

# ESTONIAN ARCHAEOLOGY 1

ARCHAEOLOGICAL  
RESEARCH IN ESTONIA  
1865 – 2005

Archaeological Research in Estonia  
1865 – 2005



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## **Estonian Archaeology**

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Estonian Archaeology, 1

### **Archaeological Research in Estonia 1865–2005**

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English editors: Alexander Harding, Are Tsirk and Ene Inno

Lay-out of maps: Marge Konsa and Jaana Ratas

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# Contributors

**Arvi Haak** (MA student) works as an archaeologist at the Museum of Viljandi. His main scientific interests include the medieval town and castle of Viljandi, the Latest Iron Age and the medieval period in south-western Estonia. He has published 16 articles.

**Mauri Kiudsoo** (MA student) is Keeper of the Numismatic Collection in the Institute of History at Tallinn University. His main areas of research are in medieval and early modern times, hoards and monetary circulation, ornaments, the reasons for depositing hoards, etc. He has published 23 articles on these topics.

**Marge Konsa** (MA student) works as a technician, researcher and teacher at the University of Tartu. Her fields of activity are the archaeology of death, culture and society, and digital methods in archaeology. She has published 30 articles.

**Aivar Kriiska** (PhD) is Associate Professor of Archaeology at the University of Tartu. His main areas of research are the Stone Age in Estonia and neighbouring areas, especially from the point of view of the development of settlement, economy and technology. He has published a monograph on Stone Age settlement and economic processes in Estonian coastal areas and islands (Kriiska 2001c), as well as 60 articles on different topics in archaeology and also some popular-scientific reviews and school books.

**Valter Lang** (PhD) is Professor of Archaeology at the University of Tartu. His main areas of research are the Bronze and Early Iron Ages in Estonia,

settlement and landscape archaeology, the history of agriculture and land use systems, and the social structures of prehistoric society. He has published two monographs on prehistoric settlement in northern Estonia (Lang 1996; 2000a), 120 articles on different topics in archaeology, and edited a number of books on archaeology.

**Lembi Lõugas** (PhD) is Head of the Laboratory of Geoarchaeology and Ancient Technology in the Institute of History at Tallinn University. Her main research area involves the history of fauna (particularly fish and marine mammals) in Estonia and northern Europe. On these topics she has published her doctoral thesis (Lõugas 1997) and 42 articles.

**Ain Mäesalu** (MA) is Lecturer of Archaeology at the University of Tartu. His main interests in archaeology are medieval weaponry, glasses, and the history of late prehistoric hillforts and medieval towns and castles (particularly Otepää and Tartu). He has published 50 articles on these topics. In addition, he is the author of a number of popular-scientific reviews and school books.

**Maili Roio** (MA student) works as a maritime archaeologist at the National Heritage Board. Her main area of research is historical settlement and the exploitation of lakes in southern Estonia. She has published two articles about lake dwellings.

**Anton Pärn** (PhD student) is Undersecretary for Cultural Heritage in the Ministry of Culture. His main areas of interest are medieval urban archaeology (incl. the development of early urban settlements, town planning and defence structures, build-



ings and issues of the hinterland). He has published 40 articles on different topics in archaeology and heritage conservation.

**Erki Russow** (PhD student) is Research Fellow in the Institute of History at Tallinn University. His main research interests are medieval and post-medieval pottery, urban archaeology, historical archaeology in Europe, and the history of consumption. He has recently published a monograph on medieval and post-medieval imported pottery in western Estonian towns, 15 papers on several subjects and edited a couple of archaeological books.

**Andres Tvauri** (PhD) is Senior Research Fellow at the University of Tartu. The main archaeological periods of interest to him are the Middle and Late Iron Ages. In addition to 44 scientific articles, he has published two monographs, one on prehistoric

Tartu (Tvauri 2001a) and another on Late Iron Age ceramics in Estonia (Tvauri 2005). He has recently begun to study questions of industrial archaeology.

**Heiki Valk** (PhD) is Head of the *Kabinet* of Archaeology and Senior Research Fellow at the University of Tartu. He is mainly involved in the study of the Late Iron Age and the medieval and post-medieval rural archaeology of southern Estonia, including the earlier history of the town of Viljandi. His studies concern burial customs, religious syncretism, popular culture, ethno-cultural questions, settlement history and the meeting points of archaeology and oral tradition. He has published two monographs – on the rural cemeteries of southern Estonia in 1225–1800 AD (Valk 2001a) and on the Iron Age and medieval cemetery of Siksälä (with Silvia Laul; Laul & Valk 2006) – and c. 100 scientific articles, and has also edited four books.

# Editorial

In 2005 Estonian archaeology celebrated the anniversaries of two important milestones. First, 140 years since the publication of an account that could be regarded as the first truly scientific analysis (according to the existing criteria) of our prehistory (Grewingk 1865). Since archaeology had until that time signified a mere interest in antiquities, or a collection of attractive and curious objects originating from the distant past, from that time it was provided with the scholarly dimension that grew increasingly stronger and broader in the following decades. Secondly, it was 85 years since the Chair of Archaeology was established at the University of Tartu. Since before then only a few specialists of some other disciplines or antiquity aficionados engaged themselves in archaeology, after that time professional archaeology began to develop. It is impossible to overestimate the significance of either event in the history of Estonian archaeology. Therefore, these milestones impelled us not only to look back at the history of previous research but also to reflect on how far Estonian archaeology has developed today.

Consequently, the present volume, as the first of the newly established series *Estonian Archaeology*, has found its way to the public. The new series is intended for the systematic presentation and thorough analysis, at the original and contemporary level, of Estonian prehistoric as well as medieval and modern archaeological data. It is published in English in order to make the data obtained within Estonian territory accessible to international research circles. The last general academic survey on Estonian prehistory to be published in a foreign language came off the press about 75 years ago (Moora 1932), and a popular-scientific review of the same kind more than 20 years ago (Selirand & Tõnisson 1984). Although recent decades have witnessed

plenty of articles discussing specific questions and even some monographs published in foreign languages, there are still remarkable shortcomings in the systematized presentation of the archaeological evidence in its entirety.

As concerns general surveys written in Estonian, the situation is understandably far better. *Eesti esiajalugu* ('Estonian Prehistory'), published in 1982 (Jaaniits *et al.* 1982), provides a thorough and exhaustive review of our prehistory as it was known in the mid-1970s. In the past 30 years, however, an enormous amount of fresh data has accumulated, which is still waiting to be included in the systematic analysis and general surveys. In addition, the above-mentioned work did not comprise the monuments and finds of historical periods, which nevertheless form a considerable part of both the investigated sites and the stored artefacts. The general theoretical approaches and interpretation of the archaeological data have also undergone remarkable alterations in the meantime. Although there is a recent popular-scientific review of Estonian prehistory (Kriiska & Tvaauri 2002), which also considers fresh data and novel modes of interpretation, the need for a new general academic treatment is by no means satisfied at present.

Thus the necessity of compiling a new and thorough review collection, and namely in English, on the prehistoric, medieval and modern times of the Estonian area, should be evident. The first volume of this collection, i.e. the current one, is dedicated to the historiography and analysis of the present state of Estonian archaeology. The book is divided into four parts. Part I (the articles by Valter Lang and Marge Kõnsa) provides a review of the general development of archaeological research in Estonia from the 19<sup>th</sup> century to the beginning of the 21<sup>st</sup>

century, with the primary attention paid to institutional changes and advances in theoretical thinking and approaches. Part II includes articles (by Aivar Kriiska, V. Lang, Andres Tvauri, Heiki Valk, Ain Mäesalu, Anton Pärn, Erki Russow and Arvi Haak) on the previous research into the prehistoric and historical periods. In Part III A. Tvauri and Mauri Kiudsoo discuss the formation and present situation of the archaeological and numismatic collections, and the establishment and development of archaeological heritage protection. Part IV, the last one, focuses on the presentation of some more specific areas of research in Estonian archaeology. Here one can find articles on the application of methods from the natural sciences in archaeology (A. Kriiska), settlement archaeology (V. Lang), underwater archaeology (Maili Roio), and on the connections between archaeology and oral tradition (H. Valk).

The next volumes of the *Estonian Archaeology* series will be focused on the analysis of the different prehistoric and historical periods. Studies concerning the Stone Age, the Bronze and Early Iron ages, the Middle Iron Age, the Late Iron Age, and medieval and modern times should reach the public as separate volumes. It should be understandable that this by no means simple work is intended to be done over many years to come, and at present it is

impossible to say when the last volume of the series will be published. However, we wished the work to begin right now, in such a significant year for Estonian archaeology.

The editing of the present collection and the following volumes of the series *Estonian Archaeology* is financed in the framework of the target-financed research theme of the Ministry of Education and Research (0182557s03 *Social, Economical and Cultural Processes in Prehistoric and Medieval Estonia*), carried out at the University of Tartu. In addition, there are also other projects that support this work: research team *Interdisciplinary Archaeology: Interactions of Culture and the Natural Environment in the Past* financed by the University of Tartu (TFLAJ 05909), and several grants of the Estonian Science Foundation (nos. 5328, 6451 and 6119). Publication of the volumes is covered by the state programme *Estonian Language and National Memory* (in the project *The Publication of Estonian Archaeology, 1–6*) and the University of Tartu. The original texts in Estonian, without illustrations, are accessible in the Internet, at the web page of the Chair of Archaeology of the University of Tartu ([www.arheo.ut.ee](http://www.arheo.ut.ee)).

*Valter Lang*

Tartu, December 2005

# PART I

## General Trends in the Development of Archaeology in Estonia



# The History of Archaeological Research (up to the late 1980s)

VALTER LANG

## Introduction

The history of archaeology in Estonia has usually been divided into the following periods: (1) the Baltic German or noble or amateur-archaeological stage – starting from the late 18<sup>th</sup> (or even 17<sup>th</sup>) century, when interest in antiquities arose, up to World War I, and (2) the stage of professional (or scientific) archaeology since the establishment of the Chair of Archaeology at the University of Tartu in 1920. The latter stage has been subdivided in various manners; in general, however, the twenty years of the first independent republic usually forms one period and the Soviet era another (Jaanits *et al.* 1982, 9 ff; Selirand 1995a). Such a division is undoubtedly only formal, as it does not take into account the internal development of archaeology (and its theory) but proceeds from external factors – the researchers were either amateurs or educated specialists, the state was either independent or a Soviet ‘republic’, etc.

Institutionalization and professionalization are important border lines in the formal development of every branch of science: special institutions will be established, a community of specialists-professionals will develop, etc. Nevertheless, when proceeding from the essential development of knowledge, it seems that the placement of the border according to whether the researchers were full-time working specialists-archaeologists with special education or not is not justified – particularly if one keeps in mind the outset of archaeology, where the border between dilettantism and professionalism was rather

vague. For instance, University of Tartu professors Constantin Grewingk and Richard Hausmann were not archaeologists by education and occupation (and how could they even have obtained such a university education in the 1850s and 1860s?); yet they were professional scientists in other fields and strongly influenced the establishment of archaeology in Estonia. Their publications from the late 19<sup>th</sup> and early 20<sup>th</sup> century were undoubtedly scientific investigations written in close accordance with the requirements of the scientific works of those times – and from this point of view they both differed remarkably from real amateurs (such as Carl Georg von Sievers, for instance). A completely different but still very important impact on our archaeology was left by schoolteacher Jaan Jung.

In Estonia there never developed such a large and original idea that could have influenced the development of archaeology in general. This in itself is not a problem, because there are many similar nations. This circumstance, however, turns the overview of the development of archaeological theory in Estonia into a report of whether, how and over how long a period the ideas and approaches that arose elsewhere were adopted in Estonia. Such a report may not be of wider interest; nevertheless, the very existence of a deeper tendency directing both the development of methodology and practical activities (including fieldwork), and interpretations of archaeological evidence in particular, makes the whole area more exciting. This deeper tendency was the question of *political, social and cultural power*

– the possessor of this power also controlled the general nature of methodology and interpretations. In other words, this is a question of the power over ideology in contemporary society, which determines – at least to a certain extent – the essence and nature of our knowledge of the past. When taken externally and formally, it enables one to divide the history of archaeology into periods according to stages in the political development of the state and nation; yet, the fundamental development of archaeology, as becomes clear below, followed slightly different paths: sometimes preceding political reforms and sometimes delayed for a long time. For instance, the materialist approach to the history of society developed in Estonian prehistoric studies long before the official and coercive application of Marxism in the 1940s. From another side, the destruction of the Estonian state in 1940 did not mean that Estonia's ideology, its culture and its conceptions of the past also collapsed in this year; although this occurred – these survived for a long time. One can use here the concept of 'post-Estonia' (Kalda 2001) and this is highly relevant in all nation-based sciences. In the same way, one can speak of post-Soviet developments in the 1990s.

The task of this paper is to characterize the development of prehistoric archaeology in Estonia until the end of the 1980s, i.e. until the fundamental reforms in Estonian society that led to the collapse of the Soviet regime. Primary attention is paid to the development of the theoretical approaches that have had an important impact on the changes in the general methods for researching and understanding the prehistoric past. In doing so, one must take into account both the non-archaeological background in society and political life, and the institutional development of archaeology over the entire history of research. Only three decades (1920–1950) in the history of Estonian archaeology have been thoroughly examined so far (Jaaniits, L. 1991; 1995), and the other years are still waiting for more detailed analysis. This overview can only give a general introduction to the latter, by marking the most important trends.

## Before professional archaeology

### From private collections to learned societies and public museums (until 1865)

Although the very first data about interest in antiquity and antiquities in Estonia date from the 17<sup>th</sup> century, they are rather sporadic (Selirand 1995a), and are not closely related to the context of this study.

In the late 18<sup>th</sup> and early 19<sup>th</sup> centuries, the first private collections of prehistoric finds were founded by lovers of history and archaeology in what are today Estonia and Latvia.<sup>1</sup> One such collector was August Wilhelm Hupel (1737–1819), who is well known for his publishing activities: he was the editor of two extensive series, *Topographische Nachrichten* (3 volumes, 1774–1782) and *Nordische* (and *Neue Nordische*) *Miscellaneen* (46 volumes, 1781–1798). In addition to articles on environmental and economic history, some archaeological data was also published in the above-mentioned series. It is known that he possessed a small private collection of archaeological finds in as early as 1780. Johann Christoph Brotze (1742–1823) was also born in Germany but worked later as a schoolteacher in Riga. He studied archaeological sites in Latvia and Estonia and composed a manuscript in 10 volumes and 2000 figures entitled *Sammlung verschiedener liefländischer Monumente, Prospecte, Münzen, Wappen etc. Liv- und Kurlands*. The third most famous antiquary of those times was Eduard Philipp Körber (1770–1850), a clergyman from Võnnu, Estonia. In addition to the study of art, history and archaeology he, like Hupel, also collected ancient artefacts. Both collections were

<sup>1</sup> The so-called East Baltic Provinces (Germ. *Ostseeprovinzen*) of the Russian Empire consisted of Estonia (*Estland*), Livonia (*Livland*) and Courland (*Kurland*), whereas Livonia embraced both the southern districts of what is now Estonia, and the northern parts of present-day Latvia. The Estonian- and Latvian-speaking parts of Livonia were usually considered to be one unit, particularly in the activities of the authorities, but also by learned societies.

later incorporated into the museum of the Learned Estonian Society (see also Tvauri, this volume, b).

In the early 19<sup>th</sup> century, and particularly since the 1830s, the first learned societies involved with history and archaeology were established, for instance the *Gesellschaft für Geschichte und Altertumskunde der Ostseeprovinzen Russlands in Riga* (1834), *Gelehrte Estnische Gesellschaft* by the University of Tartu (Dorpat) (1838), and *Estnische Literarische Gesellschaft* in Tallinn (Reval) (1842). The task of the Learned Estonian Society, for instance, was formulated as follows: ‘*die Kenntnis der Vorzeit und Gegenwart des estnischen Volkes, seiner Sprache und Literatur sowie des von ihm bewohnten Landes zu fördern*’ (Hasselblatt 1921, 137). At the same time, the first archaeological excavations with the purpose of collecting archaeological finds for museums were carried out by members of those societies. The results of these investigations were often published in the journals of the learned societies.

It must be emphasized that archaeology was introduced in Estonia as the antiquarian hobby of an ethnically foreign social upper class. In Estonia, as also in Latvia, this upper class consisted of Baltic Germans, and therefore the initiators of this antiquarian movement were clergymen, intellectuals or more prominent landlords, either of Baltic German origin or from Germany proper. In those times, prehistoric artefacts and antiquities were not treated as sources of history; instead they were only subjects of romantic interest for collectors. Therefore one cannot speak of archaeology as a scientific discipline either. One example of how one could thus see prehistoric people is a famous and curious statement by clergyman Körber that the ancestors of the Estonians differed from animals only in the fact that they did not walk on four feet. According to Priit Ligi (1993a), this statement determined the attitude towards the essence of Estonian archaeology for many decades or even centuries to come: on the one hand it was characterized by attempts to show our ancestors as primitives, on the other it generated a desire to dispute this as much as possible...

### Establishment of scientific archaeology: the Baltic German school

In the late 19<sup>th</sup> century, the development of archaeology in Estonia continued on the basis of the learned societies founded earlier. Officially, all archaeological investigation (fieldwork) in the Russian Empire was subordinated to the Imperial Archaeological Commission in St. Petersburg, but the East Baltic provinces had relatively extensive autonomy in this field also, particularly on land owned by German landlords. A characteristic feature of these provinces was that there were no central institutions for the study of archaeology. Instead, several small but relatively well established local centres developed around the learned societies<sup>2</sup>, although the Learned Estonian Society in Tartu was treated as the central and most important institution (Hausmann 1896, V).

An important newcomer to the field of archaeological studies was now the University of Tartu (Dorpat), which had been re-established in 1802. At the beginning, however, the archaeology of the Baltic region was not taught as an academic discipline.<sup>3</sup> Archaeology was then understood primarily as classical archaeology, and it was mostly studied together with Greek and Roman philology. A collection of classical art had already been founded by the University of Tartu in 1803, followed by the Museum of Classical Archaeology some time later (Jaanits, L. 1995). However, the Central Museum

<sup>2</sup> In addition to Tallinn and Tartu (see above), the following societies should be mentioned: Viljandi (*Felliner Litterarische Gesellschaft*, established by T. Schiemann in 1881), the island of Saaremaa (*Verein zur Kunde Ösels*, established in Kuressaare (Arensburg) in 1865), Pärnu (*Altertumforschende Gesellschaft zu Pernau*, 1896), Paide (*Gesellschaft zur Erhaltung Jerwscher Altertümer*, 1904) and Narva (*Altertumforschende Gesellschaft*, 1864). (See also Tvauri, this volume, b.)

<sup>3</sup> The first lecture courses at the University of Tartu, where Baltic archaeology was to some extent treated, were held by C. Grewingk, but not before 1874 (Röömusoks & Viiding 1986, 251).





Fig. 1. Constantin Caspar Andreas Grewingk (photo: AI).

of Fatherland Antiquities was already established by the University of Tartu (the collections of the Learned Estonian Society were also joined with that museum in 1860) in 1843. From the point of view of Estonian – and also Latvian – archaeology, the so-called favourite occupation of some professors became important.

The first such professor was Friedrich Karl Hermann Kruse (1790–1866, professorship in history 1828–1853). In 1838 and 1839 he carried out two archaeological expeditions in the East Baltic Provinces of the Russian Empire and presented his results in two investigations of the prehistory of the Baltic countries (Kruse 1842; 1846). Nevertheless, both his excavation methods and the conclusions he reached in his books were primitive, even for those times.<sup>4</sup>

<sup>4</sup> According to Kruse, for instance, there were a number of graves of Ancient Greek and Roman origin in Estonia, while the majority of finds and sites were regarded as Scandinavian

The first truly scientific study performed on the basis of the Estonian and Latvian archaeological material was a monograph by Constantin Caspar Andreas Grewingk entitled *Das Steinalter der Ostseeprovinzen*, published in 1865 (Figs. 1, 2). He later also published two studies on the Stone Age site of Lammasmägi in Kunda (Grewingk 1882; 1884b), gave an overview of the entire prehistory of the East Baltic provinces (Grewingk 1874; 1877a) and wrote comments on the first map of local antiquities (Grewingk 1884a). Grewingk (1819–1887) had studied at the universities of Tartu, Jena and St. Petersburg; as Professor of Mineralogy, his main interest was in earlier periods, primarily the Stone Age. His book about the Kunda site (Grewingk 1882; see also Kriiska, this volume) was an excellent example of the interdisciplinary approach used at that time: first the geological development of the study area was elaborated (he discovered that there was an ancient lake, the sediments of which yielded both the hunting weapons of prehistoric people and the bones of animals, birds and fishes), then the archaeological and osteological finds were analysed, and finally conclusions were drawn about the human settlement, its culture and ‘nationality’ (*Nationalität*). As Grewingk did not possess reliable means for precise dating (actually, his basis for dating – the supposed speed of the sedimentation – turned out to be wrong), it is not surprising that the results of the study were also incorrect. According to Grewingk, in the Baltic countries the Stone Age lasted up to the first centuries AD, whereas a few bronze objects were also known in its final stage. This date – although it originates from an incorrect method – was in close correlation with an opinion that was widespread at that time, i.e. that the local people living here were primitive and remained at a Stone Age level until the more advanced Germanic tribes, which by then were long familiar with metals, came to the eastern shores of the Baltic. As

(Germanic and Gothic); the origin of the Estonians was connected with the Celts and Scythians.



Fig. 2. Cover of *Das Steinalter der Ostseeprovinzen* by Grewingk, published in 1865.

assumed by Grewingk, the indigenous people of the region were of Ugrian and Lithuanian-Slavonic origin. The so-called *tarand*-graves of the Roman Iron Age (1<sup>st</sup>–4<sup>th</sup> centuries AD) in Estonia and northern Latvia, which contain richly furnished burials, were interpreted as the graves of Goths, a Germanic tribe known from the historical sources.<sup>5</sup> The ancestors of the Estonians and Latvians were assumed not to

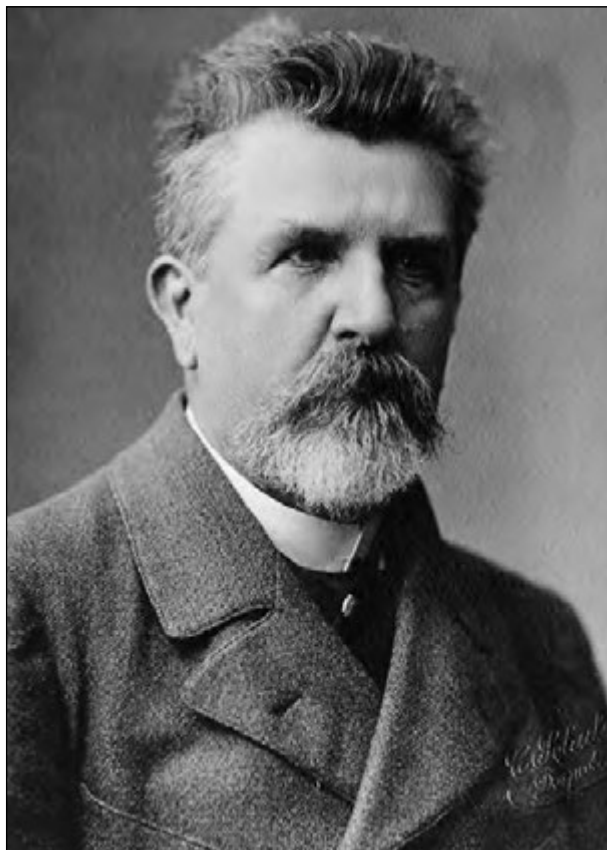
<sup>5</sup> One reason why the *tarand*-graves were considered Gothic was the misinterpretation of these graves as ship-graves of oval shape, which are widely distributed in northern Germanic areas, particularly on the island of Gotland.

have arrived on the shores of the Baltic before the second half of the 1<sup>st</sup> millennium AD.

In evaluating this so-called Gothic theory, one must keep in mind two circumstances. First, for those times it was a fully scientific approach based both on written sources about Gothic settlement having reached the southern and south-eastern shores of the Baltic, and archaeological evidence demonstrating extensive similarities between Estonia and Latvia and the lower reaches of the Vistula River during the Roman Iron Age. Even the standpoint that vast areas of Asia and Europe were originally settled by ‘Turkish’ or ‘Ugric’ tribes was widely acknowledged at that time. Second, the Gothic theory was well suited to the general direction of Baltic German historiography, the so-called culture-bringing approach, according to which the Germans had always been the main ‘culture bearers’ in the eastern Baltic region. This was the reason why, for instance, two amateur archaeologists of Baltic German origin from Tallinn, Adolf Friedenthal (1874–1941) and Artur Leopold Spreckelsen (1863–1939), supported these ideas even in the 1920s and 1930s, long after they had been demonstrated to be inconsistent with the archaeological data.

Two persons were responsible for the refutation of the Gothic theory (see Tvauri 2003a). One of these was Georg Loeschcke (1852–1915), who graduated from the universities of Leipzig and Bonn. In 1879 he was invited to hold a professorship in classical archaeology and philology at the University of Tartu. Loeschcke stayed in Tartu for ten years and then returned to the University of Bonn. In addition to classical archaeology, he also dealt with Baltic archaeology for some time. When excavating some local *tarand*-graves, he became convinced that they were not oval ship-graves, as Grewingk believed, but burial places of quite a different type. The same conclusion was reached by Professor of Russian Literature and Slavic Philology Pavel A. Viskovatov

Such a misunderstanding was the result of deficient excavation methods (see Tvauri 2003a).



**Fig. 3.** *Richard Gustav Gotthard Hausmann (photo AI).*

(1842–1905). Viskovatov also excavated several graves, and according to him the *tarand*-graves had been built by the local inhabitants, i.e. the ancestors of the Estonians.

Another important Baltic German researcher was Richard Gustav Gotthard Hausmann (1842–1918), Professor of History at the University of Tartu since 1880 (Fig. 3).<sup>6</sup> As a historian, he was mostly interested in the Iron Age; he excavated several stone graves and published the results either in articles or as monographs. Hausmann was also critical in the area of Gothic theory: he still recognized the similarities among the archaeological materials, but emphasized that no particularly Gothic find assem-

<sup>6</sup> For more about Hausmann, see Tallgren 1922b.



**Fig. 4.** *Artur Leopold Spreckelsen (photo AI).*

blage had been reported either in their supposed settlement area or in the eastern Baltic region. Therefore he left the question of the ethnic origin of the builders of *tarand*-graves more or less open.

Hausmann was the first who began to offer regular courses in East Baltic archaeology at the University of Tartu. He was one of the first professors in the Russian Empire who even in the 1890s taught prehistoric archaeology as an independent discipline (Wahle 1950, 43). Hausmann was also one of the main organizers of the 10<sup>th</sup> Russia-wide Archaeological Congress held in Riga in 1896. In the catalogue of the archaeological exhibition organized in connection with this congress, Hausmann presented an overview on the prehistory of the eastern Baltic region (Hausmann 1896). In 1910 he published a supplemented overview,



**Fig. 5.** *Adolf Friedenthal conducting excavations in Jägala (photo AI).*

which can be regarded as the culmination of Baltic German archaeological investigation (Hausmann 1910).<sup>7</sup>

In 1913, Hausmann became paralysed and therefore he was forced to stay aside of scientific work. Due to the beginning of World War I in 1914, all German societies in Russia were closed, which also caused

<sup>7</sup> It should be mentioned that Baltic German archaeological investigation was not limited to the names cited above: there were numerous real amateurs (e.g. C. G. von Sievers, A. Bielenstein, A. Buchholtz, and others), who excavated archaeological sites and gathered extensive materials about our prehistoric past (see e.g. Kriiska, this volume). The mainstream in the development of scientific archaeology, however, belonged to the professors of the University of Tartu.

the gradual perishing of Baltic German school in archaeology – although some of the Baltic German amateurs (A. Spreckelsen and A. Friedenthal; Figs. 4, 5) continued their work even after the war. It is still important to mention that prior to the war the local German societies (under the guidance of *Gesellschaft für Geschichte und Altertumskunde der Ostseeprovinzen Russlands in Riga*) made an attempt to institutionalize the archaeology of East Baltic provinces through the foundation of the post of a ‘provincial archaeologist’ in Riga. Max Ebert (1879–1929) from Berlin was invited to fill this position, and after becoming acquainted with the local archaeological material he wrote a brief overview of it (Ebert 1913) and edited a collection of articles dedicated to the 16<sup>th</sup> Russia-wide Archaeological Congress (*Baltische Studien*, 1914). Due to the war, this congress never took place. Ebert was one researcher who had already obtained a university education in archaeology, and the first who systematically used the typological method in East Baltic archaeology. The beginning of the war also put an end to his activities.<sup>8</sup>

### The Estonian dimension

It might be considered natural that this Baltic German culture-bringing ideology, as propagated by Grewing and others, met strong criticism from Estonian nationalists during the so-called first awakening in the late 19<sup>th</sup> century. Nevertheless, they went to the other extreme: life in the conditions of so-called ancient independence was completely romanticized and idealized. Life before the arrival of the German crusaders in the early 13<sup>th</sup> century was considered pleasant and happy, with free farmers peacefully cultivating their fields, ruled by impartial and honest chiefs or kings and defended by a pantheon of gods and goddesses. Of course it was not the archaeologists or historians who presented such a

<sup>8</sup> Later, in 1922, Ebert was invited to hold the professorship in archaeology at the University of Latvia (Riga), where he stayed until 1924. For more about Ebert, see Moora 1930a.



Fig. 6. *Jaan Jung (photo AI).*

picture of our past; this was done by national romanticist intellectuals from the era of national awakening. It is, however, worthwhile emphasizing that it was precisely this ideology that became the reason and initial basis for the development of the national dimension in Estonian archaeology at the end of the 19<sup>th</sup> century.

The initiator of this development was schoolteacher Jaan Jung (1835–1900; Fig. 6). He was not a scientist, and therefore there was no reason to expect him to have made any scientific discoveries (although he carried out some excavations and even published the results in Finnish scientific journals). What he wrote about Estonian prehistory was exactly the same as that published by the Baltic German researchers. Nevertheless, there are at least two reasons why he is important to us. First, by introducing Estonian and world prehistory to the Estonian people (Jung 1899)

he began to elaborate archaeological terminology in the Estonian language. Second, with the help of many local correspondents he carried out a work of enormous range and importance, of which the Baltic Germans were simply not capable (see also Moora 1930b). This was the first Estonia-wide inventory and registration of archaeological sites, for which Jung obtained influence and inspiration from Finnish archaeologist Johan Reinhold Aspelin, who visited Estonia several times.

In evaluating the results of Estonia's first nationwide archaeological inventory – part of it is published in two volumes (Jung 1898; 1910), and the rest is preserved in the archives – one must consider the context of the time in which Jung operated. The key words here are the national-romantic atmosphere of national awakening, the search for one's roots, the dream of ancient freedom, greatness and prosperity. An example of how to carry out such an inventory was provided by Estonian folklorists, who had already gathered an enormous amount of material using a network of local correspondents throughout the whole country. The theory or approach applied by Jung, although never consciously stated by him, proceeded from the conviction that the (unwritten) history of the Estonians was reflected in their folk songs, tales and mythology. Therefore all kinds of groves, places of sacrifice and places connected with folk tales were also regarded as archaeological sites by Jung and his correspondents. Such 'antiquities' predominate in all registers composed by Jung.

It is, of course, important that Finnish State Archaeologist Aspelin chose to co-operate with an Estonian schoolteacher, and not the Baltic German professors in Tartu. One should see in this the desire of Finnish intellectuals to support the Estonians' national awakening and advance the movement for the promotion of closer ties between the two kindred peoples (Salminen 1996). The influence of Finnish archaeology on Estonian archaeology had thus begun. The ties with Finland and the Finnish example of how to do archaeology became more important in the 1920s.

## First decades of professional archaeology (1920–1940): the Tartu school

### Professor Tallgren and the Chair of Archaeology

As a result of World War I and the War of Independence (1918–1920), Estonia became an independent state. The University of Tartu was reopened in 1919, now as an Estonian university, although many of its teaching staff were either Germans or Russians. In the following years, much effort was devoted to Estonianizing university instruction and the establishment and development of branches of science that were considered important for the new and independent state, its culture, language and history. Archaeology turned out to be one of them.

Professional archaeology was already institutionalized in Estonia in 1920, when a Chair of Estonian and Nordic Archaeology was established at the University of Tartu. As there were no professional archaeologists in Estonia at that time, the university had to look abroad for professors. It is understandable that – especially after the War of Independence against the Russians and Germans – nobody wished to invite a professor from those countries. Therefore, as was also the case in several other chairs, a suitable person was found from Finland, namely Aarne Michaël Tallgren (1885–1945), who became the first professor of prehistoric archaeology in Estonia (Fig. 7).<sup>9</sup> There is no doubt that in addition to his professional capacity and skills, his ideological background played an important role, i.e. Tallgren's desire to continue the old Finnish traditions (already initiated by Aspelin) of embracing both Russian and Finno-Ugric archaeologies up to Siberia as well as a dream from the era of national awakening about the promotion of close cultural contacts between the two kindred peoples (a 'Finnish bridge'), etc.

<sup>9</sup> For more about Tallgren, see Kriiska 1995a.



Fig. 7. Aarne Michaël Tallgren (photo AI).

Tallgren's three main concerns and achievements in Estonia were: first, the launching and promotion of professional archaeological university instruction and research together with his young students; second, the organization of the second Estonia-wide registration of archaeological sites (this was carried out by students in the framework of their seminar work); and third, the composition of a general investigation of Estonian prehistory (Tallgren 1922c; 1925).

Thanks to the foundation of the Chair of Archaeology at the University of Tartu, Estonian archaeology quite quickly rose to the level of a professional and academic discipline. Due to Tallgren's initiative, a centre for archaeological research – the so-called

*Kabinet* and Museum of Archaeology – were established at the University of Tartu. The museum's core collection originated from several learned societies established in the 19<sup>th</sup> century and concentrated now under the university's umbrella (see more Tvauri, this volume, b). All information about archaeological sites and finds was gathered at the *Kabinet*, whereas the entire archive was organized on the basis of the Finnish example. An archaeological library and photographic archive were also founded (Jaanits, L. 1995).

The social context in which archaeological study and research were launched and the second Estonia-wide registration of antiquities was performed was completely different from that of the times of J. Jung. The country had been politically liberated from the power of the Russians and Germans; nevertheless, culture and science had not yet become independent from Baltic German influence. The investigation and registration of antiquities at the level of contemporary international research was the first and most important task of Estonian archaeology; it had to become a scientific basis for the study of prehistory, with the purpose of protecting antiquities for future generations. Thanks to the first Heritage Conservation Act, which was passed by the Estonian parliament in 1925, all of those registered sites now also came under state protection.

According to the positivist approach widely acknowledged in those times, all real knowledge had to be based on objective observation, and therefore the students of Tartu who had been assigned the task of inventorying the sites had to check them on the spot. The only objects considered to be antiquities were those that were 'observable', i.e. structures that existed and were then regarded as antiquities (mostly stone graves, hillforts, sacred groves and cultic stones). As a result, a number of sites registered by Jung, which were not regarded as antiquities or which no longer existed, were now removed from the list of prehistoric sites. This work provided a thorough and firm database for archaeological research, which was later repeatedly checked and improved and is in use even today.

The new general examination of Estonian prehistory written by Tallgren was also in close accordance with the new circumstances and the level of contemporary archaeological science in Europe. The main direction in the theory of archaeology at the beginning of the 20<sup>th</sup> century in Europe was the so-called culture-historical approach, the central concept of which was 'archaeological culture' and one of the research tasks of which was the study of the ethno-genesis of modern peoples (the leading theoreticians were G. Kossinna and V. G. Childe). Although there had been some earlier attempts in Estonia – as elsewhere – to relate prehistoric sites with certain peoples (see above), this was done intuitively, without clear scientific argumentation. Now it was namely Tallgren (1922c; 1923a) who was responsible for the introduction and consistent use of the term 'archaeological culture' in Estonian archaeology, by trying to separate the Stone Age cultures of Kunda and Võisiku, and by comparing them with corresponding cultures in neighbouring regions.<sup>10</sup> For him, 'archaeological cultures' were firmly connected with prehistoric peoples, and cultural changes resulted directly from migrations of people (Tallgren 1922c, 70 f).<sup>11</sup> In addition to the search for the origin of the Kunda and Võisiku cultures, this trend was also reflected in the interpretation of the drastic decrease of finds in the Bronze Age as a result of the emigration of people to the south in terms easier to obtain metals. The same attitude comes to the light from the statement that the ancestors of the Finnic peoples arrived in what is now Estonia prior to the beginning of our era as the bringers of the Gorodishche culture, whereas here they fell under a strong eastern Germanic (Gothic) influence. Such ethnic interpretations of Tallgren

<sup>10</sup> It is noteworthy that even as late as 1910, R. Hausmann, in his general treatment on the prehistory of Estonia and Latvia, did not know of such a concept; the term 'culture' was used there in the general meaning of the word (Hausmann 1910).

<sup>11</sup> As a matter of fact, in his last years Tallgren became more suspicious and cautious in this respect (see Tallgren 1939).

were supported by the claims of linguists about the development of languages and the existence of loan words from different time horizons.

At the same time, Tallgren's research continued the direction that had already been initiated by Grewingk (but later neglected) and which was also developed in Scandinavia and Finland at that time – namely the treatment of archaeological evidence in close connection with the contemporary natural environment (e.g. the phases in the history of the Baltic Sea, the formation of the basins of Peipsi and Võrtsjärv lakes, etc.). This approach enabled him to draw the conclusion that if the finds of the Stone Age were closely related to water systems, then the stone graves of the Roman Iron Age were already located on lands that were suitable for agriculture and thus connected with permanent farming settlement. This method equated the distribution of prehistoric settlement with that of contemporary sites, and long influenced the direction and result of investigations of settlement archaeology in Estonia (see Lang, this volume, c).

