Fig. 11). E. Grigalavičienė's work indicates that earlier barrows are considered to have more complex stone constructions, while later ones are simpler, and at the end of this period most barrows feature only one stone circle (Grigalavičienė 1995, 88–95). However, comparing the construction of barrows, it has been observed that the number of stone circles does not depend on the period, microregion, or type of remains in the barrow (cremation or inhumation). For example, barrows 1–2 at Rantau/Заостровье, where both inhumation and cremation graves were found, had 2 stone circles, and artefacts dating to Montelius period III were found in both barrows (Šturms 1936, 108–112). Barrow 1 at Kveciai, where cremation graves were found, also had 2 stone circles, with the external circle piled up in 3 rows and 2 layers, while the inner circle had 2 layers and 1 row. A cremation grave found in the barrow was dated to 771–423 cal BC. Barrow 7 (6) in Ėgliškiai, belonging to the same period as the Kveciai barrow, had 3 stone circles that were mostly piled up high in a single row (Jablonskis 1982, 35-36). Sometimes, the number of stone circles in barrows built in the same barrow cemetery differs. For example, barrows at Sorgenau/Покровское had 1 to 2 stone circles (Hoffmann 1999, 130–132, XIII:1–3, 5–7), while at Ėgliškiai they had 1 to 3 stone circles (Grigalavičienė 1979, 5–43). Radiocarbon dates from different Ėgliškiai barrows indicate that they were constructed in a similar period, between the 8th and 5th centuries BC. Thus, although the stone circle or circles are the most important feature(s) of a barrow, and are found in almost all barrows studied, it is still impossible to pinpoint precisely what determined their quantity in a specific barrow.

Based on the typology of stone constructions, five groups of barrows are distinguished:

Group I – barrows surrounded by stone circles, with an oval-shaped central feature that is piled up with stones in several layers. The
earliest graves in these barrows are inhumation graves, while cremation graves come later. Barrows from Rantau/Заостровье and Alknicken/Прибрежное can be attributed to this group (Sitzung am. April 1890, 19–22; Engel 1935, Fig. 54). These are Early Bronze Age barrows, where numerous artefacts dating to Montelius period III were found. For comparison, there is a lack of data on the arrangement of barrows at Rauschen/Светлогорск, Marscheiten/Марьинское, and Šlažiai, where abundant artefacts dating to Montelius period III were also found. C. Engel assigned these barrows to the same type I grouping (Engel 1935, 331). However, it is unclear whether the artefacts found in Rauschen/Светлогорск belong to the inventory of the burial site. The barrows from Rantau/Заостровье show that these types of barrows were massive, with multiple stone circles, and the stone structures in the central part could reach up to 2 meters in height and 11 meters in diameter (Šturms 1936, 108–112). Similar stone structures were found in other later barrows, such as Egliškiai and Georgenswalde/Отрадное, but they are smaller and do not feature inhumation graves, so they are assigned to other barrow types – II and III.

A considerable number of burials were found at Rantau/Заостровье, with approximately 35 graves (approximately 17 inhumation graves, 18 cremation graves) discovered in barrow 1, the best-preserved mound at the site. These inhumation graves mainly contained ornaments, but weapons were also found, which are rare in barrows – even at the end of the period, when inhumation began to spread again. This indicates that the use of weapons as grave goods was important at the beginning of the period – in the Early Bronze Age.

Group II – barrows surrounded by stone circles, with a similar stone structure formed in the central or lateral area as that found in Group I, but containing cremation graves instead of inhumation graves. These structures are formed by a multi-layered, oval-shaped structure made of medium-sized stones, sometimes forming rectangular or elongated

stone constructions composed of multiple layers (such as that which was discovered in Ėgliškiai barrow 3). Although their shapes differ, research on the Ėgliškiai barrows shows that both oval and rectangular stone structures can be formed in the same barrow, so distinguishing them into separate groups is futile. Oval-shaped stone structures were found at the Ėgliškiai, Kurmaičiai, Preußisch Arnau/Родники, Birkenhof/–, Ellerhaus/–, Fritzen Forst/–, Georgenswalde/Отрадное, Groß Blumenau/Кремнево, Laptau/Муромское, and Warnicker Forst/– barrows (Engel 1962, 18–25, 34–38, Fig. 4a–6a, 12, 13, 14a, 15; Hoffmann 1999, XXVIII:1, 2).

These barrows contain from 1 to 3 stone circles piled up in several layers, with the main stone load usually found in the centre. An exception is Ėgliškiai barrow 4, where such a stone structure 90 cm high and 2.9 x 3.2 m in size (Götze 1914, 85–87) was found to the west of the centre of the barrow. The number of cremation graves ranges from 2 (Ėgliškiai barrow 4) to 15 (Preußisch Arnau/Родники barrow 1) per barrow.

The grave goods in these barrows contained bronze ornaments: pins, pendants, bracelets, and brooches. The pottery has a polished, fine-rusticated, smooth or combined surface, where the upper part of the urn is smooth and the lower part is fine-rusticated (such urns were found in the Birkenhof/– and Laptau/MypoMcKoe barrows) (Tischler 1887a, 123–150; Tischler 1889a, 106–124).

Based on the artefacts, ceramics, and radiocarbon dates, the graves attributed to this group of barrows mainly date from Montelius period V to the end of Pre-Roman Iron Age. However, the dating of several barrows is broader and covers the entire 1st millennium BC due to the lack of informative material for dating in the barrow.

Group III – barrows surrounded by stone circles, containing stone cists or smaller stone boxes with cremation graves. The size of stone cists

varies, as does the number of chambers within. It is noteworthy that this type of stone structure is more characteristic of the Sambia Peninsula, while in western Lithuania, only small stone boxes surrounding urns have been found. There are 34 barrows with such structures, including Biegiethen/-, Bieskobnicken/Oxothoe, Fritzen Forst/-, Ihlnicken/Сараево, Klycken/Клюквенное, Linkau/–, Maldaiten/Фёдорово, Polennen/Круглово, Regehnen/Дубровка, Sorthenen/–, Warnicker Sanditten/Лунино, Forst/-, Warschken/Вершково, and Wiekau/Хрустальное (Tischler 1887b, 153-168; Tischler 1889b, 124-133; Hollack 1909a, 351-356; Bezzenberger 1900b, 90-100; Bezzenberger 1914a, 88-95, Fig. 5-8; Bezzenberger, 1914b, 129-132; Bezzenberger 1914c, 113-126; Stadie 1919, 394–395; Peiser 1919, 278–291; Kemke 1909, 398–404; Hoffmann 1999, 40, 41–43, 55–56, 91, 156–157, Fig. VII:1, XV:11; XXV: 1-2, XI:19, 20, XX:13-14, XXVII: 5, XVI:4, V:1-5, II:1).

It is also noteworthy that in a considerable number of barrows, smaller stone boxes have been found. These are urns surrounded by flat stones, and are sometimes covered with an additional flat stone on top. Typically, these are later burials in the barrow mounds, dated to the end of the Bronze Age or the Pre-Roman Iron Age. Smaller stone boxes have been found in the vicinity of Égliškiai, Mišeikiai, and other barrows (Bezzenberger 1893, 82–85; Engel 1935, 336; Grigalavičienė 1979, 5–43).

Cremation graves were found in all barrows, and it is noteworthy that these structures are not entirely identical. Certain differences can be observed – for example, in Biegiethen/–, the stone cist consisted of two chambers, surrounded by smaller stones on the sides. In Bieskobnicken/Охотное, the stone cist consisted of one chamber, but the barrow was disturbed, so it is unclear whether there were more chambers originally. In Sanditten/Лунино barrow 1, the structure was formed from flat stones in one part (as a stone cist) and medium-sized, round stones in the other part (Engel 1962, Fig. 14). Such a construction is a combination of the second and third types of stone structures within barrows.

The pottery is characterised by a polished surface, but some of the urns had fine-rusticated surfaces. Based on the artefacts found in the graves and the ceramics, this type of barrow can be dated to the 1st millennium BC. The only radiocarbon date from Ėgliškiai indicates that these barrows could have been used from the 8th to the 5th centuries BC. However, only a small stone box was found in Ėgliškiai, so based on this data, it is impossible to narrow the chronology for entire group.

Group IV – these are barrows containing a stone-paved floor or a small circle around individual cremation graves. It should be noted that both stone circles and stone-paved floors are characteristic of a significant number of barrows, and are sometimes found between circles or even outside the external stone circle. Therefore, only those barrows that do not exhibit any of the other previously mentioned stone structures (stone cists or stone boxes; massive oval or rectangular stone structures) can be attributed to this type. Cremation graves are typical, although in one barrow (Kurmaičiai barrow 1) an inhumation grave was also found. This typology can be assigned to the barrows found in western Lithuania and the Sambia Peninsula: Ėgliškiai, Kurmaičiai, Kveciai, Sūdėnai, Šlikiai, Kiautrienen/–, Klein Dirschkeim/Дворики, Sankt Lorenz/Сальское, and Sorgenau/Покровское.

In these barrows, pottery with smooth, lightly striated, and finerusticated surfaces was found (Merkevičius, Muradian 2021, 42–44). One of the urns in grave 4 of Kveciai barrow 1 was well-preserved, reaching a height of 20 cm, with a smooth surface. In Kiautrienen/–, an unornamented urn with a black polished surface was found, with a neck that turned slightly outward (Hoffmann 1999, Fig. I:7). Pottery with a polished surface was also found in the Sorgenau/Покровское barrow, with one of the urns having a quadruple handle (Hoffmann 1999, 130–132, XIII:1–3, 5–7).

Some of these cremation graves have been radiocarbon dated, indicating that they originated in the 8th–4th centuries or the 4th–3rd centuries BC. Some graves contained grave goods: spirals, pins with rolled and flattened heads, brooches, and glass beads. This group of barrows can be dated to the 8th–3rd centuries BC, or a broader period of the 1st millennium BC (due to the lack of chronologically informative grave goods in some graves).

Group V – this group of barrows is characterised by a large quantity of stones in the barrow mounds, sometimes making it difficult to distinguish individual stone structures. Some feature stone circles, while in others stone circles are not observed. A significant number of irregularly formed stone-paved floors is also found. In this regard, they resemble the barrows in group IV, but the primary difference is that cremated bones are more often scattered among stones or in pits rather than placed in urns in these barrows. For to this reason, it is challenging to date the barrows in this group. This type could include Pukuļi, Žvainiai, Pypliškiai, and some Kurmaičiai barrows.

Although structurally similar, the dating of these barrows differs. The Pukuli barrows are dated to the Early Bronze Age; no urn burials were found there, only a few individual pottery sherds with smooth surfaces (Vasks 1979, 1980, 1981). The Žvainiai barrow is structurally very similar; pottery sherds with a smooth surface and cremated bones were also found there. However, this cemetery has not been radiocarbon dated, so it is usually dated to a broader period: the Late Bronze Age to the Pre-Roman Iron Age (Merkevičius 2014, 191–195). The Kurmaičiai and Pypliškiai barrows yielded pottery with lightly striated surfaces. The data obtained from Kurmaičiai barrow 8 indicates that it was built between the 8th and 5th centuries BC.

To conclude, when classifying barrows based on stone structures and dating them using typological or radiocarbon methods, it is worth noting that throughout the entire period, there was broad diversity in the construction of barrows. Different types of barrows coexisted simultaneously. The Early Bronze Age is the most challenging period to evaluate because there were few barrow cemeteries and it is unclear whether certain patterns arose due to regional differences. Both cremation and inhumation graves were arranged in multi-layered, oval. massive (Rantau/Заостровье, stone structures Wiskiauten/Moxoboe), and cremated bones were sometimes poured between stone-paved floors or in pits (Pukuli barrows). In the Late Bronze Age-Pre-Roman Iron Age, a variety of structures appear in barrows: smaller oval and rectangular stone structures, stone cists, and stone boxes. Some graves in barrows were not arranged with stone structures; the cremated bones of the deceased were poured into urns and buried in pits.

2.3.2. Cemeteries

Flat cemeteries have been found in Benaičiai, Rūdaičiai II, Toleikiai, Kvietiniai, Maciuičiai (?), Sorgenau/Покровское, and Sanditten/Лунино. Flat cemeteries are more common in the surrounding regions, with large cemeteries found in Poland – in the regions of Warmia and Masuria, as well as near the Vistula River. Most of these sites have been dated to the 1st millennium BC and attributed to the Lusatian culture (Dąbrowski 1968, 112–113, Fig. 7; Hoffmann 2000, 26–31).

In the area analysed in this work, all of the cemeteries are very small: only three cremation graves were found in Benaičiai (Merkevičius 2002, 14–16; Merkevičius, Nemickienė 2005, 16–18), one in Rūdaičiai II (Michelbertas 1968, 56–73), one in Toleikiai (Tamulynas 2002, 135–136), and one in Maciuičiai (?) (Tamulynas 2005, 124– 126). In some cases, the exact number of graves is not clear due to disturbance. In these places, the cremated bones of the deceased were buried in pits or scattered in a small area, without any grave goods. Only in Rūdaičiai II were the cremated bones placed in an urn.

Around 20 cremation graves were found at Sanditten/Лунино (Engel 1962, 39–44, Fig. 14:b, 34, 35:a, b). However, these structures themselves are very similar to barrows and it is not entirely clear how to interpret this burial site – i.e., whether it is part of a barrow that once featured a mound or is instead a flat cemetery.

The most comprehensive information about burial practices in flat cemeteries is provided by two cemeteries at Kvietiniai and Sorgenau/Покровское. Both sites are located near barrow cemeteries and date to the 1st millennium BC. At Kvietiniai, a total of 13 graves were found, 6 of which contained urns (Vengalis et al. 2020, 40), while at Sorgenau/Покровское, 38 cremation graves were found, with 20 graves containing urns. The urns found at Kvietiniai had a finerusticated surface and were 23-41 cm in height. The urns found at Sorgenau/Покровское also had a fine-rusticated surface, and various shapes of vessels were found. Some urns had a combined surface, with a smooth upper and a fine-rusticated bottom. Few grave goods were found both at Kvietiniai and Sorgenau/ Покровское: out of the 36 graves in the Sorgenau/ Покровское cemetery, grave goods were found in 11 (Кулаков 1976, Table 75); out of the 13 graves at Kvietiniai, grave goods were found in 6. Grave goods included Corded Ware sherds, fragments of iron artefacts, flint flakes, several burnt animal bones, spiral temple ornaments, bracelets, and amber. At the Sorgenau/ Покровское cemetery, some graves were covered with stones from the side or top (graves 9, 13), while some urns or cremated bones without urns were placed in pits without stones (graves 6, 11) (Кулаков 1975, 10-15). During excavations at the Sorgenau/ Покровское cemetery, a concentration of amber was found between cremation graves 6, 8, 9, 10, 12, and 13, which may represent an indication of some ritual activity, perhaps suggesting that this deposit

of amber could be viewed as an offering/sacrifice (Кулаков 1975, 15, Fig. 61).

To conclude, it is emphasised that there is currently very little data available regarding burials in flat cemeteries. For this reason, it is impossible to make broader conclusions about the characteristic cultural features of these graves. Perhaps in the future, with additional data, it will be possible to analyse their relationship with barrow cemeteries in more detail.

3. THE EVOLUTION OF BURIAL TRADITIONS

3.1. Regional patterns

When studying the burial customs of the Early Metal Period, it is necessary to distinguish and review the regional patterns of burial sites and to analyse the relationships between burial and settlement sites. Although this region is culturally cohesive – with its characteristic features such as burials in barrows, the dominance of cremation, and the small number of flat cemeteries – detailed analysis reveals local differences. Based on these patterns and the density of the sites, three smaller microregions can be identified: (I) the Minija and Akmena-Danė Rivers; (II) the Šventoji and Bartuva Rivers; (III) and the Sambia Peninsula.

The Minija and Akmena-Dane Rivers Microregion. In western Lithuania, burial sites are particularly concentrated around the Minija and Akmena–Dane Rivers. Some of these sites are situated immediately alongside these rivers, while others are located a further distance away. In total, 14 such burial sites can be distinguished: Baubliai barrow cemetery, Ėgliškiai barrow cemetery, Gintarai barrow, Kretingalė barrow cemetery, Kurmaičiai barrow cemetery, Kveciai barrow cemetery, Kvietiniai barrows and cemetery, Maciuičiai grave, Mišeikiai barrow cemetery, Padvariai barrow cemetery, Rūdaičiai II grave, Šlažiai barrow cemetery, Šlikiai barrow cemetery, and Toleikiai grave. Some burial sites are located very close together in distance: the Šlikiai and Šlažiai barrow cemeteries, for example, are situated around 500 m apart; the Padvariai and Kurmaičiai barrow cemeteries are 1.6 km apart; Ėgliškiai and Šlikiai are around 1.7 km apart; and the Kveciai and Padvariai barrow cemeteries are 2.2 km apart.

The available data indicates that barrows appeared in Montelius period III. The earliest known barrow cemetery was located in Šlažiai, where inhumations and cremations were found. Cremation became a dominant tradition around 1000 BC, and inhumation begin to spread again at the end of the period, with such graves found in Ėgliškiai and Kurmaičiai barrows.

Of these 14 burial sites, 7 contained grave goods. In most cases, bronze and iron artefacts were found, with 98 grave goods in total from 43 graves. Most artefacts, 70 in total, belonged to inhumation graves, while only 16 items were found in cremation graves. It is impossible to assign 12 artefacts to any specific grave type (because of the disturbance of the barrow and the presence of both cremation and inhumation graves in these barrows).