In conclusion, it should be mentioned that the archaeology that began to take shape in Estonia thanks to Tallgren involved at least four main aspects or directions. First, there was the heritage of the Baltic German school, the factual part of which was critically elaborated and incorporated by him into a general treatment of Estonian prehistory. Second, he valued the work that was done by Jung in the registration of antiquities, the results of which were now also critically verified and considerably supplemented. Third, the achievements of European archaeological theory and methodology were actively integrated by him into the study of Estonian archaeological evidence. Fourth, Tallgren replaced the ethnic interpretations (and the judgments connected with them) characteristic of the Gothic theory with Finno-Ugrian and Finnic-centred understandings of the place and role of Estonia and its inhabitants in the prehistoric past. Thus Estonian archaeology was not conceived in a void, but developed in new political conditions, as a sym-



Fig. 8. *Birger Nerman (photo AI).*

biosis of both earlier local achievements and contemporary international developments.

### Research in the 1920s and 1930s

After Tallgren had left the professorship in Tartu in 1923, the next professor was invited from Sweden. The main reason Tallgren recommended inviting Birger Nerman (1888–1971; Fig. 8) was connected with the need to introduce local students to the Scandinavian archaeological tradition (Jaenits, L. 1995). Nerman stayed in Tartu for two years (1923–1925), after which the professorship was unfilled for some time. It was only in 1930 that Harri Moora (1900–1968, graduated in 1925), one of Tallgren's first students, was nominated deputy professor, and since 1938 full professor (Fig. 9). In addition to Moora, several other young





Fig. 9. Harri Moora (photo AI).

archaeologists were granted jobs – either permanently or temporarily – in the *Kabinet* and Museum of Archaeology: Marta Schmiedehelm (1896–1981; graduated in 1923), Richard Indreko (1900–1961; graduated in 1927), Eerik Laid (1904–1961; graduated in 1927), Artur Vassar (1911–1977; graduated in 1939), Erna Ariste (1904–2000; graduated in folkloristics in 1931) and Osvald Saadre (1904–1975). In addition to these professional archaeologists working at Tartu, there were two amateur Baltic German archaeologists living in Tallinn and connected with the Provincial Museum of the Estonian Literary Society – A. Spreckelsen and A. Friedenthal. In the 1920s and 1930s, they both continued their work and carried out several important excavations, mostly on graves of stone-cist and *tarand* type in northern Estonia.

As mentioned above, Tallgren's study formed the systematized and scientific basis for all of archaeological research in Estonia, which followed the same general directions as everywhere else in the western world – i.e. its approach was culture-historical. It should be emphasized, however, that this principally culture-historical approach was complemented by interdisciplinary trends, both in the field of natural (geology, geography) and human (ethnography, linguistics) sciences; much attention was also paid to the development of the economy and settlement in connection with environmental changes, which was not a very common practice in European archaeology in the 1920s and 1930s.

In order to characterize the methodology of archaeological research in those times, one can compare, for instance, the treatment of the Roman Iron Age in two essential works: one of them was written by Tallgren (1922c) at the beginning of the period in question, and another was published by Moora 16 years later (1938a). The former is a general examination of the entire prehistoric period; the latter is a special study of the Latvian (and to a lesser extent Estonian) Pre-Roman and particularly Roman Iron Ages. One may ask whether and to what extent the interpretations of prehistoric society of Moora's special study differed from those in Tallgren's general work, as they were separated by quite a long period of time.

Both scholars noted that unlike the Stone Age sites, all antiquities (i.e. actually only graves) from the Roman Iron Age were located on higher land, in the middle or in the vicinity of modern fields. Although the distribution maps of Moora are remarkably more precise and also contain many more finds than those available to Tallgren, the interpretation made by both researchers was the same: hunting and fishing were replaced by farming. The absence (or small numbers) of finds in those areas that were similarly suitable for farming was explained by gaps in the research. Moora added that the flourishing of richer areas had partly come from extra gains connected with trade and transit.

Both Moora and Tallgren agreed that material culture was eastern Germanic or eastern Prussian in origin, although there were also locally developed forms which painted a different cultural picture in different areas. Thanks to the complementary new material, Moora was able to follow and even emphasize cultural continuity by the transition from the Pre-Roman to the Roman Iron Age; nevertheless, Tallgren had already made reference to that (particularly in relation to the development of grave types). The rarity of metal artefacts prior to the Roman Iron Age was explained by Moora not by the absence of metals but as a reflection of burial customs, which did not involve the giving of numerous grave goods. This was a new development, because Tallgren had avoided that problem. The description of cultural contacts during that time was the same in both works (i.e. the southern and south-western directions were clearly dominant, and eastern and western directions were almost absent; nevertheless, Moora had already acquired some new evidence on Scandinavian contacts). In Moora's treatment, the analysis of trade based on cultural contacts is more detailed, but he used the same methodology as it was in Tallgren's study. In handling the ethnic relations of the Roman Iron Age, both writers hold the same opinion: the region of stone graves (northern Latvia, Estonia and south-western Finland) was inhabited by the ancestors of the Livs, Estonians and Finns (this had, however, already been stated by Alfred Hackman in 1905), while the southernmost region with sand barrows was occupied by the ancestors of the Balts (this had also been pointed out earlier). In drawing ethnic conclusions, it was considered important that there were clear differences in both grave types and burial customs, although the grave goods (and material culture in general) were quite similar. Both Tallgren and Moora also considered the continuation in the custom of building stone graves from the Roman to the Late Iron Age, when the Estonians certainly lived in Estonia (according to written sources), to have been important. At the same time, they both thought that there may also

have been some Gothic colonies or trade factories in northern Estonia, which in their view explained the existence of numerous old Germanic loanwords in Estonian, and their paucity in Baltic languages.

As noted above, although Moora had access to much more archaeological material, and his study of prehistoric finds was also much more detailed, than that of Tallgren (the aim of his work was also different), the main character of their interpretations is essentially the same. A comparison of the works of Tallgren and Moora confirms how, in the framework of the culture-historical approach, theory and interpretation were standing still, despite the continuous increase in archaeological material. Nor did the questions asked of the material change at all during those decades: the distribution of sites and artefacts, their chronology, cultural contacts, the vitality of culture (or absence thereof), the ethnic origin of archaeological culture, etc. If researchers had continued asking such questions until the present day, there is no doubt that the answers (i.e. interpretations) would also have essentially remained the same. Many studies carried out in northern and western Europe in the 1950s and 1960s, and in some countries even in the 1970s and 1980s, confirm this. In Estonia, archaeology began to follow other paths, which was partly due to the forced application of Marxism since the 1940s; in some ways, however, it would probably have taken different forms even without the introduction of this external factor, as we will see below. The mainstream of Estonian archaeology, however, certainly continued the culture-historical approach, and a monograph by Silvia Laul (2001) about the Pre-Roman and Roman Iron Ages in south-eastern Estonia is a pure representation of this approach at the outset of the 21<sup>st</sup> century.

Research into the Roman Iron Age became one of the main directions in Estonian archaeology in the 1920s and early 1930s. The existence of *tarand*-graves with extraordinarily rich grave goods presented good opportunities for this; in addition to H. Moora and M. Schmiedehelm, there were also

some other researchers who dealt with that period. The excavation of Stone Age sites had almost completely ceased after Grewing's time, and it was only R. Indreko who began to pay attention to this period again in the early 1930s; the most important field-work (archaeological excavations combined with interdisciplinary studies) was done at Lammasmägi in Kunda in 1933–1937 (Jaani, L. 1995, 23 ff). Thanks to Indreko's trial excavations at Asva, on Saaremaa Island, in 1931, the first fortified settlement was discovered in Estonia. The Bronze and Pre-Roman Iron Ages were a subject of study for Latvian archaeologist Eduards Šturms, but his research did not involve excavations in Estonia. Nobody was specifically engaged with the investigation of the Middle and Late Iron Ages, although several graves from those periods were excavated, and some articles were published. E. Laid's research into Estonian prehistoric hillforts is also worthy of mention.

The situation changed considerably in the late 1930s, when systematic investigations of our hillforts began. All archaeologists working at the University of Tartu at that time were engaged in the fulfilment of this 'national research task' (see below), and over three to four years, an enormous amount of work was done in the investigation not only of the Late Iron Age but also the Late Bronze Age.

### **Archaeology and national-romanticist ideology**

Alongside the archaeological studies of purely scientific nature carried out at that time, one must also keep in mind the social and political situation that existed since the 1920s: the young and developing Estonian nation-state needed its own ideology and history (or rather the myth of history). When creating this ideology and myth of history, the results of archaeological research were also used in general treatments of Estonian history. One might call this ideology the national-romanticist approach to (pre)history. This approach has been characterized as follows (Ligi 1995a, 262):

The national-romanticist approach /.../ projected the idea of national solidarity and unity back into prehistory. Prehistoric society was presented as egalitarian and well organized, and the leaders were just a bit wealthier and also braver in war. It was written that Iron Age society consisted of the free Estonians and the slaves who were prisoners of war of some foreign origin. Forts were seen as political centres, and fortifications were built because of external danger. The specific national feature of this view of history was the fact that the Finno-Ugrian 'forest-roots' of the Estonians were emphasized, and their culture and world-view was contrasted with that of the Indo-European peoples. This phenomenon can be explained by the national inferiority complex caused by the '700 years of slavery', the nation's cultural identity crisis and the existential dilemma of whether Estonia belongs to Europe or Asia. The general approach of the Baltic German historians regarding the ancestors of the Estonians as inferior also played a role, and this appears to be influencing research in Estonia even at the present time.

One must, however, keep in mind that such a direct and blatant national-romanticist ideology is difficult to find in archaeological treatments, but it mostly occurred in the writings of some historians, other intellectuals and politicians, including some general examinations of Estonian history, the authors of which were not archaeologists. In its extreme form, this difference becomes apparent from the comparisons of two general treatments of Estonian history (ERA I, 1932 and EA I, 1935), where the author of the prehistoric section was, in the former case, journalist Juhan Libe, and in latter case mostly H. Moora. The split between the national-romanticist treatment of history (which was part of a wider ideology) and scientific archaeology (as one of the main nation-based sciences) had, paradoxically, already developed during the era of national awakening. It did not disappear even now, despite the newly-established independent state and the fact that both scholars and 'ideologists' shared the same national



Fig. 10. Archaeological excavations on the hillfort of Lõhavere (photo AI).

background.<sup>12</sup> This split is probably fundamentally

<sup>12</sup> The nationality of the ‘ideologists’ and scientists did not apparently play a significant role in this rift – the Estonian J. Jung based his work entirely on the scientific studies of Baltic German professors, and in the newly established Republic of Estonia, both groups mostly consisted of Estonians. This is more a question of differences in social background: on one side, there is a handful of scientists whose position in society is to some extent elitist because they possess information (incl. methodology); on another side, there are ordinary people guided by various intellectuals and leaders, who do not need so much scientific reasoning but rather the mythology of national solidarity, glorious (pre)history, etc. Such a rift between ideology and scientific archaeology arises spontaneously, if the latter are not capable or willing to satisfy needs for new interpretations of the past emerging in contemporary society. At the same time, both the national ideology and nation-centred sciences are necessary

inevitable and everlasting, although it can change and vary depending on the situation in contemporary society. How the ‘ideologists’ used the achievements of archaeology in their own interests is not perhaps of wider interest; it is instead important how the archaeologists were able to use the result of this ‘ideological work’ – the greatly increased interest in prehistory among the general public.

While in the time of Jung the whole nation came, through its representatives (so-called correspondents), to help in the registering of antiquities, which strongly influenced the further development of archaeology, now the impact of the ‘ideologists’

to each other because they can mutually improve each other, and also use each other in their own interests.

resulted both in the increasing of state financing and the involvement of some private resources for the performance of archaeological investigations. It was precisely due to the organizational work of the Estonian National Clubs in the middle and late 1930s that considerable finances were concentrated on the study of the most impressive prehistoric monuments in Estonia – the hillforts (Fig. 10).<sup>13</sup> The results of the fieldwork carried out in the framework of this ‘national research task’ were summarized in the reputable collection *Muistse Eesti linnused* (‘The Hillforts of Ancient Estonia’; MEL, 1939). In the introductory part of this collection, Moora, the editor, thanked not only the president of the state and the ministers of education and economy for their support (which was not only a moral one) but also a total of 19 private companies that had made larger donations, not to mention numerous institutions and persons who had made smaller contributions. From the point of view of archaeology as a science, it is impossible to overestimate the importance of the excavations of the hillforts<sup>14</sup> – much new knowledge about the chronology of Late Iron Age forts, the character of defensive structures and find assemblages was gathered; among other things, the first fortified settlements of the Late Bronze Age were discovered, which opened completely new perspectives in the study of earlier societies. Increased interest on the part of the state was also reflected in the new Heritage Conservation Act that was passed by the Estonian parliament in 1936. For the first time, this act created the position of Inspector of the Protection of Antiquities by the Ministry of Education (this post was then occupied by E. Laid) as well as the curators of antiquities and trustees

in the counties (see more Tvauri, this volume, c). Thanks to the foundation and development of this network of trustees, the amount of prehistoric artefacts forwarded to museums began to increase considerably.

## New trends in the 1940s and 1950s

### Institutional reorganization in the 1940s

After the occupation of Estonia by the Soviet Union in 1944, university teaching and research in the field of archaeology were initially continued at the Chair and *Kabinet* of Archaeology at the University of Tartu. Fundamental reforms were launched when the Institute of History was founded as an institution of the Academy of Sciences of the Estonian SSR (established in 1946) in 1947. As the Institute of History was assigned the task of studying the entire history (including prehistory) of Estonia, a department (called ‘sector’) of archaeology was also established, and this received all of the archaeological collections, library and archives of the Chair and *Kabinet* (see more Tvauri, this volume, b). The Chair of Archaeology – which was now, according to the Russian model, renamed the Cathedra of Archaeology – preserved only a collection of slides as a direct teaching material. By thus dividing collections, it was assumed that both the department and cathedra of archaeology were located close to, and would closely cooperate with, each other. H. Moora was the head of both of these institutions (working in the department without salary). M. Schmiedehelm was assigned to the department as Senior Research Fellow; young archaeologists Lembit Jaanits and Leo Metsar also began work there. E. Ariste stayed at the cathedra, whereas A. Vassar (Fig. 11) went to the Cathedra of Estonian History (Jaanits, L. 1991, 24). R. Indreko and E. Laid had gone into exile (Sweden) during the war.

<sup>13</sup> In order to understand the plans of the Estonian National Clubs, one can mention, for example, that there were plans for the total excavation and reconstruction of the hillfort of Iru near Tallinn.

<sup>14</sup> The increasing interest of state and society in archaeological research in the 1930s were characteristic not only of Estonia but almost of all of Europe. The most remarkable examples, of course, can be found in Germany.



**Fig. 11.** *Artur Vassar (photo: AI).*

In 1950, during the campaign against ‘bourgeois nationalism’, the communist authorities decided to end university instruction in nation-centred sciences, such as archaeology, ethnography and art history, and the corresponding departments were closed. Next, it was also decided to move the Institute of History – together with all departments, including archaeology – to Tallinn. Although there was relatively good working space for researchers in Tallinn (7 Estonia St.), the conditions for the storage of archaeological and osteological collections were very poor – they were placed in corridors and vestibules, where they remained until the 1980s. In this way, research and instruction in archaeology at Tartu was violently and abruptly interrupted, and after that time, all archaeological activities were concentrated at the Institute of History in Tallinn. All con-

tacts with the outside world were completely cut off, including traditional contacts with Scandinavian, Finnish and central European archaeologists, which had been important to the development of archaeology in Estonia (Jaanits, L. 1991, 39).

### **New approaches in archaeological research**

After the foundation of the Department of Archaeology at the Institute of History – and in accordance with the Soviet-style planning of science – it became necessary to decide the further directions of archaeological research. It was therefore established that there was an urgent need to concentrate studies in two fields: the Neolithic and the Early Metal period (i.e. the Bronze and Pre-Roman Iron Ages), and the Late Iron Age; the former became the topic of Jaanits (particularly the Neolithic period) and the latter that of Metsar. Schmiedehelm continued her work with the Pre-Roman and Roman Iron Ages in north-eastern Estonia, whereas Moora decided to start with a Marxist reevaluation of the theoretical heritage of earlier historiography (Jaenits, L. 1991, 25).

As Estonia was now incorporated into the Soviet Union, its history also had to be brought into accordance with the general periodization of the history of the USSR, because Estonian history was officially considered to be an inseparable part of the latter (Moora 1954, 6). That was the political reason why a new periodization of prehistory, based on the doctrine of K. Marx and F. Engels about the development of socio-economic structures, was elaborated. The Mesolithic and the earlier part of the Neolithic (i.e. the foraging Stone Age) were renamed the period of matriarchal clan society; the Late Neolithic to the Pre-Roman Iron Age (incl.) now became the period of patriarchal clan society. The latter was subdivided into two: the period of the transition to patriarchal clan society (i.e. the Late Neolithic and Early Bronze Age) and the (developed) patriarchal clan society (the Late Bronze and Pre-Roman Iron Ages). The Roman Iron Age was called the period

of the destruction (or termination) of clan societies, the Middle Iron Age was considered the transition to class society, while the Late Iron Age was now the period of the formation of early feudal relations – the latter did not belong to prehistory, i.e. to the pre-class societies (Moora 1954; Vassar 1954a, 26 ff). One can easily see that this new periodization proceeded directly from the previous one (see articles in part II of this volume), although it was also artificial and arbitrary, because it was based on a theory about the development of social relations – and not the archaeological evidence itself, on the basis of which such a theory could have been elaborated.

It is clear that further archaeological research had to proceed entirely from the Marxist doctrine of society, which it also did. Nevertheless, one may ask, what would Estonian archaeology look like without such a coercive application of Marxism? When comparing the doctoral dissertations of the early 1940s, one can imagine some potential tendencies in the approaches of Estonian archaeology in those times. Two of them – Schmiedehelm's study on the Early Iron Age in western Masurien (in present-day Poland) and Indreko's treatment of the Mesolithic in Estonia – continued the best traditions of the culture-historical school of thought. Schmiedehelm proceeded from the typological analysis of finds from the cemetery of Gašior, excavated at the beginning of the 20<sup>th</sup> century. This work remained in manuscript – and her doctoral degree was later not acknowledged by the Soviet authorities; yet, in 1990, the catalogue of these grave goods was published in Poland (Schmiedehelm 1990). Indreko later published his study on the Mesolithic in Sweden (Indreko 1948a). From the methodological point of view, Indreko's treatment was on the same level as pre-war studies in Estonia, and contemporary works in Sweden and Finland. In this book, the main Mesolithic sites are introduced – together with their geological background, archaeological find conditions and a thorough typological analysis of the artefacts. In the book's summary, Indreko also tried to describe the main livelihood of the people of the

Kunda Culture (the nature of hunting and fishing, questions concerning the size and seasonality of settlement sites, etc.), as well as its ethnic origin in the context of the whole of northern Europe.

The thesis of Vassar (1943, in manuscript) about the stone grave of Nurmsi and the development of *tarand*-graves, however, differed considerably from that described above. Although cultural contacts and the typologies, chronologies and distributions of artefacts played an important role in the work, the author nevertheless reached a completely new level with his attempts to explain and understand developments in the archaeological record. In interpreting archaeological evidence, Vassar turned to ethnographic and folkloristic parallels for assistance – e.g. in the analysis of burial customs, where he tried to understand why inhumations and cremations so often occur together in our prehistoric graves. His desire to interpret is well reflected in the approach declared as follows: 'To reach a better understanding of the development of *tarand*-graves, we must determine the particular historical-social and economic conditions that in the sphere of religious rituals and customs led to the erection of such buildings.' In the characteristic manner, chapter eight was titled: 'The cult of death and socioeconomic development as factors in the development of *tarand*-graves.' Consequently, according to Vassar, the reasons for the changes in prehistoric sites and material culture had to be sought in the changes of the people's ideology, their social relations and economy. When explaining the reasons for investigating the Roman Iron Age, Vassar stated, among other things, that 'at that time, new forms of life and worldviews were elaborated, behind which there stood a working and fighting people, an active and organizing society'. These standpoints, emphasizing the active role of both individual and society – despite the feeling that the 'fighting people' was evidently loaned from the phraseology of the Third Reich – sound rather modern even today. Vassar was not satisfied with his success in the establishment of the typological continuity between the *tarand*-graves and stone-cist graves of earlier periods – and, hence,

the continuity of settlement and culture at the transition from the Pre-Roman to the Roman Iron Age – he also posed the following question: *Why* did such a change in grave types take place at all? This was a particularly important question, because unlike the majority of representatives of the culture-historical school, Vassar did not explain that change through external contacts and cultural loans. The development and changes had taken place on the spot – hence the reasons for that also had to be sought in the local societies.

What Estonian archaeology became later on, in Soviet times, is apparent from the monograph (a new doctoral dissertation) by Schmiedehelm (1955) about the Early Iron Age in north-eastern Estonia.

In it one encounters essentially the same questions and answers that had already been presented in the 1930s: i.e. the distribution of antiquities (which was, as before, equated with the distribution of human settlement), the structures of graves, burial customs, types of grave goods, chronology, cultural contacts, etc. Nevertheless, due to the application of Marxism (and, probably, following the example of Vassar), there are also questions of a different kind. Schmiedehelm drew attention to the fact that economic stratification already developed during the Pre-Roman Iron Age (this was likely to reflect the emergence of tribal aristocracy and the beginning of the destruction of clan society); she also analysed social structures (the size of settlement units, the nature of extended patriarchal families, etc.), and tried to reason the main developments in settlement pattern, society and culture based on the development of productive forces, i.e. mostly the farming economy and iron production. In the change of grave forms (*tarand*-graves instead of stone-cist graves), she believed to follow the reflection of socio-economic relations (first, field cultivation achieved the predominant position over stock breeding; second, social relations based on that kind of agriculture changed, and finally, the form of graves changed so as to better correspond to those new social relations). The conclu-

sion about the decrease in the importance of stock breeding was drawn from the abandonment of fortified settlements and the formation of a dispersed settlement pattern, i.e. the settlement units had to become smaller in size or, in other words, the old clan system was destroyed and a new form of social organization – the extended patriarchal family – established. This process also brought about some conflicts between – according to modern terminology – old and new elites. In some cases – particularly in religious beliefs – the old ties of clan society preserved their importance, as reflected in the custom of continuing to use old graves for burial (or sacrificing) for a long time (today one may call this the ritual communication between the living and dead members of a community). The termination of burial in *tarand*-graves was interpreted by the destruction of extended families and the separation of nuclear families; this process was in turn made possible by the new developments in agriculture, i.e. the replacement of slash-and-burn agriculture with permanent field cultivation.

In trying to characterize the theoretical background of our archaeology in the 1950s, one must note that it was not a special or separate occurrence – a more or less similar brand of archaeology was then developed everywhere in Eastern Europe, which, of course, confirms the existence of close ties between the theory of human and social sciences and contemporary socio-political power. The study by Schmiedehelm (1955) and the majority of other works from those times also continued the culture-historical approach, as the main goal of research was seen to be the acquisition of new material and its inclusion in scientific circulation, but not in the development of theory. One can consider it a step forward that, unlike Western archaeology in general, a certain theory about the development of society was available. The problem was, however, that this theory had been provided by the classics of Marxism, and it was forbidden even to doubt in it, not to mention developing it. The task of archaeologists was seen as the matching of archaeological



evidence with one or another stage of socio-economic development. Despite all of this, the writings of Vassar, Schmiedehelm and some others from the 1950s advanced the *interpretation* of archaeological evidence, as they sought to ask questions of a different kind in addition to culture-historical ones.

While in the case of earlier decades we could observe the existence of a certain rift between strictly scientific archaeological treatment and so-called social order (i.e. national-romanticist ideology), for now – as is also evident from the above – such a split apparently disappeared. It disappeared in such a way that all scientific research was subjected to strict ideological control, which started from state-organized censorship and ended with the gradually elaborated self-censorship of scholars. No scientific or popular-scientific publication was possible outside this ‘correct’ ideological framework. Dilettante (or alternative) treatments disappeared, as both school books and general treatments of history (and even studies of local history) were subordinated to scientific peer-reviewing – and the latter to ideological censorship. There was only one correct history, the main course of which had been written down in the works of the classics of Marxism.

One rather important direction in the archaeology of the 1950s was research into the ethnic history of the Estonian people. Ethnic questions had, to some extent, already been explored before, in connection with the writing of the general treatment of Estonian history (EA I, 1935). Now this topic was rediscovered, for several reasons. First, H. Moora, the initiator of the above-mentioned work, had been forced to criticize sharply his own contribution to that treatment, and now the situation itself demanded the presentation of a new ‘Marxist’ conception. Second, Estonia’s eastern borders had meanwhile been opened up, and there was now access to the archaeological evidence of the easternmost Finno-Ugrian peoples in Russia, which enabled the more thorough examination of this research problem. Third, behind the ethnic studies (i.e. the research into possibly deep-reaching roots of one’s own people) one can see some hidden striv-

ings to give a scientific justification to the primeval right of the Estonians to live in their own country, which in the new political situations (occupation and deportations) was no longer so self-evident. In this latter sense, one can talk about the shifting of the contemporary ideological struggle to the battlefield of science. Whereas the main opponents, whose standpoints had to be considered, did not work in scientific but ideological institutions and in censorship – therefore one had to write in an acceptable manner and, if necessary, to speak between the lines, as it were.

Methodologically, ethnic studies proceeded from the equating of archaeological cultures and ethnically determined entities in the past, striving retrospectively to follow the roots of historically known peoples as far back in time as possible. In essence, this approach was the same as that elaborated by G. Kossinna and V. G. Childe in the early 20<sup>th</sup> century. The approach was a *multidisciplinary* one, i.e. different disciplines – such as linguistics and physical anthropology in particular, but also ethnography and folkloristics – were involved; nevertheless, the *interdisciplinary* analysis of the entire problem was rather modest. The theoretical discussion about the essence of archaeological cultures and their probable ethnic meaning was almost entirely absent. Still, in his programmatic article, Moora (1956) called for caution when comparing the stages in the development of culture and language, because they both develop according to different laws and at different speeds. According to him, only those archaeological cultures that sharply differed from each other were comparable with ethnic or language groups (such as, for instance, the border between the northern and southern Baltic regions in the Roman Iron Age, expressed by the differences both in burial customs and find assemblages). He was convinced that not all cultural changes were an expression of language change and, hence, the change in the ethnic composition of that people. However, such an approach did not essentially differ from that of Kossinna, who had also emphasized not simple and weak cultural dif-

ferences but ‘sharply defined’ cultural provinces. In numerous later works about ethnic history published either in Estonia or in the Baltic countries and Russia, analogous discussions are already totally absent.

According to the knowledge and interpretation of that time (see EREA, 1956), the eastern Baltic region was primarily (i.e. since the Ice Age) inhabited by people of some (unknown) proto-European origin. It was supposed that Finno-Ugrian tribes reached this region c. 5000 years ago, coming from the east together with the typical combed ware; the ancestors of the Balts came later – they were considered to be the bearers of the Corded Ware Culture. This was actually what Moora had already written in his work in 1935. During the centuries after those events, two different ethnic groups were assimilated in some parts of the region in question and consolidated in others. According to this theory, there were two rather clearly distinguishable ethnic groups in the eastern Baltic region since the 1<sup>st</sup> millennium BC: the areas north of the Daugava River were inhabited by Finnic peoples (the ancestors of the Estonians and Livs) and the areas south of it by the Balts. Both groups had different grave types and peculiarities in material culture, which became more distinguished during the subsequent period.

It is interesting to note that the authors of this theory did not consider another standpoint on the possible ethnic history of the Finno-Ugrians. In as early as 1948, Indreko had published a paper in which he pointed out that ‘[...] the origins of the Finno-Ugrians could have their roots in the early sections of the same culture which developed from the centre of the European Palaeolithicum’ (Indreko 1948b, 13). Thus, according to Indreko, the Finno-Ugrians reached the Baltic region not in the Middle Neolithic, moving from eastern Europe together with Typical Combed Ware Culture westwards, but considerably earlier, following the retreating ice-sheet from the south and southwest. This means, in other words, that the Finno-Ugrians were the first settlers of the eastern Baltic region, and there was no later (mass) immigration from the east. The denial of Indreko’s

works published in exile was undoubtedly motivated by political reasons that developed in Estonia in the 1950s. The theory of Moora and the others (EREA, 1956) became ‘untouchable and official’ in Soviet Estonia for almost forty years, which was mainly due to the both scholarly and administrative authority of the authors (see also Lang 2001).

## Archaeology in the 1960s – 1980s

### The archaeologists, institutions and fieldwork

In the 1960s–1980s, archaeological research was previously concentrated in one centre – the Institute of History in Tallinn. A new structural unit – the Department of Collections – was founded there in 1971 (its head was Jüri Selirand; Fig. 12). Its main task was the organization of museum collections and the preparation of a permanent archaeological exhibition. Suitable houses for that purpose were found in the Old Town of Tallinn (present-day Rütli St.), and after the renovation, all archaeological collections were moved into good and modern conditions. Later, in 1986, one more structural unit was established – the Laboratory of Geoarchaeology and Ancient Technology (its head was Aarend-Mihkel Rõuk; 1943–1997), the task of which was the interdisciplinary exploration of the prehistoric natural environment and technology, using different (natural) scientific methods.

The archaeological staff was gradually complemented, and it reached the threshold of two dozen people by the beginning of the 1980s (see below, Fig. 16). Although the teaching of archaeology as a separate discipline was ceased at the University of Tartu, there was still one archaeologist – Vilma Trummal – working as Lecturer (and later as Assistant Professor, i.e. Docent according to Soviet terminology). A few students got



**Fig. 12.** *Jüri Selirand (photo: AI).*

an opportunity to study archaeology with her in the framework of ‘special’ courses, whereas some more prominent archaeologists from the Institute of History were also involved in this teaching programme (L. Jaanits, E. Tõnisson and V. Lõugas). As the Institute of History in Tallinn was not able to offer a job to all graduated archaeologists, there began to emerge other institutions where one could work as an archaeologist. Such institutions were the Estonian History Museum (Mati Mandel), the City Museum of Tallinn (Kaupo Deemant) and the Scientific-Methodical Council of Museums and Cultural Heritage, which was established by the Ministry of Culture (Ants Kraut).



**Fig. 13.** *Vello Lõugas (photo: AI).*

These were the active years of the second generation of professional archaeology in Estonia. The investigation of topics that had already been begun in preceding decades was continued, i.e. the Neolithic (L. Jaanits) and the Middle and Late Iron Ages (the islands of Saaremaa and Muhu – Aita Kustin (1930–1970), the cemeteries of the Livs in Latvia – Evald Tõnisson (1928–2001) and the cemeteries on the Estonian mainland – J. Selirand). Some new topics were also added: the period of the Bronze and Pre-Roman Iron Ages in Estonia became a subject of study for Vello Lõugas (1937–1998; Fig. 13), the Middle Iron Age in south-eastern Estonia (incl. problems connected with long barrows) – Mare Aun and the Mesolithic – Kaarel



**Fig. 14.** *Archaeological rescue excavations in the settlement site of Olustvere (photo: AI).*

Jaanits. The methodology and the set of research questions remained unchanged, however, until the arrival of the new generation in the early 1980s. The investigation of relatively small areas throughout many prehistoric periods now became one of the new trends (Toomas Tamla, Ain Lavi, Valter Lang), but there were also such topics as the Votic antiquities in north-eastern Estonia (Priit Ligi; 1958–1994), medieval village cemeteries (Heiki Valk), ancient technology (Jüri Peets), prehistoric and medieval weaponry (M. Mandel and Ain Mäesalu), etc. In addition to archaeologists, there were also physical anthropologists Karin Mark (1922–1999), Leiu Heapost and Galina Sarap (1940–1993) working at the Institute of History, and their research topics were related to the study of prehistoric and historic populations.<sup>15</sup> Towards the end of the period in question, more and more attention was paid to

<sup>15</sup> Physical-anthropological studies are not examined in this article; an overview of these works is included: Mark *et al.* 1994.

the use of natural scientific methods in the reconstruction of past environments (A.-M. Rõuk, Tanel Moora and others), whereas scholars from other institutions also contributed to that.<sup>16</sup>

In the area of fieldwork, two main directions should be mentioned. The first was connected with the third Estonia-wide inventory of archaeological sites, which was initiated by Lõugas in the early 1970s. This time the purpose of the inventory was that the entire country be examined by professional archaeologists who would be able to register everything still preserved from prehistoric or early historical times. The work was begun from areas that had already become a hindrance to extensive building, quarrying or land improvement (mostly northern and north-eastern Estonia). During these fieldworks, which are not yet finished, thousands of new sites (mainly settlement sites, graves and cup-marked stones) were discovered and rescued (see

<sup>16</sup> On the interdisciplinary studies from those years see LMEA, 1988 and Kriiska & Lõugas, this volume..

Tvauri, this volume, c). The second direction meant rescue excavations (Fig. 14). Due to the expansion of both cities and quarries and the performance of land improvement work in kolkhozes, more and more sites had come under threat of destruction, and thanks to quite an effective law on the protection of antiquities, they had to be excavated. Rescue excavations represented the majority of the work of our archaeologists in the 1970s and 1980s, and there were relatively limited possibilities for carrying out any theoretical studies. The excavations at the settlement sites at Olustvere, Lehmja and Uderna and at the grave groups of Vão, Iru, Rebala and Jõelähtme can be taken as the best examples of such large-scale rescue works. No one succeeded then in analysing the enormous amount of finds collected through these fieldworks.

### New Archaeology in Estonia?

As we are discussing the decades of the 1960s and 1970s, which were characterized in North America and in several regions of West Europe by the development of so-called New Archaeology, one may ask whether there was also any reflection of this trend in Soviet Estonia. One must keep in mind, however, that (1) due to the Iron Curtain, there was little knowledge of what was going on in the West, (2) orthodox Marxism and ideological control did not allow very much experimentation with theories, and (3) many elements of New Archaeology that were 'new' in the Anglo-American countries were already known and practised on the European mainland, including Estonia. First of all, one should mention the usage of natural scientific methods in the exploration of prehistoric environments. One can be certain that the term 'New Archaeology' was never used in any official publication. Nevertheless, some of the corresponding methods were used, or at least attempts were made to use them. For instance, the research task as stated by J. Selirand (1977, 72) sounds very 'new-archaeological', emphasizing long-term processes:

The task of archaeologists is to explore the mutual impacts of human societies and the natural environment in a historical perspective, to collect new evidence about how human activity has influenced the formation of natural conditions over time.

Complex studies with such a task were carried out since the middle of the 1970s in several areas of northern and western Estonia (eastern Saaremaa, Rebala, Toolse); the leaders of those works were V. Lõugas and T. Moora. Here one can note an interesting difference: while the new archaeologists proceeded from the development of an environment to which human culture had to adapt, in Estonia the active role of human beings in changing the environment was emphasized:

The investigation of antiquities and their relation to the natural environment can offer a substantial amount of new data concerning how human activity has changed the surrounding environment over time; this helps one to understand what consequences will follow the altering of the environment (Selirand 1977, 73).

In this quotation one can actually find a hidden resistance against the Soviet mentality, which was clearly expressed in the statement of famous Soviet plant breeder I. Mitshurin: 'We do not wait for doles from nature, we take them ourselves.' The social context was clear, of course: the majority of archaeological fieldwork was going on in damaged areas where often even entire landscapes that had preserved their historical (or prehistoric) character were in danger of destruction by buildings, quarries or agricultural land improvement. However, this promising theoretical approach was not further developed, and no remarkable generalizations occurred, although its influence can be found in several works.<sup>17</sup>

<sup>17</sup> For instance, this approach was clearly expressed in the monograph on the history of the Estonian peasantry (ETRA, 1992), which was written in the early 1980s, where both the impact of the environment (vegetation, soils, climate, etc.) on the development of agriculture and the destructive influ-

In addition to interdisciplinary studies of the natural environment, which had already been developed in Estonia since the advent of scientific archaeology, one can also notice some strivings to use statistical methods. For instance, V. Lõugas and K. Jaanits initiated an experiment in the early 1970s in the use of mathematical methods and computer technology through the systematization of archaeological finds. No particular success or remarkable result was then achieved, however, and later on, researchers' interest in such questions decreased.<sup>18</sup>

The completion of the building of the archaeology centre in Tallinn (in Rüütli St.) also belonged to the stream of thought of that period. Several labs were to be built in this centre: in addition to labs for conservation and restoration, there were also ideas to found labs for studies in metallography, spectral analyses, palaeobotany, soil sciences, petrography, photo, cinema and x-ray. These ambitious plans were not fulfilled, however; nevertheless, there was a clear tendency towards involving more and more scientific methods in archaeological research.

One may conclude that although the term 'New Archaeology' was never officially used, many of its methods were known and practised in Estonia. Much depended on the personal contacts between archaeologists and their foreign colleagues, and their willingness to improve the level of research. For instance, the calibration of radiocarbon dates rather quickly reached researchers of the Iron Age (where this method had no noteworthy consequences), but remained almost unknown to the researchers of the Stone Age, causing considerable misunderstandings in chronology. At the same time, the theory was not developed further, and no generalizing studies were published, which may also have been complicated due to censorship.

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ence of extensive field cultivation on the environment (by impoverishing the soil through overexploitation) were thoroughly analysed.

<sup>18</sup> Nevertheless, statistical methods were also used by K. Jaanits in his dissertation about the flint assemblage of the Kunda Culture (Jaanits 1989).

### *Eesti esiajalugu and other studies*

In general research, the same main trends were followed as in the 1950s. In order to characterize the main trends in archaeological research, one must analyse dissertations from those times, the number of which totals six in the 1960s and 1970s.<sup>19</sup> The earliest of these was disputed by A. Kustin (1962a). This was the first thorough treatment of the rich and unconventional archaeological material of the Estonian islands of Saaremaa and Muhu from the 11<sup>th</sup>–13<sup>th</sup> centuries. A few years later (in 1965), J. Selirand completed his thesis about the mainland Estonian graves and burial customs of the same period, and this was later published as a monograph (Selirand 1974). The next thesis, again, was about the Late Iron Age – this time about the material culture of the Livs in the Gauja River area of Latvia (Tõnisson 1968, published in 1974). As a result of all of this academic activity, the Late Iron Age had quickly become one of the most thoroughly explored prehistoric periods in Estonia, which is remarkable because before that time, there were almost no monographic studies about that period (see Mäesalu & Valk, this volume). Research into earlier epochs advanced too. In 1970, V. Lõugas completed his thesis about the Bronze and Pre-Roman Iron Ages in Estonia, and in 1974, S. Laul added her study about the Roman Iron Age in south-eastern Estonia (the latter was published with additions in 2001). The thesis of M. Aun (1979) was also about the south-eastern part of Estonia;

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<sup>19</sup> According to the organization of Soviet science, dissertations could be of two kinds, either for the degree of candidate or doctor. The former ones of those times are comparable to modern PhD theses, they were supposed to be written during the three-year candidate studies (after five years of university studies), although, as usual, they actually took much longer. The Soviet doctoral dissertations, at least in archaeology, were usually composed after (field) work of several decades. All archaeological dissertations in Estonia in the time period in question were the candidate theses; the first doctoral degree (since M. Schmiedehelm) was defended by E. Tõnisson (1988a).

however, she examined the materials of the Middle Iron Age (this work was published in 1992).