It is noteworthy that stone structures are the most distinguishing features of individual graves in the Late Bronze Age and Pre-Roman Iron Age. Therefore, a spatial analysis was carried out to determine how the arrangement of different stone structures correlates with their position in the barrow. The most complex stone structures were arranged in the central part of the barrow, while the graves beyond the central stone circle were simpler, or sometimes featured no stone structures at all (Muradian 2017, 59-62). Radiocarbon data confirms that differently arranged cremation graves existed during a similar period, but due to the Hallstatt plateau and the wide range of dates, it is impossible to determine a narrower period of their use. Perhaps these different arrangements were related to the social identity and status of the deceased in the community, but additional data allowing the results to be compared with the age and sex of the deceased would be required to support this assumption. Anthropological analysis has shown that it is possible to determine the sex and age of a small proportion of individuals, and therefore it is difficult to draw conclusions about the social aspects of burial rites. According to the available data, different burial practices were chosen for both genders and individuals of all ages, but it is not possible to statistically reliably establish correlations in terms of grave arrangement, location in the burial mound, age, or gender due to the lack of data.

No weapons were found in any of the graves in this microregion even in the inhumation graves of the Šlažiai or Ėgliškiai barrow cemeteries. This is despite the fact that bronze axes make up 30% of all metal artefacts found from the period under discussion (calculated according to Merkevičius, 2011, supplemented with new metal axes and spearheads discovered in recent years⁸). Some artefact assemblages are interpreted as hoards, such as those found in Baisogala (Radviliškis district), Gedminai (Klaipėda district), Kalviškiai (Šiauliai district), Pamerkinė (Česukai) (Varėna district), Tautušiai (Raseiniai district), Telšiai or Raseiniai county, Tūbausiai (Kretinga district), and Vaškai (Pasvalys district), where concentrations of artefacts including axes, spearheads, and swords were found (Hollack 1908, 43; Ebert 1929, 7; Čivilytė 2004, 224; Merkevičius 2006, 32–38, Fig. 1:129, 131, 132; Michelbertas 2007, 11; Čivilytė 2009, 617–619). Out of the hoards mentioned above, 2 were found in the microregion under discussion. It is possible that, with the emergence of the cremation custom, some artefacts were sacrificed instead of being deposited in burials. However, to support this assumption, the contextual analysis of metal artefacts and the archaeological excavation of their find spots is needed. As most of these artefacts were found accidentally, it is difficult to determine their context as they could belong to settlements, hoards, or burial sites.

In the microregion under discussion, most settlements and hillforts of the Early Metal Period are not located near the Akmena–Danė and Minija Rivers. The hillfort of Kurmaičiai, which is located around a

 ⁸ Dakanis, Vitkūnas 2018, 530–532; Petukauskas 2023, 466–470;
 Vasiliauskas 2023, 487–493; Muradian 2023; LNM AR 1008:1, LNM AR 1024:1, LNM AR 1028:1, LNM AR 1028:2, LNM AR 1032:1, LNM AR 1035:1

1.5 km distance away from the barrows in the area, is an exception to this. Radiocarbon dates from the hillfort indicate two periods of occupation: 749–235 cal BC and 401–208 cal BC (combined date) (Podenas 2022, 108). The dates of two barrows from Kurmaičiai (751–418 cal BC, combined date) suggest that the hillfort and barrow cemetery may be contemporary sites, as indicated by a partial overlap. This interval is wide, however, so further research is needed to determine whether the affiliation of these sites to the same community is accurate.

The Šventoji and Bartuva Rivers Microregion. To the north of the Minija and Akmena–Danė Rivers, the concentration of Early Metal Period sites decreases. The 7 burial sites from the valleys of the Šventoji and Bartuva Rivers can be distinguished as a separate group. These burial sites are dated from the 16th (17th)–15th centuries BC (Pukuļi) to the 4th–2nd centuries BC (Sūdėnai). Cremation burials are characteristic of this period in this microregion; only the Pukuļi barrows might have seen inhumation burials. The number of barrows in this region ranges from 1 (Auksūdžiai) to 14 (Pukuļi) per cemetery (Jablonskis 1974; Vasks 1979, 1980, 1981). Very small amounts of grave goods were found in these burials – only the Bašķi and Pukuļi barrows yielded few artefacts (Граудонис 1967, 60–61).

In the microregion under discussion, a small number of settlements and hillforts are known, some of which are a fair distance from the burial sites. Approximately 4.7 km to the southwest of the Pukuļi barrow cemetery is the Paplaka hillfort, dated to the mid-1st millennium BC (Podėnas 2022, 128, 129). Another hillfort is located around 2.6 km south of the Žvainiai barrow cemetery at Imbarė, dated to the 1st millennium BC (Merkevičius et al. 2018, 386–390; Podėnas 2022, 144, 145, 229). A third settlement is known in Benaičiai, discovered during the excavations of burial site. This settlement is dated over a broad period because various artefacts were discovered: a whetstone; flint flakes; pottery sherds with striated, smooth, and rusticated surfaces; a bronze spiral; pieces of clay plaster; wheelmade pottery; iron slag; an iron knife; natural pieces of amber, etc. According to the researchers, the early stage of the settlement could be dated to the 2nd–1st millennium BC (Merkevičius et al. 2018, 145–147).

The Sambia Peninsula Microregion. The largest concentration of burial sites is known in the Sambia Peninsula, where they are densely distributed in various areas. This region is bordered to the south by Prieglius and to the east by the Deimena River, and its northern and western parts are surrounded by the Baltic Sea. Most burial sites are located in the northern and northwestern parts of the peninsula, while the number of sites decreases towards the Deimena River to the east. Researchers mention 95 burial sites in various literature and other sources, but some have not yet been archaeologically excavated. The chronology of such sites is unclear, and some finds were discovered accidentally and lack any archaeological context. After eliminating such sites, the number of burial cemeteries decreases to 68. This represents a dense area of settlement in the Early Metal Period, which could be affected by various factors. One notion is that the Sambia Peninsula has the largest reserves of amber in the Baltic Sea region, which was an important source of wealth for bartering, although its quantity in sites of this period decreases (Hoffmann 2000, 181; Bliujienė 2007, 69, 207–213; Gimbutienė 1985, 57–59). Only 6 settlements and 13 hillforts are known in this microregion (Hoffmann 2000, 181). Since such a small number of settlements is known compared to burial sites, it is difficult to establish a relationship between certain settlements or hillforts and burial sites.

The distances between some burial cemeteries are very small. In certain cases, the choice of location could have been the result of longterm use for burying the deceased. One such location could have been the Warnicker Forst/– site, where several groups of barrows are known. Small distances of 1.5–2 km also separate the Rantau/Заостровье, Alknicken/Прибрежное, and Neukuhren/Пионерский barrow cemeteries. In publications, around 500 barrows are mentioned in both the Warnicker Forst/– and Rantau/Заостровье locations (Hollack 1908, 127–128, 174; Hoffmann 1999, 179–181, 195–197). Such numbers seem very large for the Early Metal Period, when elsewhere only a small number of barrows, no more than 20 in one location, are known. J. M. Hoffmann analysed a 19th-century map of East Prussia, indicating at least 100 barrows in the Rantau/Заостровье area (Hoffmann 2000, 191). Since only a fraction of the barrows in these places have been excavated, it cannot be ruled out that the remaining barrows may belong to a completely different period. For example, a large Viking cemetery is known in Wiskiauten/Moxoboe (Ibsen 2009).

These burial sites date from the beginning of the Early Bronze Age (Wiskiauten/Mokhovoye), and inhumations are characteristic of Montelius periods I–III. The exact time of the emergence of the cremation custom in the region is difficult to determine because of the lack of radiocarbon dates. Based on the typological method, the cremation custom may have begun in Montelius period III. Perhaps cremation burials dated to Montelius period III were present in the Marscheiten/Mapьинскoe burial mounds. At this site, a Nortycken-type axe and sword were accidentally found. E. Hollack surveyed this site, mentioning in publications that the central stone structure of the mound was fairly well preserved, only burnt bones and pottery sherds (from urns?) were found, and no inhumations were recorded (Hollack 1908, XXIX). More data from the Sambia Peninsula also indicate that cremation became a dominant custom in Montelius periods IV–VI and lasted to the Pre-Roman Iron Age.

A total of 353 grave goods made of bronze, iron, amber, glass or other material were found in both inhumation and cremation burials in this microregion. Artefacts were found in 56 out of the 68 known burial sites, but it is impossible to determine the contextual dependencies of some of the artefacts found in burial mounds. In total, 60 such artefacts

have been found, but it is not clear whether they should be attributed to cremation or inhumation burials.