One can conclude that all of these studies contributed greatly to the detailed investigation of the corresponding prehistoric periods and geographical areas. In addition to earlier evidence, these works brought into scientific circulation large amounts of new finds that were collected by the authors during their prolonged fieldwork. All of these works also shared the same theoretical approach – i.e. *culture-historical archaeology mixed with orthodox Marxism and natural-scientific methods*. As was the case many decades before, main attention was paid to the chronology of artefacts and sites, their typology, distribution, culture-historical comparisons, etc. Although Estonian archaeological evidence was treated in close connection with the development of both the natural environment and the economy (particularly in the writings of V. Lõugas and T. Moora), insufficient effort was devoted to either the explanation of the meaning of such ties or the theoretical reasoning of the interpretations offered. As much as it was necessary to examine the development of society and economy, academics remained fettered by the Marxist doctrine of socioeconomic formations.

Some interesting tendencies in the revaluation of the developmental stage of Estonian prehistoric society are worthy of mention. As described above, the first occurrences of the class society were dated to the Middle Iron Age in the 1950s, whereas the Late Iron Age was considered a time of early feudal relations. In the 1960s, when the political situation in the Soviet Union became a bit more liberal and enabled some limited scientific debate, Harri Moora and historian Herbert Ligi made a change in the existing approach, stating that in the Late Iron Age one could only speak of the rise of early feudal relations and very modest economic differentiation, and not about an early feudal social order as such (Moora & Ligi 1970). Later, other archaeologists and historians also began to share this opinion. As pointed out by Priit Ligi (1995a, 189), one must

see some ideological aspects behind this shift. First, there is the political background, because this step helped to alter Late Iron Age society in Estonia, in contrast to that of the Old Russian state, and thus to contest the claim that Estonian areas belonged to it. Second, there was also an impact of national-romanticist ideology, because this change made it possible imperceptibly to revive pre-war ideas about ‘national equality’ (i.e. an egalitarian society of farmers) in our treatment of prehistoric society. One can also add a third aspect: the existence and continuation of a strong positivist methodology in Estonian archaeological and historical sciences. The result of this shift was, however, that Estonian society was considered backward in comparison with its southern, western and eastern neighbours. In the imaginations of some historians, the late-prehistoric society of Estonia has been even regarded as similar to the Germanic tribes from the times of Tacitus (ETRA, 1992, 116 ff). With that comparison, the circle of interpretations had become closed, and one had once again reached the standpoints of the Baltic German treatment of history concerning the primitivity and backwardness of the ancestors of Estonians.

The late 1970s and 1980s can be characterized by a certain stagnation in the writing of theses and the publishing of books, particularly if one compares those years with both earlier and later decades (see Lang 2000c). The main reason for this was the sharp increase in rescue excavations, which did not leave enough time for essential research. Nevertheless, a remarkable amount of work was then done that enabled to overcome this crisis in the late 1980s and especially in the 1990s.

The collective monograph *Eesti esiajalugu* (‘Estonian Prehistory’; Jaanits *et al.* 1982) became one of the key achievements of the second generation of professional Estonian archaeology. The manuscript was already completed in the middle of the 1970s, and it was partly based on fresh monographic studies on the Bronze and Early Iron Ages (Lõugas 1970a; Laul 1974) and Late Iron Age burial

customs (Kustin 1962a; Selirand 1974). In terms of its approach, this treatment clearly represents the culture-historical school, with some necessary Marxist accessories (still to a lesser extent than in the 1950s). The main part of the work is descriptive, containing the chronological and culture-historical overviews of sites and finds in all periods, the development of the natural environment (particularly in the case of earlier periods), the economy and settlement pattern. *Eesti esiajalugu* is very good in the presentation and systematization of this evidence. However, the problems concerning the interpretation of that evidence are not discussed – the authors simply interpret, mostly from the level of ‘common sense’. The Marxist approach serves as a background for the analysis of social and economic questions; ethnic problems are solved in the way of the 1950s (with some corrections in the field of long barrows), which was nothing but an elaboration and adaptation of the theory of Kossinna to Estonian circumstances.

## Summary

Scientific archaeology in Estonia has passed through several stages during its 140-year history. It began in the 1860s, after the prolonged introduction of amateurs and collectors, at the University of Tartu as a favourite occupation of some professors from other branches of science. Despite the fact that archaeology was not their speciality and occupation, both C. Grewingk and R. Hausmann, as real scholars, also took this hobby seriously – the works written by them were without doubt scientific works by the standards of those times. The Baltic German origin of the first Estonian archaeologists cannot stop us from highly valuing their dignified contribution to the investigation of the prehistoric past of both their homeland and ours. In the same manner, we must acknowledge the role of J. Jung in carrying out the first Estonia-wide registration of antiquities.

Estonian archaeology was institutionalized a little earlier than in other Baltic countries, i.e. already in 1920. The Chair and *Kabinet* of Archaeology, together with the museum, organized under the leadership of Professor A. M. Tallgren, became the centre of archaeological research for the next 30 years. After a ten-year long standstill caused by the wars of the early 20<sup>th</sup> century, archaeology rose again and reached international standards in the 1930s. From some points of view, e.g. greater interdisciplinarity, that average level was even surpassed. Serious work was done in the registration and protection of antiquities, and also in the field of the improvement of excavation techniques and methods. The theoretical approach was culture-historical, as was everywhere else in those times, but it was made more colourful by the frequent use of natural scientific methods.

The reforms of the Soviet era dealt a severe blow to the development of archaeology, in the course of which the Chair of Archaeology was closed and all archaeological research was moved to the Institute of History in Tallinn. As with all fields of science, archaeology was also subordinated to the Marxist doctrine of society and censorship. It is perhaps incorrect to examine the application of Marxism only from a negative point of view – its more positive aspect can be seen in the fact that it helped to imagine past societies more dynamically, socially more mobile, and to look for the answers to the questions about deeper tendencies in the development of society. Gradually, as archaeologists were able to overcome all of these reforms, new results were also achieved; paradoxically enough, despite the compulsory Marxist doctrine, they were also able to ensure that the culture-historical essence and approach preserved their importance in research. It was ‘post-Estonia’s’ archaeology that was carried out in the Soviet political space. The middle of the 1950s can be treated as the era of the overcoming of the post-war crisis and the rise to a new level. An important role in that belongs to the leading contribution of H. Moora.



The following decades can be characterized by active research into those periods or regions that had been less studied so far; a number of dissertations were presented on those questions as well. Due to strict ideological control, there was no possibility to develop theory and methodology or to elaborate fundamentally new interpretations. The volume of archaeological excavations was not large at first, but steadily began to increase since the late 1960s, particularly due to rescue works at threatened places.

The rescue excavations became extremely large-scale in the late 1970s and 1980s, so that archaeologists did not have enough time to analyse the material that was gathered. The culmination of essential research was left to the 1960s and early 1970s, the results of which later formed the basis for the general work *Eesti esiajalugu*. The 1980s can be characterized as period of relative stagnation, which was not overcome until the end of this decade.

# Estonian Archaeology from 1991–2005

MARGE KONSA

## Introduction

From the semiotic point of view, contemporary culture is intersemiotic. In this culture, the texts generated in different sign systems coexist as different texts, while at the same time representing various forms of one and the same text. In other words, in culture the same text constitutes a multitextual mental whole (Torop 2000). Modern culture is also reflected in present-day archaeologies, and the official ideology of Europe – unity in diversity – is appropriate to characterize quite a few trends in the disciplinary politics of archaeology. One example of this is the growing number of international projects focused on a joint topic, international excavation expeditions, the domination of English in national archaeologies, etc. For all that, one might also bear in mind that each archaeology is like a separate sign system having its own peculiar sources, historical background, specific questions and cognitive approaches.

European archaeologies before the 1990s are often characterized by the use of binary oppositions (Neustupný 2002). Accordingly, the codes for Estonian archaeology, as well as for the other former Soviet-bloc archaeologies, are *east*, *minority*, *traditional*. Opposed to these are *west*, *mainstream*, *innovative*. Several social scientists (see also Lauristin 1997) conceive the processes of the 1990s in post-Communist states as a transition from one system to another, with the final result being the Westernization of all spheres of the soci-

ety. Considering the similar past background, one might think that the transition would be similar in all Estonia-like transitional societies. In fact, however, it is not, nor is 'the West' that was achieved any longer the same West that was desired at the beginning of the 1990s.

In any case, the former oppositions are no longer valid in the contemporary cultural space. From the point of view of archaeology, *secondary archaeologies* have a role in the rearrangement of power patterns, seeking new ways and their own place in the landscape of archaeology, and thus awakening *core archaeologies* from their lethargy (see e.g. Chapman 2003, chapter 2).

In this article, the recent past of Estonian archaeology is treated at two levels. Initially, general changes in the research milieu are outlined, and thereafter important shifts in interpretations of the past are described. Although the relations of science and society are not directly analysed here, and nor is the reception of archaeology, it is nevertheless evident that archaeology as a discipline by no means exists in a vacuum, but is connected with broader political, economic, social and, especially, ideological changes. Regarding the latter, social scientists have observed a significant shift in Estonia in the second half of the 1990s. By the time of the collapse of the Soviet system and the re-establishment of independent Estonia, it was national ideology that helped people to act in the name of the joint objective and to overcome the period of crisis. However, in the new society, national values lost their valid-

ity, while those used to justify institutional reforms were not viewed as being in the interests of the people, but were perceived as the interest of the government and the elite (Lauristin & Vihalemm 2002, 58). Present-day Estonia is therefore regarded as a state orientated towards the West and organized ethnocentrically, but having an internally divided society. As a result, attention has been called to the presence of contradictory identities in the society, arising from the incongruence of illusions and reality (Berg & Oras 2000), and to the differences between social (age) groups in adapting themselves to the new conditions, as well as in evaluating history, perceiving the past, and constructing collective and individual memory (Kõresaar 2004). One might notice that in adaptation to the new condition within new nation-state context, the role of the individual's personality type is regarded as even more decisive than affiliation to any particular group (Kõuts 2004). Similar phenomena could be observed in interviews done with archaeologists of different generations, and in the analysis of their texts, which was carried out in 2002. This project expressively revealed the differences in the values and world views both between and within the generations, as well as the importance of personality type in the analysis of interpretations of the past (Konsa *et al.* 2003).

### Research milieu: institutional and social changes

The first years of independence<sup>1</sup> entailed systematic rearrangements in all spheres of society. The path of radical reforms that was chosen meant that primary attention was to be directed towards political and economic structures. Thus, although the reform of science and higher education was

already commenced in 1990, the perceivable positive turn towards innovations occurred no earlier than 1994, when the system of personal research subsidies (grants), assigned via public competition, took effect. Until that time, archaeology as a discipline had survived largely thanks to participation in international research projects. In Estonia, as in other Eastern-bloc countries, scientific activities in the Soviet era were concentrated in the Academy of Sciences system. Making changes in such a centrally administrated and highly resource-consuming bureaucratic system was unavoidable in a capitalist society, and nowhere in Eastern Europe was the reforming of this 'Soviet science machine' entirely painless. The primary goals of state policies in the field of science were the establishment of a code of laws for the regulation of research and development activity, and the arrangement of a financing system and a network of research institutions. In this, special importance was attached to the effective cooperation between institutes and universities, as well as to the integration of research establishments and universities (Kaarli & Laasberg 2001, 10).

In connection with the increasing number of rescue excavations performed in Tartu, the issue of re-establishing archaeology as an academic speciality at the University of Tartu was raised once again in the late 1980s. In 1990 the Laboratory of Archaeology (headed by Romeo Metsallik) was established at the University of Tartu, and on the basis of this, the *Kabinet* of Archaeology was re-established in 1993. Along with the other chairs of national sciences closed in Soviet times, the Chair of Archaeology was restored in 1992. In 1990–1993, Evald Tõnisson was the Professor of Archaeology, and after he became emeritus, the Chair functioned without a professor for six years. In 1994–1996 Aivar Kriiska, who was then Lecturer, and in 1997–1999 Lecturer Ain Mäesalu, were the keepers of the Chair. In 1999 Valter Lang became Professor ordinary and head of the Chair. The *Kabinet*, which has been headed by Senior Research Fellow Heiki Valk since its inception, includes a conservation laboratory, archaeo-

<sup>1</sup> Estonia declared its independence on the 20<sup>th</sup> of August 1991.

logical collections, archives and a library. The educational base has continuously been broadened as much as possible, and therefore since 2005, in addition to general archaeology, a post-graduate degree programme in medieval archaeology and applied study for the training of specialists in museology and heritage protection management are available.

After the reorganization of the Academy of Sciences, most of its research institutes were united with the institutions of higher education in 1996–1998. Although the Institute of History, which was formerly part of the Academy, was transformed into a research and development institution under the administration of the Ministry of Education, no substantial changes occurred in its structure. Thus its subdivision into an archaeology department (headed by Priit Ligi from 1992–1994, by V. Lang from 1994–1999, and by Marika Mägi since 2003), a collections department (headed by Ülle Tamla since 1993), and the Laboratory of Geoarchaeology and Ancient Technology (headed by Jüri Peets since 1993) has continued until today. The institute's long-term financial crisis was somewhat relieved by a sudden change of generations after the retirement of senior archaeologists, and by the launching of a state financing programme for research projects. One may consider the uniting of the Institute of History with the newly constituted Tallinn University in 2005, and the launching of an archaeological post-graduate degree curriculum there to be the end of this prolonged period of reforms.

Thus there are today two functioning research centres of archaeology, both having its own target-financed programmes, research projects and curricula in archaeology.

In addition to universities and research establishments, the main fields of employment for archaeologists are, throughout Europe, contract archaeology, museums, heritage protection and public relations (popularization). In 2005, the total number of actively employed archaeologists in Estonia is approximately 50. Their disposition in different fields of employment is represented in Figure 15. In the two former above-

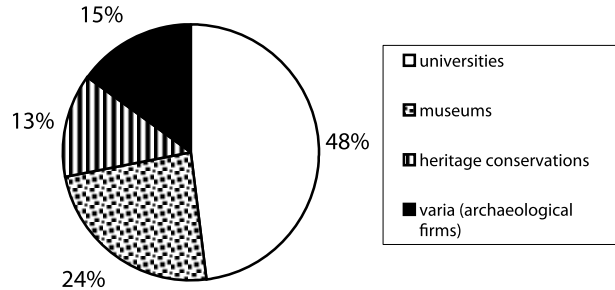


Fig. 15. Distribution of Estonian archaeologists in different areas of employment.

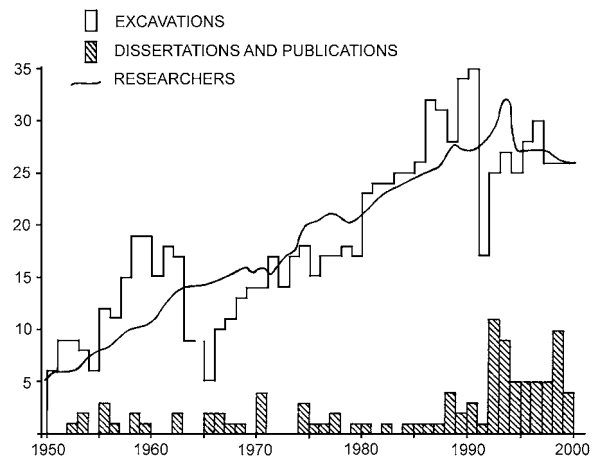
mentioned domains,<sup>2</sup> the number of archaeologists involved can be regarded as relatively good or satisfactory, and the void in the area of popularization has begun to be filled up by the non-profit organization MTÜ Arheoloogiakeskus ('Archaeological Centre'), established in 2002. In the field of cultural heritage protection, however, archaeologists are clearly underrepresented and, in comparison with other countries, their inclusion is extraordinary small. Although archaeological sites comprise the most numerous group of protected heritage, only 12 per cent of those employed directly in the domain of heritage protection have archaeological education. The shortage of human resources has necessitated rather severe choices in the development of heritage protection. Several issues concerning practical archaeology, e.g. the theory of cultural heritage, archaeological ethics, and the application of 'soft' methods in the exploration of sites, have regrettably remained in the background until recent times. However, the development of public relations (popularization) as well as the management and exhibiting of antiquities, as favoured by the European Union projects *Pathways to Cultural Landscape* and *European Cultural Paths*, have been fairly successful (Kraut 2002).

For a long time, one of the factors inhibiting the development of archaeology was the small number

<sup>2</sup> Considering the contract archaeology, only persons occupied in archaeological private companies are represented, though more than a half of all archaeologists are, besides their main job, periodically engaged in rescue excavations.

of researchers possessing a doctoral degree. In a ten-year period (1990–2000), the only person to receive a PhD was V. Lang, with his thesis on settlement archaeology in the Rävala area (1996). For now the doctoral crisis in archaeology has been mitigated, as seven doctoral theses were defended in the years 2001–2005. In these theses, the following subjects have been discussed: Stone Age economic and settlement processes in Estonian coastal areas and islands (Kriiska 2001c), popular culture and the world view of the native rural population in medieval and modern times on the basis of burial practices (Valk 2001a), the development and functions of the prehistoric fort and settlement in Tartu (Tvauri 2001a), burial places and social organization on the island of Saaremaa in the 9<sup>th</sup>–13<sup>th</sup> centuries (Mägi 2002a), the introduction and development of iron production and blacksmithy in prehistoric and medieval times (Peets 2003a), burial places in Lääne County in the 5<sup>th</sup>–13<sup>th</sup> centuries (Mandel 2003a), and bone and antler artefacts in Estonia from the Viking Age to the Middle Ages (Luik 2005).

In addition to financial crisis and difficulties in reorganizing the scientific and educational system, the third common concern in the archaeologies of the post-Communist countries in the early 1990s was the difficulties in publishing and adopting the international standard for publications. In Estonian archaeology, this transitional period is marked by the following publications, all of which have been closed by now: *Eesti Arheoloogiaseltsi Teataja* (in total 7 issues from 1990–1991), *Stilus* (7 issues in 1992–1997), and *Austrvegr* (4 issues from 1995–1998, in Estonian and Russian). The situation was stabilized in 1997 when the journal *Eesti Arheoloogia Ajakiri / Journal of Estonian Archaeology* was established as a joint publication of the Academy of Sciences and the Institute of History (since 2001 also of the University of Tartu) which appears twice a year; since 2004 the edition is published in English, and has been renamed the *Estonian Journal of Archaeology*. The National Heritage Board's publication *Arheoloogilised välitööd Eestis / Archaeological Fieldwork in Estonia* (since



**Fig. 16.** Dynamics of the number of excavations, dissertations, publications and researchers in Estonian archaeology in 1950–2000 (after Lang 2000c, fig.).

1998) appears once a year. The niche of monographs and thematic collections is filled by *Muinasaja teadus / Research into Ancient Times* (16 issues have been published since 1991) which is a joint series published by the Institute of History of Tallinn University and the University of Tartu.

In comparison with the previous period, there has been a sudden increase in the number of publications (Fig. 16). Since in the period from the early 1920s to the late 1980s, only 29 monographs and 11 collections of articles (comprising at least 50 pages) about Estonia or Estonia-related subjects were published, the 14 years since Estonia regained its independence (until autumn 2005) have witnessed more publications than the previous 70 years, as 19 monographs and 31 collections of articles have been published in these recent years. In addition to the doctoral theses mentioned above, some source publications (Lang 1993; Luik 1998a; Leimus & Molvõgin 2001; Tvauri 2005) and treatises on settlement archaeology (Lang 2000a) and archaeological numismatics (Molvõgin 1994a) and palaeozoological material (Lõugas 1997) have appeared as monographs. Several manuscript candidate theses that were defended in the Soviet

era have been printed after they had been complemented with fresh data (Aun 1992; Leimus 1995; Laul 2001; Tamm 2002). There are thematically collected articles on Votic graves in Estonia (Muinasaja teadus 2), interdisciplinary studies in archaeology (Muinasaja teadus 5), the Stone Age in Estonia and neighbouring countries (Muinasaja teadus 8), settlement hierarchy and the formation of power centres (Muinasaja teadus 11), the making and using of bone artefacts (Muinasaja teadus 15), the maritime cultural landscape (EJA 8: 1) and the archaeology of buildings (EJA 9: 2). The geopolitical broadening of Estonia is reflected in the number of international proceedings and papers published outside Estonia. The open borders help Western researchers to deal with the Estonian data. For example, the doctoral theses of Swedish researchers Kristina Creutz (2003) and Felicia Markus (2004) are largely based on the Estonian archaeological evidence.

International co-operation and intensified communication with the West has played an important role in the formation of the new research environment. In the first half of the 1990s, the Council of Europe's PACT project<sup>3</sup> gave Estonian archaeology powerful impetus to overcome the crisis. One of the coordinators of the project was exile Estonian Urve Miller, Associate Professor of Geology at the University of Stockholm. In addition to financial aid and world-class publishing facilities, the project also laid the foundations for close co-operation between archaeologists, geologists and human geographers of the younger generation. Part of this co-operation involved the application of natural scientific methods in archaeology but, in the long-term perspective perhaps even more significant was the introduction of new approaches to the study of the environment and landscape (see Kriiska & Lõugas, this volume). This path has led from environmental determinism and approaches that opposed nature to humans, to a complex and synthetic conception. According to

this, the relation between human beings and their environment was looked upon as a process of interactions. From the archaeological point of view, that implies, in the first place, the need to understand how humans render meaning to their surroundings. The scale of aspects that exert influence on human spatial behaviour is very broad, extending from natural, economic and social factors to aesthetic, religious and mental values, and therefore also the scope of the topics treated in this domain is very wide (see Lang, this volume, c). The importance of temporal dimension, dynamics and memory has been included in the broad-scale discussion of cultural landscape by archaeologists.

In the 1990s there were in fact more international and interdisciplinary co-operation projects of a different range in which Estonian archaeologists were also involved. Medieval archaeology in Estonia has reached the international arena while collaborating in the framework of *Castella Maris Baltici* and *Lübecker Kolloquium zur Stadtarchäologie im Hanseraum* (see Russow *et al.*, this volume); palaeo-osteologists and investigators of bone artefacts participate actively in the ICAZ Worked Bone Research Group; explorers of ancient fields have joined the EARTH project, etc. A relatively great effect was exerted on Estonian archaeology by the CCC (*Culture Clash or Compromise?*) project, which was initiated in 1995 by the University of Gotland in order to investigate Europeanization processes in the Baltic Sea region, and which directed archaeologists to analyse local cultural phenomena in a broader context and to examine the operation of cultural changes between and within cultures (see Mäesalu & Valk, this volume). One can discern how the communication between different research spaces and the need for translation have also begun to exert a forcible influence at the epistemological level, thus leading from the documentation and description of changes observed in the archaeological record towards the need for the essential analysis and understanding of the underlying phenomena. In present-day Estonian medieval archaeology, it

<sup>3</sup> European Study Group on Physical, Chemical, Biological and Mathematical Techniques Applied to Archaeology.

can be noticed that religious syncretism as a separate category is making its way into the research (Valk 2001a; 2003b).

## Changes in the interpretations of the past

### The incommensurability of worlds

Every researcher has a pre-understanding (background biases) towards his/her research subject that, on the one hand, limits the ability to understand it but, at the same time, is also the pre-condition for understanding and mutual understanding (see Gadamer 1986, 57 ff; 1990, 270 ff). The 'texting' of ancient society by an archaeologist is realizable only within the limits of the logics of his/her possible world or, more correctly, the limits are established by the logics of his/her impossible world, i.e. by the archaeologist's idea of how the world *resp.* ancient society could not have functioned. Facts that are in no way associated with the person's pre-understanding/biases are paid no attention, as there is no place nor connections for these things in the person's world view. Thomas S. Kuhn (1970) applies the concept of *incommensurability of theories* to characterize the situation wherein scientists use similar terms and vocabulary, but understand these in completely different ways. The meeting of the archaeologies that were developed in a totally different research milieu in the early 1990s probably caused the most emotional and painful clash of incommensurable theories witnessed in Estonian archaeology to date.

At a time when the peoples of Eastern Europe were struggling for their sovereignty, in Western Europe the discussion about the nature of nation-states, nations and nationalism in the context of globalization and modernity had already been going on for years. In archaeology it mainly implied the analysis of the mutual connections between descriptions of the



Fig. 17. Priit Ligi (photo: AI).

past, on the one hand, and politics and ideology on the other. When the respective polemics were raised in Estonia in the first half of the 1990s by Priit Ligi (Fig. 17), who revealed the ideologized and politicized nature of the previous national-romanticist notion of prehistoric times in Estonia (Ligi 1993a; 1994b), there followed an extremely critical response from his colleagues. In the first place, Ligi was accused of depreciating the whole body of existing Estonian archaeology, and then his alternative approach was considered Marxist. It was claimed that other scholars should keep a distance instead of supporting his doctrine, and the introduction of theoretical archaeology was simply not understood (Tõnisson 1994a-b; Selirand 1994b).

There were several reasons why the reflexive approach introduced by Ligi was regarded as unacceptable by the older generation of Estonian archaeologists. Although Kuhn's conception of scientific structures is inappropriate to describe the functioning of the humanities (in their current stage) in an open society (Kuhn 1970, 15; Chapman 2002, 228), his notion of *normal science* is nevertheless the best to characterize the behaviour of the Soviet-era scientific community, which was constantly under strong external ideological pressure and extremely closed. On the stage of normal science, the scientific community has one single body of concepts and one single accepted paradigm that is constantly elaborated and implemented in its details. In the Soviet era this paradigm was the theory of ethnogenesis, based on the concepts of the culture-historical school. In the generation of Harri Moora's disciples, its theoretical basis and central idea was maintained as an indisputable axiom, while in the wider historical consciousness it became deeply ingrained as the myth of the '5000-year-old roots of the Estonians', thus becoming part of the national identity, even in the eyes of the archaeologists themselves. Moreover, archaeologists had succeeded in suggesting to themselves and also to others that in the Soviet period, the discipline of archaeology had managed to be much more objective and ideology-free than, for example, history had been. Having lived within the limits of one single paradigm and conceptual apparatus in the inward-looking scientific world, deprived of any alternative experience and preliminary knowledge, the image of the Anglo-American archaeology as it was introduced in the early 1990s, including all of its -isms, struggles between processualism and postprocessualism, and its symbolic and textual load, may have been quite repulsive indeed for all age groups.

At first only a few archaeologists were able to reorientate themselves easily in the world of new sign systems and discourses that opened up at the outset of the 1990s. In this altered cultural field, the majority of archaeologists behaved hesitantly and were

resistant to the archaeological agents. Sociologist Piotr Sztompka (2000) describes this kind of situation as a cultural trauma. One of the ways in which the trauma reveals itself is the way meaning is rendered to oneself (i.e. to research results) via the making of continuous comparisons: Soviet *versus* the present on the temporal scale, and Estonia *versus* the West on the spatial scale. Interestingly, this behaviour is in places perceivable even in 21<sup>st</sup> century Estonian archaeology. Despite the resistant attitude, the older generation and also some of the younger generation had towards interpretative and social approaches, Estonian archaeology still succeeded in avoiding falling into a theoretical vacuum. The latter was the case in several post-Communist countries where, along with orthodox Marxism, the social approach was entirely discarded, and a return to naïve empiricism took place.

### New prehistoric society

The revaluation of the hitherto existing notion of the past and the discarding of the national-romanticist culture-historical school by P. Ligi was in fact just one (though no doubt effectively represented) facet of the process of changes that had already begun earlier. The research of settlement archaeology in northern Estonia carried out by V. Lang (1987a) and his joint study with Ligi on palaeodemographic calculations (Lang & Ligi 1991) convinced them that the main settlement unit in prehistoric times and until the Middle Iron Age comprised a single farm and not a village of extended families, as had been assumed until then (see more Lang, this volume, b). The realization that the total number of stone graves and burials in them was in fact not great enough to claim that all of the members of the society were buried in stone graves indicated that the current model of an egalitarian society was inadequate. The conviction that Estonian prehistoric society was already socially differentiated in the Bronze Age at the latest, and that the main cause of stratification was private ownership of cultivated land found sup-



port when vestiges of block-shaped fields were discovered in north-western Estonia. New dates and the abandoning of ‘prehistoric pessimism’, i.e. the representation of the ancient society as primitive and backward in comparison with its neighbours, made it possible to bring the changes and phenomena observed in the Estonian Bronze and Iron Ages into correspondence with analogical processes in Scandinavia. In the search for alternative models of society, inspiration was drawn from neo-Marxist applications (L. Hedeager) and postprocessual ideas (I. Hodder, C. Tilley) in archaeology. At the same time, individual researchers’ own theoretical positions began to be formulated more clearly.

Ligi’s (1995a) treatment of society was pointedly idealistic in order to counterbalance the materialistic approach of the earlier archaeology. In explaining human phenomena, he proceeded from the position of individualism, thus considering the ideas of individuals to be the main factors in social change. Relying on the ideas of Hodder, Lang (2000a) thinks that inflexible dichotomies should be discarded in archaeological research, as one has to proceed from both materialistic and idealistic, from individualistic as well as from a wider cultural (holistic) basis in interpreting the human phenomena. In explaining social change, both research strategies rely on the theories of power and competition. In their examinations, great significance is attached to the analysis of monumental stone graves as reflections of economic and social competition in society.

According to Ligi, the Estonian archaeological data reflect cyclical alterations in the social strategy and ideology of the elite, i.e. the alternation of the legitimation and consolidation phases. He suggests that in the Late Bronze Age the society was organized as chiefdoms that were, by the Roman Iron Age, transformed into unstable early state-like formations with regional administration dependent on a chief. However, the system collapsed, and decentralization of power occurred in the Middle Iron Age, followed by a new concentration of power in the Late Iron Age. In Lang’s study (1996), the changes in

land ownership relations and settlement structure were taken as the basis for displaying the socio-economic structure. According to him, it is not possible to imagine the concentration of power necessary for the establishment of a chiefdom in the Late Bronze Age, because settlement was too sparse. The social organization of that time is defined by him as the system of a central settlement and single farms that by the beginning of the Iron Age developed into a system of one dominant farm. In the Roman Iron Age these systems became smaller in area, and in the Middle Iron Age, when power relations were reshaped, they were altered again. The fort-and-settlement system in the Pre-Viking and Viking Ages indicates the formation of a dual administrative system. By the Late Iron Age the hillfort district, including subordinate taxation areas called *vakuses*, became the main administrative unit.

In the following treatises, the analysis of the society has become increasingly versatile. There has been more thorough discussion of centre-periphery problems and reflection on the role of cultural/mental factors in settlement behaviour. At the same time, attention is paid to the close interrelation of different sections of society, such as the economic, social, cultural and ritual systems. Considering the aspect of religion, the treatment of Estonian prehistoric society has been remarkably broadened by Tõnno Jonuks (2005). On the basis of wider religious-phenomenological processes, on the one hand, and the morphological changes in the local stone graves on the other, he distinguishes two main stages in the development of the prehistoric religion. One of the most significant shifts occurred in the Late Bronze Age, when the conception of the sacral kingship emerged alongside the previously existing conception of a collective soul. Based on Scandinavian parallels (A. Kaliff, D. Widholm), Jonuks emphasizes the role of stone graves as cult places where genealogies and creation myths were continuously revived and, via the cult of ancestors, the positions of the elite were strengthened. Since the Migration Period, the next alteration in religious views becomes vis-

ible as the previous conception of a collective soul was replaced by the conception of an individual soul and the Afterworld, which were both ultimately adopted in the Late Iron Age. At the same time, the significance of stone graves as cult places decreased, and chiefs' farms became the main places where communal rituals were carried out. The growing influence of the Christian worldview on the local social elite could presumably be considered to be the background for these processes.

### Some general theoretical trends

In addition to the treatises of Ligi and Lang, in the second half of the 1990s as well as in recent years the interpretive/hermeneutical approach has also received approval in the works of other researchers. Several of them agree that archaeologist is by no means an objective bystander in relation to his/her research subject but an active participant in the process of forming and interpreting sources. Therefore self-reflection, the stating of one's standpoints and theoretical positions, is becoming more and more important in research, and thus an author-centred writing style is becoming favoured. There is also increased interest in research methodology. In addition to the traditional aim of archaeology, i.e. the construction of the social reality of the past, the basic concepts and the formation of interpretations, i.e. writing about the past as contemporary social reality, have also become subjects for examination (e.g. Konsa *et al.* 2003; Mäll & Russow 2003; Roio 2003; Tvauri 2003a).

Though in the first half of the 1990s, when different *archaeological worlds* were clashing and there was a strong desire to persuade each other, this pursuit has now been discarded, and different views coexist in the Estonian archaeological landscape. In addition to humanist approaches, discussions concerning ethnic archaeology have maintained their traditional culture-historical nature, and the interests of most researchers who deal with technology and trade are of an instrumental nature, directed

towards functional analysis and based on analytical-positivist methodology. On the other hand, if there is any kind of common ground and prejudice in researchers' ideas about possible societies, then inter-theory communication and translation, as well as the interweaving of descriptive languages and analytical models, begin to operate. Indications of such *creolization* can be found in the archaeological literature published in the last three or four years. In terms of topics, it can be characterized as orientated towards the study of social organization, power and ideology, including religion and different categories of cultural values, or put more broadly, it involves the study of sociality. The focus of knowledge has been turned from data towards questions and contextuality. Some standardization has also taken place in the treatment of sources and in ideas about social change and the functioning of society. Material culture examined by archaeologists is looked upon as not only produced by human beings, but as meaningfully constituted and culturally interpreted. On the one hand, such an understanding has made archaeological research even more complicated, but on the other hand it has moved the focus closer to the *living human being*. For example, synchronous variations in material culture are therefore explained primarily by differences in human behavioural strategies, ideology and religion, and only then by differences in economy and environment. The examination of society as a whole has been brought into relatively close accordance with the relevant ideas in contemporary sociology. In this view, there is a competition in society over restricted resources such as power, prestige and property, and therefore inequality exists in all societies and all periods, including the Stone Age. As a way of examining societal organization, changes in the use of land, property and material expressions of prestige such as graves and hillforts are primarily considered. This in its turn has provided a clue to the interpretation of power structures through the society's territorial strategy. Social change is explained

by conflicts and power struggles, although other factors are also taken into consideration.

Briefly, the changes in the ideas about ancient Estonian society cannot be taken as a simple cosmetic improvement, as these changes in essence signal the emergence of a new theoretical model, *a possible society* that is different from the previous society. In post-Soviet countries, the orientation towards reflexive and interpretative archaeology cannot be regarded as a self-evident process. For instance, in Latvian archaeology there was a transition towards processual archaeology in the 1990s (Sne 1999, 106). A few studies on social archaeology have not yet had any effect on the general conception of prehistoric society there (e.g. LSV, 2001), and the same can be stated about Lithuanian archaeology.

At the same time, it is evident that national archaeologies' search for identity should not result in the unquestioning adoption of some type of Anglo-American archaeological theory, or in the aspiration to become a sort of exemplary model. The Baltic Archaeological Seminar (BASE), created in 2003, considers one possible path of development to lie in focussing on the theoretical interpretation of the synthesis generated in the course of translating, re-translating and translating anew our own distinct research space (instead of external ones), and in concentrating on the more thorough analysis of the peculiarities arising from the context of our past and present (see CMC, 2005).

## Conclusions

If periodization was of primary importance, one could divide the recent development of archaeol-

ogy in Estonia into stages. Thus the years 1991–1994 would be the period of crisis, 1995–2004 the time of institutional rearrangement, and 2005 the year of the completion of academic reform in archaeology. The changes can also be regarded in the context of the broader Westernization of research politics, and evaluated against Western criteria. In that case one must admit that the transition period is still taking place. Although institutionally and externally, archaeology has had to operate in the framework of national science policy, this has not had much effect on the internal development of the discipline (i.e. on the theories).

Metaphorically, the development of Estonian archaeology in the 1990s can be compared with the socialization process that turns a human being, on the basis of his/her self-identity, into a socially active individual. The process of the socialization of archaeology implies becoming free of the Soviet-era 'high' status of being a sub-discipline of history, and its self-definition as an independent discipline with its own set of research subjects, questions, methods and ways of interpretation. This, again, promotes broad and mutual co-operation with other disciplines. The diversity characteristic of human thinking and social behaviour is also reflected in the social sciences and humanities. Different ways of cognition and thinking, and the lack of canons testify that contemporary Estonian archaeology can be regarded as a normal humanistic discipline. Perhaps due to the fact that there has been no strong social pressure, i.e. no duty to be a watchdog or a judge over the past, archaeology has been able smoothly to develop itself and its view of the past. It is evident that the contemporary face of the past is much more social and human than before, because the society itself is also more social and humanistic.

## **PART II**

# Research into the Prehistoric and Historical Periods



# Research into the Stone Age

AIVAR KRIISKA

## Introduction

The Stone Age, which in Estonia is divided into two larger sub-periods – the Mesolithic (9000–4900 BC) and the Neolithic (4900–1800 BC) – is the longest period of prehistory, regardless of the fact that the advances and retreats of glaciers accompanying global cooling either made Palaeolithic settlement impossible or at least made it impossible to find any traces thereof.

In contrast to later periods, only two types of sites are known from the Stone Age in Estonia, which may be brought together under the common terms (1) settlement sites and (2) burial sites. However, one should not forget that ‘settlement site’ is a conditional term denoting different places of human activity like villages, farmsteads, short- and long-term camps and stopovers, stone-working places, etc. Of burial sites, pit graves within or apart from the settlement sites are known.

Stone Age (3) stray finds are comparatively numerous, but their context remains unexplained today. At least some of them have, during thorough investigation, proved a connection with settlements, and more seldom with burials, but most probably others were lost or left behind for some reason by the Stone Age people. Stone Age artefacts, especially stone axes and adzes, have been attractive to people of later periods, and therefore they have been collected and used for different purposes, including healing (see for example Lõugas, V. 1996, 115 f; Kriiska & Saluäär 2000b, 9). Thus during their secondary

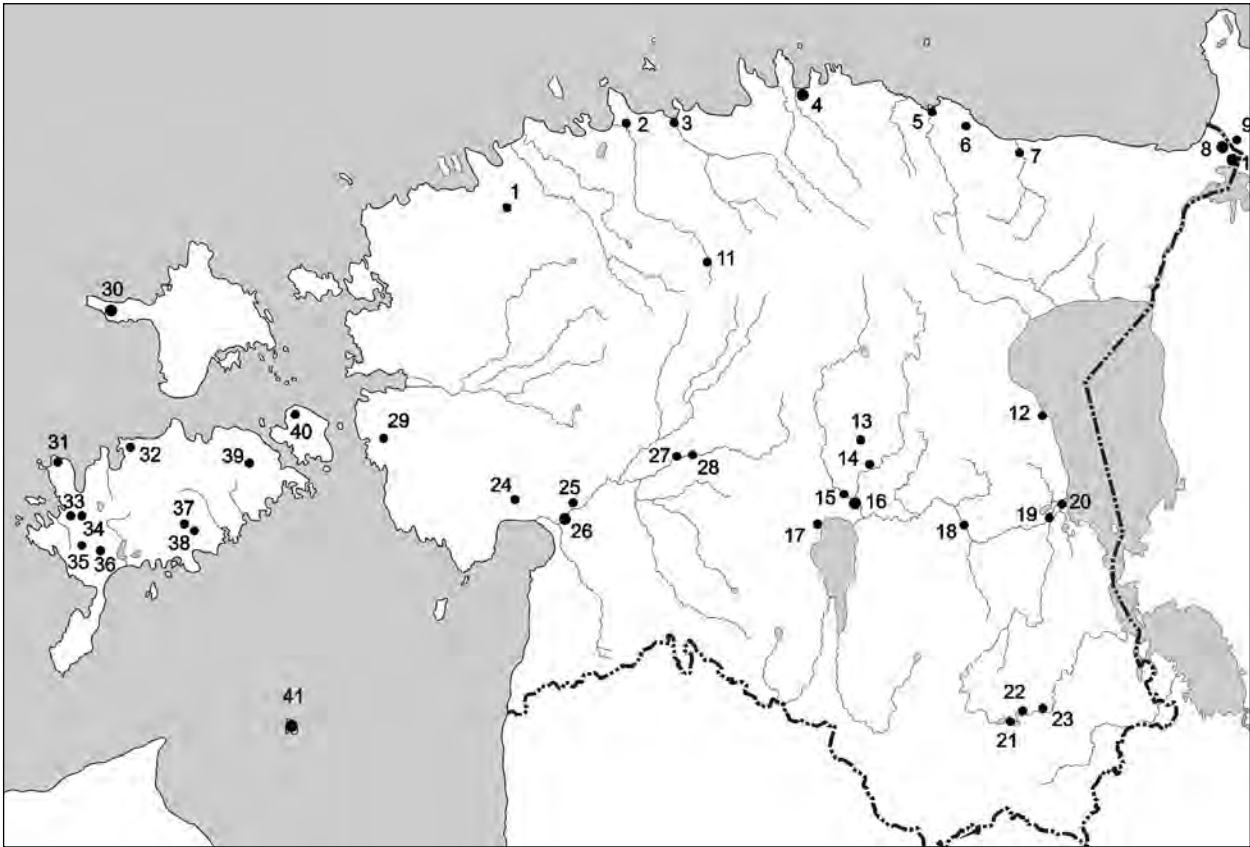
use, the items might also have ended up in the find-places documented by the researchers today.

In the investigation of the Stone Age, which has already lasted for 140 years, there have been ups and downs, but it was initially inhibited by the shortage of Stone Age researchers, which was characteristic of early Estonian archaeology.

## The first studies and find collections 1865–1920

### Constantin Grewingk – the founder of the eastern Baltic Stone Age investigation

The beginning of the investigation of the Estonian Stone Age is connected with the activity of Constantin Grewingk (see also Lang, this volume, a). As a geologist, he predominantly studied the sediments of the Devon and Quaternary periods in the eastern Baltic region. Archaeology was far more than merely an interest to him, and in his later life he dedicated most of his attention to this field of science. The first publication concerning the Stone Age in Estonia was authored by Grewingk in 1865. In the book, he counted and described all of the stone artefacts found in Estonia (and Latvia) by that time that had reached the collections of museums or societies, while at the same time comparing them with finds from neighbouring countries. Less than 20 Stone Age



**Fig. 18.** Stone Age sites mentioned in the text. 1 Lehola, 2 Kroodi, 3 Jõesuu in Jägala, 4 Vihasoo and Võhma (Kadrina), 5 Lammasmägi in Kunda, 6 Koogu, 7 Sope, 8 Kudruküla and Riigiküla, 9 Lommi, 10 Joaorg and Siivertsi in Narva, 11 Ardu, 12 Haapsi, 13 Umbusi, 14 Kunila, 15 Käo, 16 Kivisaare, Siimusaare and Moksi, 17 Valma, 18 Karlova, 19 Akali, 20 Kullamägi, 21 Tamula, 22 Villa, 23 Kääpa, 24 Lemmetsa, 25 Pulli, 26 Sindi-Lodja, 27 Lepakose, 28 Jälevere, 29 Kaseküla, 30 Kõpu, 31 Undva, 32 Võhma (Mustjala), 33 Loona, 34 Paju, 35 Koki, 36 Naakamägi, 37 Kõnnu, 38 Kõljala, 39 Kuninguste, 40 Külasema, 41 Ruhnu.

items, mostly stone axes or adzes, were known on the territory of Estonia at that time<sup>1</sup> (Grewingk 1865, 20 ff), which allowed generalizations only with very wide reservations. In the 1870s Grewingk published more articles in which he completed the lists of finds (1871) and tried to explain the Stone Age in a more thorough and general manner (1874; 1877a).

<sup>1</sup> Grewingk has counted 19 artefacts as belonging to the Stone Age, but in the case of at least one, or possibly even three, we are not dealing with a tool or a production remain from that period.

For Grewingk, the main object of research became the find-place of Kunda in north-eastern Estonia, where several bone artefacts had been found since 1872 in the digging of lake lime for the local cement factory (Fig. 18). Grewingk ascribed the items to the Stone Age, and determined that there had earlier been a lake at that location. He published two important works connected with the find-place of Kunda (Grewingk 1882; 1884b). In 1886 he undertook test excavations on the island of the prehistoric lake – the hillock named Lammasmägi ('Sheep Hill') – and discovered a Stone Age settlement site. This

was actually the first Stone Age site to be found in present-day Estonia that rapidly found its way into scientific circulation.<sup>2</sup>

The most important aspect of Grewingk's studies was his thorough presentation of the material. Due to his profession, he always determined the rocks and minerals used to produce the tools, and presented wider analyses of rock use (Grewingk 1871). In the case of Kunda he also ascertained animal bones and observed the site's geological background (Grewingk 1882). Thorough knowledge of the archaeological literature of Russia, the Ukraine, Denmark and Finland is reflected in his writings. As a whole, the works of Grewingk are characterized by the belief that the existing archaeological data accurately reflect the past, and the absence of some material (for example the scarcity of flint artefacts) or a phenomenon is not the result of inadequate research but the actual situation during the Stone Age.

According to Grewingk, the Stone Age in the Baltic countries lasted relatively longer than elsewhere around the Baltic Sea. At first he dated the beginning of the 'special Stone Age' in the Baltic countries to before 2500 years, and its end to the 6<sup>th</sup> century AD (Grewingk 1865, 108; 1871, 49), and according to the two-period (Palaeolithic–Neolithic) system of the time, connected it to the Neolithic (Grewingk 1871, 44). He later corrected the date, putting the end of the period at the 1<sup>st</sup> century AD (Grewingk 1874, 34). The people of the Stone Age whom he compared with the Saami people of today were, according to him, nomads who founded their settlements on boggy forestless areas by the seaside or along the banks of rivers. They subsisted on hunting and fishing, whereas farming only began after the 2<sup>nd</sup> century AD (Grewingk 1865, 110 f).

<sup>2</sup> In 1876, just before the discovery of Kunda, a burial site had been found in Külasea, on the island of Muhu, but the place long remained outside the attention of researchers (Indreko 1935c, 206).

### Case studies and the compiling of collections at the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century

At the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century, the Stone Age was discussed in several works by Richard Hausmann, Professor of History at the University of Tartu, although he was mainly interested in the Iron Age. From the perspective of this topic, his articles on newly discovered burial sites in Kāo (central Estonia), Kõljala (Saaremaa)<sup>3</sup> and Karlova in the town of Tartu (Hausmann 1904; 1912), as well as the excavations carried out at the cemetery of Kivisaare in central Estonia (Ottow 1911, 154 f), are worth mentioning. He discussed the Stone Age briefly in concise publications on Estonian and Latvian prehistory (the most important being Hausmann 1910). In the latter he gave a thorough description of Stone Age artefacts, the main innovative moment of which was the overview of flint artefacts and stone hewing tools based on the material of the Võisiku area in central Estonia (north of Lake Võrtsjärv) and the presentation of bone artefacts on the basis of stray finds from south-western Estonia. Of Estonian sites, he only introduced separately and more thoroughly the find-place of Kunda, the lower reaches of the Pärnu River and the burial sites of Kõljala, Kāo and Kivisaare. According to Hausmann, the people of the Stone Age (from the 3<sup>rd</sup> millennium BC to the turn of our era) were Ugrians who lived on hunting, fishing and gathering, and inhabited the banks of water-bodies.

At the end of the 19<sup>th</sup> century, another researcher and active collector came to the forth – Martin Bolz (1868–1917), a doctor from Vändra.<sup>4</sup> Bolz collected a great variety of items: weapons, coins, adornments, molluscs, skulls of mammals; from the perspective of the research of the Stone Age archaeological finds, the stone artefacts he got from the local farmers are

<sup>3</sup> Both skeletons found were also described from the anthropological perspective (Weinberg 1904; Fürst 1914)

<sup>4</sup> For more about Bolz, see Meder 1926.



most important. Bolz's collection consists of 500 items – stone axes, adzes, flint flakes and artefacts, etc. – that have been gathered during the period from 1890–1913, predominantly from the counties of Viljandi, and to some extent of Pärnu as well. In 1914 he published his entire catalogue together with a map of findings (Bolz 1914b), and the information concerning artefacts that he thought were lost or had reached other collections (1914c).

Bolz continued excavations at the cemetery of Kivisaare in central Estonia. The first graves there were already found in 1882, and new skeletons were unearthed in 1903, after which Bolz excavated and documented several skeletons with local farmer Jaan Pekk, and published the results in a thorough article (Bolz 1914a).

The Estonian Stone Age was episodically handled by Max Ebert, German archaeologist. He also excavated at the Kivisaare burial site, but Ebert's descriptive and find-introducing overview of the prehistory of the East Baltic provinces (1913) is of prime importance.

One should mention amateur archaeologist Jaan Jung who, following the Finnish example, began to collect and describe data on antiquities. The records he wrote down also name some finds and sites from the Stone Age (Jung 1898; 1899; 1910). In his overview of the Stone Age, which was quite a confusing compilation, Jung was much inspired by Grewingk, but he referred to many other European prehistoric researchers and linguists, also quoting the Bible.<sup>5</sup>

<sup>5</sup> According to Jung (1899), the people inhabiting Estonian areas were the descendants of tribes that had emigrated from southern Asia and had gradually deculturized and become primitive, whereas the first settlers were from 'the bogs of Lithuania'. 'The people of Finnish kin' reached Estonia comparatively late as a result of migration from south-eastern areas, as at the turn of our era they still lived in the vicinity of Kazan by the River Volga. In connecting the advent of the 'people of Finnish kin' with the Bible, he admitted: 'When after the Great Flood, from which the soil of our world still bears witness, the whole Earth was again filled with peoples from the three sons of Noah, just as the Bible says, then we are considered the successors of his son Jeveth.'



Fig. 19. Eduard Glück (photo: Pärnu Museum).

### The collectors of the Pärnu Society for Antiquities

Following the example of several learned societies, founded during the 19<sup>th</sup> century, the Pärnu Society for Antiquities (*Altertumforschende Gesellschaft zu Pernau*) was established in 1896. Its membership mainly consisted of local Baltic German intelligentsia who shared an interest in history, but the organization also had a few Estonian members. In contrast to other analogous associations that were widespread throughout Europe (Pölsam 1997), the Pärnu society showed a marked interest in archaeology and became a unit of significant importance in the investigation of the Estonian Stone Age.

Several members of the Pärnu Society for Antiquities actively collected stray Stone Age finds,

published them and developed widespread contacts with both Estonian scholars and researchers from neighbouring countries (for example, in 1914 correspondence took place with 104 European organizations). Close connections were established with archaeologists and amateurs who were active in the research of Estonian prehistory, and several of them were elected honorary or correspondent members of the society (for more details on this, see Kriiska 1997b). From 1899 to 1939, the Pärnu Society for Antiquities published a total of 12 proceedings under the general name *Sitzungsberichte der Altertumforschenden Gesellschaft zu Pernau* (the last two volumes were published without the name Pärnu).

Archaeological research was already commenced by the members of the society in 1897, when excavations of graves from the end of the Iron Age and the beginning of historic times were undertaken nearby. The first Stone Age artefacts were found at the mouth of the Reiu River (in the gravel excavated from the bottom of the Pärnu River) in 1901 by veterinary surgeon Eduard Glück (1866–1918; Fig. 19).<sup>6</sup> Thus began a collection that includes 774 mostly bone and antler artefacts, the majority of which reached Glück in the years 1904–1905, and were mainly found along the lower reaches of the Reiu River. The collection has mostly been catalogued and published in the proceedings of the society by Glück himself.

Another large find collection compiled by Friedrich Rambach (1853–1916), a manufacturer interested in archaeology (Glück 1906, 272; Indreko 1932a, 283), originated from the same location. Rambach's collection contains nearly 550 bone and antler artefacts or fragments thereof (Indreko 1926). The artefacts were predominantly gathered (since 1903) by Rambach himself from the banks of the Pärnu and Reiu rivers, but unfortunately he either did not document more precise find contexts, or these have not been preserved.

<sup>6</sup> For more about Glück, see Ernits 1994.



Fig. 20. Eduard Glück (photo: Pärnu Museum).

The above-mentioned Baltic Germans established a rich collection of mostly bone and antler artefacts gathered from the lower reaches of the Pärnu River. This assemblage is one of the richest, being outnumbered in the eastern Baltic region only by the collection of the Lubāna valley in eastern Latvia (Vankina 1999). Most of the findings were catalogued and issued in the society's own publications. In 1905 excavations were undertaken by Glück, Rambach, Hermann Frank, Alexander Rosenberg and Jules Treboux, who were all members of the society, near the main find-spot at the mouth of the Reiu River, but unfortunately the works did not yield the anticipated results (Frank 1906).

Later, until World War II, this direction of research was followed by beer industrialist Eduard Gustav Bliebernicht (1902–1943; Fig. 20).<sup>7</sup> He has also published a treatment on the prehistoric finds from the lower reaches of the Pärnu River (Bliebernicht 1924), but most important was the collection and preservation of Stone Age artefacts gathered during the digging of gravel from the Pärnu River. At least 378 artefacts are included in Bliebernicht's collection.

In addition to the aforementioned, a few finds from the lower reaches of the Pärnu River were also gathered by August Laury and Johan Pajo. The Laury collection consists of 147 items gathered in the years 1920–1926, and the Pajo collection contained 150 artefacts in the year 1931, when the majority of it was catalogued by Richard Indreko. These were brought together from the banks of the Pärnu River along an approximately 10-km-long track extending from the town of Sindi to the suburbs of Pärnu. The majority was donated to the *Kabinet* of Archaeology at the University of Tartu by the collectors (Indreko 1931; 1935a, 140).

Thus a little less than 2000 Stone Age finds, mostly made of bone and antler, and fewer stone items or their fragments and pottery sherds, were collected from the lower reaches of the Pärnu River during the first half of the 20<sup>th</sup> century. The assortment of artefacts is very rich: harpoon-heads, spearheads, arrowheads, hooks, awls, ice-picks, adzes and axes, antler items with shaft-holes, gaskets for shafting stone artefacts (including axes), etc. The majority of the finds, predominantly those that were discovered at the bottom of the Pärnu River while digging for gravel for construction work, would otherwise have been destroyed. In addition to the Mesolithic bone and antler artefacts, the described collections also include Stone Age ceramics that are the very first Neolithic pottery sherds that found their way into scientific treatment. Also noteworthy is the almost immediate publication of the findings, which

allowed rapid use of the material by wider academic circles.

Two texts that examine the problems of the Stone Age in a more general manner were published in the proceedings of the society: one of them placed the items obtained from the lower reaches of the Pärnu River in a broader context (Glück 1906), and the other concerned flint finds (Wahle 1926). The finds were dated to the Neolithic on the basis of the two-period system (Palaeolithic–Neolithic) in use at the time, and more precisely according to the periodization of Danish archaeologist Georg F. L. Sarauw to the Early Neolithic, which corresponds to the stage of the Litorina Sea, to the same period as the artefacts from Kunda in Estonia and Viste in Norway (Glück 1906, 246). Corresponding to the style that was common at the time, in which archaeological material was interpreted from the viewpoint of ethnicity and Grewingk's theory of Goths predominated, Glück (1906, 302) thought: '*Berechtigen uns vorläufig: die hiesige neolithische Fundstelle an der Reidenmündung als eine Niederlassungsstätte eines nordugrischen, den Lappen verwandten Volksstammes anzusehn, der später von den Gothen und Esten aus den Ostseeprovinzen verdrängt wurde*'.

## Investigation of the Stone Age at the University of Tartu from 1920–1945

### The first half of the 1920s

A significant change in the investigation of the Stone Age took place in 1920 with the establishment of the Chair of Archaeology at the University of Tartu. Almost all investigators of the Estonian Stone Age have studied at the above-mentioned university, and several have also given lectures there.

The more active investigation of the Stone Age is undoubtedly connected with Professor Aarne Michaël Tallgren. Although he only personally exca-

<sup>7</sup> For more about Bliebernicht, see Saluäär *et al.* 2002.

vated a couple of Stone Age sites (the burial site of Kivisaare in 1921 and the Neolithic settlement site of Jõesuu in Jägala in 1923), his publications, organized gathering of information and pedagogical work<sup>8</sup> have been very influential. His monograph (Tallgren 1922c) has in many ways been conceptual. An overview of the Stone Age presented in this book was significantly more capacious, methodical and interpretive than those that preceded it. In spite of several oversights (critics see Ailio 1924), Tallgren proved himself to be an interpreter with good intuition who successfully used both the existing material and the standpoints of researchers from his homeland (especially Julius Ailio and Aarne Äyräpää).

Tallgren gathered together all the data known at that time and presented a practically complete overview of the Stone Age artefacts that had been found by the time the book was written (often including a number of artefacts presented one by one by find-place). He also classified stone axes and described settlement sites and graves. In comparison with the first years of the research of the Stone Age, the number of items from this period had grown significantly (approximately 900 stone artefacts and 1900 bone and antler items – Tallgren 1922c, 23), while at the same time the majority still originated from single find places and sites. In spite of the fact that there had been few archaeological excavations and only small areas were opened, Tallgren achieved great results by applying versatile analysis wherever possible. Among other things, he used geological and geographical data, and in the case of Lake Võrtsjärv, made himself a simpler palaeogeographic reconstruction correlating Stone Age finds (Tallgren 1922c, 30 ff).

Tallgren distinguished several subcultures and periods in the Stone Age in which according to his treatment and sequence, one can see a division into two – an earlier and later Stone Age. He suggested

<sup>8</sup> In addition to Richard Indreko, whose work will be discussed below, amateur archaeologist E. Bliiebernicht, who was mentioned in the context of the Pärnu find collections, might also be considered a disciple of Tallgren.

that during the earlier period there were two different cultures in Estonia: (1) bone (Kunda) and (2) stone (Võisiku) culture (for the broader context of the concept of 'archaeological culture', see Lang, this volume, a). In the bone culture there were two time sections that corresponded to the Ancylus Lake phase of the Baltic Sea (Lammasmägi in Kunda, with absolute date of 6000–5000 BC) and the Litorina Sea phase (the findings of the lower reaches of the Pärnu River). According to him, the stone culture connected with the central Estonian area of Võisiku originated from the time of the maximum height of the Litorina Sea (absolute date of the period: 5000–3000 BC). To Tallgren the predominance of the material in different periods was realistic, and the transition from the bone culture to the stone culture took place since '*der Stein kam immer mehr und mehr in Anwendung, der Knochen verlor immer mehr seine praktische Bedeutung*' (Tallgren 1922c, 45). He considered that flint, which was not very widespread in Estonia, was an imported material that probably originated from central Russia.

In the later part of the Stone Age he distinguished the Combed Ware and Corded Ware cultures. Tallgren considered the Combed Ware Culture to be an eastern influence, and dated its beginning to the middle of the 3<sup>rd</sup> millennium BC. With the Corded Ware Culture, he connected several burial sites found in Estonia and dated the period to about 2500 BC. According to Tallgren, it was a version of the Boat-Axe Culture (*Bootaxtkultur*) that was widespread in eastern, central and northern Europe, but in Estonia probably meant the immigration of new settlers (1922c, 65).

An important addition to the Stone Age came in the course of the registration of antiquities in the 1920s. Many records of stray finds as well as several sites or places with more than one find that have later been distinguished as sites (for example the Naakamägi Middle and Late Neolithic settlement site, the Undva and Kuninguste Late Neolithic settlements and the Haapsi, Koki, Koogu and Lehola Late Neolithic Corded Ware Culture burial sites)

were documented (Tallgren 1922a, 125 ff; 1924c, 59 ff). A more comprehensive summary was published on the basis of the material systematized by the end of 1924, when the Stone Age was examined by Harri Moora (1925a).

The most noteworthy excavation during the period is the fieldwork on the Neolithic settlement site of Jõesuu in Jägala that was undertaken from 1920–1923 by amateur archaeologist Artur Spreckelsen. This was the first site where traces of Combed Ware Culture habitation were discovered.<sup>9</sup>

### Research from 1926–1945

Richard Indreko (Fig. 21)<sup>10</sup> was the first archaeologist who studied at the University of Tartu and specialized in the Stone Age.<sup>11</sup> Even before he graduated from university, he became involved with the Stone Age, and in 1926 he published the catalogue of the Rambach collection of Stone Age bone artefacts preserved in the Pärnu Museum. The first significant fieldwork took place on the lower reaches of the Pärnu River and the lowlands of Lake Võrtsjärv, which was already earlier known for its great number of stray finds. It was in the latter area, in Moksi, that the remains of a Stone Age dwelling site were discovered and excavated. In 1931 Indreko undertook excavations in Kivisaare and Siimusaare. In 1932 he obtained a master's degree for the articles treating the Stone Age artefacts found in the above-mentioned territories. Excavations at the place where the remains of a fishing net were found, in Siivertsi, Narva (Indreko 1932d), are included in his earlier period of research.

<sup>9</sup> Before that, as mentioned above, combed ware sherds had been found as stray finds in the gravel from the bottom of the Pärnu River.

<sup>10</sup> For more about Indreko, see Kriiska 2000c.

<sup>11</sup> To some extent Indreko also discussed other periods, and in this context the Late Bronze Age fortified settlement of Asva should be mentioned as one of the more important undertakings.

From 1933–1937, Indreko conducted archaeological research at Lammasmägi near Kunda, which had become internationally famous after the studies by Grewingk. Lammasmägi was the central subject of his doctoral thesis, which was completed in 1941 and published seven years later in exile in Sweden (Indreko 1948a; see also below).

By the end of the 1930s, Indreko had reached a generalizing phase with the studies of the Mesolithic, and the Neolithic, as the new research matter, increasingly began to attract his interest. He had already had contacts with this period in earlier times: in 1933–1934 Indreko excavated the Corded Ware Culture cemetery in Sope (north-eastern Estonia) and in 1936 undertook test-excavations at the Kroodi settlement site in northern Estonia. In 1938 Indreko dug test-pits at the Akali settlement site in eastern Estonia, and determined the cultural layer of the Neolithic settlement sites in Tamula and Villa in south-eastern Estonia; in 1939 he carried out excavations in Akali and discovered the settlement site of Kullamägi; in 1940 he excavated at the settlement of Lommi. He continued with fieldwork even during the war: in 1942–1943 Indreko excavated at the settlement and burial site of Tamula and in 1943 at the Undva settlement site on the island of Saaremaa. However, this work could not be completed, as in 1943 Indreko was forced to flee first to Finland and from there to Sweden.

With Indreko's actions, the systematic excavation of Stone Age sites began in Estonia for the first time. Lack of experience and the low standard of excavation methodology as a whole undoubtedly left its signature on the work. The fieldwork was often very short-term, lasting only for a few days, whereas large plots were still open. Thus the gathering and documentation of finds was neglected. At the same time, the drawings of the excavations that were made by Indreko himself, who was talented in art, were usually thorough and professional.

The sites of the Stone Age were to some extent researched by other Estonian archaeologists: in 1926 Harri Moora excavated a Corded Ware Culture



Fig. 21. Richard Indreko (photo: AI).

grave in Sope and in 1936 Edgar Saadre studied a Corded Ware Culture grave in Ardu that was rich in goods (Indreko 1937b).

In short, only a few settlement sites were excavated during this period, and in addition, the majority of the burial sites were detected by accident.<sup>12</sup> Most of the treatments are connected with single sites (for

<sup>12</sup> The number of burial sites was nevertheless already impressive at that time: 19 places with 59 skeletons (Indreko 1935c, 202) but they undoubtedly remained under-interpreted during the period.

example Indreko 1932b, d; 1945), but several special studies were published, especially by Indreko, in which he discussed Stone Age art (1931), chronology (1932c) and the role of the natural environment in the development of the settlement (1934), among other things. He wrote the prehistoric part concerning Viljandi County in the collective publication *Viljandimaa* issued in the series about the counties of Estonia (Indreko 1935b).

The development of other sciences, especially the natural sciences, is closely connected with the investigation of the Stone Age (see Kriiska & Lõugas, this volume). Several natural scientists studied or used in their works material from the Stone Age, or cooperated closely with archaeologists, especially Indreko. The application of pollen analysis since the second half of the 1920s created a new basis for the dating of sites. The research direction that was elaborated by Swedish geologist Lennart von Post in the first quarter of the 20<sup>th</sup> century was quickly adopted,<sup>13</sup> and thus necessary information was gathered concerning flora of the past and via this, weather as a whole. Paul William Thomson (1892–1957), pioneer of Estonian pollen analysis, applied his knowledge to the archaeological find-places in Kunda, the lower reaches of the Pärnu River (Thomson 1928; 1930a) and Siivertsi (Indreko 1932d, 65). In parallel to the excavation of Lammasmägi near Kunda, in 1935 geologist Karl Orviku (1903–1981) researched the geological development of the ancient lake.<sup>14</sup> The work of palaeozoologist Johannes Lepiksaar (1907–2005) was also important, as he determined the animal bones found at Lammasmägi, and published several treatments on the history of fauna (e.g. Lepiksaar 1938). Human bones found in the graves from the Corded Ware Culture were determined by anthropologist Juhan Aul (1897–1994), who also

<sup>13</sup> The beginning of palynology in Estonia could be dated to the year 1924, when L. von Post made a pollen analysis of a soil sample taken from a bone artefact from Kunda (see Lõugas 1988 for the results referred to).

<sup>14</sup> The results have been published as an addendum to the monograph by Indreko (Orviku 1948).

published a few smaller studies on the basis of the data (e.g. Aul 1935).

### General treatments of the Stone Age and some important interpretations in the 1930s and 1940s

In the 1930s and 1940s, several generalizing works on the Stone Age written by Moora (1932; EA I, 1935) or Indreko (1937a; 1940) were published. The standpoints of the latter are in many ways also prominent in the texts of Moora, who mostly dealt with the Iron Age. The interpretations presented by Tallgren at the beginning of the 1920s were also much taken into account.

The attempt to interpret the entire existing archaeological material is a characteristic feature of the writings of the 1930s. The data was nevertheless quite scanty, and therefore help was sought from many other scientific disciplines such as comparative linguistics, geography, geology, palaeozoology, ethnography, etc. The sites and stray finds from the Stone Age were mapped and often presented together with the supposed water level of the Baltic Sea, Lake Võrtsjärv and Lake Peipsi during the respective period (e.g. Moora 1932, fig. 2). Much attention was paid to the artefacts, their form and parallels in neighbouring areas. In several cases one gets the impression that artefacts and not their makers/users were the active part in the past: artefacts have emerged, moved, influenced each other and disappeared.<sup>15</sup>

The beginning of settlement in Estonia dated from the stage of the Ancyclus Lake of the Baltic Sea (7<sup>th</sup>–5<sup>th</sup> millennium BC); however, it was considered theoretically possible that the area of Estonia might even have been inhabited during the last interglacial period (EA I, 1935, 2). The first settlers were thought to have originated from the Palaeolithic cultures of southern

and south-eastern (including Poland and southern Russia) Europe (Moora 1932, 11). Two chronological periods were distinguished in the Mesolithic: (1) the Kunda (bone) Culture of the stage of the Ancyclus Lake and (2) the Võisiku (stone) Culture of the Litorina Sea era (5<sup>th</sup> – mid-2<sup>nd</sup> millennium BC). Bone and antler artefacts from Kunda and some typologically similar items from elsewhere in Estonia were connected along with the former. The majority of the bone and antler artefacts found from the lower reaches of the Pärnu River, the remains of nets from north-eastern Estonia and stone items collected from the valley of Lake Võrtsjärv were considered to belong to the Võisiku Culture.<sup>16</sup> The latter was regarded as the major basis for claiming change – the transition from the bone culture to the stone culture. On the basis of the similarities between these axes and the hewing tools of the Suomusjärvi Culture recognized in Finland, it was suggested that some of the inhabitants of Estonia went to live on the northern coast of the Gulf of Finland (EA I, 1935, 18). As a result of Indreko's research, the Võisiku Culture was later no longer discerned, and the area of the Kunda Culture was ascertained to lie in the eastern Baltic region, central and northern Russia and Finland (e.g. Indreko 1940).

In the Late Stone Age (3000–1300 BC), two cultures were distinguished: the Combed Ware Culture and the Boat-Axe Culture. The former was consistent with north-eastern Europe, the latter originated (as already suggested by Tallgren) in the areas of central Germany. Cultural uniformity during the Combed Ware Culture included a huge area from the Baltic Sea to the Urals and from the Arctic Ocean to Poland (EA I, 1935, 22 f).

Questions of ethno-genesis continued to be of central importance. Moora, for example, in the book *Eesti ajalugu I* ('The History of Estonia'), published in 1935, devoted as much as 15 per cent of the

<sup>15</sup> For example: 'As mentioned above, straight-backed axes invaded from the south-east; they stop inland, and not a single one reaches the coast' (Indreko 1934, 121).

<sup>16</sup> Stone axes (made of metamorphous rocks) were considered to be the typical artefacts of this culture. By the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century, these were collected from the area in great numbers, especially as a result of the activity of M. Bolz.

total volume of the Stone Age treatment to the topic 'language and national circumstances.' In the first place, he relied on the hypothesis of comparative linguistics regarding the Finno-Ugric language tree, the presence of an original language and its division, which it was sought to localize on the basis of so-called cultural words existing in the common vocabulary, and was even dated. However, Moora admitted that the Finno-Ugric origin of the bearers of the Combed Ware Culture can only be documented on the basis of the archaeological data – continuity with historic times when certain Finno-Ugric people inhabited the area is seen from the period of the Combed Ware Culture. At the same time, continuity with the Kunda Culture was emphasized, thus actually taking Finno-Ugric settlement (without expressly saying so) to their original inhabitants (EA I, 1935, 28, 58). The appearance of the Boat-Axe Culture was connected with the migration of Indo-Europeans ('the nomadic warlike herding people') to the area (Indreko 1940, 21).

In the 1930s it was thought that the Stone Age people had a nomadic lifestyle (conditioned by a primitive and loose organization of society, lightly-built dwellings, etc.), established their habitations on the banks of water-bodies and subsisted from hunting, fishing and gathering. The campsites were moved in accordance with the best season for hunting or fishing. They used 'tent-like conical buildings' as dwellings (EA I, 1935, 38). This deduction was, however, made without any reliable archaeological data, as at that time no clear Stone Age dwelling remains were excavated in Estonia.<sup>17</sup> Also, references to 'primitive'

<sup>17</sup> In the Estonian archaeological material, the 'conical tent-construction' (Indreko 1937a, 103) was first supported by wooden poles found in the close proximity of a fire-place at the Moksi settlement site (Indreko 1932b). In retrospect, their dating to the Stone Age appears quite uncertain, and constructive peculiarities also actually tell us nothing. Nevertheless, it gave Indreko reason to make a comparison with the only investigated Stone Age dwelling remains in the close neighbourhood, which were excavated in Pitkajärvi on the Karelian Isthmus in 1915 by Finnish archaeologist Sakari Pälsi. At the time, he interpreted this as a round-bottomed

nations (the Voguls in Siberia)<sup>18</sup> and the presenting of conical pole-buildings used as summer kitchen in Estonian rural architecture as an example were more an illustration of fact than any serious aid in constructing a hypothesis (EA I, 1935, 39). Indreko suggested that villages might have been comparatively large in the Neolithic; for example in Kroodi, in northern Estonia, there were a total of as many as 30–40 tent-like dwellings (Indreko 1940, 23).

Artefacts made of foreign materials made it possible to deduce that extensive trade and gift-exchanging took place during the Combed Ware Culture settlement phase (EA I, 1935, 47 f). Extended families (three generations living together) were considered to be the basis of a Stone Age family. Extended families formed kin-groups that were tied together by blood-relations, but definitely also by common economic interests. The presence of Combed Ware Culture groups made it possible to suggest even that there had been some broader tribal relations during the Neolithic (EA I, 1935, 49 f).

According to the researchers of the 1930s, a more important change in the society took place only at the end of the Stone Age, with the development of the Boat-Axe Culture (approximately 2000 BC – Moora 1932, 15), when the new arrivals brought primitive farming and herding as well as the inhabitation of areas further from water-bodies. Although the carriers of the Corded Ware Culture kept domestic animals and were familiar with crop

erection (Pälsi 1918). The opinion of Pälsi and the 'reconstruction' of a Stone Age village originated in the research of the Estonian Stone Age more than ten years before (Moora 1925a, 22), and by the time had probably turned into an over-used standpoint that influenced the interpretation. Today, however, there is reason to doubt even the only 'tangible' evidence of the conical pole-construction, as Pälsi probably only excavated part of the bottom of a bigger building (Oula Seitsonen, pers. com. to the author 2005).

<sup>18</sup> The data of 'primitive' nations were used in several cases in the writings of the time that dealt only with the Stone Age, but these were often presented as comparative material or just in order to 'illustrate' the past, and are only occasionally an acceptable basis or usable as supporting information in interpreting the past.



cultivation, they were unable to harness these technologies. Crop cultivation was adopted here only in the beginning of the Bronze Age, in approximately 1300 BC,<sup>19</sup> by immigrants from the south-east who used stone axes with straight backs (Indreko 1940, 41 f). The proximity of settlement sites to the shore ceased from that time (Indreko 1934, 119). Indreko (1940, 50) then tied this migration unambiguously with the arrival of the Estonians' ancestors in what is now Estonia. An important change in comparison with the Corded Ware Culture also appeared in the burial customs: in contrast to the earlier burials on the ground, the dead were now inhumed in graves dug into the ground (Indreko 1940, 33, 47).

Although intended as a broader generalization, the investigation of the Stone Age performed at the time is very vividly reflected in the summary of Estonian archaeology during the 1920s – 1930s that was presented by Lembit Jaanits (1991, 36):

Estonian archaeology began in Tartu, where in comparatively poor material conditions it had developed and reached a contemporary international level regarding the organization of museums (which was introduced by A. M. Tallgren on the example of the Nordic countries), excavation technology (the development of which was a priority among Estonian archaeologists, especially during the 1930s, under the direction of H. Moora) and research methodology. As concerns the latter, Estonian archaeologists had long ago given up studying typology as a value of its own. The final purpose of the research was the reconstruction of a certain development of history, to the extent that this was made possible by the archaeological material and data from several other sciences. An important aspect was the determining of ways of making a livelihood or, as preferably expressed at that time – the determining of the development of the economy, the ascertainment of settlement and possible changes therein, considering the changes in natural conditions.

<sup>19</sup> By that time, according to Indreko (1940, 49), the people of the Corded Ware Culture were assimilated with the earlier habitants.

## Research during the years 1945–1994

### The post-war years 1945–1955

World War II brought changes in the investigation of the Stone Age. Indreko was forced to escape to Sweden,<sup>20</sup> and although he wrote several works, he stayed away from active and direct research. In Stockholm he was finally able to publish his doctoral thesis (Indreko 1948a; see also Lang, this volume, a) and brought out the initial results of the study of the Neolithic at the end of the 1930s and the beginning of the 1940s (1948c).

During the 1940s, Lembit Jaanits (Fig. 22) began researching the Stone Age.<sup>21</sup> In 1947, after completing his diploma paper about the Late Neolithic settlement and burial site in Tamula and graduating from the University of Tartu, he continued to study the Neolithic – the work begun by Indreko but interrupted because of the war. Although Jaanits performed excavations on Mesolithic sites and even those younger than the Stone Age, it was precisely this prehistoric period that was always central to his studies.

Jaanits's main fieldwork was initially concentrated on sites in eastern and south-eastern Estonia (1948 Kunila Corded Ware Culture burial site, 1949–1955 Akali Stone and Bronze Age settlement site; 1950, 1953–1955 Valma Neolithic settlement and burial site; 1951–1952 Kullamägi Neolithic settlement site; 1951 Villa III Neolithic settlement site; 1954 Joaorg Stone Age settlement and burial site in Narva). On the basis of this material, he completed the thesis for obtaining the degree of candidate of history in 1954, which was also published in 1959 as a Russian-language monograph (Jaanits 1959b). The fieldwork done in the 1950s is discussed in several of Jaanits's articles (e.g. 1954; 1955a). Jaanits presented

<sup>20</sup> From 1951 until his death, Indreko worked as Professor at and Director of the Estonian Scientific Institute in Sweden.