At the Rantau/Заостровье, Wiskiauten/Moxoboe, and Alknicken/Прибрежное barrows, 66 artefacts were found in inhumation graves. It is important to note that all three burial sites are located in the northern part of the Sambia Peninsula, and that there is a particularly small distance between the locations of Rantau/ Заостровье and Alknicken/ Прибрежное. Moreover, bronze weapons were found in all three locations, which is a very rare grave good in the Early Metal Period. In the central grave A of Rantau/Заостровье barrow 1, the deceased was buried with a sword, a Nortycken-type axe, glass and amber beads, and numerous bronze ornaments (Šturms 1936, 109; Gimbutienė 1985, 70-71). In the Alknicken/ Прибрежное location, the deceased was also buried with a Nortycken-type axe (Šturms 1936, 103, Fig. 157). This indicates the exceptional positions of these individuals in their communities. The remaining artefacts found in the other inhumation burials in the Rantau/Заостровье barrow only consisted of ornaments, once again reinforcing this notion of exceptionality.

In cremation burials at 48 sites, 227 grave goods were found. The number of artefacts in this region is much higher than in both the Minija and Akmena-Dane Rivers microregion and the Šventoji and Bartuva Rivers microregion. However, this number is determined by the large scale of burial sites, not the number of artefacts found per grave. On average, 4-5 artefacts were found per burial site, and this number would be even smaller if we were to calculate the average number of goods for each barrow. This decrease in the frequency of grave goods may be related to the appearance of the cremation custom. The issue of the deposition of artefacts and the creation of hoards must be addressed separately. Artefacts found in two burial sites are interpreted as hoards, and are likely related to rituals performed during burial rites. One such location was the near Schlakalcken/Ярославское barrow. A hoard was found in the northern part, where no bones were found, and for this reason in

various publications the artefacts are interpreted not as grave goods, but as a hoard (Engel 1935, 303-304; Hoffmann 1999, 58-59; Stöckmann, Heske, Jahn 2021, 198–199). This hoard consisted of 34 bronze ornaments dating to Montelius period VI: spiral bracelets and neck-rings, some decorated with lines and dots, with broken ends (Stöckmann, Heske, Jahn 2021, Fig. 32:282, 52:423, 75:201.8, 201.27). It is difficult to establish whether some ritual breaking of artefacts took place or if post-depositional factors could have impacted these items. Various Bronze Age material from this period indicates the intentional, ritualistic breakage of artefacts (for more information, see Čivilytė 2014, 162–168), so it is possible that these artefacts, found near the burial mound, could have been deliberately broken. At the Sorgenau/Покровское flat cemetery, an accumulation of natural amber pieces was found between cremation burials 6, 8, 9, 10, 12, and 13. Although in this case the artefacts were found near cremations, as they were scattered over a wide area they cannot be linked to a specific burial. According to V. Kulakov, this accumulation of amber should be interpreted as a sacrifice that took place during the burial process (Кулаков 1975, 15, Fig. 61). Klavs Randsborg has determined that in Denmark, with the decrease in the number of grave goods, there is an increase in the number of artefacts found in peat bogs and bodies of water, and it is believed that they were sacrificed (Hodder 2000, 38, 42). Thus, these hoards could have had symbolic significance and been closely associated with burial customs. It has been observed that in the Carpathian region artefacts are more often found in places where cremation was practiced (Harding 2000, 362).

The northern-northwestern part of the Sambia Peninsula is distinguished from other areas in the Early Metal Period in a number of ways: 1) an exceptional burial dating to the Early Bronze Age was found in Rantau/Заостровье barrow 1; 2) some urns feature decoration not typical of other locations, such as those found at the Craam/Грачёвка and Tykrehnen/Зори sites; and 3) almost all bronze axes used as grave goods were found in this area (except for the Polennen/Круглово site), which is an exceptional grave good during

this period. All of this allows assumptions to be made about the different situation of this region within the wider area, such as the observation that certain individuals may have had privileged positions within communities.

3.2. The emergence and spread of the cremation custom

The cremation of the deceased was associated with changes in spheres of belief – both ideological and relating to the afterlife. Indo-European nations believe that the funeral pyre releases the soul, facilitates its separation from the body, and helps individuals to reach the afterlife more easily (Beresnevičius 1995, 28–31; Vaitkevičius 2009, 27–33; Petrauskas 2017, 197–202; Bliujienė 2018, 102; Lynch, O'Donnell 2007, 105). Although archaeological data does not provide direct evidence on this issue, mythological sources from the Baltic religion attest to it. The myth of Sovijus provides some information (Beresnevičius 1995, 11–62; Makselis 2023, 26–46), and G. Beresnevičius' analysis compares the cult of the Mother Goddess and the ideology of cremation, showing a clear ideological change from the previous period (Beresnevičius 1995, 33–34).

The spread of this custom in the East Baltic region is often associated with the so-called Urnfield culture, which was prevalent in Central Europe and involved burying the deceased in large flat cemeteries with urns (Smith 1957, 195–299; Gimbutienė 1985, 69; Harding 2000, 111–114). Data from various regions indicate that cremation was practiced earlier in some places, including the Southeastern Baltic region. The earliest date of cremation is recorded in the southwestern part of Latvia in the 16th (17th)–15th centuries BC (Legzdiņa et al. 2020, 1845–1868). However, this is just one case; the remaining data shows that the cremation custom spread and became dominant from the end of the 2nd millennium BC to the 1st millennium BC. Numerous radiocarbon dates fall within the Hallstatt plateau, which is the period between 800 and 400 BC. Significant changes in burial

practices during this period may have been caused by both external and internal pressures.

The phenomenon of cremation in the region under study cannot be linked solely to the Urnfield culture. Firstly, unlike the Urnfield culture, flat cremation cemeteries did not spread massively here; on the contrary, burials in barrows were characteristic throughout the entire period. Additionally, the time of the emergence of cremation in some areas is slightly earlier (Legzdina et al. 2020, 1845–1868). In the Southeastern Baltic region, the emergence of the cremation custom may also be related with its spread in other regions. One such region could have been Scandinavia and Gotland, where cremation was practiced at a similar time. It should be noted that other changes also occurred in the Late Bronze Age, such as the establishment of fortified settlements and hillforts in the East Baltic region (Podenas 2022, 279; Podenas et al. 2023, 1-13). Artefacts related to the production of bronze items are mostly found in hillforts. One of the routes through which bronze reached the East Baltic region was Scandinavia. It is important here to mention the Staldzene hoard, found in 2001 in a sand dune in the northern part of the city of Ventspils, Latvia. This horde consisted of 174 fragments from at least 89 artefacts (Vasks, Vijups 2004), most of which are not typical of the East Baltic region but are instead typical of the Late Bronze Age (Montelius periods V-VI) artefacts found in Northern Europe (Scandinavia). Therefore, it is believed that this hoard could have been brought from eastern Sweden or Gotland as material for the production of other artefacts. Furthermore, the western part of the Southeastern Baltic region stands out, with a larger quantity of metal artefacts compared to other areas within the East Baltic region (Luchtanas, Sidrys 1999, 20-28). The idea of the spread of the cremation custom might be related to external influences that emerged due to the expansion of trade relations for bronze artefacts.

In summary, the emergence and spread of the cremation custom was likely a complex process determined not by individual aspects but by several different factors. Very few cases from the Early Bronze Age indicate that cremation could have formed independently because of the significant distances between burial sites featuring cremation burials (Pukuli, Šlažiai, Marscheiten/Mapьинскоe). Cremation became the dominant burial tradition in the Late Bronze Age, and the spread of this custom may be associated with external influences from Central Europe and Scandinavia. The idea of the cremation custom likely spread because of trade and exchange with these regions. In the future, it would be relevant to examine the issue of migration by conducting the ⁸⁷Sr/⁸⁶Sr isotope analysis of cremated remains.

CONCLUSIONS

1. The excavation of burial sites in the western part of the Southeastern Baltic region began in the 19th century. Since then, a huge amount of data has been collected, so it is important to develop a database for analysing burial practices - an important part of life for prehistoric communities. Over the course of two centuries of archaeological excavations and accidental site discoveries, data has been collected on approximately 125 sites in which barrows, flat cemeteries, and individual graves have been found. Different amounts of data have survived to this day regarding individual locations. This is due to historical circumstances that led to the changing of borders, with some artefacts being transferred to other museums or having been lost during World War II. During the preparation of this work, it was determined that of these 125 burial sites, 95 can be attributed to the Early Metal Period, while data is lacking for the remaining 30 sites, making their chronology or artefactual context unclear. Perhaps their chronological affiliations or the contexts of accidentally discovered artefacts will be clarified in the future with the emergence of additional archival data, some of which was scattered after World War II.

2. The main form of burial in the region was the barrow, with 118 sites existing. Very few flat cemeteries are known, in just 7 locations. This is one of the most significant changes in burial practices in this period, as previously the deceased were mostly buried in flat cemeteries rather than barrows. The increased amount of new data encourages the development of a new classification scheme that would integrate the territory of the Southeastern Baltic region. Barrows were classified into five main groups based on their structure, burials, and artefacts. Chronologically, parts of these barrow groups are dated to the same period, indicating that differently structured barrows coexisted at the same time. The Early Bronze Age is particularly challenging to evaluate in this regard due to the scarcity of barrow sites known from this period. In one barrow cemetery, up to 20 barrows belonging to the Early Metal Period were recorded. Flat cemeteries in the region under

discussion were small, with the most extensive example containing 36 cremated burials in a single cemetery.

3. In the Early Bronze Age, some of the deceased were buried without having been burnt, in a manner similar to the earlier Neolithic period. Based on radiocarbon dating, a few cases of cremation began to appear in the region from the 16th (17th) to the 15th century BC. In the Late Bronze Age, the practice of cremation became the dominant tradition. It has been established that cremation was practiced in the region from 1671–1456 cal BC to 380–114 cal BC. Thus, the practice of cremation existed for 1,100 to 1,500 years. Changes in burial practices may be associated with both internal and external influences. The earliest instances of cremation among the deceased could have developed independently of each other as a result of internal developmental changes. In the Late Bronze Age, cremation became widespread not only in this region, but also across large parts of Europe. This new practice in the western part of the Southeastern Baltic region may be linked to influences from the Urnfield culture in Central Europe and Scandinavia.

4. Anthropological studies conducted on 87 cremation burials from barrows and flat cemeteries indicate that the sex of individuals was determined in 13.8% of cases, while the age was determined in 36.8% of cases. Based on the available data, is it apparent that burial in barrows or flat cemeteries was not dependent on gender or age. Although differently arranged barrows and differences in the stone constructions formed for cremation burials existed during a similar period, there is a lack of sample data that would allow correlations to be established based on burial arrangement, burial structure, location within the barrow, age, or gender.

5. With the emergence of the cremation custom, the number of grave goods decreased. When comparing the quantity of artefacts found in cremation and inhumation graves, a noticeable decrease is observed. The artefacts most characteristic of this period were ornaments. Few weapons or tools were found, constituting only 8% of all grave goods. In some cases, artefacts from earlier periods were used in graves, such

as pottery sherds, which may have had symbolic meaning for certain communities.

6. Based on the density of monuments and distinctive local cultural traits, three main microregions can be distinguished: the Minija and Akmena–Danė Rivers, the Šventoji and Bartuva Rivers, and the Sambia Peninsula. In the Early Bronze Age, the northern-northwestern part of the Sambia Peninsula stands out, as certain members of the community were exclusively buried in inhumation graves here. With the prevalence of the cremation custom, the number of grave goods decreased, making it impossible to discern clear differentiation among buried individuals based on their presence. However, differences can still be observed in the arrangement of barrows and the construction of individual stone structures for graves.

7. The emergence of the cremation custom around the same period across different parts of Europe confirms intense connections with these areas. This indicates that during this period, significant changes in the sphere of ideology/belief occurred across a large part of Europe, including the Southeastern Baltic region.

REFERENCES

- Balsas, D., Masiulienė, I. 2017. Bandužių, Žardės senovės gyvenvietės tyrimai 2016 m. – Archeologiniai tyrinėjimai Lietuvoje 2016 metais, 52–63.
- Bezzenberger, A. 1893. Einige ostpreussiche Hügelgräber. III. Mitzeiken, Kreis Memel. –Sitzungsberichte der Alterumsgesellschaft Prussia für das achtundvierzigste Vereinsjahr, 18, 82–85.
- Bezzenberger, A. 1900a. Fundberichte. Hügelgräber bei Schlaszen, Kr. Memel. –Sitzungsberichte der Alterumsgesellschaft Prussia für die Vereinsjahre 1896–1900, 21, 81–85.
- 4. Bezzenberger, A. 1900b. Hügelgräber bei Polennen, Kr. Fischhausen. Sitzungsberichte der Altertumsgesellschaft Prussia 21, 1896–1900, 90–100.
- 5. Bezzenberger, A. 1904. Analysen vorgeschichtlicher Bronzen Ostpreussens. Königsberg.
- Bezzenberger, A. 1914a. Fundberichte. Hügelgräb bei Sorthenen, Kreis Fischhausen. – Sitzungsberichte der Altertumsgesellschaft Prussia 23. Heft. I. Teil, 88–95.
- Bezzenberger, A. 1914b. Zerstörte Hügelgrab im langen Walde bei Polehnen, Kr. Fischhausen. – Sitzungsberichte der Altertumsgesellschaft Prussia 23. Heft. I. Teil, 129–132.
- Bezzenberger, A. 1914c. Fundberichte. Hügelgräb auf dem kleinen Weinberg bei Linkau. – Sitzungsberichte der Altertumsgesellschaft Prussia 23. Heft. I. Teil, 113–126.
- 9. Beresnevičius, G. 1995. Baltų religinės reformos. Vilnius: Taura
- 10. Bliujienė, A. 2007. Lietuvos priešistorės gintaras. Vilnius.
- Bliujienė, A. 2018. Ugnies galia: mirusiųjų deginimo papročių įvairovė. – Klaipėdos (Memel) kraštas: nuo ištakų iki XVII amžiaus, 102–113.
- Brazaitis, D. 2005. Ankstyvasis metalų laikotarpis. Lietuvos istorija. I tomas. Akmens amžius ir ankstyvasis metalų laikotarpis. Ed. A. Girininkas. Vilnius: Baltos lankos, 253–317.
- 13. Bronk Ramsey, C. 2009. Bayesian Analysis of Radiocarbon Dates. Radiocarbon, 51, 1, 337–360.

- Ciglis, J., Vasks, A. 2017. Jauni bronzas un senākā dzelzs laikmeta apbedīšanas vietu datējumi ar radioaktīvā oglekļa metodi. – Latvijas Vēstures institūta Žurnāls 2017 Nr. 1, (102), 35–61.
- Čivilytė, A. 2004. Pagaminti tam, kad panaudotum? Keletas nežinomos bronzinės liejimo formos (Dovilai, Klaipėdos r.) reikšmių. – Lietuvos archeologija, 25, 221–232.
- Čivilytė, A. 2009. Wahl der Waffen. Studien zur Deutung der bronzezeitlichen Waffendeponierungen im nördlichen Mitteleuropa, 2. Verlag Dr. Rudolf Habelt GmbH, Bonn.
- 17. Čivilytė, A. 2014. Žmogus ir metalas priešistorėje: žvilgančios bronzos trauka. Vilnius.
- Čivilytė, A., Podėnas, V., Vengalis, R. 2017. Garnių piliakalnis I. – Archeologiniai tyrinėjimai Lietuvoje 2016 metais, 69–73.
- Dakanis, B., Vitkūnas, M. 2018. Kirviai iš Ukmergės ir jos apylinkių. – Archeologiniai tyrinėjimai Lietuvoje 2017 metais, 530–532.
- 20. Dąbrowski, J. 1968. Zabytki Metalowe epoki brązu. Między dolną Wislą a Niemnem. Wroclaw, Warszawa, Krakow.
- De Mulder, G., Van Strydonck, M., Boudin, M. et al. 2007. Re– evaluation of the Late Bronze Age and Pre-Roman Iron Age chronology of the Western Belgian Urnfields based on 14C dating of cremated bones. – Radiocarbon, 49, 2, 499–514.
- 22. Ebert, M. 1929. Reallexikon der Vorgeschichte. Dreizehnter band Südostbaltikum Tyrus. Berlin.
- 23. Engel, C. 1931. Zur Bauart und Chronologie der ostpreussischen Hügelgräber. Kurzer Auschung.
- 24. Engel, C. 1935. Die Vorgeschichte der Altpreussischen Stämme, I. Band. Gräfe und Unzer, Königsberg.
- 25. Engel, C. 1962. Typen Ostreuβischer Hügelgräber. Bearbeitet von Rudolf Grez mit einem Nachwort von W. La. Baume. Karl Wachholtz Verlag Neumünster.
- 26. Gimbutienė, M. 1985. Baltai priešistoriniais laikais. Etnogenezė, materialinė kultūra, mitologija. Vilnius: Mokslas.
- Girininkas, A. 2013. Ankstyvasis metalų laikotarpis. Lietuvos archeologija, II tomas. Klaipėdos universiteto leidykla, Klaipėda.
- 28. Grigalavičienė, E. 1979. Egliškių pilkapiai. Lietuvos archeologija, 1, 5–43.