<sup>21</sup> About L. Jaanits, see for example Kriiska 1995b-c; 2000a; Tõnisson & Kriiska 2000; for bibliography, see Muinasaja teadus, 8, 19–26.



Fig. 22. Lembit Jaanits (photo: AI).

a thorough analysis of the Neolithic settlement sites known at the time, examined the finds and interpreted the data from the viewpoint of settlement, economy, society and ethnic processes.

In addition to Jaanits, the investigation of the Estonian Stone Age during the period was episodically connected only with Russian archaeologist Nina Gurina (1909–1990), who excavated three Neolithic settlement sites in Riigiküla, in north-eastern Estonia. More than ten years later she published these results as a thorough monograph (Gurina 1967). A few works were undertaken by H. Moora, who conducted excavations in Tamula for two years after the war and published some articles on Stone Age topics (Moora 1952c; 1957a).

An important methodological novelty was the use of phosphate analysis in order to localize Stone Age sites. Analyses began in 1947 and were used until 1949 in order to explain problems in the investiga-

tion of the Stone Age in Akali, Tamula, Villa and Undva settlement sites, on the shores of the Pärnu River and in the vicinity of Kunda (Velleste 1952; Lõugas 1988).

By the middle of the 1950s, 13 Neolithic settlement sites and over one thousand stray finds were known from Estonia, whereas the latter were still recognized as objective evidence of settlement density in the Neolithic (Jaanits 1955a, 176, fig. 50). Fieldwork, the comparison of the material from the Late Stone Age gathered from the whole of Estonia and investigations from neighbouring countries allowed Jaanits to specify with remarkable detail the chronology of the Neolithic, and create a wider picture than previously existed of the development of the settlement and its economy and society during the period under discussion. The settlement site of Akali on the bank of the Akali River was an essential object in the establishment of the chronology. Changes in natural conditions have taken place during the inhabiting of the settlement, and as a result there has been continuous paludification of river banks.<sup>22</sup> Therefore the dwelling site has, over time, shifted further from the river. The differentiation of the pottery types<sup>23</sup> and their planigraphical comparison with each other created a relative chronological framework for them, thus making it possible to observe long-term changes in the material culture.

Although individual finds had already been collected earlier,<sup>24</sup> it was only now that the settlement stage of the Early Neolithic was recognized, and it was named the Narva Culture (the pottery was of the Narva type) after the characteristic find places on the banks of the Narva River.

<sup>22</sup> In the part of the settlement that was closer to the river, the cultural layer is covered by a more than 2-meter-thick layer of peat (Jaanits 1955a, 180).

<sup>23</sup> Jaanits (1954, 181) distinguished a total of five clearly different groups among the pottery of Akali: the Narva type, typical combed ware, late combed ware, corded ware and early textile-impressed ware.

<sup>24</sup> The first finds of Narva type pottery in Estonia were gathered from the Akali dwelling site in 1938–1939.

In the 1950s two new general treatments of Estonian history were published (Mooraa 1952a; EA I, 1955), both including the overview of the Stone Age written by H. Mooraa. In contrast to earlier publications, the Stone Age was now periodized (analogically to the later periods) according to socio-economic formations, and using the typical terminology then in use in the Soviet Union. At the same time, these groupings were smoothly connected with the earlier classification (see Jaanits, L. 1991, 37 ff). The Mesolithic and the earlier part of the Neolithic were referred to as the period of matriarchal clan society (from the 7<sup>th</sup> millennium to the beginning of the 2<sup>nd</sup> millennium BC) and the Late Neolithic since the Corded Ware Culture, the period of patriarchal clan society, or more precisely, the transition to the latter (approximately from the 18<sup>th</sup> century BC to the beginning of our era). It was nevertheless impossible to get by without quoting Friedrich Engels and Jossif Stalin about the absence of classes and private property during the Stone Age and the development of language.

In other aspects, general treatments are much similar to those of the 1930s, and only a few clear signs of pressure are obvious. Probably the earliest period of prehistory was still too distant to include significant ideological prescriptions. Actually, the interpretations of the Neolithic have improved remarkably, and the new results of Jaanits's research have been included. In contrast to Indreko (1940, 23), Mooraa suggested 5–10 dwellings and 'a few dozens of people' as the normal size of the community in the habitation sites during the Neolithic. Although he does not expressly say it, he treats Neolithic dwelling sites principally as year-round villages that were only seasonally left by part of a community for various reasons (EA I, 1955, 19 f). The scarce material about the Corded Ware Culture and its settlements that have a weak cultural layer were seen as signs that the culture's communities were small, and dwelling sites often changed in the search for new pastures and fields (EA I, 1955, 29).

Changes also took place in the connection of archaeological cultures and ethnic and language groups: the respective standpoints are riper and the hypotheses more contemplated, overlapping with the hypotheses presented in 1956 in the collection of articles on the ethnic history of the Estonian nation (Jaanits 1956; Mark 1956; Mooraa 1956). Mooraa still associated the Combed Ware Culture with the Finno-Ugrians, but now he placed more emphasis on their original home in the east, somewhere in the Volga and Kama river basins or near the Urals. The Corded Ware Culture was connected with the ancestors of the Baltic tribes who were integrated with the Finno-Ugrians of the Combed Ware Culture north of the Daugava River and acquired their language, while at the same time adding loanwords connected with animal husbandry, kinship, tribal relations and body parts (see also Lang, this volume, a).

### Research from 1955-1994

During this period, the number of scholars studying the Stone Age remained small. Almost all of the research work rested on L. Jaanits's shoulders. He conducted numerous archaeological excavations at sites of different areas and Stone Age periods (1957, 1960, 1962–1964 Joaorg Stone Age settlement and burial site in Narva; 1955–1956, 1961, 1968, 1988–1989 Tamula Late Neolithic settlement and burial site; 1958 Riigiküla III Neolithic settlement site; 1957–1959 Loona Late Neolithic settlement site; 1958–1959, 1961–1962 Naakamägi Middle and Late Neolithic settlement site; 1959–1962, 1974 Kääpa Neolithic settlement site; 1960 Kroodi Early Neolithic settlement site; 1961–1964 Siimusaare Mesolithic and Late Neolithic settlement site; 1961 Lammasmägi Stone Age settlement site in Kunda<sup>25</sup>;

<sup>25</sup> Small-scale excavations by L. Jaanits already took place at Lammasmägi in Kunda in 1949, when these were still so-called substitution work, since no traces of Stone Age settlement were found from the phosphate concentration area determined on the basis of the analyses taken in the previous year (Jaanits, L. 1991, 29).

1962 and 1965 Kivisaare Stone Age settlement and burial site; 1977–1986 Kõnnu Neolithic settlement and burial site and 1968–1973, 1975–1976 Pulli Early Mesolithic settlement site).

In the 1970s and 1980s, Kaarel Jaanits, son of L. Jaanits, was active in the investigation of the Estonian Stone Age. He graduated from the University of Tartu in 1968 with a diploma paper on Mesolithic flint artefacts, and this topic and period have been the main field and the material for his candidate dissertation (Jaanits 1989; 1990b). He conducted several excavations on Stone Age settlement sites in central Estonia (1972–1973, 1976 Lepakose, 1970–1971 Jälevere, 1974–1975 Umbusi), and individual sites elsewhere in Estonia as well (at Paju on the island of Saaremaa in 1975–1976, in Kudruküla in 1980 and at Lammasmägi in Kunda in 1981, both in north-eastern Estonia).

During the above-mentioned period, numerous publications about the Stone Age, with different approaches and scope, were printed, mostly by L. Jaanits, but since 1970 also by K. Jaanits. One monograph (1964) and a few articles were published by Indreko. Special treatments have examined individual periods of the Stone Age (Jaanits, L. 1966b; 1968; Jaanits, K. 1990a) and their beginnings and ends (Jaanits, L. 1970b), the latest research results (Jaanits, L. 1965), chronology (Jaanits, L. 1955b; 1973c; Jaanits & Liiva 1973), local Neolithic groups (Jaanits, L. 1970a; 1981; 1984b), artefact typology (Jaanits, L. 1973b; 1975; Jaanits, K. 1973), individual artefacts (Moora 1957a), the economy (Jaanits, K. 1991), the ethnic situation during the Stone Age (Jaanits, L. 1956; 1973a), religion (Jaanits, L. 1961a), as well as individual sites (for the more important ones: Jaanits, L. 1957; 1959a; 1976; 1979; 1984a; Jaanits & Jaanits 1975; 1978; Jaanits, K. 1975; 1977; 1978) and types of antiquities (Jaanits, L. 1952; 1966b; Jaanits, K. 1981).

Cooperation with natural scientists was still taking place (see also Kriiska & Lõugas, this volume). Animal bones were mainly analysed by Kalju Paaver (1921–1985), who published most of the results in a thorough monograph about fauna in Estonia

(1965). Some of the animal bone determinations (Akali, Tamula and Villa settlement sites) were done by Russian zoologist V. Tsalkin (1962). Physical anthropology acquired a significantly more important role, especially in connection with the issue of ethno-genesis. Karin Mark came forward as a strong and influential researcher who often handled the anthropological material of the Estonian Stone Age in her publications (e.g. Mark 1956; 1970a-b). The application of the radiocarbon method to date archaeological material brought a new direction in interdisciplinary collaboration (Liiva 1963; Ilves *et al.* 1974; Jaanits & Jaanits 1981). The thermoluminescence dating method was also used, but in the case of the Kõnnu settlement site in Saaremaa, the only Stone Age place where it has been applied, the results were perceivably younger than the settlement traces found there (Hütt *et al.* 1985).

In addition, several general treatments were published, but these are predominantly only cursory summaries of prehistory in the framework of Estonian (SSR) history, where naturally only a small part was saved for the Stone Age. The Stone Age sections that were written by L. Jaanits in *Eesti esiajalugu* ('Estonian Prehistory'; Jaanits *et al.* 1982) and *Eesti talurahva ajalugu* ('The History of the Estonian Peasantry'; ETRA, 1992), are more extensive and at the same time the most general, the main positions of which do overlap. These traditionally gave a thorough overview of the natural conditions and development of the Baltic Sea. Attention was obviously turned to ethnic processes, the discussion of which broadly corresponds with the viewpoints presented in 1956. The main basis in this was archaeological cultures, which L. Jaanits treated as the common cultural areas of certain groups of tribes (Jaanits *et al.* 1982, 66).

In these treatments, the Stone Age was divided into two groups: the Mesolithic and the Neolithic. In the former two stages, earlier (8<sup>th</sup>–6<sup>th</sup> millennia BC) and later (5<sup>th</sup>–4<sup>th</sup> millennia BC) were distinguished, which were nevertheless considered 'purely chronological'. Insufficient material was gathered in order

to observe their actual differences. In this research period, the Pulli settlement site (discovered in 1967), where the oldest known traces of human habitation in Estonia were found, became the beginning of the Estonian Mesolithic. At the same time, it was emphasized that as far as natural conditions are concerned, Estonian areas were suitable for habitation even earlier. On the basis of the mainly black high-quality flint that is naturally found in southern Lithuania and Byelorussia, which predominates among the artefacts and working debris of the Pulli settlement, L. Jaanits suggested that people arrived there directly from these areas ('from the south or south-east), bringing with them flint from their original home (Jaanits *et al.* 1982, 32, 53). More widely, it was accentuated that the areas of Estonia were inhabited by people who had gradually moved north with the reindeers and mammoths after the retreat of the last ice sheet.

According to Jaanits, the settlement that, on the basis of the similarities between artefacts, was united under the name Kunda Culture, continued during the Mesolithic in a comparatively unremarkable way. Nevertheless, local rocks came to be used for the making of tools: mostly of flint and quartz, and the former originated in central Estonia. Although the investigation of sites with plentiful flint had already intensified, the Kunda Culture was still characterized mainly by bone and antler artefacts and 'primitive' stone axes and adzes made of metamorphous rocks and ground at least on blades (Jaanits *et al.* 1982, 52). On the basis of the anthropological research of the skeletons found at the Zvejnieki Stone Age burial site in northern Latvia,<sup>26</sup> it was suggested that people from the east may have moved to the area of the Kunda Culture during the Mesolithic.

Researchers were always convinced that the few Mesolithic sites found adequately reflected the set-

tlement picture at that time (Jaanits *et al.* 1982, 48). Sparsely situated single communities lived on the banks of water-bodies in light (conical pole-construction-like) dwellings and obtained food from hunting, fishing and gathering. Dwelling places were changed more or less seasonally within the sustained habitation areas, the reason for that being the availability of food (*op. cit.*, 49). The society's form of co-existence was supposedly kin-groups of a few dozen to a couple of hundred people (mostly based on blood relations). The groups in turn formed primitive tribes who among other things shared a similar material culture.

The beginning of the Neolithic began with the introduction of ceramics. According to L. Jaanits, pottery-making know-how reached what is today Estonia considerably later than it did the neighbouring countries around the Baltic Sea. Compared to the Mesolithic, stonework, mainly the grinding of adzes and axes and the retouching of flint, was significantly more developed in the Neolithic. Within the Neolithic he distinguished two sub-periods: Early Neolithic (3000–2200 BC) and Late Neolithic (2200–1500 BC), which were eras of foraging ('exploiting economy') and farming respectively (Jaanits *et al.* 1982, 58 ff).

On the basis of the similarities between artefacts, especially bone tools, L. Jaanits suggested that the Early Neolithic Narva Culture formed on the basis of the local Mesolithic population without a major migration; at the same time, he does not rule out smaller movements of people (Jaanits *et al.* 1982, 125). The introduction of pottery was the result of a cultural loan originating in the upper reaches of the Dnepr River. On the basis of the pottery, he distinguished two outstanding regions with special features, i.e. 'cultural areas': (1) north-eastern and (2) south-eastern Estonia. In his opinion, the basis for the differences was influences from outside that originated from (1) the Karelian Isthmus and (2) eastern Latvia respectively (*op. cit.*, 67).

The Narva Culture was followed by the Typical Combed Ware Culture, which is characterized

<sup>26</sup> Skulls of 'Europoid' and 'Mongoloid' type were distinguished among the Mesolithic skeletons of Zvejnieki cemetery; the latter were connected with migrants from the east.

by abundant flint material, the increased number of stone hewing tools (including adzes with nail-shaped blades that appeared for the first time), different bone instruments, amber, etc., but mainly specific richly decorated pottery. According to L. Jaanits, the Typical Combed Ware Culture comprised, in addition to Estonia, a large part of Finland, part of Russia, all of Latvia, part of Lithuania and even north-western Byelorussia and north-eastern Poland (Jaanits *et al.* 1982, fig. 52).

In his view this widespread culture could not have formed at the end of the Mesolithic and the beginning of the Neolithic in the area with clearly distinguished local differences only on the basis of the indigenous population. The Typical Combed Ware Culture must have arisen on a smaller area (probably the area around Lake Ladoga, where new population arose between the upper reaches of the Oka and Volga rivers), and later spread comparatively rapidly as a result of migration (Jaanits *et al.* 1982, 75 f). Jaanits believed that the use of materials of different origin (flint from the Valdai area, amber from the south-eastern coast of the Baltic Sea, schist from the surroundings of Lake Onega, etc.) suggested that these groups of people nevertheless remained in close contact. Based on anthropological and language historical data, among other things, he proposed (while at the same time emphasizing that the hypotheses still needed to be confirmed) that 'the tribes of the Typical Combed Ware Culture were definitely part of the Finno-Ugric ethnic group, on the basis of which the Finnic tribes later developed in the process of ethnic history' (*op. cit.*, 123).

The Late Combed Ware Culture developed from the Typical, whereas in that process, a certain role was played by local (read: Narva Culture) habitants, which is why it is possible to observe the differences in material culture in precisely the same areas as during the Early Neolithic (Jaanits *et al.* 1982, 77).

At the end of the Late Stone Age (approximately 2200 BC), a new phenomenon spread alongside the Late Combed Ware Culture – the Boat-Axe Culture, which Jaanits connected with the migration of 'a

tribal group of Indo-European origin' from somewhere between the rivers Rhein and Dnepr in the middle of to late 3<sup>rd</sup> millennium. These tribes brought with them animal husbandry and farming (Jaanits *et al.* 1982, 101 f, 125).

The location of the sites of the culture, which by the end of 1970s was represented by a couple of dozen graves, a few settlement sites and accidentally found boat-shaped stone axes on fertile soils, indicated that the people of the Corded Ware Culture were actively involved in cattle breeding. The scanty finds and weak cultural layer of the settlements, together with the small cemeteries, supported the impression of their temporary nature arising from the semi-sedentary way of life of the carriers of the Corded Ware Culture (Jaanits *et al.* 1982, 105 f).

According to Jaanits, the mixing of the Combed Ware and Corded Ware people took place at the end of the Stone Age (Jaanits *et al.* 1982, 120), as a result of which there are several old Baltic loanwords connected with farming and stock breeding in contemporary Estonian, and Europoid anthropological features in the physical appearance of the Estonian nation. Several new phenomena were also added: pottery with textile impressions was introduced, boat-shaped stone axes were replaced by simple-shaped shaft-hole axes and a few excellently finished flint artefacts, primarily daggers, reached Estonia from Scandinavia. The appearance of textile-impressed pottery may have meant the migration of new people from the east (*op. cit.*, 117 ff).

Compared with the Mesolithic sites, eight more Neolithic foragers' dwelling sites were found, and that gave Jaanits one basic starting to suggest that an increase in the number of habitants and an expansion of settlement took place (Jaanits *et al.* 1982, 88 f). The fact that the work of the systematic location of settlement sites had in fact not begun by that time did not affect the conviction that the actual settlement picture is generally reflected in the known sites. He dated the beginning of the settlement of the islands to the Neolithic, also proposing

that during the earlier stage (Typical Combed Ware) of the settlement site of Naakamägi on Saaremaa Island, there might have been a temporary camp of seal-hunters from the mainland who later stayed there permanently (*op. cit.*, 93).

According to Jaanits, some of the dwelling sites of people who supported themselves by foraging (the sites are usually located in the vicinity of water-bodies) have been used for a very long time. 20–50 working-age persons lived together, the number probably arising from the optimal possibilities for obtaining food, but especially from the organization of work. During the Neolithic, a new and stronger tribal organization was formed, uniting several kin-groups or clans (Jaanits *et al.* 1982, 91 ff).

During the 1980s and at the beginning of the following decade, only a few fundamental additions were made to these general treatments. The main positions were merely specified.

The most important studies concerned the Mesolithic. K. Jaanits completed a thorough analysis of Mesolithic flint, primarily examining the typological, but to some extent also technological aspects. Of Estonian sites, the treatment comprises Pulli, Lepakose, Lammasmägi in Kunda, Umbusi, Siimusaare and Jälevere (Jaanits & Ilomets 1988) – the majority of the Mesolithic settlements known at that time. While the radiocarbon dates were scanty, he suggested a relative Mesolithic chronology via the comparison of settlement sites rich in flint (using a similarity index<sup>27</sup>), and proposed the division of the period into three sub-periods according to the phases of the Baltic Sea (Yoldia Sea, Ancylus Lake and Litorina Sea). The material nevertheless remained under-interpreted, and the most important result was the fact that it reached other scientists studying the Mesolithic in eastern Europe. The Kunda Culture, which until this day was represented by bone and antler artefacts, had until then

not actually been suitable for comparison with the flint material that forms the majority of the stone finds in the neighbourhood.

For the first time, research into the traces of work and use was applied to Estonian material: 32 Mesolithic artefacts were analysed by Russian archaeologist Mikhail Zhilin (Jaanits 1990b, 24 ff).

Mostly as a result of the fieldwork done by Vello Lõugas in the 1980s, when the Võhma (I) settlement site in north-western Saaremaa and the Kõpu (I) settlement in western Hiiumaa were discovered, it became clear that in addition to the coastline itself, the bigger islands of western Estonia were inhabited at the end of the Mesolithic and the Early Neolithic (e.g. Lõugas 1982; Jaanits, L. 1991, 25).

## Research into the Stone Age after 1994

The Stone Age has begun to be investigated significantly more extensively in the last decade. Firstly, this has been caused by the arrival of new archaeologists in the field, while secondly, several natural scientists have begun to examine the earliest settlement in Estonia and the topics connected therewith.

Since 1994, archaeological fieldwork has predominantly been conducted by the author, during recent years often in cooperation with younger researchers Ulla Saluäär, Mirja Ots, Kristiina Johanson and Mari Lõhmus. The work has mostly taken place in Estonian coastal areas and the western Estonian islands, and to some extent also in central Estonia. Numerous new Stone Age sites have been found during this work. A particularly large number of Mesolithic settlement sites have been added, the number of which is now close to two hundred. Fewer Neolithic settlement sites (approximately fifty) have been discovered, but for example, survey trips in central Estonia have specifically concentrated on the areas suitable for Mesolithic habita-

<sup>27</sup> The similarity index that was applied by several Stone Age researchers during the Soviet period is based on adding the percentages of the types of flint artefacts from settlements and find-places (see e.g. Jaanits & Ilomets 1988, 57).

tion – the ancient shores of Lake Võrtsjärv and the higher terraces of rivers.

In the 1990s, phosphate analysis began to be used again in the investigation of the Stone Age. In order to determine the limits of settlement sites, phosphate mappings have been carried out in Riigiküla, Kõpu and Võhma, whereas the SPOT-test has been applied too.

Archaeological excavations have been undertaken on almost 20 settlement or burial sites (1994, 1998, 2001 Kõpu I Neolithic settlement site; 1994–1995 Kõpu VII/VIII Late Mesolithic settlement site; 1995–1996 Kõpu IV/V Late Mesolithic settlement site; 1995 Riigiküla IV Neolithic settlement site; 1996–1997 Kõpu XI Middle Neolithic settlement site; 1995 Vihasoo I Late Mesolithic and 1995–1996 Vihasoo III Early Neolithic settlement sites; 1997 Võhma I (Mustjala) Late Mesolithic and Late Neolithic settlement site; 1997 Kaseküla Late Neolithic settlement site; 1998 Riigiküla XIV Late Neolithic settlement site; 1999 Ruhnu I Late Mesolithic and Ruhnu II Late Mesolithic and Early Neolithic settlement sites; 1999–2002 Võhma I (Kadrina) Late Neolithic settlement site; 2000 Lemmetsa II Neolithic settlement site; 2001–2003 Sindi-Lodja I Mesolithic settlement site; 2001 Sindi-Lodja II Mesolithic settlement site; 2002–2004 Kivisaare Stone Age settlement and burial site; 2002–2003 Sindi-Lodja III Neolithic settlement site).

During the years 1997–2001, four researchers have disputed their doctoral dissertations that treat the Stone Age to a lesser or greater extent, especially on the coast and islands: palaeozoologist Lembi Lõugas (1997), geologist Siim Veski (1998), archaeologist Aivar Kriiska (2001c) and palynologist Anneli Poska (2001).

The only more extensive general treatment of the Estonian Stone Age that is now available is presented in Kriiska & Tvauri 2002, while on the other hand several smaller studies have been issued that deal with individual sites (more importantly Kriiska 1995b; 1997a; 1998a; 2001a; Åkerlund *et al.* 1996; Lang & Konsa 1998; Kriiska *et al.* 1998; 2004a-b; Kriiska

& Saluäär 2000a-b), the Stone Age of certain areas (Kriiska 1999; 2001b), sub-periods of the Stone Age (Kriiska 2003c), chronology (Kriiska 2001c; Lang & Kriiska 2001), settlement (Kriiska 2002b; 2003a), economy (Lang 1995c; Kriiska 1996b; 2000d; 2003b; Lõugas *et al.* 1996b;), architecture (Kriiska 2002a;), pottery (Kriiska 1995d; 1996a; Kalm *et al.* 1997), amber (Ots 2003), the mutual effects between nature and man (e.g. Raukas *et al.* 1995; Moora & Lõugas 1995; Lõugas *et al.* 1996a; Veski *et al.* 2004a), the history of fauna (Lõugas 1998; Lõugas & Maldre 2000) and other topics.

The chronology of the Stone Age has changed remarkably. The basis for this is, firstly, new radiocarbon dating and its calibration into solar years,<sup>28</sup> and secondly the analysis of artefacts and the comparison of the material from Estonia with that of neighbouring countries (Kriiska 2001c; Lang & Kriiska 2001). In order to date the Estonian Stone and Bronze Age coast-connected dwelling sites, a shore-displacement chronology has been elaborated with the help of <sup>14</sup>C dates and palaeogeographic reconstructions made on the coast and islands (Jussila & Kriiska 2004). This makes it possible to date the settlement sites that are situated directly on the shore of the Litorina and Limnea Sea on the basis of their location and height from present sea level, and compile potential templates for determining new sites.

The Stone Age periodization still originates from the division by L. Jaanits, but the Mesolithic is now dated to between the years 9000–4900 BC, which in turn is split into two parts: Early and Late, with the breaking point at approximately 6500 years BC. Instead of the earlier two, three sub-periods are now distinguished in the Neolithic: Early Neolithic (4900–4200/4000 BC), Middle Neolithic (4200/4000–3200/3000 BC) and Late Neolithic (3200/3000–1800 BC) (Kriiska 2001c).

<sup>28</sup> While the basic dates of the beginning of the Mesolithic derive from earlier times, the border between the Mesolithic and Neolithic, and also between the Middle and Late Neolithic, has been determined through new analysis.



The interpretations of Stone Age settlement, economy and society have been corrected. Research along the coast has indicated that several decisive changes took place at the end of the Mesolithic, as a result of which some of the communities living close to the sea specialized in hunting seals or at least catching sea-mammals had a comparable advantage in terms of food (e.g. Jaanits, K. 1995; Kriiska 2000d). Ever since that time, the dualistic settlement pattern in which inland and coast are distinguished began to develop. These areas differ from each other in terms of settlement pattern, foraging strategies and rock, which was mainly used for preparing tools<sup>29</sup> (Kriiska 2003b, 11).

The gathered data have made it possible to offer a more accurate dating of the beginning and the course of the settlement of the islands. The earliest inhabitation of Saaremaa, Hiiumaa and Ruhnu is at present dated to the end of the Mesolithic. Permanent settlement, which is certainly connected with the economic deadweight of the islands, presumably already began on Saaremaa in the Late Mesolithic, while at the same time it was possible on Hiiumaa only in the Late Neolithic (Kriiska 2001c).

Viewpoints regarding the main settlement units and the mobility of communities have also changed. The hypothesis has been suggested that on the areas of diverse nutritional base, year-round villages probably already began to develop in the Late Mesolithic, and acquired their systematic form during the Middle Neolithic Combed Ware cultures at the latest (Kriiska 2003b, 12 f).

Palynological studies have specified the beginning of the farming economy. On the basis of the pollen

<sup>29</sup> Flint dominates in inland areas, and quartz on the coast. While it was previously believed that the local flint originating in limestone silted during the Palaeozoic occurred naturally only in central Estonia (Jaanits 1990b, 12), then during the fieldwork completed in the second half of the 1990s and the beginning of the 21<sup>st</sup> century, it was determined that flint appears as pebbles in the Quaternary sediments on the entire territory of Estonia. In central Estonia, which is permeated by the Silur limestone opening, flint was already broken from the limestone strata during the Mesolithic.

of cultivated cereals (wheat, barley, oats), it already took place during the Combed Ware Culture, i.e. the Middle Neolithic, according to the Estonian periodization.<sup>30</sup> Nevertheless, it remained only an insignificant activity next to foraging, and did not bring about a change in settlement and material culture before stock breeding (during the Corded Ware Culture) offered an alternative to hunting (Kriiska 2000b, 73; 2003b, 15).

Palaeogeographic and shore-displacement studies have made it possible to show how, during the Late Neolithic, a settlement shift took place on the coast and islands, conditioned by the necessities of agriculture, in the course of which the single farm probably became the main settlement unit, and dwelling sites were founded further from the direct sea-shore (Kriiska & Tvaauri 2002, 78 f).

New results have been added regarding the end of the Stone Age (and the Early Bronze Age), which has been under-interpreted due to the scarcity of fixed sites. Considering the spread of stray finds – shaft-hole axes and palynological data, one can even suggest that a considerable expansion of (agricultural) settlement took place at the time (Kriiska 2003b; Johanson 2005). This included the areas of the uplands, which in earlier studies have been considered to be inhabited only during the middle of the 1<sup>st</sup> millennium AD (Moora, T. 1966).<sup>31</sup>

‘Massive’ migration as a shaper of the Combed Ware and Corded Ware cultures, which was previously relatively commonly emphasized (for example Moora 1956, 55; Jaanits *et al.* 1982, 102; Mark *et al.* 1994, 248), has now begun to be doubted (Lang 1995c, 135 f; 1998; Kriiska 2004a, 47 ff). Especially in the case of the Corded Ware Culture, it has been demonstrated that the suggestion of the addition of a new ‘ethnic element’ is based on a weak or even incorrect foundation (Lang 1998). At the same time,

<sup>30</sup> This correlates with the decrease in the pollen of trees and the increase in herbaceous plants (Veski 1998; Poska 2001).

<sup>31</sup> Earlier the uplands of Estonia were considered to be unsuitable for dwelling and to have been naturally avoided by Stone Age people (EA I, 1955, 16).

there is no reason to rule out the movements of smaller population groups during the Stone Age, and these may have been one of the factors in the development of the Combed and Corded Ware cultures (Lang 1998; Kriiska & Tvauri 2002, 54, 84).

## Summary

The beginning of the investigation of the Stone Age in Estonia can be dated to the year 1865, when C. Grewingk published the first book that met the scientific requirements of the time. For decades, the presentation of Stone Age finds, the interpretation of material, fieldwork as well as the discovery of the first Stone Age site in what is now Estonia – the Lammasmägi settlement site in Kunda – was connected with his name.

The beginning of the 20<sup>th</sup> century is characterized by an increase in the number of stray finds. In this connection one should definitely mention the remarkable actions of the Pärnu collectors (E. Glück, F. Rambach and E. Bliiebernicht). Rich Stone Age material, especially exceptional for its numerous bone and antler artefacts, was gathered from the banks of the Pärnu River and the gravel dredged from the bottom thereof.

An important change in the research of the Stone Age was brought about by the establishment of the Chair of Archaeology at the University of Tartu in 1920. Among other things, Professor A. M. Tallgren wrote a thorough and analytical Stone Age overview in the two-part monograph on Estonian prehistory, the main positions of which remained influential for decades. Tallgren began to use a periodization that was more complex than the earlier one, distinguishing several sub-periods and cultures in the Stone Age (Kunda, Võisiku, Combed Ware and Corded Ware). Valuable additional information concerning both fixed sites and stray finds was gathered by the registration of antiquities undertaken by the Chair of Archaeology.

Archaeological excavations in the 1920s remained merely single accidental undertakings with very limited capacity. The breakthrough in fieldwork was brought about by the activity of R. Indreko, especially with his excavations at Lammasmägi in Kunda in the 1930s. These, together with other smaller excavations (Moksi, Kivisaare, Siimusaare settlement sites and the find place of a fishing net from Siivertsi) and stray finds, laid the foundation for the new treatment of the Mesolithic, on the basis of which he submitted the first dissertation (in 1941) examining the Estonian Stone Age.

At the end of the 1930s, when Indreko had reached a generalizing phase with the investigation of the Mesolithic, he began a systematic study of the Neolithic. These works remained unfinished, since Indreko was forced to flee Estonia during the war.

Although individual sites were excavated by other Estonian archaeologists, all of the monographs published in the 1930s were composed by Indreko, and supported by only a few natural scientists (J. Aul, J. Lepiksaar, K. Orviku and P. Thomson). Apart from Indreko, general treatments were also published by H. Moora, who was mainly specialized in the research of the Iron Age, whereas he wrote all sections concerning the Stone Age in the collective publications of Estonian history from 1935 to 1955.

During this research period, it was believed, as previously, that the people of the Stone Age were mobile hunter-fisher-gatherers who changed their dwelling places based on the best hunting or fishing season. Finding support from the (probably erroneous) observation of the fieldwork of Finnish archaeologist S. Pälsi, the people were thought to have lived in 'tent-like conical pole-constructions.' Stone Age society was considered to be based on extended families that in turn formed clans and, at least during the Combed Ware Culture, were included in broader tribal relations. According to the scholars of the 1930s, a change in society only took place at the end of the Stone Age, with the development of the Boat-Axe (Corded Ware) Culture, when the new dwellers brought with them primitive cultiva-

tion and stock breeding, and inhabited areas further from water-bodies.

The question of ethno-genesis, whereby hypotheses proposed by linguists were applied, continued to be topical. According to Moora, the continuity of Finno-Ugric settlement is apparent since the Combed Ware Culture. The development of the Boat-Axe Culture was connected with the migration of Indo-Europeans.

Although several Neolithic sites began to be studied before World War II, a qualitative change in the treatment of this period was only brought about by L. Jaanits in the 1950s. Extensive archaeological excavations and planigraphical and stratigraphical observations gave reason to present a new and a more thorough periodization of the Neolithic and the developmental schema of pottery types. In addition to the archaeological cultures that were already known since the time of Tallgren, the Narva Culture was now distinguished. After the application of the radiocarbon method in the 1960s, a more reliable basis was created for the establishment of an absolute chronology of these periods.

In the 1950s several positions regarding ethno-genesis were formulated (K. Mark, H. Moora, L. Jaanits), and these endured until the mid-1990s without significant change. According to these, the Stone Age settlement was born through three main migrations: the main one during the Mesolithic, the arrival of Finno-Ugrians from the east in the mid-Neolithic and the arrival of Indo-Europeans at the end of the Neolithic.

Perceptible additions concerning the Estonian Mesolithic were only published at the end of the 1960s, when the Early Mesolithic Pulli settlement site, which contains the oldest known traces of human habitation in Estonia, was discovered and studied. In the 1970s and 1980s, K. Jaanits excavated several Mesolithic settlements, elaborated the typology of flint artefacts and began technological research. Nevertheless, the results remained under-interpreted.

In 1982 and 1992, two very thorough general treatments of the Stone Age were issued in comprehensive publications on prehistory and history (Jaanits

*et al.* 1982; ETRA, 1992); the author of both being L. Jaanits. The periodization and the whole treatment is quite similar to those presented in the 1950s. Also, the belief was valid that the sites found do reflect the overall situation of Stone Age settlement. During the Mesolithic, people lived in clans consisting of up to 50 people, and dwelling sites were moved seasonally in order to be near the best hunting or fishing areas. In the Neolithic, more precisely at the end of the Typical Combed Ware period, the same places were in year-round use. At the end of the Stone Age, the people of the Corded Ware Culture were again (half-) nomads and moved regularly in search of new pastures. During the Neolithic, a firmer tribal organization uniting several clans developed. Discoveries by V. Lõugas on the western Estonian islands in the 1980s have been of great importance for the studies of the second half of the 1990s and the beginning of the 21<sup>st</sup> century. More precisely, the development of coastal settlement and the colonization of the islands were the central research topics at that time.

The last decade is characterized by the discovery of new Stone Age settlement sites. Their ever-growing number and the peculiarities of their location indicate that our knowledge of the Stone Age settlement pattern was and remains very limited and superficial.

The research period is also characterized by the extension of the topic's amount: firstly, the addition of new archaeologists studying the Stone Age and, secondly, natural scientists' interest in the past and cooperation with them. The latter has been especially efficacious in the field of zoology (L. Lõugas) and palynology (A. Poska, S. Veski).

Individual studies have been published in comparatively great numbers, and a more concise and thorough treatment of the Stone Age in the area under observation has also been completed. New excavations and radiocarbon dates have specified the absolute chronology. On the basis of the material from coastal Estonia, a shore-displacement chronology has been elaborated, especially for the area in question.

The interpretations of Stone Age settlement, economy and society have been corrected. The end of the

Mesolithic saw the development of dual settlement in Estonia, in which the inland and coast are distinguished on the basis of settlement pattern, foraging and rock exploitation. The gathered data has made it possible to date the beginning and course of the settlement of the islands more exactly. It has been suggested that on areas of diverse nutritional base, year-round villages probably already began to develop during the Late Mesolithic. Palynological studies have specified the beginning of cultivation. Pollen from cereals

(wheat, barley and oats) has demonstrated that grain was already grown here during the Combed Ware Culture. This was probably initially a marginal activity, and only in the Late Neolithic did it have an effect on settlement and culture. During the Corded Ware Culture, single farm probably became the main settlement unit. Doubts have been expressed whether 'massive' migration shaped the Combed and Corded Ware cultures, and the weakness of the grounds of such hypotheses has been demonstrated.