- 29. Grigalavičienė, E. 1995. Žalvario ir ankstyvasis geležies amžius Lietuvoje. Vilnius: Mokslo ir enciklopedijų leidykla.
- Grikpėdis, M., Motuzaitė–Matuzevičiūtė, G. 2018. A review of the earliest evidence of agriculture in Lithuania and the earliest direct AMS date on cereal. – European journal of Archaeology, 21: 2, 264–279.
- 31. Götze, A. 1914. Hügelgräber bei Eglien–Niclau, Kreis Memel.
 Sitzungsberichte der Altertumsgesellschaft Prussia, 23, 85– 87.
- 32. Harbeck, M., Schleuder, R., Schneider, J., Wiechmann, I., Schmahl, W., Grupe, G. 2011. Research potential and limitations of trace analyses of cremated remains. – Forensic Science International, 204: 1–3, 191–200.
- 33. Harding, A. 2000. European Societies in the Bronze Age. Cambridge University Press.
- Heydeck, J. 1877. Bericht über Ausgrabungen bei Wiskiauten und Wikiau im Samlande. – Altpreussische Monatsschrift, 650– 662.
- Heydeck, J. 1914. Ausgrabungen in Rantau–Neukuhren. Sitzungsberichte der Altertumsgesellschaft Prussia 23. Heft. I. Teil. Königsberg, 80–84.
- 36. Hodder, I. 2000. Praeities skaitymas. Vilnius.
- 37. Hoffmann, M. J. 1999. Źródła do kultury i osadnictwa poludniowo-wschodniej strefy nadbałtyckiej w I tysiącleciu p.n.e. Olsztyn.
- 38. Hoffmann, M. J. 2000. Kultura i osadnictwo południowowschodniej strefy nadbałtyckiej w I tysiącleciu p.n.e. Olsztyn.
- Hoffmann, M. J. 2001. Früheinsenzeitliche Hügelgräber in der westbaltischen Zone – das Problem ihrer Genese und Differenzierung. – Archaeologia Lituana, 2, 5–21.
- 40. Hollack, E. 1908. Erläuterungen zur vorgeschichtlichen Übersichtskarte von Ostpreussen. Glogau-Berlin.
- Hollack, E. 1909a. Die Hügelgraber bei Begiethen, Kr. Fishhausen. – Sitzungsberichte der Altertumsgesellschaft Prussia 22, 1900–1904, 351–356.
- 42. Ibsen, T. 2009. Etwa hier die Siedlung. Der frühmittelalterliche Fundplatz Wiskiauten/Mohovoe im Kaliningrader Gebiet im Lichte alter Dokumente und neuer Forschungen, Kiel.

- Jablonskis, I. 1974. Mosėdžio (Skuodo raj.) pilkapių kasinėjimai 1973 m. – Archeologiniai ir etnografiniai tyrinėjimai Lietuvoje 1972 ir 1973 metais, 32–35.
- 44. Jablonskis, I. 1977. Gintarų senkapio I–IV sektorių žvalgomieji kasinėjimai. Archaeological Survey Report, 1, 488. Lithuanian Institute of History, Vilnius.
- Jablonskis, I. 1980. Padvarių pilkapiai (Kretingos raj.). Archeologiniai tyrinėjimai Lietuvoje 1978 ir 1979 metais, 46– 48.
- 46. Jablonskis, I. 1982. Egliškių pilkapiai Archeologiniai tyrinėjimai Lietuvoje 1980 ir 1981 metais, 35–37.
- 47. Jablonskis, I. 1984. Sūdėnų pilkapiai. Archeologiniai tyrinėjimai Lietuvoje 1982 ir 1983 metais, 53–55.
- 48. Jablonskis, I. 1986. Sūdėnų pilkapiai. Archeologiniai tyrinėjimai Lietuvoje 1984 ir 1985 metais, 47–49.
- 49. Jablonskis, I. 1988. Šlikių pilkapiai. Archeologiniai tyrinėjimai Lietuvoje 1986 ir 1987 metais, 49–50.
- Kemke, H. 1909. Klycken, Kr. Fishhausen. Sitzungsberichte der Alterumsgesellschaft Prussia f
 ür die Vereinsjahre 1900– 1904, 22, 398–404.
- 51. Kristiansen, K., Allentof, M. E., Frei K. M., Iversen R., Johannsen, N. N., Kroonen, G., Pospieszny, Ł., Price, T. D., Rasmussen, S., Sjögren, K.–G., Sikora, M., Willerslev, E. 2017. Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe. – Antiquity, 91(356), 334–347.
- 52. Krištuf, P., Janovsky, P. M., Turek, J., Horak, J., Ferenczi, L., Hejcman, M. 2023. Neolithic long barrows were built on the margins of settlement zones as revealed by elemental soil analysis at four sites in the Czech Republic. – Journal of Archaeological Science, 160, 1–11.
- Kulikauskas, P. 1968. Kurmaičių kapinynas. Lietuvos archeologiniai paminklai. Lietuvos pajūrio I–VII a. kapinynai (ed. A. Tautavičius). Mintis, Vilnius, 12–56.
- 54. Lang, V. 2007. The Bronze and Pre-Roman Iron Ages in Estonia. Estonian Archaeology 3. Tartu University Press Humaniora: archaeologica.
- 55. Legzdiņa, D., Vasks, A., Plankājs, E., Zarina, G. 2020. Reevaluating the Bronze and Earliest Iron Age in Latvia: changes

in burial traditions in the light of 14C dates. – Radiocarbon, 62, 6, 1845–1868.

- Ling, J., Stos–Gale, Z., Gradin, L., Billström, K., Hjärthner– Holdar, E., Persson, P. 2014. Moving metals II: provenancing Scandinavian Bronze Age artefacts by lead isotope and elemental analyses. – Journal of Archaeological Science, 41, 106–132.
- 57. Lynch, L., O'Donnell, L. 2007. Cremation in the Bronze Age: practice, process and belief. The Bronze Age Landscapes of the Pipeline to the West, 103–129.
- Luchtanas, A., Sidrys, R. 1999. Bronzos plitimas rytiniame Pabaltijo regione iki Kristaus. – Archaeologia Lituana, 1, 15– 55.
- Makarowicz, P., Goslar, T., Górski, J., Taras, H., Szczepanek A., Pospieszny, Ł., Jagodinska, M. O., Ilchyshyn, V., Włodarczak, P., Juras, A., Chyleński, M., Muzolf, P., Lasota– Kuś, A., Wójcik, I., Matoga, A., Nowak, M., Przybyła, M. M., Marcinkowska–Swojak, M., Figlerowicz, M., Grygiel, R., Czebreszuk, J., Kochkin, I. T. 2021. The absolute chronology of collective burials from the 2nd millennium BC in East Central Europe. – Radiocarbon, 63, 2, 669–692.
- Makselis, R. 2023. Du žvilgsniai į Sovijaus mitą. Iš praeities šaknų. Senovės baltų kultūra, 11, 26–46.
- Merkevičius, A. 1963. Kvecių km. (Kretingos raj.) pilkapių– kapinyno kasinėjimų ataskaita. 1963.VIII.2–27 d. Archaeological Survey Report, 1, 186. Lithuanian Institute of History, Vilnius.
- 62. Merkevičius, A. 1993. Laidojimo paminklai ir laidosena Lietuvoje žalvario ir ankstyvajame geležies amžiuje. Doctoral dissertation. Vilnius.
- 63. Merkevičius, A. 2002. Benaičių kapinynas. Archeologiniai tyrinėjimai Lietuvoje 2000 metais, 14–16.
- 64. Merkevičius, A. 2006. The Vaškai hoard. Archaeologia Baltica, 6, 32–38.
- 65. Merkevičius, A. 2007. Material culture and the Bronze Age society in Lithuania. –Interarchaeologia 2. Papers from the Second Theoretical Seminar of the Baltic Archaeologists (BASE) held at the University of Vilnius, Lithuania, October 21–22, 2005. Colours of Archaeology. Material Culture and the

Society (Ed. A. Merkevičius). Vilnius-Helsinki- Riga-Tartu, 93-105.