# Research into the Bronze and Early Iron Ages

VALTER LANG

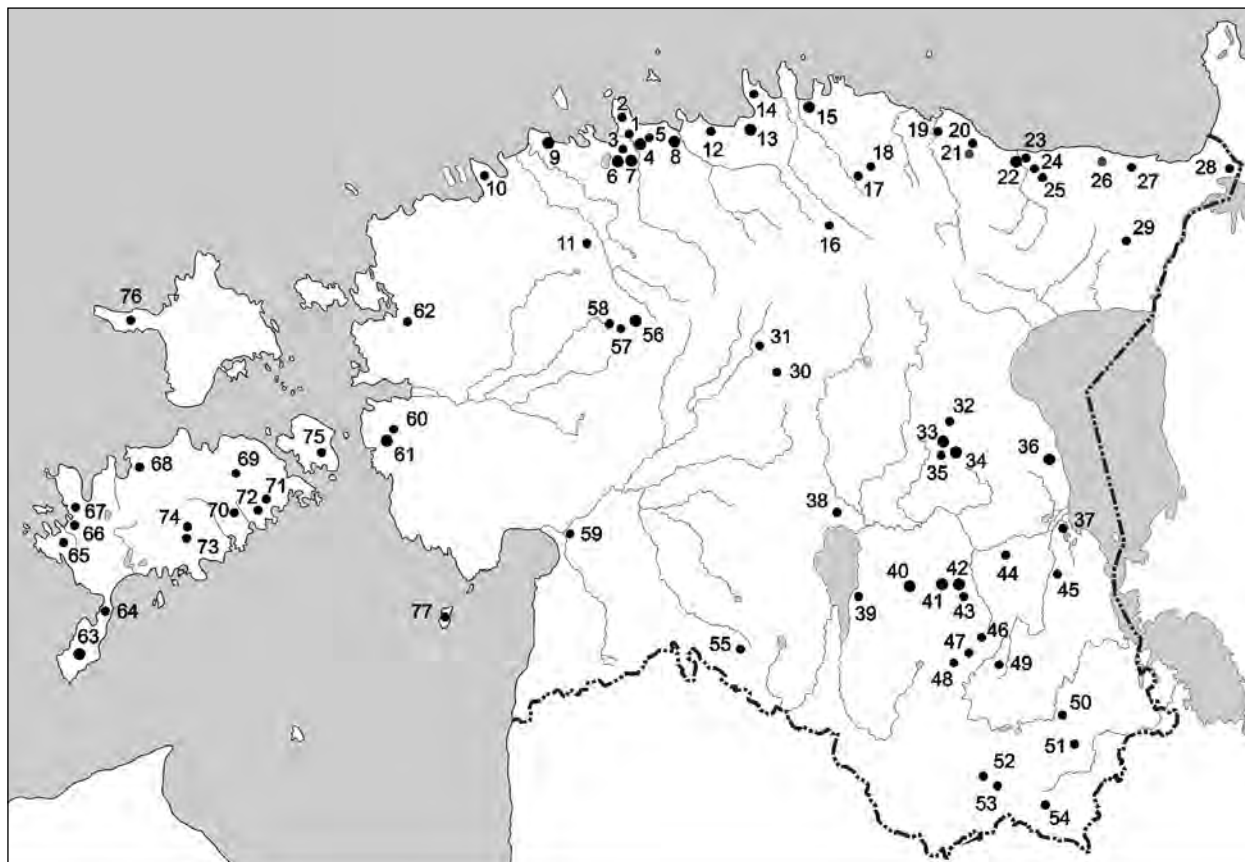
## Introduction

The main types of archaeological sites from the Bronze Age (1800–500 BC), Pre-Roman Iron Age (500 BC – 50 AD) and Roman Iron Age (50–450 AD) (the two latter periods together form the Early Iron Age) are, according to our knowledge as of the threshold of the 21<sup>st</sup> century, as follows:

- (1) monumental above-ground stone graves, which are divided into several types:
  - stone-cist graves (the most numerous group),
  - ship-graves,
  - early *tarand*-graves,
  - typical *tarand*-graves,
  - one-*tarand*-graves,
  - cairn graves,
  - *bauta*-stone graves;
- (2) pit-graves with both inhumations and cremations;
- (3) enclosed settlement sites:
  - fortified settlements from the Late Bronze Age,
  - hill-top settlements from the Early Iron Age,
  - cultic sites;
- (4) open settlement sites;
- (5) fossil field systems:
  - clearance cairn fields,
  - block-shaped fields;

- (6) cup-marked stones;
- (7) iron smelting sites;
- (8) hoards;
- (9) stray finds.

As the use of several types of sites and artefacts was common to both the Bronze and Pre-Roman Iron Ages, in Estonia and elsewhere in the eastern Baltic region these periods have been considered part of one longer period called the Early Metal Age. An essential argument for this has also been that metals were quite rare in those times, and the making and use of stone artefacts was continued. The Roman Iron Age has been always taken as a separate pre-historic period, however, as it can be distinguished by graves with rich grave goods. In the period of the elaboration of the concept 'Early Metal Age', i.e. the 1950s, really only a few sites and finds from the Bronze and Pre-Roman Iron Ages were known; by now, however, the picture has changed completely. Regarding recent results in the understanding of the main tendencies in the development of society, religion, settlement pattern and proprietorship rights, one can see the period 1100 BC – 450 AD (i.e. the Late Bronze Age to the end of the Roman Iron Age) as one unit, while the preconditions for those developments arose during the Early Bronze Age. I will proceed in this treatment from the division into shorter periods, but for the reasons mentioned above, research into the Bronze and Early Iron Ages will be handled together.



**Fig. 23.** Bronze and Early Iron Age sites mentioned in the text. 1 Iru, 2 Viimsi, 3 Vão, 4 Nehatu, Proosa, Saha and Lagedi, 5 Saha-Loo, 6 Mõigu, Kurna, Assaku and Lehmja-Loo, 7 Jüri and Rae, 8 Rebala and Jõelähtme, 9 Rannamõisa and Ilmandu, 10 Tõnsu, 11 Mikuri, 12 Valkla, 13 Muuksi and Uuri (Klaukse), 14 Kolga-Aabla, 15 Tõugu, Võhma (Kadrina), Uusküla, Ilumäe and Palmse, 16 Moe, 17 Ojaveski, 18 Kloodi, 19 Kunda, 20 Koila, 21 Pada, 22 Purtse, Purtse-Matka, Lüganuse and Napa, 23 Jäbara, 24 Järve, 25 Kahula, 26 Toila, 27 Tüsamäe, 28 Joaorg in Narva, 29 Metsküla, 30 Nurmsi, 31 Tarbja, 32 Toovere, 33 Kõrenduse and Nava, 34 Tindimurru and Puiato, 35 Saadjärve, 36 Alatskivi and Lahepera, 37 Akali, 38 Siimusaare, 39 Vehendi, 40 Tamsa, Jaagupi and Peedu, 41 Kullaku and Unipiha, 42 Kambja and Tatra, 43 Paali, 44 Mäletjärve, 45 Kõnnu, 46 Ala-Pika, 47 Saamueli (Truuta), 48 Pikkjärve, 49 Põlgaste, 50 Villa, 51 Loosi, 52 Virunuka, 53 Sadrametsa, 54 Tsiistre, 55 Ülpre, 56 Keava and Võnnumägi, 57 Lipa, 58 Kabala (Tamme), 59 Taebla, 60 Poanse, 61 Kõmsi and Kaseküla, 62 Altküla, 63 Sörve (Lülle) and Karuste, 64 Tehumardi, 65 Lümanda (Punapea), 66 Loona, 67 Kurevere, 68 Võhma (Mustjala), 69 Kuninguste, 70 Tõnija, 71 Ridala, 72 Asva, 73 Kaali, 74 Liiva-Putla, 75 Mäla, 76 Kõpu (Pihla), 77 Mõisaküla (Kihnu).

## The formation of the concepts of the Bronze Age, Pre-Roman and Roman Iron Ages and the first results of research (until the middle of the 1930s)

As very few metal finds from the 2<sup>nd</sup> and 1<sup>st</sup> millennia BC were known even at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries<sup>1</sup>, it is not surprising that such periods as the Bronze Age and Pre-Roman Iron Age were not distinguished in the first treatments by our archaeologists. According to both Constantin Grewingk and Richard Hausmann, people of what is today Estonia lived in Stone Age conditions until the beginning of the Roman Iron Age, although individual metal artefacts were known and used (Grewingk 1882, 58; Hausmann 1896, XII f; 1910, 11 f).<sup>2</sup> From the last quarter of the 19<sup>th</sup> century, the first sites of the Late Bronze and Pre-Roman Iron Ages, namely the stone-cist graves, gradually came to be known to researchers, although they were unable to either date them more exactly to any period or interpret their role within the corresponding periods (Laneman 2002, 10 ff).

The first precise dates for the distinguishing of the **Bronze Age** were established by Aarne Michaël Tallgren (1922c, 72); according to him, the finds from the Bronze Age belonged to the period 1800–600/400 BC. In those times a total of 14 bronze artefacts from 11 different find places were known; seven of them (from four places) were dated to the Late Bronze Age, and the rest were dated to the

Early Bronze Age (Tallgren 1922c, table on p. 74).<sup>3</sup> Ten years later, the number of bronze finds had increased to about twenty, whereas Harri Moora dated the whole period to a somewhat narrower time frame: 1500–500 BC (Moora 1932, 22 ff). Some years later he further narrowed this period, putting the beginning of the Bronze Age at around 1300 BC (EA I, 1935). These time frames (1300–500 BC) remained unchanged for the next forty years, until the works of Vello Lõugas (1970a, c).

Since the beginning of the 20<sup>th</sup> century, more and more information has been gathered about stone-cist graves<sup>4</sup>. It was mostly the Baltic German amateur archaeologists Artur Spreckelsen and Adolf Friedenthal who carried out a number of excavations on such graves in northern Estonia, e.g. in Saha, Lagedi, Muuksi, Napa (see Spreckelsen 1907; 1932; 1926a; 1927; Friedenthal 1927) (Figs. 23, 24). Due to the scarceness of grave goods, the dating of those graves was, however, difficult. According to Hausmann (1908) and Spreckelsen (1932), some of our stone-cist graves were already erected at the end of the Stone Age, while the rest of them dated from the Roman Iron Age. The reason for such an opinion was that the excavation of some stone-cist graves had yielded pottery that was decorated with comb or cord impressions (similar to the Late Neolithic ceramics), whereas the other graves contained artefacts characteristic of the Early Iron Age. Tallgren (1922c, 77) doubted such old dates; nevertheless, it was not before Marta Schmiedehelm's

<sup>1</sup> Only c. twenty metal artefacts from the Bronze Age were collected in the provinces of Estonia, Livonia and Courland by the beginning of the 20<sup>th</sup> century, whereas metal finds from the Pre-Roman Iron Age were completely unknown.

<sup>2</sup> Hausmann (1910), for instance, used the term 'Bronze Age' as a prehistoric period, but this was only for the purpose of making comparisons with Scandinavia, which he considered to be the origin of our bronze artefacts. Nevertheless, he also noted that '*Steinzeit und Eisenzeit berühren sich hier etwa um die Zeit der Geburt Christi*' (Hausmann 1910, 12).

<sup>3</sup> As a matter of fact, the number of finds was a little greater: in the hoard of Tehumardi, Tallgren distinguished only four artefacts instead of seven (fragments of six artefacts and smelted pieces of one more object; see Jaanits *et al.* 1982, 154). Thus, the number of bronze artefacts was then 17.

<sup>4</sup> The Estonian stone-cist graves are monumental above-ground grave buildings, which are usually surrounded with one (or several) stone circle-wall(s) and contain one (or several) stone cist(s) in their central parts. The diameter of the graves is mostly c. ten to twelve metres and the height around one metre. The deceased have been buried as inhumations, while the cremations are rare (they usually occur outside the cists).





**Fig. 24.** Reconstructed stone-cist graves in Jõelähtme (photo: T. Volmer; AI).

(Fig. 25) excavations of the graves of Jäbara in the middle and late 1920s, when there gradually began to develop a conviction that the stone-cist graves in Estonia belong to the period from the Late Bronze Age to the early Roman period (Moora 1932, 26).

The Bronze Age in the eastern Baltic region, including Estonia, was a subject investigated by Eduards Šturms, a Latvian archaeologist. Concerning Estonia, his article about the finds and cultural contacts from the Bronze Age and Pre-Roman Iron Age is worth mentioning (Šturms 1935). According to him, the metal artefacts of the Early Bronze Age in Estonia came from different directions (Scandinavia, the southern Baltic region, Russia), but during the Late Bronze Age, the influence of the Scandinavian cultural centre became dominant. The border between Scandinavian and southern Baltic cultural influences had run along the Daugava River, whereas the former were also significant in northern Courland. Similar

cultural relations were also characteristic of the early Pre-Roman Iron Age, but according to Šturms there were no finds whatsoever from the middle and late Pre-Roman Iron Ages.

Contemporaneously to the article by Šturms, another paper was published by Birger Nerman (1933). The latter was dedicated to the study of cultural contacts between Scandinavia and the eastern Baltic region during the Bronze and Pre-Roman Iron Ages, treating not only artefacts but also graves – both the ship-graves in Courland and the stone-cist graves in Estonia. Nerman was convinced that the bronze finds and graves in question originated from Scandinavia, and reflect direct migrations of people from Sweden, particularly from Gotland and the surroundings of Lake Mälär. He referred to the opinion of Friedenthal that the skulls of the skeletons found in the stone-cist graves (Muuksi) represent the so-called Nordic race. The Estonian

researchers left the question of the origin of stone-cist graves more or less open, conceding the possibility that the influences may have come from either Gotland or areas of eastern Prussia (Moora 1929a, 15; 1932, 26 ff).<sup>5</sup>

As there were no datable finds from the second half of the 1<sup>st</sup> millennium BC, Tallgren (1922c) ended his treatment of the Bronze Age in c. 600–400 BC, and began the Iron Age from the 1<sup>st</sup> century AD. The intervening time was not specifically dealt with by him; nevertheless, he presumed that the Finnic tribes (bearing a very poor material culture of fishers and hunters similar to the easternmost Gorodishche tribes) must have arrived in what is now Estonia during this *vorrömische Eisenzeit* (Tallgren 1922c, 126). The **Pre-Roman Iron Age** as the name of a certain period occurred in our archaeological literature no earlier than the middle of the 1920s, when Schmiedehelm succeeded in discovering and exploring a stone-cist grave (Jäbara A), which contained some bronze and iron grave goods from the very beginning of that period (Schmiedehelm 1926). Next, this period (500 BC – the turn of our era) was distinguished by Moora (1929a, 1), mostly with the purpose of composing a comparable chronology with neighbouring countries. As stated by Moora, previous social and cultural relations, as also the building of stone-cist graves, were also continued in the Pre-Roman Iron Age, while the only innovation was the obtaining of the first artefacts made of iron (Moora 1932, 28 f). A limited number of bronze objects were also known (some neck-rings and decorative pins); they indicated the contacts with both Scandinavia and eastern Prussia. It is important to stress that unlike Tallgren, Moora did not see a break in the development of settlement and culture in the transition from the Bronze Age to the Pre-Roman period: the development (although insignificant) continued on a local

<sup>5</sup> Vassar (1938a) denoted the similarity between the pottery, bone and stone artefacts of the stone-cist graves and fortified settlements of the Late Bronze Age, which had become familiar at those years (see below). The reader could make a conclusion about the ethnic similarity of people erecting those monuments.



Fig. 25. Marta Schmiedehelm (photo: AI).

basis. If new people came to Estonia from the east, they were quickly assimilated into the earlier, ethnically-related local population. In Moora's treatment from 1932, one can for the first time follow the formation of an idea about the continuity of the settlement, cultural and ethnic association of people in Estonia from the Neolithic Combed Ware Culture through the Bronze and Pre-Roman Iron Ages up to the Roman Iron Age, and from there to the historical times.

Moora (1932) explained the poverty of the culture and the paucity of sites from the Pre-Roman Iron Age as the result of the continuation of the economic depression which had already begun in the Bronze Age. The coming years, however, brought a number of new finds and sites, including fortified settlements, enabling rather soon to point out that the period was culturally not as backward as had earlier been supposed (Moora 1938c, 369). In addition, some indirect evidence – artefacts from the early Roman Iron Age, the typology of which followed Pre-Roman examples, although the latter were almost unknown – proved the importance of this period in terms of both cultural and economical development.

Unlike the Bronze and Pre-Roman Iron Ages, the **Roman Iron Age** was distinguished as a specific epoch characterized by both the monumental stone graves and rich and relatively well dated grave goods, even at the beginning of archaeological research. 19<sup>th</sup>-century scholars had already stated that the



Fig. 26. Typical tarand-grave in Jaagupi (photo: AI).

Iron Age material from Estonia (together with Latvia) could be divided into two sharply defined groups: (1) the first five centuries AD (the Roman Iron Age), when the material culture of the eastern Baltic region bore a strong so-called Gothic influence, and (2) the (8<sup>th</sup>) 9<sup>th</sup> – early 13<sup>th</sup> centuries (the Late Iron Age), when local ‘national’ (i.e. Estonian, Livian and Latgallian) cultures became discernible.

The main (and, for a long time only) archaeological sites of the Roman Iron Age were typical *tarand*-graves – monumental above-ground stone settings consisting of many rectangular enclosures called *tarands* in Estonian (Fig. 26).<sup>6</sup> At the beginning of

the investigation of such graves, i.e. in the 1870s,<sup>7</sup> it was supposed that they belonged to the group of Gotlandic ship-graves. According to Grewingk, our stone graves with rich Roman Iron Age material were erected by the east Germanic tribe, the Goths, who had migrated from the lower reaches of the Vistula River to what is now Estonia and northern Latvia in around 200 AD (Grewingk 1877a; see also Lang, this volume, a). More critical fieldwork on the graves of Tüsamäe and Jaagupi in Nõo (carried out by Pavel A. Viskovatov and Georg Loeschcke) in the late 1880s conclusively proved that our *tarand*-graves and ship-graves had nothing in common

<sup>6</sup> The length of typical *tarand*-graves is often up to fifty (sometimes even up to a hundred) metres, the width reaches twenty-thirty and the height one to one-and-a-half metres. The number of enclosures (*tarands*) might reach from a couple up to a couple of dozens; the burials are usually cremated and

mixed with each other. The grave goods are numerous; nevertheless it is usually impossible to distinguish separate burials.

<sup>7</sup> One can mention here the excavations of Grewingk at the graves of Unipiha, Kambja, Tatra and Pikkjärve (II), (Laul 2001, 11).

(see also Tvauri 2003a, 46 ff). Following the example of Hausmann, who emphasized the importance of stone rows running crosswise through these settings, our graves were then called *Steinreihengräber* ('graves with stone rows'). Hausmann himself did excavations at the graves of Saamueli (Truuta), Tamsa, Kullaku in Kambja and some others.

The further investigation of the Roman Iron Age was continued with numerous excavations at *tarand*-graves. In this connection, one must mention the excavations at the graves of Nurmsi (1921–1922 Tallgren, 1922–1923 Moora, 1934–1935 Vassar), Pada (1928–1929 Schmiedehelm), Ojaveski (1932–1933 Friedenthal), Purtse-Matka (1927–1933 Friedenthal), Paali (1933 Schmiedehelm), Jaagupi in Nõo (1933–1935, 1938 Moora, Vassar and Ariste), and particularly at three graves in Jäbara (1926, 1933–1934 Schmiedehelm).<sup>8</sup> In his treatment of Estonian archaeology, Tallgren (1922c) opposes the term *Steinreihengrab*, because he found – as had been earlier stated by Friedenthal (1911) – that those graves instead consist of rectangular sections (*Steinsetzungen*) separated from each other by stone walls. According to Tallgren, such graves were erected by the ancestors of Finnic people, who had already reached Estonia in the Pre-Roman Iron Age and encountered a strong eastern Germanic (Gothic) impact here. Even the existence of Germanic 'factories' was suggested.<sup>9</sup> The term '*tarand*-grave' (*tarandkalm*) was adopted in the mid-1930s by Moora (EA I, 1935, 116 ff), and later this term was also incorporated into several other languages (e.g. Germ. *Tarandgrab*, Finn. *tarhakalmisto*).

In analysing the distribution of stone graves, Moora (1932; EA I, 1935) drew the conclusion – that

had earlier already been reached by Tallgren (1922c) – that during the Roman Iron Age, a remarkable process in the development of economy (livelihood) and location of settlement had come to the end. The concentration of settlement around larger bodies of water that was characteristic of the Stone Age was now replaced by location on higher land, either on contemporary fields or in their vicinity. The long use of *tarand*-graves also proved that the people who erected them subsisted on permanent field cultivation. Moora shared the opinion of Tallgren that there may have been some Germanic colonies in (northern) Estonia; evidence of this was seen both in artefacts that originated from the south-eastern shore of the Baltic Sea and in Germanic loan-words in Finnic languages (Moora 1932; EA I, 1935, 88, 114).

Thus the understanding of the chronology of all three of the prehistoric periods in question was established by the early 1930s, as was also a certain view of the essence of the material culture of those times. Knowledge of the Bronze Age, Pre-Roman and Roman Iron Ages was then based mostly on the examination of graves and stray finds (which usually also came from destroyed graves), and therefore was rather one-sided. The investigation of these periods was also not balanced – primary attention was paid to the excavation of richly furnished *tarand*-graves, while the stone-cist graves of earlier times were secondary. The understanding of the Early Bronze Age was very modest.

## New discoveries and approaches (from the late 1930s to the late 1950s)

The discovery and investigation of fortified settlements (Fig. 27) performed since the 1930s were an important development in the research of the Late Bronze and Early Iron Ages, as this added

<sup>8</sup> The more thorough analyses of these graves see Vassar 1943; Schmiedehelm 1955; Laul 1962; 2001.

<sup>9</sup> The opinion on the existence of eastern Germanic colonies in Estonia was originally stated out by the Danish linguist and archaeologist Wilhelm Thomsen in the third quarter of the 19<sup>th</sup> century; the same opinion was also shared by the founder of Finnish archaeology Johann R. Aspelin (see Tvauri 2003a, 45).



Fig. 27. Fortified settlement in Iru (photo: AI).

rich assemblages of settlement finds to hitherto one-sided grave material. The first settlement of this nature – Asva on the island of Saaremaa – was already discovered in 1930; it was excavated in 1931, 1934 and 1938–1939 (Indreko 1939). The next site was investigated at Iru (northern Estonia) from 1936–1938 (Vassar 1939). Both sites were also repeatedly explored after World War II. After the discovery of fortified settlements, the number of main types of sites from the Bronze and Early Iron Ages had increased to three: fortified settlements, stone-cist graves and *tarand*-graves; the amount of finds also increased remarkably.

### The sites and excavations

The importance of *fortified settlements* from the standpoint of research into the material culture, economy and society of the Bronze and Pre-Roman Iron Ages was immediately assigned great importance (Moora 1938c, 366 f). The fortified settlements were then regarded as the ‘forts of clans’ – i.e. villages that were located on naturally fortified elevations and were inhabited by a clan (Moora 1939a, 10). The earliest habitation layer of Asva was initially dated to the 8<sup>th</sup>–7<sup>th</sup> centuries BC (Indreko 1939, 47), the settlement of Iru was regarded as being slightly younger, i.e. from the second half of the 1<sup>st</sup> millen-

nium BC (Vassar 1939, 78 ff). Our fortified sites were compared with similar settlements in Latvia, eastern Lithuania and farther east, in the area of so-called Gorodishche Culture, and they were attributed to the Finno-Ugrian tribes, who had close cultural and trade contacts with the central European Lausitz Culture (Indreko 1939, 49 f). As revealed by the find assemblages of the fortified settlements, the inhabitants of those sites had been involved with bronze casting, cattle breeding, agriculture, fishing and the hunting of both seals and terrestrial wild animals.

The excavation of fortified sites continued after the war. New excavations were carried out at Asva (1948–1949 Vassar and Schmiedehelm)<sup>10</sup> and Iru (1952–1958 Vassar); small numbers of corresponding early finds were also discovered in other places. In the new general treatment of the history of Estonia (the Estonian SSR), the settlements of both Asva and Iru were dated to the period from the second quarter of the 1<sup>st</sup> millennium BC to the turn of our era, whereas both the type of these settlements and the find assemblages were compared with similar occurrences on the upper reaches of the Volga River (Dyakovo Culture) on the one hand, and the Lausitz Culture on the other. Some other hill-top settlements with much weaker cultural layer, which were compared with fortified settlements (Muuksi, Koila and Purtse), were dated from the centuries around the turn of our era, while they were considered to be temporary refuge sites. The abandonment of fortified settlements with permanent habitation (Asva and Iru) was explained by the rise of the role of farming and the dispersion of settlement on land suitable for agriculture (EA I, 1955).

Some evidence was also found concerning *open settlement sites*. As a result of the research performed by Lembit Jaanits, the cultural horizons of the (early) Bronze Age were distinguished at several Late Neolithic sites in central and eastern Estonia: Akali, Siimusaare, Villa, Joaorg in Narva, and others

(Jaanits 1959b). Those horizons were relatively weak everywhere, however, yielding a few items of pottery with smoothed, striated or textile-impressed surfaces and late corded ware that was also dated to the end of the Late Neolithic and the Early Bronze Age. Recent studies have, however, made corrections to those dates (Lang & Kriiska 2001).

An important contribution to the investigation of *stone-cist graves* was made by Artur Vassar through his excavations of the graves of Muuksi (1936–1937) and at some other places (Vassar 1938a). While the earlier excavators had mostly concentrated their attention on the central parts of the graves, i.e. the central cists, Vassar was interested in entire graves. When uncovering the whole area of the graves, Vassar was able to obtain information about the surrounding walls, ruins and also other cists and burials without cists located in the peripheral sections of the graves. All structures were documented carefully and in great detail. The investigation performed by Vassar did not alter the general date of the graves; nevertheless, he was the person who specified the construction of the graves, burial customs, and later also the development of stone-cist graves into a new type of graves, i.e. *tarand*-graves (Vassar 1943). The surrounding stone wall was considered by him to be the most important feature of stone-cist graves, because it carried symbolic and ritual meaning, by separating the area of burials from the external world, while the cist served only as one burial place among others (there are usually also burials outside the cists in such graves). According to the opinions of earlier researchers, *tarand*-graves were established through the enlargement of stone cists (Hausmann 1910; Moora 1932, 31), but Vassar was sure that it was the surrounding stone wall that was changed: the circle-shaped border around the area of the burial was replaced with a rectangular wall because they both shared the same function – to serve as the border of the grave. Beyond this development, there was probably a change in the architecture of residential houses: huts with circular bases were replaced with rectangular houses build of timbers in a corner-

<sup>10</sup> The results of both pre- and post-war years' investigations at Asva are summarized by Vassar (1955).

jointed technique. Thus, according to Vassar, the architecture of living people had influenced sacral architecture, and he considered *tarand*-graves to be examples of the houses of the dead. This continuous development in sacral architecture from stone-cist graves to *tarand*-graves served as a foundation for the further conviction that the development of culture, settlement and the ethnic identity of people was also continuous during the transition from the Bronze Age to the Roman Iron Age.

The following decades did not add much to the investigation of these graves. In addition to the fieldwork performed by Vassar at Muuksi, one can mention the excavations of three graves in Karuste (Saaremaa), at Tõnsu (Pakre Peninsula) and Pihla (Kõpu Peninsula on the island of Hiiumaa) – all of these were carried out by Vassar and Schmiedehelm in 1941, with the purpose of freeing the corresponding areas from legal protection for the erection of Soviet military bases. After the war, the grave with four stone circles at Lügänuuse (1954, 1956–1957 Schmiedehelm and Laul) and the grave with several layers of burials at Loona (Saaremaa, 1958–1959 Jaanits) were excavated. It was already in the late 1930s when the first graves similar to stone-cist graves but lacking either the cist (Klaukse of Uuri, 1939 Vassar) or even the surrounding circle (Nehatu, 1936 Vassar) had come to light.<sup>11</sup> The grave goods of these so-called cairn graves referred to the Pre-Roman Iron Age. In 1921, one grave of this type had been excavated at Mikuri in Hageri parish (1921 Tallgren).

Research into the **tarand-graves** of the Roman Iron Age continued with the excavations at Ülppe (1941 Vassar), Mäletjärve (1942, 1947–1948 Vassar and Ariste) and Nava (1945–1946 Moora). Subsequently, a series of rescue excavations were carried out in the industrial areas of north-eastern Estonia (Lõugas 1991a, 13). Thus, one early *tarand*-grave at Toila (1947

Schmiedehelm), as well as two graves at Järve (1946–1947 Schmiedehelm and Ariste), and part of one grave at Kahula near Jõhvi (1948 Schmiedehelm), were excavated. In addition, excavations were also carried out at the grave of Toovere (east-central Estonia), (1947 Moora). The graves with standing stones (Swed. *bautastenar*) at Valkla, in northern Estonia, which were excavated in 1937 by Osvald Saadre, were exceptional due to both their shape and location on the seashore.

### The development of a general treatment

From the point of view of the development of a general understanding of the Bronze and Early Iron Ages, several general works published in the mid-1950s – which can be seen as summaries of the research performed by the first generation of professional archaeologists in Estonia – are important (EA I, 1955; Schmiedehelm 1955; EREA, 1956). First, one must mention the changes made in the periodization of prehistory (Moora 1954; EA I, 1955). According to the Soviet Marxist treatment of history – which it was now obligatory to follow – the development of society went through so-called socio-economic stages. The Early Bronze Age together with the preceding Late Neolithic (since the Corded Ware Culture) was renamed the ‘period of the transition to the patriarchal clan society’. The Late Bronze Age and Pre-Roman Iron Age (1<sup>st</sup> millennium BC) was now called the ‘period of the patriarchal clan society’, while the Roman Iron Age apparently witnessed the ‘destruction of the clan society’.

Proceeding from the canons of this treatment, the transition from the matriarchal to the **patriarchal clan society** was caused by the development of economy, and to be more exact, by the introduction and development of farming instead of hunting-fishing-gathering (EA I, 1955, 31 ff). As stock breeding was considered to have been the occupation of men, then that was namely the productivity of men’s work – and, hence, the importance of men – which increased in society. It was supposed that the main settlement unit of those times was an

<sup>11</sup> However, the grave of Nehatu was initially dated to the Middle Iron Age by Vassar (1936) and it was Vello Lõugas (1970a), who referred to its much earlier date.

extended patriarchal family; nevertheless, in some areas with a higher concentration of graves (e.g. the surroundings of Lake Kahala in northern Estonia), there may also have lived larger communities (clans and tribes) together. The extended family apparently consisted of several nuclear families and people of different generations, who shared a common forefather, the patriarch, and who were connected with each other by common production, proprietorship and consuming. The groups of stone-cist graves were regarded as the burial places of such extended families, whereas each nuclear family buried in a separate grave. The fortified settlements of Asva and Iru were considered to be the permanent living places of extended families that were bigger and stronger than the others. Those areas where many separate groups of graves were located close to each other were assumed to have been inhabited by entire clans, while a group of clans formed a larger unit, the tribe.

The long-term use of both fortified settlements and stone-cist graves referred to permanent settlement. Although hunting and fishing were still important branches of livelihood, stock breeding and cultivation gradually became dominant. The bones of domesticated animals formed c. 4/5 of all osteological material gathered from Asva and Iru; evidence of cultivation was also obvious: hoes made of horn, flax combs, impressions of cereal seeds on ceramics, etc. Metalwork had also made advances: ornaments, tools and weapons were cast in the fortified sites, and soon iron made its first occurrence. The level of economic, social and cultural development in the 1<sup>st</sup> millennium BC was considered to have been comparable with that achieved, for instance, on the upper reaches of the Volga and Dnepr rivers. No comparisons with western neighbours were made.

Where the *Roman Iron Age* is concerned, a remarkable contribution to the study of *tarand*-graves was made by Vassar in 1943. On the basis of the grave of Nurmsi (central Estonia), he analysed the formation, development and decay of both

*tarand*-graves as such and burial customs characteristic of them. By demonstrating the development of *tarand*-graves from earlier stone-cist graves (see above), he also proved the continuity of population and settlement during the transition from the Pre-Roman to the Roman Iron Age. The research by Schmiedehelm (1955) into the Pre-Roman and particularly the Roman Iron Age in north-eastern Estonia also made an important contribution. Thanks to numerous excavations in earlier decades and the generalizing works just mentioned<sup>12</sup>, the Roman Iron Age had become the best investigated prehistoric period in Estonia.

In the general treatment of Estonian history (EA I, 1955, 42 ff), the settlement shift to agricultural lands in the Roman Iron Age (i.e. during the degeneration of the clan society) was emphasized once again. This shift reflected the increase in the importance of agriculture caused by the wider distribution and use of iron tools. Periodically rotating slash-and-burn agriculture with a long period (20–30 years) of fallow was assumed to have been the main form of land use. Such land use required the existence of large land reserves and the collaboration of many people. It was also supposed that the ard was adopted, and the first ordinary fields were established in this period.<sup>13</sup> Like the groups of stone-cist graves from preceding times, the *tarand*-graves with collective burials were also considered to be the burial places of extended families, whereas single families were buried in separate enclosures. As *tarand*-graves are usually located separately and are more dispersed in the landscape, it was believed that this circumstance reflected the destruction of clan society and the separation of extended families

<sup>12</sup> In addition to the treatments of Vassar and Schmiedehelm, one cannot forget the studies of the Roman Iron Age made by Moora; particularly important is his doctoral thesis about the Early Iron Age in Latvia (Moora 1938a).

<sup>13</sup> It was stated not on the basis of archaeological evidence but due to the supposed existence of corresponding loanwords in Estonian language (*ader* – ard, *vagu* – furrow, *põld* – field).



into independent units of settlement and production. The clan ties did not disintegrate completely, however, but only became weaker. The abandonment of the *tarand*-graves around the middle of the 1<sup>st</sup> millennium AD was interpreted by the separation of nuclear families from extended ones. The differences in the details of grave building, burial customs and grave goods in different parts of Estonia and northern Latvia were seen as reflections of the existence of smaller dialect groups, i.e. ethnic differences between tribes.

In the 1950s, much attention was paid to the study of *ethnic questions* (EREA, 1956; see Lang, this volume, a). According to the understandings of those times, the Finno-Ugrian tribes came to the eastern Baltic region from the east in the times of the Typical Combed Ware Culture (which was then dated to around 3000 BC), whereas the ancestors of the Balts reached this region later together with the Corded Ware Culture. During the following centuries, some assimilation took place, as a result of which one can speak of the consolidation of two ethnically different populations in the eastern Baltic region since the 1<sup>st</sup> millennium BC: Estonia and northern Latvia were inhabited by the ancestors of the Estonians and Livs, while in southern Latvia and Lithuania the Balts came to predominate. Those different populations erected different types of graves and practised different burial customs; material culture was also different, while those differences became more accentuated in subsequent periods.

This theory provided paradigmatic frameworks for the further study of both ethnic relations and the continuity of settlement and culture. The standpoint on the inhabitancy of the Estonians and their ancestors in their own country during the last five thousand years – and, hence, the continuity of settlement within the entire epoch handled in this article – found its ‘final proof’. After the Neolithic immigrations, all settlement-historical development was regarded as local, which also excluded earlier assumptions about the existence of Gothic ‘factories’ (and a Germanic upper class) in northern

Estonia. This treatment of ethnic relations continued in Estonia until the 1990s.

In conclusion, one can note that, thanks to the study of fortified settlements, the understanding of the economy and everyday life of the prehistoric periods in question improved remarkably. The application of Marxism added an important social dimension. Despite the deficiencies of the Soviet Marxist treatment of society (dogmatism, strong ideological bias), it still helped to see prehistoric society as more dynamic, more socially mobile, and to search for answers to questions about the deeper streams in its development. It was new in comparison with the earlier culture-historical approach. In the connection of separate periods, one should mention that, through the exploration of fortified settlements, knowledge about the Late Bronze Age (or the entire 1<sup>st</sup> millennium BC, as then believed) improved remarkably. The understanding of the Roman Iron Age also improved, due to numerous excavations of *tarand*-graves. No changes can be noted in research into the Early Bronze Age.

## Research from the 1960s to the 1980s

Since the 1960s, archaeological investigation was directed towards those areas and periods that had been less studied at that time. Of geographical areas, western Estonia, together with the islands and both central and southern Estonia, needed more attention, while the Early Bronze and Pre-Roman Iron Ages were among less-studied periods. Vello Lõugas was one of the young archaeologists who began to explore the Bronze and Pre-Roman Iron Ages (‘Early Metal Age’) and to excavate sites, mostly in northern and western Estonia. Tanel Moora then concentrated on central Estonia, while Silvia Laul began her investigations in south-eastern Estonia. In the following decades, a number of special articles were published on those topics, and two dissertations were defended (Lõugas 1970a, c; Laul 1974).

The results were analysed and generalized in the collective monograph on the prehistory of Estonia, the manuscript of which was composed in the middle of the 1970s (Jaanits *et al.* 1982).

### The sites and excavations

Among the fieldwork, one should first mention the continuation of the excavation of *fortified sites*. New excavations were carried out at Asva (1965–1966 Lõugas). A third fortified site was discovered at Ridala, where excavations took place in 1961–1963 (Kustin and Vassar), and the fourth – at Kaali (1976–1979 Lõugas); both are located on the island of Saaremaa. Finally, the Bronze Age finds from the hillock of Joaorg in Narva should also be mentioned; the excavations there were carried out in 1950, 1960 and in the 1990s (L. Jaanits, K. Jaanits and Nikityuk). Some other hill-top sites, where a few finds dating from the Early Iron Age were discovered beneath the cultural horizons of later times, were also grouped among fortified settlements at those times: e.g. Muuksi, Koila, Alatskivi, Peedu and Kloodi (Lõugas 1970c, 9; Jaanits *et al.* 1982, 173, pl. X).

In analysing the find assemblages of the fortified settlements, Lõugas (1970a, c) succeeded in making some essential corrections in their chronology. First, he distinguished a group of finds among the assemblages of Asva and Iru, which belonged to the era of the Late Corded Ware (the corresponding pottery of Iru had earlier been dated to the Middle Iron Age by Vassar). According to Lõugas, the majority of finds of these sites came from the Late Bronze Age and the very beginning of the Iron Age, whereas he had shifted the border between these two periods to around the year 600 BC. Then he also discovered that there was a small amount of pottery and other finds that could be dated to the late Pre-Roman Iron Age.<sup>14</sup> Thus it became obvious that the fortified settlements were abandoned at the beginning of

<sup>14</sup> In addition, the both sites, Asva and Iru, have yielded finds of the late 1<sup>st</sup> millennium AD, which are not treated in this paper (see Tvauri, this volume, a; Mäesalu & Valk, this volume)

the Iron Age, but were taken into use again after an interval of a few centuries, when some other (new) sites were also fortified and inhabited in Estonia. The results of new excavations made it possible to draw systematized conclusions about the structures of both fortifications and dwellings, as well as the character of find assemblages and cultural contacts.

New evidences had also gradually come to light about the *open settlement sites* of the Bronze and Early Iron Ages. In addition to some Late Neolithic sites that appeared also to have been in use during the Early Metal Age (see above), several new sites were discovered whose finds were characteristic only of the Bronze and Early Iron Ages. Here one can mention the sites located in the surroundings of what is today Tallinn: Jüri (Late Bronze Age), Rannamõisa, Lehmja-Loo, Lagedi and Mõigu (Pre-Roman Iron Age); some sites were also found elsewhere, e.g. Kaseküla and Altküla in western and south-western Estonia (Jaanits *et al.* 1982, 148, 176, 219). Only small-scale (trial) excavations were carried out at those sites (Rannamõisa and Kaseküla), while more recent studies have changed some of these dates. The discovery of open settlements as a characteristic feature for the periods of time in question was important in itself, however, because it drew researchers' attention to their possible location in the landscape (mostly in the vicinity of historical villages) and the main nature of their cultural layer (small sites with a few finds).

There was a hiatus in the investigation of *stone-cist graves* in the 1960s, but within the following twenty years, a total of c. 80 graves were excavated in almost twenty different places (Laneman 2002, 49).<sup>15</sup> Some of those graves were already

<sup>15</sup> The majority of these excavations were rescuing works, often carried out in hurry. This brought along some methodical innovations like the vertical photographing of layers from the 'photo-tower' (this replaced the time-consuming drawing), and the use of compressed air by cleaning up the stones of graves. The latter caused problems in discovering and recording of small finds and bones, however, and is not allowed any more.

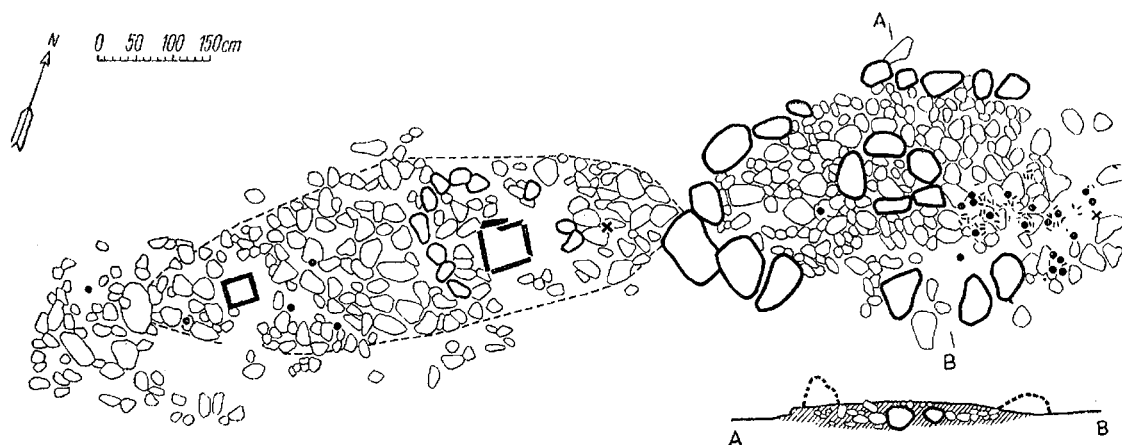


Fig. 28. Ship-grave of Lülle in Sörve (after Lõugas 1970b).

partly destroyed; nevertheless, much new information was acquired through the total excavation of entire groups of stone-cist graves: Vão (1972–1973, 1976–1977, 1980, 1982; Lõugas, K. Jaanits, Lavi and Lang), Iru (1974 Lõugas), Rebala (1982 Lõugas)<sup>16</sup> and Jõelähtme (1982–1984 Kraut). In addition, many single graves in different parts of northern and western Estonia were also excavated. From the aspect of research history, the following graves are more important to mention: Kõpu on the island of Hiiumaa (1981–1983 Lõugas), Kaseküla in western Estonia (1973 Mandel), Mäla on the island of Muhu (1984–1985 Lõugas), Võhma in Mustjala, Saaremaa (1987–1988 Lõugas), Tandemägi in Võhma, northern Estonia (1969–1970 T. Moora), Muuksi (1976–1982 T. Moora) and Proosa in northern Estonia (1979 Deemant), and Vehendi in southern Estonia (1975–1976 Laul).

Despite the large number of excavations, these decades did not add much new knowledge about the chronology and structures of the graves, or the soci-

ety that built them – this was mostly due to the circumstance that one could not analyse the collected materials. However, Lõugas had already presented his new treatment about stone-cist graves before the commencement of large-scale excavations (Lõugas 1970a, c) and – with minor corrections – these ideas were also included in *Eesti esiajalugu* (Jaanits *et al.* 1982). Regarding the burial custom and some details in grave structures, and handling separately the initial burials in the cists and those outside the cists, Lõugas divided the stone-cist graves into three chronological groups. The oldest and smallest group consisted of such graves the cists of which were built of limestone slabs placed in an upright position, and the burials were inhumations furnished with grave goods of the Late Bronze or Early Pre-Roman Iron Ages (e.g. Loona, Moe, Jäbara A). The graves of the latest group contained numerous cremations and artefacts that were then dated to the turn of our era or the first centuries AD (e.g. shepherd's crook pins), while the cists were built of limestone slabs placed flat. The largest group of graves, however, contained similar cists with flat slabs, but the datable grave goods were absent – these graves were regarded as intermediate in the sequence and dated

<sup>16</sup> Excavations on the graves of Rebala were also continued in some of the following years, whereas they were completed in 2000 (Lang *et al.* 2001).



Fig. 29. Early tarand-grave in Kõmsi (photo: AI).

to the late Pre-Roman Iron Age (Lõugas 1970a, 60 ff). According to such evolutionist criteria, one could date every single grave even if grave goods were missing. At the same time the method was accepted, which allowed one to date the grave goods on the basis of burial custom and grave structures (see Lang 1996, 281 ff; Laneman 2002, 55).

Two new types of graves were discovered and investigated during the decades in question. One should first mention *ship-graves*, two of which were excavated at Lülle on Sõrve Peninsula, Saaremaa, in 1967 (Fig. 28; Lõugas 1970b) and one at Vão in northern Estonia in 1982 (Lang 1983). These graves belonged to the Late Bronze Age, whereas the Sõrve graves to its period V. According to Lõugas's interpretation, the Estonian ship-graves – as well as analogous examples in Courland and south-western Finland – were burial places of the local people who had close over-sea contacts with the island of Gotland.

The history of the research of another type of graves – the so-called *early tarand-graves* – became

more complicated. Until the 1960s, the understanding of the nature of the *tarand*-graves was based on large and typical graves consisting of one long row of enclosures that were distributed in north-eastern, central and south-eastern Estonia. The formation of such graves was dated to the 1<sup>st</sup> and 2<sup>nd</sup> centuries AD. Since the 1960s, graves containing rectangular enclosures were also found and excavated in western Estonia, on the islands and in the coastal zone of northern Estonia;<sup>17</sup> nevertheless, they differed from the former in at least three ways (Fig. 29). First, the enclosures were remarkably smaller in size and they were often located not in one row but in several, and forming something like a honeycomb; sometimes the *tarands* surrounded a round-shaped grave. Second, unlike the typical *tarand*-graves with cremations, the new graves mostly contained inhumations, while the cremated burials were rare.

<sup>17</sup> Some early *tarand*-graves (e.g. Rannamõisa and Kurna) were excavated in northern Estonia already in earlier times (see Spreckelsen 1926b; Friedenthal 1911), but they were considered as exceptional.



Fig. 30. Silvia Laul in fieldwork in south-eastern Estonia (photo: A. Lavi).

Third, the assemblages of grave goods were almost completely different from the earlier burials: artefacts characteristic of the typical *tarand*-graves (brooches in particular) were absent. At the same time, iron shepherd's crook pins, narrow bracelets of both iron and bronze and pottery with cord or comb impressions were the dominant features of these new graves. Although these differences are significant, the *tarand*-graves of western Estonia and islands were still dated to the 1<sup>st</sup>–2<sup>nd</sup> centuries AD – this was mostly due to the conviction that the form of *tarand*-graves in Estonia is not older than the 1<sup>st</sup> century. Such an approach led to the prolonging of the dates of several artefacts characteristic of the early Pre-Roman Iron Age up to the turn of our era, grounding this with conservatism in the development of material culture (Lõugas 1972a).

The first early *tarand*-graves in western Estonia were excavated at Kõmsi (1969–1972 Lõugas). One of these consisted of only one large enclosure, while another had c. twenty enclosures of different size

that were united irregularly with each other (Fig. 29). Some years later, two more *tarand*-graves were excavated at Poanse, and one at Taebla (1975–1976, 1981 Mandel). On the island of Saaremaa, the first grave of this type was already investigated in 1963 at Liiva-Putla (Kustin). Later fieldwork was carried out by Lõugas: at Punapea in Lümanda (1966), Kurevere (1974–1975), Kuninguste (1971) and Võhma in Mustjala (1987–1988). One early *tarand*-grave together with a round-shaped grave was excavated on the island of Muhu, at Mäla (1984–1985 Lõugas). Regarding the establishment of a chronology, important results were achieved through the excavations of the Tandemägi grave at Võhma, in northern Estonia (1971–1972 T. Moora). All of these excavations yielded a remarkable amount of finds from the Pre-Roman Iron Age (including the earlier part of this period), which then, however, were dated to the turn of our era and the 1<sup>st</sup>–2<sup>nd</sup> centuries AD. Knowledge about the distribution of such graves, their structures and burial custom became more complete.



Fig. 31. Remains of fossil fields in Kõmsi (photo: R. Kärner; AI).

In the decades in question, research into the *typical tarand-graves* of the Roman Iron Age in south-eastern Estonia was continued under the leadership of Silvia Laul (Fig. 30). A group of five *tarand*-graves was entirely excavated at Virunuka (1957–1964), while one grave was studied at Sadrametsa in 1959–1960. Some excavations were also carried out at places where the *tarand*-graves were located together with sand barrows from later times: Loosi (1965–1967), Kõnnu (1968–1969) and Põlgaste (1970–1973).<sup>18</sup> As numerous new sites were also discovered during the fieldwork, the picture of the settlement pattern and its distribution in the Roman Iron Age became much clearer than before. According to Laul (1974, 23), the uplands of south-eastern Estonia

<sup>18</sup> More thorough analyses of these graves are published: Laul 1965; 2001.

were permanently settled from two directions during the Roman Iron Age: from the north-west and south (which today is northern Latvia), whereas the higher areas of the uplands were taken into use not before the 3<sup>rd</sup> century. In this treatment, the distribution of permanent settlement was directly equated to the distribution of stone graves.

Only a few typical *tarand*-graves were excavated elsewhere in Estonia. One can mention the excavation of one grave at Tarbja (1958–1961 Tõnisson, 1964 T. Moora), which turned out to be the second entirely excavated *tarand*-grave apart from Nurmsi in central Estonia (Moora, T. 1967). In addition, investigations also took place at the Kõrenduse and Lahepera graves in east-central Estonia (1975–1976 and 1977 Lavi).

An important step was taken in the research of *fossil fields* (Fig. 31) when the first examples of them

were discovered and investigated at Kõmsi in 1969 (Lõugas). Circa 400 clearance cairns were preserved there in an area of 800 x 700 m, 78 of which were excavated during the following years (1969–1972 Lõugas, 1979 and 1981 Mandel). In later times, a number of rescue excavations of clearance cairns were also performed in different places (e.g. Iru in 1974, Lõugas). On the basis of individual potsherds found during these excavations, the corresponding fields were mostly dated to the Early (i.e. Roman) Iron Age. Over a couple of decades, the remains of fossil fields (mostly clearance cairns) were reported at c. fifty localities in northern and western Estonia. In 1982, the first block-shaped fields (so-called Celtic fields) were discovered at Rebala (Lõugas). The field plots there (with an average length of 15–24 m and width of 12.5–16 m) were surrounded with baulks; the whole complex was radiocarbon dated to the late Pre-Roman Iron Age (Lõugas & Selirand 1989, 152). The investigation of fossil fields added an important aspect to the study of agriculture, which hitherto had mainly been based on the evidence of graves and a few settlements.

During these decades, the first early *iron smelting sites* were also found and excavated. The remains of iron smelting ovens together with iron slags and some Early Iron Age pottery had come to light during land improvement works at Rae and Jüri close to Tallinn in 1965 (trial excavations were carried out there by Lõugas). Early iron smelting sites were later studied by Jüri Peets at several other places: Tindimurru (1985), Puiato (1996) and Metsküla (2000), (Peets 2003a, 51 ff). These discoveries confirmed that local iron production had begun in Estonia in the late Pre-Roman or early Roman Iron Age at the latest.

It is also important to mention here the studies of *cup-marked stones*. Such stones (Fig. 32) had already been noticed in the landscape in the 19<sup>th</sup> century; the real registration of them was, however, begun in the 1920s. Approximately 250 cup-marked stones were known in 1972; nevertheless, the search for them only began in earnest from the above-men-

tioned time: by 1979 1000 stones had been reported, and at present they total 1750 (Kriiska & Tvauri 2002). Some minor excavations were also carried out in the surroundings of these stones in the 1970s, but they yielded no remarkable success. The analysis of cup-marked stones performed by Lõugas (1972b) is important, however; he distinguished stones with small cups from those having much larger cups and being relatively later in order. The former were connected with the Germanic cult of death acquired from Scandinavia and dated to the Pre-Roman Iron Age, based on the distribution area that these stones shared with stone-cist graves.

### The development of a general treatment

From the point of view of the development of a general treatment of the Bronze and Early Iron Ages, two dissertations mentioned above (Lõugas 1970a; Laul 1974) are important, as their main conclusions were also included in both *Eesti esiajalugu* ('Estonian Prehistory'; Jaanits *et al.* 1982) and the *Eesti talurahva ajalugu* ('History of the Estonian Peasantry'; ETRA, 1992). These works can be seen as being representative of a certain mainstream, while some other articles (e.g. Vassar 1966) did not find their way into the general treatment.

The number of metal artefacts from the *Early Bronze Age* had reached 11 by the middle of the 1970s, but there were also some two hundred late stone axes that were dated either to the end of the Neolithic or to the Bronze Age. As only a few settlement sites were known, the conclusions about the distribution of settlement were made on the basis of stray finds. This allowed one to state that the same areas as in earlier times were also inhabited in the Early Bronze Age; nevertheless, the settlement areas were slightly enlarged and had become denser. As very few finds were reported from the upland regions, the latter were regarded as areas without permanent settlement. Based on the evidence of the fortified settlements of the Late Bronze Age – proving the dominance of stock breeding in



Fig. 32. Cup-marked stone from Assaku (photo: AI).

subsistence, while the data of field cultivation was scarce – it was concluded that stock breeding had already developed in the 2<sup>nd</sup> millennium BC. The development of farming subsistence was also indirectly proven by the shift of settlement from areas suitable for hunting and fishing to other areas that were more convenient for stock breeding. In the use of the first metal artefacts (mostly axes), one can see the desire to increase labour productivity, primarily in the clearance of land from forest; the advent of local metalwork was dated to the end of the 2<sup>nd</sup> millennium BC, as some local traits were discovered by some bronze axes.

As there were already some ornaments among the metal finds (35 in total) from the *Late Bronze Age*, one could suppose that metal had become relatively available in everyday use. Both archaeological and

osteological evidence from fortified settlements referred to farming as the main branch of subsistence and livelihood, while hunting and fishing continued to be of minor importance. Based on the distribution of both sites and stray finds, one can assume that all parts of the country were inhabited; nevertheless, remarkably denser concentrations of settlement were to be found in the northern and western Estonian coastal zone with thin *loo*-type soils lying on limestone bedrock. These areas with fertile soils and sparse forest cover were very suitable for primitive farming and particularly for stock breeding – unlike interior areas and uplands with their thicker soils and dense forests, which at that time apparently lacked permanent settlement. It was only in the coastal zone of Estonia that permanent farming settlement and the use of metals became



dominant earlier than in other areas, whereas in the interior of the country the earlier ways of settlement and subsistence, together with the use of stone tools, preserved their existing character. The new developmental stage in coastal Estonia was proved by the occurrence of fortified settlements as such – as the productivity of work had been raised, there was now some surplus in face of herds and metals, which needed protection. The imprints of cereals on ceramics, numerous grinding stones and agricultural tools made of horn were handled as evidence of the increasing importance of field cultivation. This Late Bronze and Early Iron Age coastal culture of the eastern Baltic and Finland, the economic basis of which consisted of stock breeding together with agriculture, (seal) hunting, fishing and metalwork, was defined as the Asva Culture.<sup>19</sup>

Since stock breeding, the fortification of settlements, bronze casting and seafaring were occupations of men, it was considered natural that the importance of men had also increased in the society, and thus, the relations of the patriarchal clan society were strengthened. In the sphere of ethnic relations, it was assumed that the assimilation of the Baltic elements into Finnic groups was completed in what is today Estonia and northern Latvia. At the same time there were some specific traits noticed in the so-called anthropological type, material culture and supposed language dialect between the people of northern, western and central Estonia on the one hand and southern and particularly south-eastern Estonia on the other. A more noticeable ethnic border was assumed to have run along the Daugava River in Latvia, which separated areas of Finnic and Baltic populations. The sites and finds characteristic of the Asva Culture in eastern central Sweden were explained by the existence of Finnic populations west of the Baltic Sea. The over-sea contacts between coastal peoples were indeed very dense in those times, causing the distribution of several types

of antiquities (e.g. the stone-cist and ship graves, many artefacts) and Germanic loanwords east of the Baltic Sea. Contacts were also lively in the central European direction, particularly with what was called the Lausitz cultural complex (which had influences on the ceramics of the fortified sites).

Knowledge of the *Pre-Roman Iron Age* advanced remarkably in the 1970s. The period, which in earlier decades had been considered almost empty of finds, had become full of antiquities, as the majority of our stone-cist graves and cup-marked stones, a group of fossil fields and several settlement and iron smelting sites were now dated to that epoch – although too exclusively to its final stage. The latter aspect caused a problem when explaining the distribution of settlement after the abandonment of fortified sites and prior to the supposed time of the mass building of stone-cist graves in the last quarter of the 1<sup>st</sup> millennium BC. It was supposed that settlement meanwhile became less permanent, which did not allow thicker cultural layers to be formed and larger groups of graves to be established. At the same time, it was believed that the distribution of settlement sites and graves from the late Pre-Roman Iron Age reflected the settlement pattern of permanent farming and iron producing communities that had moved away from the shores of larger water bodies. The transition to permanent farming settlement – which for a long time had been dated to the Roman Iron Age – was, according to this argumentation, brought several hundreds of years earlier. Agriculture developed in northern and western Estonia more quickly than in interior areas, because there were more suitable natural conditions, and the earliest fossil fields were also found there. The main land use system was presumed to have been based on long-term fallow: after some years of cultivation the fields were left fallow for some time with the purpose of restore the fertility of soils. As stone-cist graves were also reported from some places in central and southern Estonia, their distribution was explained by the colonization of people of north Estonian origin. The contacts with neighbour-

<sup>19</sup> The concept of the Asva Culture was taken into use by Richard Indreko (1961).

ing tribes were active and close, particularly in the east–west axis with both Scandinavia and the areas on the upper reaches of the Volga River; the contacts with southernmost Baltic communities were, however, modest.

Extended patriarchal families were regarded as the main settlement units of the Pre-Roman Iron Age – at least in the area of stone-cist graves – while larger clan communities had dispersed together with the abandonment of the fortified settlements. The existence of groups with different social status within those extended families was presumed. Thus the head of the family (the patriarch with the leading position in the society) was assumed to have been buried in the central cist of the grave. Persons closely related to the patriarch were buried either in the same cist or in the other cist(s) built next to the central one. The common members of the community were buried outside the cists, mostly without grave goods. The circumstance that the burials outside the cists became cremated and were furnished with grave goods towards the end of the period was interpreted as a reflection of a certain ‘democratization’ during which the importance of the common people in decision-making increased. The latter, in turn, was explained by the development of agriculture and the fact that commonly cultivated fields belonged to communal ownership. Therefore the age of those historical villages in northern and western Estonia – in the vicinity of which the stone-cist graves were distributed – was calculated to two thousand years.

The treatment of the *Roman Iron Age* did not change much during the decades in question. Although several new excavations had been carried out in the *tarand*-graves, particularly in south-eastern Estonia, which at that time had been less thoroughly studied, the main knowledge of the period came, as before, from the graves. In addition to the *tarand*-graves, some attention was now also paid to the so-called cairn graves – they were regarded as a degenerated form of stone-cist graves without the cists (or walls). It was Artur Vassar who had

first handled such graves in northern and western Estonia (Vassar 1966); nevertheless, according to Lõugas (1970a), cairn graves were nothing but the usual stone-cist graves that had either been badly damaged or excavated with insufficient carefulness.

As the *tarand*-graves were more widespread and common in Estonia than the stone-cist graves, it was believed that the population had increased in number and new areas had been colonized, although the higher proportions of uplands only obtained permanent farming settlement in the Late Roman Iron Age. On the other hand, no enlargement of settlement was visible in western and north-western Estonia and on the islands, where the main agricultural areas were already inhabited during the preceding period. On the contrary, some areas were even assumed to have become empty, as there were no finds from later than the 2<sup>nd</sup> century in the early *tarand*-graves. The reasons for such a regression were seen in the limited resources of agricultural land and the impoverishment of cultivated soils. The abundance of good agricultural lands formed a basis for the rise of north-eastern Estonia during the Roman Iron Age, as was also the case in the central and south-eastern parts of the country. One must keep in mind, however, that all conclusions about the development of the economic wealth and power of different areas were made on the basis of the dynamics of grave finds.

One could also notice remarkable developments in handicrafts, including the production of iron tools and bronze ornaments. Very close contacts were established with neighbouring Baltic tribes; the direct ties between north-eastern Estonia and the lower reaches of the Vistula River were particularly important. The contacts with Scandinavia were considered to be relatively modest in the Roman Iron Age. Social relations were characterized by the weakening of clan ties, although the extended patriarchal family remained the main unit of communal life. Differences in grave structures and grave good assemblages between different areas were interpreted by the formation of dialect groups on

the basis of tribal differences. Three larger cultural areas with supposedly different dialects were distinguished: western Estonia together with the islands, northern and central Estonia, and southern Estonia together with northern Latvia; each consisted of several subgroups (Jaani *et al.* 1982, pl. XIV). The spread of differences in archaeological cultures were thus directly connected with ethnic groups speaking different dialects.

As a conclusion for the 1960s–1980s, one can realize that the research into the Bronze and Early Iron Ages advanced a great deal – particularly where the Late Bronze and Pre-Roman Iron Ages are concerned. Knowledge of the Pre-Roman Iron Age changed radically; as a result of Lõugas's fieldwork, this period had become one of the richest in sites, with the most dynamic development in Estonian prehistory. The understanding of the Roman Iron Age and Early Bronze Age did not advance, however. New (i.e. the third) Estonia-wide registration of antiquities that began in the 1970s and numerous excavations added extensive information not only to the periods in question but to all other periods as well. Unfortunately, due to the large amount of rescue excavations, archaeologists were unable to analyse this fresh material in the light of new theoretical approaches, which caused a gradual increase in controversies between new empiric materials and old interpretations.

### Research from the late 1980s to the early 2000s

The collapse of the Soviet political and economic system at the end of the 1980s also dealt a blow to the performance of archaeological excavations. The reduced amount of building activities led to a sharp decrease in the number of rescue excavations, especially in the countryside; the financial difficulties of research institutions and problems in the financing

of science in general also halted possibilities for performing research excavations. Perhaps it was due to these circumstances that opportunities were found for the theoretical analysis of information collected during earlier decades. The possibilities for performing archaeological excavations were restored by the middle of the 1990s.

### Fieldwork

In fact, it was already since the early 1980s that the investigation of Estonian prehistory divided into certain periods was gradually replaced by different approaches. One of the latter was the settlement archaeological research of small areas in a long-term perspective, through several prehistoric periods. It is important that three projects be mentioned in this connection. The first of these was concentrated on the study of the *Pada River valley* in north-eastern Estonia (headed by Toomas Tamla), but due to the nature of the main sites, later prehistory was placed in the foreground in his works. New information on the Early Iron Age remained scarce in this area; one can mention the discovery of an early fortification layer on the smaller hillfort (II) of Pada, the rescue excavations of a *tarand*-grave at Koila (1986) and the finding of numerous new sites in the landscape.

The second project was aimed at the study of farming settlement on the *lower reaches of the Pirita River* (north-western Estonia) from the Bronze Age to the end of prehistory (Valter Lang). Several sites from the periods in question were excavated in the framework of this project: two stone-cist graves and a ship-grave at Vão (1982), the fortified settlement of Iru (1984–1986), two *tarand*-graves of Viimsi (1990) and the fossil fields of Saha-Loo and Proosa (1992–1993). Rich archaeological materials that were collected by both new and previous excavations were first analysed by Lang in his thesis (1987a, c) and later – together with the materials from the whole prehistoric district of Rävåla – in a separate monograph (Lang 1996). In addition to the sites on the

lower reaches of the Pirita River, some more fieldwork should be mentioned: rescue excavations at an early *tarand*-grave in Ilmandu (1994 Lang and Ligi), the completion of the excavations on stone-cist graves I–III of Rebala, begun by Lõugas in 1982, and the mapping and small-scale excavation of the fossil fields of Rebala (2000 Lang, Laneman and Ilves).

The third project was connected with the investigation of the establishment and history of farming settlement in the **area of Vihasoo and Palmse** in northern Estonia. Three stone-cist graves and one early *tarand*-grave had earlier been excavated there on the Tandemägi hillock of Võhma by Tanel Moora (1969–1972). A large burial mound at Tõugu (II) consisting of one stone-cist grave, one large *tarand*-enclosure built on top of the former, and one more *tarand*-grave made of five *tarands* erected next to them was now entirely excavated by Lang from 1993–1995. Two more early *tarand*-graves were excavated at Uusküla (1998–1999 Lang) and Võhma (1999–2001 Ots). In addition to these graves, an early cairn grave was also explored at Palmse (1998–1999 Lang). Another important event was the discovery and excavation of a Roman Iron Age settlement site at Ilumäe, which was located near a *tarand*-grave (1997 Lang). For the first time in Estonia, all of the osteological material collected through the excavations of both graves and settlement sites was thoroughly analysed (Jonathan Kalman and Liina Maldre), offering remarkable additional information about the number of buried individuals, the sex and age structures of communities, their diet, pathologies and ritual behaviour, as well as the contents of the herds of domesticated animals. The results of this project are published in a monograph (Lang 2000a; 2003).

The collaboration of the archaeologists with natural scientists, particularly palaeo-ecologists, within the network of **international project PACT**, also became an important direction in the 1990s. Pollen diagrams that were composed and analysed for the areas that were of interest from an archaeological point of view provided new essential information

about the establishment of settlement, the development of farming and the dynamics of human impact on the environment. Remarkable archaeological and palaeo-ecological joint investigations were organized in the surroundings of the lakes of Maardu, Kahala, Ala-Pika and Hinojärvi, but also on the island of Saaremaa and in several other places. Of the archaeological fieldwork that was carried out within the framework of these projects, one should mention the investigation of fossil fields at Saha-Loo and Proosa (see above), new excavations at stone grave No. 5 in Muuksi (1996–1997 Vedru) and on the settlement site and *tarand*-grave of Ala-Pika (1995 Valk). The results are published in three PACT-volumes (Nos. 37, 51 and 57).

More fieldwork was carried out at **individual sites**. The investigation of some iron smelting sites (Tindimurru, Puiato and Metsküla) was already mentioned above. In connection with stone graves, important results were achieved from the excavation of the *tarand*-grave and cultic site of Tuulingumägi in Tõnija, Saaremaa (1995–1997, 1999–2001 Mägi). There have also been excavations on the destroyed parts of the stone grave of Tsiistre, in south-eastern Estonia (2001–2002 Konsa), while the excavations of a partly destroyed early *tarand*-grave at Kunda were commenced in 2004 (Konsa and Jonuks). Bronze and Early Iron Age radiocarbon dates have been collected through the investigation of several fossil fields, such as Kabala (1994 Lang), Rebala (2004 Laneman), Ilmandu and particularly Saha-Loo (2003–2004 Lang, Kaldre and Laneman). Interesting formations consisting of heaps of burned stones and earth were discovered and trial excavated at Kolga-Aabla on the Juminda Peninsula, northern Estonia (2001 Vedru). The settlement-archaeological project of Keava, which began in 2001, has also yielded new evidence on the fortifications of the Pre-Roman Iron Age, both on the hill of Võnnumägi (2003–2005 Lang, Laneman and Tvauri) and at Lipa (2004 Konsa). A Late Bronze Age settlement site was discovered and excavated at Mõisaküla on the island of Kihnu (2003 Kriiska and Lõhmus). Some

smaller-scale excavations have also been carried out at other places.

### Changes in the general treatment

From the aspect of general treatment, one must handle research in three main directions: the compilation of the dates of several types of artefacts and sites, the analysis of social organization and the establishment of the development of early agriculture and land use systems.

Remarkable corrections were needed in the *chronology* of the Pre-Roman Iron Age. As mentioned above, the early *tarand*-graves that were recently discovered in western and northern Estonia were initially dated to the turn of our era and the beginning of the Roman Iron Age, which led to the grouping of the majority of find assemblages to those centuries. Even the dates of such types of artefacts that had well-grounded early Pre-Roman parallels in neighbouring areas (e.g. neck-rings of Bräcksta type, some types of temple ornaments, bracelets and pottery) were prolonged for several hundreds or half a thousand years. The critical analysis of finds and find conditions made it possible not only to distribute the dates of one portion of things over the entire Pre-Roman Iron Age but also to date from much earlier times the occurrence of the form of early *tarand*-graves in coastal Estonia, which now came to share the same context as the corresponding graves in south-western Finland and central Sweden (Lang 1990). There remained no doubt, however, that the majority of finds still belonged to the Late Pre-Roman Iron Age, i.e. the 2<sup>nd</sup> century BC to the 1<sup>st</sup> century AD. The building of the earliest *tarand*-graves in Estonia even in the transition from the Late Bronze to the Pre-Roman Iron Age was also confirmed by the first radiocarbon-dated grave of Ilmandu (Lang 1996, 299).

As the initial dating of early *tarand*-graves from the Early Roman Iron Age was partly based on the comparisons of the late stone-cist graves, which were then regarded as Late Pre-Roman (i.e. the

grave goods of these two groups of graves were different), the chronology of the stone-cist graves also needed to be re-examined. The analysis of spade-headed bone pins that were characteristic of the latter clearly showed that they do not belong to the Late Pre-Roman Iron Age as previously believed, but have a considerably older, Late Bronze Age and Early Pre-Roman date (Lang 1992). This circumstance, accompanied by the results of the critical analysis of other finds, allowed the shifting of the date of the majority of stone-cist graves from the Late Pre-Roman Iron Age to the Late Bronze Age and Early Pre-Roman Iron Age. At the same time, it was noticed that the erection of new stone-cist graves was terminated around the middle of the Pre-Roman Iron Age, although numerous later burials can be found in the peripheral areas of these graves. The (Early) Pre-Roman Iron Age turned out to be a period when both the stone-cist graves and early *tarand*-graves were built and used contemporarily. The later analysis (Lang 2000b) also added to those two types of graves a third one – cairn graves without clear inner structures, whereas there had also already been some evidence of the existence of pit graves both with cremations and inhumations before that time. The hitherto simplified evolutionist scheme of the development of our stone graves – from the stone-cist graves to the *tarand*-graves (Laul 1985a) – was now replaced by a picture with more variations about the alteration of burial customs and their use in the strategies of social groups.

As a result of new excavations that succeeded in extracting valuable radiocarbon dates, some corrections were made to the chronology of our hillforts. The fortification phase of the Late Pre-Roman Iron Age in Asva and Iru was first distinguished by Lõugas; nevertheless, only the new excavations at Iru in 1984–1986 conclusively proved the stratigraphical separation of this layer from the Late Bronze Age horizon and dated it to the middle of the Pre-Roman Iron Age (Lang 1987b; 1996, 51). Similar dates had also been collected from several other hillforts (e.g. Pada II, Alatskivi, Saadjärve), yet

the corresponding cultural layers were very weak everywhere.

Among the *studies of social structures*, one must first mention the attempts to establish the size of settlement units. In as early as 1987, there had arisen an understanding that the settlement units of the Late Bronze and Early Iron Ages in the area of stone graves did not consist of clan communities with several families but were mainly smaller in size, representing something like single households (Lang 1987a). Some years later, researchers tried to evaluate the size of communities burying in stone-cist and *tarand*-graves by using palaeodemographic methods (Lang & Ligi 1991; Lang 1995a). There were only a few graves whose osteological material was analysed by that time, but the results clearly showed that even in the case of single families, not all members were buried in stone-cist graves. Taking into account the dates of the graves and the number of burials, it was supposed that on average only 3–4 graves were erected during one century in each settlement unit (i.e. one grave per generation), whereas some members of these settlement units (families) were not buried in these graves at all. None of the Roman Iron Age *tarand*-graves with cremations was osteologically investigated; therefore, the comparisons with inhumation cemeteries of western Lithuania, which was culturally close to Estonia in those times, were used for analogous calculations. According to Lithuanian relations between the number of some grave goods (brooches, bracelets and finger-rings) and that of burials, it was found that the communities that buried in *tarand*-graves in north-eastern, central and south-eastern Estonia could consist of an average of 5–9 people, while the corresponding numbers (3–4) in north-western Estonia still remained too small for one to expect that all members of communities could have been buried in stone graves. The osteological analysis of grave I in Viimsi (Kalling 1993), which was excavated later, proved the validity of the main conclusions of this study (i.e. the communities that buried in *tarand*-graves were not larger than single families)

and made some minor corrections to the supposed proportion between the number of burials and grave goods (Lang 1993, 56; 1996, 358). The research from the 1990s into the bone assemblages of several early *tarand*-graves (by Kalman) demonstrated that these graves, too, which were used over a relatively long period, were not meant for the burial of all of the members of households (Lang 2000a, 206; Mägi 1999a; Kalman 2000a-c).

When Estonia's borders began to open up in the early 1990s, new trends in the interpretation of social structures and developments, particularly in the framework of the post-processual approach, arrived. Thus, there were some ideas about the establishment of chiefdoms in the Bronze Age together with their social stratification, the manifestation of elite power in monumental stone graves, the phases of the legitimization and consolidation of ideologies, etc., and initially even about the formation of structures characteristic of early states in the Roman Iron Age (Ligi 1995a). The latter ideas have mostly been avoided by later research, however; instead, attempts have been made to emphasize the much smaller size of territorial power structures and different patterns of social development. The key concept for the understanding of these different possibilities of development is the idea about the establishment of the so-called system of one dominant farm in the transition period from the Late Bronze Age to the Pre-Roman Iron Age (Lang 1996, 465 ff). Such systems made it possible to understand settlement districts in which, among apparently similar settlement units, there was one that clearly differed from the rest. This difference might arise either from remarkably different grave goods (having more different types of artefacts and imports) or from their location in the landscape (e.g. fortified or hill-top settlement). It was presumed that such an intra-district social hierarchy arose as a result of some kind of taxation of common settlement units (farms) by this outstanding or dominant farm. These systems with one dominating farm were initially quite large (up to a couple of hundred square kilometres), but

became smaller over several centuries, reaching a size of c. fifty square kilometres in the Late Roman Iron Age. The comparison of the size and location of these socially clearly hierarchical structures with the groups of villages that became visible in the list of the *Liber Censur Danicae*, composed in the early 13<sup>th</sup> century, and medieval taxation units called *vakušes*, allow one to conclude that this is a primary prehistoric form of the latter (Lang 2002).

In addition to settlement-historical data and differences in grave good assemblages, this concept of one dominant farm was also based on the *study of land use systems* and the development of proprietorship rights. As mentioned above, research into fossil fields began in Estonia in as early as 1969; nevertheless, it was long limited mainly to the (rescue) excavation of clearance cairns. Even after the discovery of early block-shaped fields at Rebala in 1982, no one was able to fit this into the general context of land use systems in northern and north-western Europe.<sup>20</sup> The situation began to change ten years later, when new block-shaped fields were found at Saha-Loo and Proosa. The mapping and excavation of these sites helped to establish not only their age<sup>21</sup> but also the process of the formation of the complexes and the existence and nature of different systems (Lang 1994a-b; 1995b-c). The simple clearance cairn fields, where one cannot visually determine the size and shape of plots, proved to be the oldest – and, at the same time, longest-used – field system in Estonia. Among the early block-shaped fields, one could differentiate two types, the earlier and more primitive of which was called the Baltic fields due to

their distribution around the Baltic Sea. These fields were characterized by an occasional forming process – the field plots took their shape during a prolonged period of cultivation according to the location of the initial clearance cairns and the crosswise ploughing technique – and therefore they acquired a very irregular layout. Later fields were comparable with Celtic fields elsewhere in northern and north-western Europe – they had a more regular layout, which offered evidence of the preliminary planning of field plots and baulks before cultivation had begun. The occurrence of field systems with stationary above-ground fences in the background of the settlement pattern consisting of single farms during the Late Bronze Age was connected with the establishment of private ownership over the cultivated land, while the more advanced and regular Celtic type land use system was presumed to reflect the beginning of the taxation of agricultural production (Lang 1995c).

Additional data about early farming subsistence was offered by pollen analysis. Many new pollen diagrams have recently been composed, and in these the nature and development of human impact on the environment were also analysed. These studies were particularly important for research into earlier periods, i.e. the Late Neolithic and Early Bronze Age, about which there is still very little archaeological evidence. The first signs of the clearance of fields (increasing amounts of charcoal particles, the opening of the landscape), the cultivation of cereals (wheat, barley and oat) and stock breeding (the existence of meadows and pastures) are rather weak in these diagrams, and have different dates and durations in different places (e.g. Veski 1998; Veski & Lang 1996; Lang 1999b-c; Poska *et al.* 1999; Laul & Kihno 1999; Kriiska 2003b). Since periods of human influence have fluctuated everywhere, one can presume the mobility of settlement, the search for suitable lands and the existence of periodically rotating slash-and-burn agriculture at those times. This process of the first colonization of land suitable for farming – but being unsettled during foraging sub-

<sup>20</sup> For instance, in the chapter of Early Iron Age in the *Eesti talurahva ajalugu* (ETRA, 1992) there is no word about the Celtic fields, although photos of field plots surrounded with baulks at Rebala are used as illustrations.

<sup>21</sup> The dating of fossil fields was earlier limited with those possibilities that were offered by a few occasional potsherds found. Now the samples of small pieces of charcoal that occur beneath the field remains are used for radiocarbon dating. This enables to compare the age of Estonian fields with that of northern and north-western Europe, achieved by the same method.

sistence – has been called the first *landnam* (Lang 1996; 2000a).