- 66. Merkevičius, A. 2011. Ankstyvieji metaliniai dirbiniai Lietuvoje. Versus Aureus, Vilnius.
- 67. Merkevičius, A. 2014. Ankstyvojo metalų laikotarpio laidojimo paminklai Lietuvoje. Vilniaus universiteto leidykla, Vilnius.
- Merkevičius, A. 2016. West Lithuania during the Early Metal Age. – A Hundred Years of Archaeological Discoveries in Lithuania (eds. G. Zabiela, Z. Baubonis, E. Marcinkevičiūtė). Vilnius, 130–147.
- Merkevičius, A., Nemickienė, R. 2005. Benaičių archeologinis kompleksas. – Archeologiniai tyrinėjimai Lietuvoje 2003 metais, 16–18.
- Merkevičius, A., Juodagalvis, V., Nemickienė, R., Remeikaitė, L., Šatavičius, E., Zabiela, G. 2018. Ankstyvojo metalų laikotarpio gyvenvietės Lietuvoje. Vilniaus universiteto leidykla.
- Merkevičius, A., Muradian, L. 2021. Ignas Jablonskis Vakarų Lietuvos ankstyvųjų pilkapynų tyrinėtojas. – Kretingos rajono archeologiniai tyrimai ir perspektyvos. Kretingos muziejus, 35– 50.
- 72. Michelbertas, M. 1963. I a. pr. m. e. IV m. e. a. Rūdaičių kapinyno (Kretingos raj.) tyrinėjimai. – Lietuvos TSR Mokslų akademijos darbai, serija A, 2: 15, 55–72.
- Michelbertas, M. 1968. Rūdaičių II kapinynas. Lietuvos archeologiniai paminklai. Lietuvos pajūrio I–VII a. kapinynai (ed. A. Tautavičius). Vilnius, 56–73.
- Michelbertas, M. 2007. Archeologiniai lobiai. Lietuvos lobiai. Kaunas, 8–17.
- Milisauskas, S., Kruk, J., 2002. Late Neolithic, Crises, Collapse, New Ideologies, and Economics, 3500/3000–2200/2000 B.C. – European Prehistory. A Survey (ed. S. Milisauskas). New York, Boston, Dordrecht, London, Moscow: Springer, 247–269.
- Minami, M., Mukumoto, H., Wakaki, S., Nakamura, T. 2019. Effect of Crystallinity of Apatite in Cremated bone on Carbon exchanges during burial and reliability of Radiocarbon Dating. – Radiocarbon, 61, 6, 1823–1834.
- 77. Minkevičius, K., Podėnas, V., Urbonaitė–Ubė, M., Ubis, E., Kiselienė, D. 2020. New evidence on the southeast Baltic Late

Bronze Age agrarian intensifcation and the earliest AMS dates of Lens culinaris and Vicia faba. – Vegetation History and Archaeobotany, 29, 327–338.

- 78. Montelius, O. 1986. Dating in the Bronze Age with special reference to Scandinavia. 1885 m. "Om tidsbestämning inom bronsaldern med sarskildt afseende pa Scandinavien" translation to English. Kungl. Vitterhets, historie och antikvitets akademien, Stockholm, Sweden.
- Muradian, L. 2017. Vėlyvojo žalvario ir ankstyvojo geležies amžiaus laidosena ir visuomenė Šiaurės vakarų Lietuvoje. – Archaeologia Lituana, 18, 47–77.
- Muradian, L. 2022. First AMS ¹⁴C dating of Bronze and Pre-Roman Iron Age Cremated bones from Barrows in Western Lithuania: Results and Interpretation. – Estonian Journal of Archaeology, 26, 2, 157–183.
- Muradian, L. 2023. Antaniškių kaimo (Kelmės r. sav., Tytuvėnų apylinkių sen.) žvalgomųjų archeologinių tyrimų 2022 metais ataskaita. Archaeological Survey Report, 1, 10747. Lithuanian Institute of History, Vilnius.
- Neumayer, H. 2018. Klaipėdos krašto radiniai Priešistorės ir ankstyvosios istorijos muziejuje Berlyne. – Klaipėdos (Memel) kraštas: nuo ištakų iki XVII amžiaus, 42–48.
- Olsen, J., Heinemeier, J., Hornstrup, K. M., Bennike, P., Thrane, H. 2011. Chronology of the Danish Bronze Age based on 14C dating of cremated bone remains. – Radiocarbon, 53, 2, 261– 275.
- Olsen, J., Heinemeier, J., Hornstrup, K. M., Bennike, P., Thrane, H. 2013. 'Old wood' effect in radiocarbon dating of prehistoric cremated bones? – Journal of Archaeological Science, 40, 30– 34.
- 85. Okulicz, Ł. 1970. Kultura kurhanów zachodniobaltyjekich we wczesnej epoce żelaza, Warszawa-Kraków-Wrocław.
- Peiser, F. E. 1919. Hügelgrab bei Bieskobnicken, Kreis Fischhausen. – Sitzungsberichte der Altertumsgesellschaft Prussia für die Vereinsjahre 1905–1908, 23 Heft., II Teil, 287– 291.
- 87. Petrauskas, G. 2017. Laidosena viduramžių Lietuvoje: mirusiųjų deginimo paprotys. Doctoral thesis.

- Petukauskas, E. 2023. Archeologiniai radiniai iš MINK sąskrydžių vietų 2015–2022 m. – Archeologiniai tyrinėjimai Lietuvoje 2022 metais, 466–470.
- 89. Piličiauskas, G. 2012. Lietuvos neolito ir ankstyvojo metalų laikotarpio chronologija naujų radiometrinių datų šviesoje. Lietuvos archeologija, 38, 11–52.
- 90. Piličiauskas, G. 2018. Virvelinės keramikos kultūra Lietuvoje 2800–2400 cal BC. Lietuvos istorijos institutas, Vilnius.
- Piličiauskas, G., Peseckas K., Vengalis, R., Černiūtė, I. 2021a. Mijaugonių senovės gyvenvietė. – Archeologiniai tyrinėjimai Lietuvoje 2021 metais, 26–29.
- Piličiauskas, G., Vengalis R., Minkevičius K., Kalinauskas, A. 2021b Tarbiškių gyvenvietės. – Archeologiniai tyrinėjimai Lietuvoje 2021 metais, 29–33.
- 93. Podenas, V. 2019. Emergence of Hilltop settlements in the Southeastern Baltic: new AMS 14C dates from Lithuania and revised chronology. Radiocarbon, 62, 2, 361–377.
- 94. Podėnas, V. 2022. Įtvirtintos gyvenvietės Rytų Baltijos regione 1100–400 cal BC. Doctoral thesis.
- 95. Podėnas, V., Garbaras, A., Micelicaitė, V., Minkevičius, K., Šapolaitė, J., Ežerinskis, Ž., Čivilytė, A. 2023. Diet of the fortified settlement communities in Lithuania from 1000 cal. BC to 200 cal. AD. – Journal of Archaeological Science: Reports, 51, 1–13.
- 96. Pranckėnaitė, E., Masiulienė, I. 2020. Žardės piliakalnio papėdės gyvenvietė. – Archeologiniai tyrinėjimai Lietuvoje 2019 metais, 70–72.
- Randsborg, K., Merkytė, I., Merkevičius, A., Kulakov, V. 2016. Kaup 2014. Archaeological excavations & research history. – Acta Archeologica, 85–130.
- 98. Reimer, P., Austin, W., Bard, E., Bayliss, A., Blackwell, P., Bronk Ramsey, C., Butzin, M., Cheng, H., Edwards, R., Friedrich, M., Grootes, P., Guilderson, T., Hajdas, I., Heaton, T., Hogg, A., Hughen, K., Kromer, B., Manning, S., Muscheler, R., Palmer, J., Pearson, C., van der Plicht, J., Reimer, R., Richards, D., Scott, E., Southon, J., Turney, C., Wacker, L., Adolphi, F., Büntgen, U., Capano, M., Fahrni, S., Fogtmann– Schulz, A., Friedrich, R., Köhler, P., Kudsk, S., Miyake, F., Olsen, J., Reinig, F., Sakamoto, M., Sookdeo, A., & Talamo, S.

2020. The IntCal20 Northern Hemisphere radiocarbon age calibration curve (0–55 cal kBP). Radiocarbon, 62 (4), 725–757.

- Sitzung am. April 1890. Physikalisch–Ökonomischen Gesellschaft zu Königsberg in (Pr). gehaltenen Vortāge im Jahre 1890, 16–25.
- 100.Smith, M. A. 1957. A Study in Urnfield Interpretations in Middle Europe. Zephyrus, 8, 195–299.
- 101.Snoeck, C., Brock, F., Schulting, R. J. 2014. Carbon Exchanges between Bone Apatite and Fuels during Cremation: Impact on Radiocarbon Dates. – Radiocarbon, 56, 2, 591–602.
- 102. Stadie, K. 1919. Zerstörtes Hügelgrab bei Regehnen, Kr. Fischhausen. – Sitzungsberichte der Altertumsgesellschaft Prussia für die Vereinsjahre 1905–1908, 23 Heft., II Teil, 394– 395.
- 103.Stöckmann, K., Heske, I., Jahn, C. 2021. Bronzezeitliche Metallfunde aus Ostpreußen. Forschungs- und Überlieferungsgeschichte, Typologie und Chronologie unter besonderer Berücksichtigung der Tüllenbeile. Staatliche Museen zu Berlin – Preussischer Kulturbesitz Seminar für Urund Frühgeschichte der Georg-August Universität Göttingen, Berlin.
- 104. Šturms, E. 1936. Die Ältere Bronzezeit Im Ostbaltikum. Vorgeschichtliche Forschungen, 10. Berlin und Leipzig.
- 105. Tamulynas, L. 2002. Toleikių kapinynas. Archeologiniai tyrinėjimai Lietuvoje 2001 metais, 135–136.
- 106. Tamulynas, L. 2004. Strazdų, Ječiškių kapinynas: nauji duomenys apie laidoseną Nemuno žemupyje I tūkst. pr. Kr. ir romėniškajame laikotarpyje. – Archaeologia Lituana, 5, 16–32.
- 107. Tamulynas, L. 2005. Maciuičių senkapis. Archeologiniai tyrinėjimai Lietuvoje 2002 metais, 124–126.
- 108. Tischler, O. 1887a. Ostpreußische Grabhügel I. Die Grabhügel bei Birkenhof. – Schriften der Physikalisch–Ökonomischen Gesellschaft zu Königsberg (Pr) 27, 123–150.
- 109. Tischler, O. 1887b. Ostpreußische Grabhügel I. Die Grabhügel bei Warschken. – Schriften der Physikalisch–Ökonomischen Gesellschaft zu Königsberg (Pr) 27, 153–168.
- 110. Tischler, O. 1889a. Ostpreußische Grabhügel II. Die Grabhügel des Laptau–Transauer Waldes. – Schriften der Physikalisch– Ökonomischen Gesellschaft zu Königsberg (Pr) 29, 106–124.

- 111.Tischler, O. 1889b. Ostpreußische Grabhügel II. Die Hügelgräber von Ihlnicken. – Schriften der Physikalisch– Ökonomischen Gesellschaft zu Königsberg (Pr) 29, 124–134.
- 112.Urbonaitė–Ubė, M., Ubis, E. 2018. Kukuliškių piliakalnis. Archeologiniai tyrinėjimai Lietuvoje 2017 metais, 115–119.
- 113.Urbonaitė–Ubė, M., Vengalis, R., Ubis, E. 2019. Kukuliškių piliakalnio aplinkos žvalgymai. Archeologiniai tyrinėjimai Lietuvoje 2018 metais, 82–87.
- 114.Urbonaitė–Ubė, M. 2021. Kukuliškių piliakalnio su gyvenviete tyrimai. – Archeologiniai tyrinėjimai Lietuvoje 2020 metais, 132–138.
- 115. Vaitkevičius, V. 2009. Baltų religijos centras ugnis. Lietuva 1009–2009 (ed. A. Butrimas, R. Janonienė, T. Račiūnaitė). Vilniaus dailės akademija, 27–33.
- 116.Van Strydonck, M., Boudin, M., Hoefkens, M., De Mulder, G. 2005. 14C-dating of cremated bones, why does it work? – Lunula, 13, 3–10.
- 117.Van Strydonck, M., Boudin, M., De Mulder, G. 2009. ¹⁴C dating of cremated bones: the issue of sample contamination. Radiocarbon, 51, 2, 553–568.
- 118. Vasiliauskas, E. 2023. Saločių mūšio 1703 m. vietos ir Šakarnių kaimo žvalgymai. – Archeologiniai tyrinėjimai Lietuvoje 2022 metais, 487–493.
- 119.Vasks, A. 1979. Izrakumi Pukulu Uzkalninu Kapulauka. Archaeological Survey Report, AA498, National History Museum of Latvia
- 120.Vasks, A. 1980 m. Izrakumi Pukulu Uzkalninu Kapulauka. Archaeological Survey Report, AA506, National History Museum of Latvia.
- 121.Vasks, A. 1981. Izrakumi Pukulu Uzkalninu Kapulauka 1981.9. Viduslaiku kapi 11. Uzkalnina Parskats. Archaeological Survey Report, AA537, National History Museum of Latvia.
- 122.Vasks, A. 2009. Burials on settlement sites: memories of ancestors or dissociation? – Memory, Society and Material Culture. Papers from the Third Theoretical Seminar of the Baltic Archaeologists (BASE) Held at the University of Latvia, October 5–6, 2007. Interarchaeologia, 3 (eds. A. Šnē, A. Vasks). Riga, Helsinki, Tartu, Vilnius, 89–98.

- 123.Vasks, A. 2021. The lower reaches of the Daugava in the Bronze and the Earliest Iron Age (1800–500 to the 1st century BC). Archaeologia Baltica, 28, 132–148.
- 124.Vasks, A., Vijups, A. 2004. Staldzenes bronzas laikmeta depozīts. Staldzene Bronze Age hoard. Riga.
- 125. Vasks, A., Ciglis J., Urtans, J. 2021. Bronzas un senākā dzels laikmeta senkapi. Latvijas archeologijas rokasgrāmata (eds. A. Vasks, G. Zariņa). Zinātne: Rīga, 271–278.
- 126.Vengalis, R., Piličiauskas, G., Pilkauskas, M., Kozakaitė, J., Juškaitis, V. 2020. The Large–Scale Rescue Excavation of a Multi–Period Site at Kvietiniai Sheds Light on the so far Little Explored Bronze Age in Western Lithuania. – Archaeologia Baltica, 27, 17–50.
- 127.Wright, J. 2013. Land Ownership and Landscape belief. Introduction and Context. – The Oxford handbook of the archaeology of death and burial (eds. S. Tarlow, L. Nilsson Stutz). Oxford University Press, 405–419.
- 128.Zazzo, A., Saliège, J.–F., Person, A., Boucher, H. 2009. Radiocarbon dating of calcined bones: Where does the carbon come from? – Radiocarbon, 51, 601–611.
- 129.Zazzo, A., Saliège, J.–F., Lebon, M., Lepetz, S., Moreau, C.
 2012. Radiocarbon Dating of Calcined Bones: Insights from Combustion Experiments Under Natural Conditions. – Radiocarbon, 54, 3–4, 855–866.
- 130.Žukauskaitė, J. 2007. Virvelinės keramikos kultūros kapai Rytų Baltijos regione. – Lietuvos archeologija, 31, 71–90.
- 131. Граудонис, Я. Я. 1967. Латвия в эпоху поздней бронзы и раннего железа. Рига.
- 132.Кулаков, В. И. 1975. Отчет о работе Балтийского отряда НА АН СССР в Калининградокой области в 1975 г. Archaeological Survey Report, 5362, The Russian Academy of Sciences Institute of Archaeology
- 133.Кулаков, В. И. 1976. Отчет о работе Балтийского отряда НА AH CCCP в Калининградокой области в 1976 г. Archaeological Survey Report, 6365, The Russian Academy of Sciences Institute of Archaeology

LIST OF PUBLICATIONS

Merkevičius, Algimantas; Muradian, Lijana. Ankstyviausi žirgų palaikai laidojimo objektuose Lietuvoje // Archaeologia Lituana, T. 16, 2015, p. 28–39.

Muradian, Lijana. Vėlyvojo žalvario ir ankstyvojo geležies amžiaus laidosena ir visuomenė Šiaurės vakarų Lietuvoje // Archaeologia Lituana, 2017, T. 18, p. 47–77.

Merkevičius, Algimantas; Juodagalvis, Vygandas; Nemickienė, Rėda; Remeikaitė, Lijana; Šatavičius, Egidijus; Zabiela, Gintautas. Ankstyvojo metalų laikotarpio gyvenvietės Lietuvoje. Vilnius: Vilniaus universiteto leidykla, 2018.

Merkevičius, Algimantas; Muradian, Lijana. Ignas Jablonskis – vakarų Lietuvos ankstyvųjų pilkapynų tyrinėtojas // Kretingos rajono archeologiniai tyrimai ir perspektyvos: kraštotyrininko, archeologo Igno Jablonskio 110–osioms gimimo metinėms. Mokslinių straipsnių rinkinys, Kretingos muziejus, 2021, p. 35–50.

Muradian, Lijana. First AMS 14C dating of Bronze and Pre-Roman Iron Age cremated bones from Barrows in Western Lithuania: Results and Interpretation // Estonian Journal of Archaeology, Vol 26, Issue 2, 2022, p. 157–183.

List of conference papers:

2021–05–14 "Ignas Jablonskis – Vakarų Lietuvos ankstyvųjų pilkapynų tyrinėtojas" (cooauthor: doc. dr. Algimantas Merkevičius). Conference: *Kretingos rajono archeologiniai tyrimai ir perspektyvos, skirta kraštotyrininko, archeologo Igno Jablonskio 110 gimimo metinėms paminėti*

2022–09–03 "AMS 14C dating of Late Bronze and Early Iron Age cremated bones from barrows in western Lithuania: Results and Interpretation". Conference: 28^{th} meeting of European Association of Archaeologists, Budapest (Hungary), 28^{th} of August – 3^{rd} of September

Published by Vilnius University Press Saulėtekio al. 9, III rūmai, LT-10222 Vilnius El. p. info@leidykla.vu.lt, www.leidykla.vu.lt bookshop.vu.lt, journals.vu.lt Print run 20