In addition to these three main directions, new interpretations have also been presented in other fields. For instance, a new analysis of the general features of the religious beliefs of the Bronze and Iron Ages was performed by Tõnno Jonuks (2003; 2005). The treatment of cup-marked stones by Andres Tvauri (1997) is also connected with religious and cultic questions. The exploration of bone assemblages of the stone-cist graves and early *tarand*-graves has opened new perspectives for the understanding of everyday life in the 1<sup>st</sup> millennium BC: the health of people, their diet, diseases and pathologies (Kalman 1999; 2000a-c). One should also mention the monograph written by Silvia Laul (2001), which summarizes archaeological research into the Pre-Roman and Roman Iron Ages in south-eastern Estonia. There are many other individual questions concerning the Bronze and Early Iron Ages that have recently been touched upon.

Summing up the research that has been performed in recent years, one can notice that the majority of new information and interpretations concern the Late Bronze and Pre-Roman Iron Age. The understanding of the development of society, the nature of social structures, ideologies and the advancement of agriculture has changed significantly. Much less new data has been achieved about the Roman Iron Age and the Early Bronze Age. Nevertheless, regarding the recently commenced research at the University of Tartu, at both the undergraduate and postgraduate levels (e.g. Johanson 2005; Rohtla 2005), one may also expect a breakthrough in coming years concerning these periods.

## Summary

Archaeologists' understanding of the Bronze and Early Iron Ages in what is today Estonia has changed remarkably over the years. In the 19<sup>th</sup> century, such

concepts as the Bronze Age and the Pre-Roman Iron Age were almost unknown – the Stone Age was presumed to have lasted until the turn of our era. Due to the accretion of finds and the knowledge gathered concerning sites, these archaeological periods were formed and gradually filled with content. One can only speak of the accreditation of prehistoric periods with clearly fixed chronological limits in Estonian archaeology since the early 1930s.

Of course, all of these periods and chronologies are constructs imposed by archaeologists, and might not possess particular importance in exploring the everyday life of prehistoric people. Nevertheless, not only the accretion of archaeological evidence can make periodization more detailed, but *vice versa* – the more exact and detailed the periodization, the more exact and adequate the questions asked about these periods, and the need for specific studies. What was life like in Estonia during the Late Bronze Age or Early Pre-Roman Iron Age? This question was impossible prior to the 1930s, because the very existence of these periods was not yet perceived. A question phrased in this manner had no (officially scientific) content even in the 1950s, when it was considered more appropriate to speak of a period called the patriarchal clan society. It seems that the questions that need scientific investigation might differ in the case of the patriarchal clan society from those asked concerning the Bronze and Pre-Roman Iron Ages, although the practice of the excavations performed was essentially the same.

Until the 1950s, the investigation of the Roman Iron Age clearly prevailed over research into other prehistoric periods, and this was undoubtedly the case due to the *tarand*-graves, which are rich in finds. On the other hand, the investigation of this period was also promoted by the culture-historical approach – the new excavations of large *tarand*-graves yielded large collections of attractive finds, which needed to be described, compared, typologized, mapped, etc. The investigation of periods lacking finds is rather complicated by this approach. However, the understanding of Roman Iron Age



society did not change much over these decades, because no other sites than graves were excavated, and no new questions were asked of the grave assemblages. Therefore it is understandable that the excavation of typical *tarand*-graves was gradually terminated during the 1960s.

The discovery and excavation of fortified settlements, on the other hand, added a significant contribution to research into the Late Bronze Age. The find assemblages of settlement sites helped to give new content to the period that was earlier known only by stone-cist graves poor in finds and a few stray finds; instead of immigration and cultural loans, one could now see the everyday life and development of the local people's economy. The discovery of early *tarand*-graves and field systems later had a similarly strong impact on research into the Late Bronze and Pre-Roman Iron Ages. The latter were important not only for the understanding of agricultural development but also the ownership rights dominant in the society. The 1<sup>st</sup> millennium BC, which until the 1930s was considered as a 'cultural depression' and extremely poor in finds, has now become one of the periods richest in sites and with the most dynamic

developments in Estonian prehistory. This holds true, however, only for northern and western Estonia, while interior parts of the country are still badly furnished with archaeological evidence.

Further research should be concentrated, first, on the study of the Early Bronze Age: why have so few sites and finds been reported so far, how can one explain this 'Epineolithic uncultureness' between the flourishing Neolithic and Late Bronze Age? What processes took place in the economy, settlement pattern and society during the 2<sup>nd</sup> millennium BC in present-day Estonia? Another direction should again involve the Roman Iron Age, i.e. by trying to find new connections between the rich find assemblages, to discover settlement sites, field remains, etc. The third set of questions concerns developments in the interior of Estonia: why is the number of sites there so small in comparison with coastal areas, what differences existed between societies inhabiting different corners of Estonia? Some of these questions will hopefully be answered in the third volume of *Estonian Archaeology*; nevertheless, more comprehensive and systematized research is needed in the very near future.

# Investigation of the Middle Iron Age

ANDRES TVAURI

## Introduction

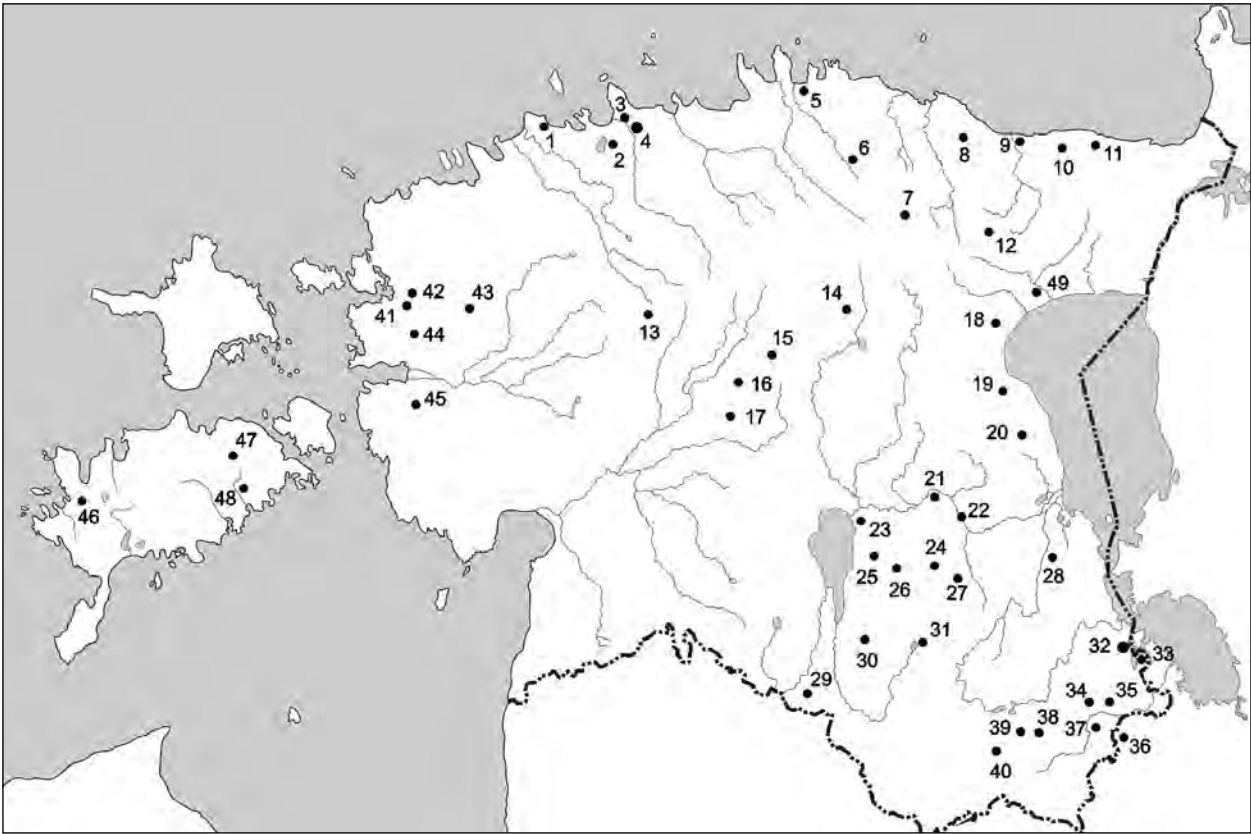
According to the currently accepted chronology, the Estonian Middle Iron Age (450–800 AD) is divided into the Migration Period (450–600) and the Pre-Viking Age (600–800). For a long time, no antiquities dating from this period were known, and even now the number of sites is much smaller than that of any other stage of the Iron Age. On the basis of existing knowledge, the following categories of antiquities can be dated to the Middle Iron Age:

- (1) stone graves with constructions above ground:
  - stone grave-fields without inner constructions,
  - later burials into earlier graves;
- (2) sand barrows above ground with cremation burials (only in south-eastern and eastern Estonia);
- (3) cemeteries with flat pit-graves, with either cremation or inhumation burials;
- (4) hillforts and fortified settlements in lakes;
- (5) open settlements:
  - central settlements next to hillforts,
  - other settlement sites;
- (6) fossil land use systems:
  - strip fields,
  - fields of clearance cairns;
- (7) iron smelting sites;
- (8) hoards;
- (9) stray finds.

A large proportion of the graves and settlement sites of the Middle Iron Age were established during the period in question. The usage of stone graves and flat graves, which is typical of the Middle Iron Age, usually ends before the year 800. Burials in sand barrows, on the other hand, continue during the following Viking Age. Almost all of the hillforts and settlements established during the Middle Iron Age were still in use in the Viking Age.

## Baltic German period

In the first chronology of the prehistory of the East Baltic provinces, Constantin Grewingk distinguished two stages within the Iron Age: the older (1<sup>st</sup>–6<sup>th</sup> centuries AD) and the younger stage (9<sup>th</sup>–12<sup>th</sup> centuries AD). From the intermediate period (6<sup>th</sup>–8<sup>th</sup> centuries), no antiquities were known at all. The Goths who were believed to have settled Estonia during the Roman Iron Age were thought to have migrated to the steppes by the Black Sea, and the land remained uninhabited. According to Grewingk, the ancestors of the Estonians and the Livs appeared from the east during the period from the 9<sup>th</sup> to the 12<sup>th</sup> century, and it was only then that the 'distinct culture' of the Estonians and the Livs finally developed (Grewingk 1871, 49; 1874, 34; 1884a, 91). Thus, according to Grewingk, there existed no such period as the Middle Iron Age in the Baltic countries, as it was a period without finds and thus without settlement.



**Fig. 33.** Middle Iron Age sites mentioned in the text. 1 Ilmandu, 2 Lehmja-Loo, 3 Iru, 4 Proosa, Nehatu, Saha and Lagedi, 5 Tandemägi in Võhma, 6 Ojaveski, 7 Tõrma, 8 Pada, 9 Jäbara, 10 Järve, 11 Toila, 12 Saunaküinka, 13 Paluküla, 14 Preedi, 15 Nurmsi, 16 Rikassaare, 17 Villevere, 18 Piisi, 19 Kose, 20 Savastvere, 21 Kardla, 22 Tartu, 23 Läätsa in Verevi, 24 Unipiha, 25 Alt-Laari, 26 Peedu, 27 Paali, 28 Kõnnu, 29 Valgjärv in Koorküla, 30 Kivivare, 31 Otepää, 32 Laossina, Suure-Rõsna and Rõsna-Saare, 33 Velna, 34 Piusa, 35 Arniko, 36 Verepkova, 37 Obinitsa, 38 Lindora, 39 Loosi, 40 Rõuge, 41 Kirimäe, 42 Kivipõllumägi in Koela, 43 Maidla, 44 Ehmja, 45 Lihula, 46 Paju, 47 Kuninguste, 48 Lepna, 49 Lemmaku.

The chronology of Richard Hausmann, presented in 1896, followed the spirit of Grewingk and divided the archaeological material of the Iron Age in two groups. During the Early Iron Age (1<sup>st</sup>–5<sup>th</sup> centuries AD) the material culture of the eastern Baltic region was uniform and had a strong Gothic influence. It was during the later period, (8<sup>th</sup>–9<sup>th</sup> – the beginning of the 13<sup>th</sup> century AD) that the Estonian, Livonian, Latvian, etc. cultures could be distinguished. No finds were known from the centuries between these two periods (Hausmann 1896, XIII).

The first hoard, dating from the Middle Iron Age, was obtained in 1911 from a destroyed stone grave in Kardla near Tartu (Fig. 33). Of silver ornaments, it contained two whole and one fragmented cross-bow fibula decorated with golden foil, eleven neck-rings, five bracelets and two small rings on iron wire. A smaller golden neck-ring and a bronze bracelet were also found. Hausmann, who published the find, dated it to the earlier Iron Age, namely the 5<sup>th</sup> century (Hausmann 1914, 115), but the hoard was later dated to the middle of the 6<sup>th</sup> century (Jaanimäe *et al.* 1982, 286).

Thus, until the beginning of the 1920s, there were no definite traces of human settlement in what is today Estonia during the 6<sup>th</sup>–8<sup>th</sup> centuries. This was explained by the emigration of the earlier population.

### The formation of the chronology of the Estonian Middle Iron Age (the 1920s)

Accidentally, a few important archaeological finds were collected at the beginning of the 1920s, and this substantially changed the picture of the Estonian Middle Iron Age. In 1920, a hoard was found in Villevere near Pilstvere (central Estonia), which consisted of a silver crossbow fibula, five silver neck-rings and three fragments of the same, fragments of a silver spiral finger-ring, small silver rings and a bronze bracelet. The find was dated to the period 450–500 AD (Moora 1925b). In 1921, a collection of weapons and ornaments (70 items in total) dated to the 8<sup>th</sup> century was collected from Paluküla (northern Estonia) (Tallgren 1924a, 54). In 1923, a total of 174 prehistoric items was found in Kirimäe in western Estonia, including weapons, tools, ornaments, etc. Both charcoal and burnt bones were noticed next to the items, which resulted in the interpretation of a find as a cremation burial with very numerous grave goods. The find was dated to the 6<sup>th</sup> century (Schmiedehelm 1924).

Largely on the basis of the finds listed above, Aarne Michaël Tallgren was the first to establish the particular chronological stage, the Middle Iron Age, in Estonia to 400–800 AD (Tallgren 1925). In the material culture of the period, Tallgren saw general Baltic influences (that were dominant in the Roman Iron Age) as still dominating, and sometimes even increasing, but at the end of the period, a Scandinavian influence could be noticed, especially in weapons. As many types of items introduced during the Roman

Iron Age remained in use, that development seemed to have been continuous. It was still not possible to distinguish grave types typical to the Middle Iron Age at that time. According to Tallgren, the diversity of Baltic-style item types made it possible to trace the slow movement of the Baltic tribes from the south, and the step-by-step retreat of the Finnic tribes. At the same time, contacts with the Baltic tribes were supplemented by connections with the Swedes and the Finns. Tallgren also noticed a sharp difference between the archaeological material of Estonia and Finland during the period under consideration: the Estonian material was remarkably poor, while the Finnish material was extremely rich (incl. so-called national types of artefacts). The researcher assumed that part of the population left Estonia for Finland at the beginning of the Middle Iron Age, thus causing the impoverishment of culture on the southern bank of the Gulf of Finland, and its proliferation on the northern bank (Tallgren 1925, 32).

Actually, it seems to me that the reason why Tallgren could state that the settlement history of Estonia was continuous during the Middle Iron Age lay not in the hoards of Paluküla, Villevere and Kirimäe, but in the theory presented by Finnish archaeologist Alfred Hackman in 1905. According to Hackman, the settlement of Finland spread from west to east since the Early Roman Iron Age, and not *vice versa*, as had been suggested previously. One premise of this model, however, was the idea that the Finns reached Finland across the Gulf of Finland from Estonian areas. As the Estonian and Finnish languages are closely related, it appears that the ancestors of the Estonians should have reached Estonian areas from the east by the beginning of the Roman Iron Age at the latest (Hackman 1905, 306, 318 ff).

Tallgren was also the first to use the term 'Migration Period' in the Estonian archaeological literature in connection with the Middle Iron Age. In his book about the prehistory of Europe, Tallgren (1927) viewed this period in a wider northern European context. At that time, the whole period

between 400 and 800 was termed the Migration Period, which was divided into an earlier (400–600) and a later stage (600–800).

During the 1920s, the number of finds from the Middle Iron Age increased considerably. By 1931, 70 find spots from this period had been found. This number increased mostly as a result of new, more appropriate dates given to objects that had earlier been dated either to the Roman or the Late Iron Age (Laid 1931a, 362 f).

The first grave explicitly dating from the Migration Period was only investigated in 1931. The excavations were directed by Marta Schmiedehelm on the land of Läätsa farm in Verevi village (c. 1.7 km east of Lake Võrtsjärv). The results of these investigations were published much later in an article by Mare Aun (1970).

## Harri Moora and his disciples

### Investigation of the Middle Iron Age during the 1930s

During the 1930s, Harri Moora emerged as a leading archaeologist in Estonia. His standpoints, supported and complemented by his disciples, were scientifically dominant until the beginning of the 1990s.

In 1932, Moora published the next general treatment of Estonian prehistory after Tallgren. He emphasized the importance of cultural and also trade contacts during all periods of prehistory. The author held the opinion that the situation in the economy is greatly dependant on trade, and the latter on the business environment (probably this idea can be connected with the Great Depression of the 1930s in the Western European countries). As Estonia's geographical situation raised it to the position of an intermediary, foreign contacts resulted not only in economic wealth, but also in cultural influences on the nation's nascent distinct culture.

Moora stressed that good usage of the situation during the Roman Iron Age enabled the Estonian population to play an active and creative role in the transit trade in the Roman Iron Age (Moora 1932, 44 f). The 4<sup>th</sup> century AD saw a sharp decline in the German influence. During the Middle Iron Age, Estonians' trade contacts did not reach much further than the areas of Semigallia and eastern Prussia, as metal was imported from there. This again resulted in an extremely strong Baltic influence, so that the Estonians were unable to develop their own item types. During the same period, the Balts of northern Latvia pushed the Estonians further north, approximately to the later border areas of the future nation-states. According to Moora, the population of Estonia had not diminished during the Middle Iron Age, in spite of the economic depression. He argued that the centres of the earlier counties survived, and settlement in western Estonia and Saaremaa intensified (Moora 1932, 44 ff).

A new general treatment of Estonian prehistory by Moora was published in 1935 (EA I, 1935). It was much more detailed than the previous one, but shared its main viewpoints. The section on the Middle Iron Age had been supplemented with the idea that intensive trade with the western Baltic cultural area was one of the reasons for the colonization of the Estonian islands (west of the mainland) and Lääne County (on the western coast), which were supposed to lack settlement in the Roman Iron Age. According to Moora, the basic argument for choosing new settlement areas was their geographical position from the point of view of trade. In general, Moora still considered the Middle Iron Age in Estonia to be a period of 'quiescence' (EA I, 1935, 137).

Moora also wrote a great deal about trade contacts in the chapters on prehistory in the first volume of the book *Eesti majandusajalugu* ('Estonian Economic History'), published in 1937. The main trends of the Middle Iron Age are mostly explained by external trade conditions:

From the 5<sup>th</sup> century onwards, the fast-paced development of our economy decelerated somewhat. The collapse of the Roman Empire should be considered as main reason for this [...]. Soon the disturbances of the Migration Period threw the system of connections that linked the Baltic areas with the centre, into disarray. Firstly, the Germanic tribes emigrated from the mouth of the Vistula, from where they had largely mediated the connections between the south-eastern Baltic areas and the border areas of the Roman Empire. For that reason, the formerly important sea route from the mouth of the Vistula to Estonia altogether lost its importance. Thus Estonian trading and cultural links remained one-sided and depended only on the territory of present-day Latvia and Lithuania. A one-sided relationship, however, is never a useful one, and that is even truer due to the fact that our southern neighbours had also suffered from the general deterioration of the economic environment. The fact that such a situation caused a standstill in the growth of our country's economic wealth is illustrated for instance by the fact that the import of metals decreased in comparison with earlier periods, as is proved by archaeological finds. This depression continued up to c. 800 AD [...]. The most important change during this period was the expansion of settlement to western Estonia and the islands. These areas had been deserted because of the final triumph of agriculture, at approximately the beginning of the Christian era. During this period, settlement expanded considerably in Saaremaa, Hanila, Ridala and Lääne-Nigula in western Estonia, as well as in southern Harjumaa, especially Rapla, and most likely also in northern Tartumaa. (Moora 1937, 20 f)

According to Moora, the distribution of settlement can be explained by population growth, which resulted in a situation where not all people could find the necessary land in the moraine grounds of eastern and central Estonia, and some had to leave for areas with worse conditions. Moora clearly overestimates the role of trade in the circumstances of the Middle Iron Age:

[...] in addition to the numeral increase in the population, the reason for its distribution since the 5<sup>th</sup> century should be sought in the deterioration of trade. During the previous period, large human groups residing in our settlement centres were able to make a living from the profits of the trade. Now that profits from trade had diminished, part of the population had to spill out of the old centres, and seek a living from agriculture in other areas. (Moora 1937, 21)

Thus, although settlement seemed to spread during the Middle Iron Age, Moora explained it as the result of stagnation in the economy!

According to the theory of A. Hackman, the Finns had left Estonia for Finland during the Roman Iron Age. This idea seemed to be supported by the distribution of stone graves in coastal northern Estonia: only stone-cist graves from the Pre-Roman period had been found, but not the *tarand*-graves of the Roman Iron Age. The reasons why the people left for Finland were considered to be economic, namely hunting for fur (Tallgren 1931, 146; Moora 1938a, 642 ff). According to this viewpoint, the article by Artur Vassar (1938b) examined from which part of Estonia the Finns left. On the basis of the distribution of antiquities known at that time, he considered that the population of the Estonian islands had left for south-western Finland at around the beginning of the Christian era. The second wave of emigration took place from Virumaa during the 5<sup>th</sup>–6<sup>th</sup> centuries, when most of the inhabitants of that area left for Häme and the Ingrian areas. According to Vassar, such migrations were total 'in the full sense of the word', so that Saaremaa and Virumaa, 'formerly on the foreground', remained in the background for centuries. As a result, Vassar stated that the migration of the Finns had paralysed the formation of Estonian settlement, economic life and social practices.

From the second half of the 1930s onward, the investigation of Estonian hillforts began on a remarkably larger scale (see Lang, this volume, a). As a result, a lot of new finds were collected from the

hillforts of Peedu (1936 Moora, Vassar and Ariste) and Iru (1936–1938 Indreko and Vassar), which were dated to the Middle Iron Age. In retrospect, it seems that a lot of Viking Age finds from the same hillforts were dated to the Middle Iron Age without any good reason. Most likely for that very reason, H. Moora wrote that most of the small hillforts known to that date seemed to have been erected during the 5<sup>th</sup> or 6<sup>th</sup> century (Moora 1939a, 12). The statement remained authoritative for a long time, although it was supported only by evidence from Peedu and Iru hillforts. Actually, the number of hillforts established during the Middle Iron Age is small, especially in comparison with the total number of hillforts. Most of the hillforts were constructed later, during the Viking Age.

In an article about Iru, Vassar dated two earlier constructional stages of the hillfort (out of three) to the Middle Iron Age (Vassar 1939). The start of the construction of hillforts should have indicated an important change in society. Vassar considered that the continuous reconstruction, as well as the maintenance of the hillforts, was costly and needed a large work effort from contemporary communities, which in turn would indicate a highly developed social structure. The hillforts were not erected by farms, but by cooperating communities of one or several villages, and later even larger units – *kihelkonds* (prehistoric parishes). Vassar considered the hillfort of Iru to be a centre of trade and handicrafts, and assumed it was also some kind of centre of administration and religion.

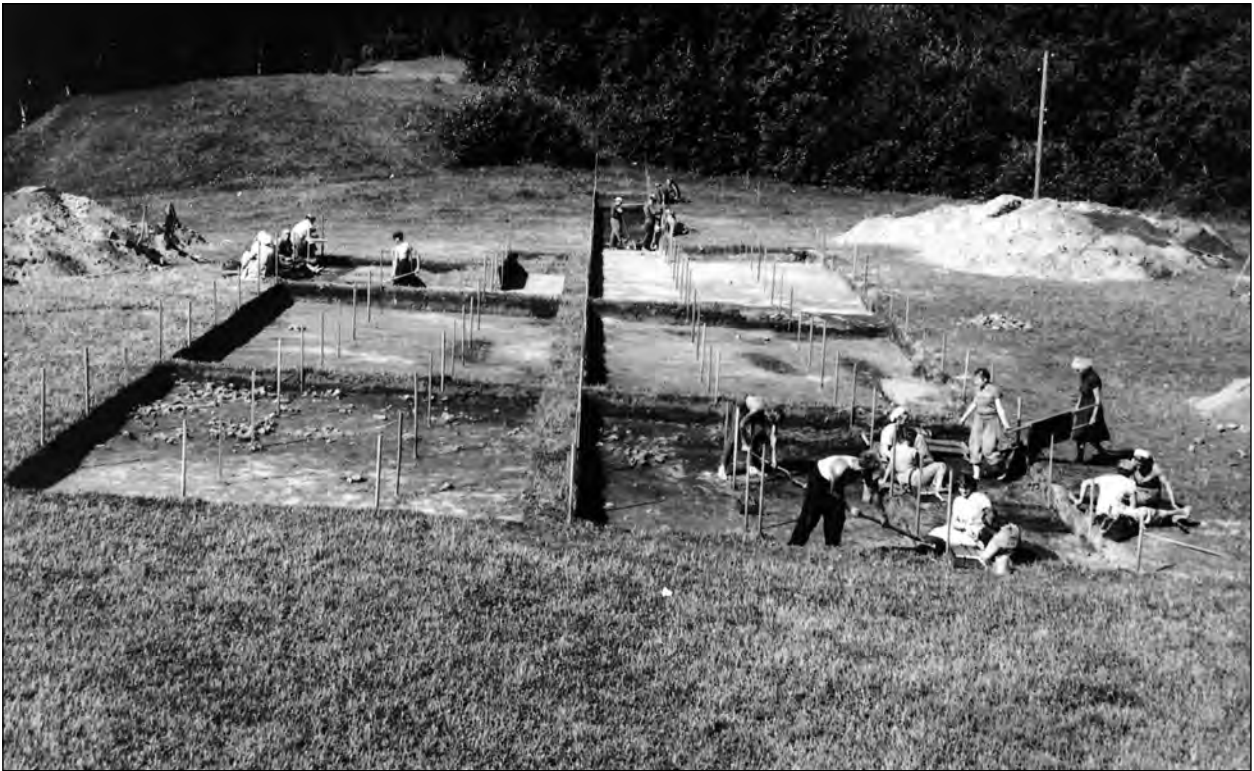
Some representative hoards from the Middle Iron Age were added to museum collections in the 1930s. A find of bronze items (39 in total) was unearthed in Piilsi, northern Tartu County, in 1930. It was dated to the 5<sup>th</sup> century (Moora 1935). This find is one of the biggest Estonian hoards of the Migration Period. In 1932, two hoards of silver and bronze ornaments, as well as belt parts, were gathered from the stone grave of Paali in Kambja (18 km south of Tartu). The finds were dated to the period around 500 AD. In an article about the find, M. Schmiedehelm

devoted attention to the fact that in addition to the two hoards of Paali, the hoard of Kardla was also hidden in a grave, and indirect data indicate that the Villevere hoard in Pilstvere was also found in a grave. For these reasons, she considered it likely that finds of that kind could be sacrificially buried offerings or in some other way linked to the cult of the dead (Schmiedehelm 1934a).

To summarize the investigations of the 1920s and 1930s, it can be said that the opinion that Estonia was continuously inhabited during the Middle Iron Age has persisted since the general treatment of Estonian prehistory by A. M. Tallgren in 1925. What is more – a continuation of settlement can be traced from the Early Iron Age to the Late Iron Age. The Middle Iron Age in Estonia was still considered to be a period of regression, when some of the population from northern Estonia left for Finland due to unfavourable trade conditions in northern Europe. At the same time, the Baltic tribes advanced from the south, and occupied large areas previously inhabited by Finnic peoples. These conclusions were seemingly supported by excavation results of the 1920s and 1930s from the hillforts, as well as hoards found. No cemetery used only during the Middle Iron Age, except for Läätsa in Verevi, had been investigated, although numerous graves constructed before that time were excavated, and these also yielded finds from the Middle Iron Age (e.g. Lagedi, Ojaveski, Jäbara, Pada and Tõrma graves in northern, and Nurmsi grave in central, Estonia). In addition, a few finds and sites were dated to the Middle Iron Age, yet we now know that they actually belong to other periods, e.g. Nehatu grave near Tallinn (Vassar 1936) and the pottery with cord decoration from north-western Estonia (Vassar 1939, 87).

### **The Soviet period (1944–1991)**

Although both the political system and the ruling ideology were forcibly changed in Estonia in 1944, archaeologists H. Moora, M. Schmiedehelm



**Fig. 34.** Excavations at the settlement site in front of Rõuge hillfort (photo: AI).

and A. Vassar, who had investigated the Iron Age, remained in Estonia and had to outwardly adjust to the new conditions. In a presentation held in Leningrad in 1949, Moora, in addition to other topics, summarized and re-evaluated the results of the investigation of the Middle Iron Age in Estonia. At the same time, he formulated a plan for future research. Moora considered the Estonian antiquities of the Middle Iron Age to be inadequately investigated; he saw the limited excavations of hillforts to be a great step backwards. As it is precisely hillforts that can yield new information about daily life and social relations, he considered the excavation of hillforts to be a question that deserved special attention (Moora 1949, 36).

According to this point of view, in 1951–1955 Moora directed excavations on the yard of Rõuge hillfort (850 m<sup>2</sup>), which was totally excavated, and

Schmiedehelm directed excavations on a 1700 m<sup>2</sup> part of the nearby settlement site (which covers c. 7000 m<sup>2</sup> in total) in 1954 and 1956–1959 (Fig. 34). These were the first larger archaeological excavations in post-war Estonia. The excavators hoped to find material from the Middle Iron Age, and at that time most of the finds were indeed dated to the 7<sup>th</sup>–8<sup>th</sup> centuries (Schmiedehelm 1959, 172). In the 1950s, large-scale excavations also took place at the hillforts of Iru (1952–1958 Vassar) and Tartu (1956–1958, 1960 Trummal), as well as at the hillfort of Otepää in south-eastern Estonia (1950–1962 O. Saadre). From all of these, finds from the Middle Iron Age were found, or in some cases finds were later dated to the Middle Iron Age.

In north-eastern Estonia many sites were endangered due to large-scale construction work. For that reason, many rescue excavations were performed



there, mostly at stone graves. Finds from the Middle Iron Age were gathered from some of these. The graves of Järve I (1946–1947 Schmiedehelm and Ariste) and Toila I (1947 Schmiedehelm) are examples of this.

The first general treatment of Estonian history written during Soviet occupation was published in 1952. The chapters about prehistory were written by Moora, who had to stick to the Soviet paradigm of history. In accordance with the periodization used then, the Middle Iron Age was part of a period called the ‘disintegration of the system of clan societies and the appearance of class relations’ and dated from the 1<sup>st</sup>–9<sup>th</sup> centuries AD. The chronological borders were taken from the Soviet periodization of Russian history, where the 9<sup>th</sup> century marked the formation of the state of Russia, according to the chronicle of Nestor, and thus also a change in the society. In the context of Estonian prehistory, such a period is unfounded, as it combined the Roman Iron Age, with clearly different antiquities and social relations, with later periods. In addition, the Viking Age was also broken apart.

The Estonian *tarand*-graves were interpreted as burial places of extended families, and the ending of burials in these in the middle of the 1<sup>st</sup> millennium AD as the collapse of clan relations. The distribution of ploughing agriculture was considered to be the technological innovation that must have been the driving force of the development. In that period, single families were thought to have emerged as the main production units, and thus the clan-related community was replaced by a territorial or village community. In the latter, more wealthy families could emerge that were able to ‘grab’ bigger strips of land; private ownership of land by the rich also developed during that period, according to Moora. As a precondition for the increase in size of the privately owned land, the above-mentioned text considered ‘the exploitation of the working force of the slaves, and the beginning of the exploitation of community members’ by the rich. The hoards and the few rich graves were pointed out as evidence of eco-

nomical stratification. The formation of private property would have caused conflicts, as is indicated by the construction of hillforts. The latter, according to the text, were used by the elite of the society (Moora 1952a, 14 ff).

The next general treatment of Estonian prehistory appeared in 1955 and was also written by Moora (EA I, 1955). In this, he discusses the Middle Iron Age in a more detailed manner, and specifies a periodization: the period from the 5<sup>th</sup> to the 9<sup>th</sup> century is now referred to as ‘the formation of the beginnings of class relations.’ The general treatment is analogous to the conception formulated in 1952, and such an interpretation of the Middle Iron Age was used both in other works of Moora (e.g. Moora 1953b, 111; 1955, 71) as well as other studies and treatments of Estonian prehistory until the beginning of the 1990s (e.g. Trummal 1955; 1987, 14 ff; Selirand & Tõnisson 1963; 1984; Jaanits *et al.* 1982; Lõugas & Selirand 1989, 27; Tõnisson 1992a).

The article by Moora (1956) on the formation of the Estonian people and the neighbouring peoples was of central importance in the formation of the general conception of prehistory in Soviet Estonia. The chapters devoted to the development of society during the period from the 5<sup>th</sup> to the 9<sup>th</sup> century reprise the treatment published in 1952, where the main arguments were the disintegration of clan societies and kinship relations and the formation of the prerequisites for class society. It was during that period that, according to Moora, the ancient parishes and their unions, i.e. the counties, had formed. Moora had stepped back from the viewpoint still presented in the 1930s that the Middle Iron Age was a period of economic standstill or even regression. He emphasized the growth of productive forces, the broadening of ploughing agriculture, the development of handicraft, the increasing population and the spread of inhabited areas during the Middle Iron Age. The productive forces among the peoples living south of Estonia grew more rapidly, and thus population growth was also faster and the organization of society more complex than among the Finnic

tribes during that period. As a result, both the Slavic and Baltic peoples moved north and settled among the Finnic people, whose habitation was sparse. In that way, the culture of northern Latvia up to the Estonian border acquired a Latvian appearance and there are also some antiquities of Latgallian appearance in southern Estonia.

In 1958, Jüri Selirand first led investigations on a pile-construction in Lake Valgjärv in Koorküla, near the Estonian southern border. On a ridge that lay 1–2 m underwater, a maze of piles and beams was found in a lake with an area of 44.4 ha. In the middle of the wooden remains, the potsherds and traces of fireplaces were found. For investigations underwater, a raft was constructed, and this was anchored above the remains and equipped with items needed for the divers' work. The divers ascertained the area covered with beam remains, which was approximately 737 m<sup>2</sup>. The dating of the construction was based on the potsherds of Rõuge style gathered from the middle of the beams and through radiocarbon dating of the beams to the Middle Iron Age, more precisely the 6<sup>th</sup>–8<sup>th</sup> centuries. On the basis of the preliminary investigations, Selirand presumed that there had existed a fortified living place of a nobleman, which rested on a platform constructed on piles or beams (Selirand 1960; Roio 2003; 2005; see also Roio, this volume).

A popular overview of Estonian prehistory written by Selirand and Evald Tõnisson was published in 1963 (English version: Selirand & Tõnisson 1984). This book defines the Middle Iron Age as the period from the 5<sup>th</sup> to 9<sup>th</sup> centuries. The Soviet terminology has been toned down considerably, and the authors have reintroduced the term 'Middle Iron Age'. The scarcity of finds from the period is explained by a change in burial customs: fewer items were deposited with the dead than during the previous or following period, and thus it is much more difficult to distinguish a grave from the period under consideration.

The 1960s added little to the investigation of the Middle Iron Age. The only find worthy of mention is

the most important hoard from the Middle Iron Age discovered during the Soviet period. It was found in the pasture of Rikassaare in central Estonia during melioration works. In a layer of humus 10–15 cm from ground level, 54 spearheads were found, some of which may have been deposited on the ground deliberately in two rows, with the points facing the other row. The remains of wood were collected from the sockets of the spearheads. In addition, seven broken battle knives were collected from the same deposit. The weapons of Rikassaare were produced during the 6<sup>th</sup> century (Mandel & Tamla 1977). The only grave from the Middle Iron Age, investigated during the 1960s, was Preedi in central Estonia. The excavations of 1967 and 1968 were directed by Tanel Moora. The finds from Preedi can mostly be dated to the 5<sup>th</sup> and 6<sup>th</sup> centuries (Jaanits *et al.* 1982, 268).

Nothing new concerning the general conception of the Middle Iron Age in Estonia was published in the 1970s either. During that decade, numerous graves were discovered and investigated, which considerably expanded knowledge about the period under consideration. The stone grave-field of Lehmja-Loo III near Tallinn was the first to be investigated: in 1969 and 1970, excavations were directed by Vello Lõugas (Fig. 35). Numerous weapons and ornaments had been deposited there as grave goods. The grave was dated to the 7<sup>th</sup> and 8<sup>th</sup> centuries (Lõugas 1973). In 1971, Lõugas directed excavations at Kuninguste grave in Saaremaa, where burials from the 5<sup>th</sup> and 6<sup>th</sup> centuries, dug into the ground, were found (Lõugas 1974). In Läänemaa, the stone grave-field of Lihula was totally excavated in 1974. According to Mati Mandel, the leader of the excavations, the rich find material can be dated to between the 5<sup>th</sup> and 7<sup>th</sup> centuries (2003a, 27 ff). Toomas Tamla directed excavations at Paju grave on Saaremaa in 1975 and 1976. In terms of construction, the quadrangular stone heap with a southeast–northwest direction and the limestone pavement beneath it resembled *tarand*-graves. A burnt layer containing charred log remains and burnt granite stones was found in the sand beneath the grave construction.



Fig. 35. Stone grave III from Lehmja-Loo (after Lõugas 1973).

Tamla pointed to the Scandinavian chamber graves from the Migration Period as a possible parallel. On the basis of the finds, the grave was dated to the 5<sup>th</sup> century or the first half of the 6<sup>th</sup> century (Tamla & Jaanits 1977). The group of graves at Proosa near Tallinn turned out to be the most important of the graves discovered during the 1970s. This group was totally excavated between 1970 and 1984 under the direction of Kaupo Deemant. Next to an earlier stone-cist grave and a *tarand*-grave, a stone grave-field was constructed, and this turned out to be the richest Estonian grave from the period between 450 and 600 AD excavated to date. About 1600 find numbers and c. 2300 potsherds originate from that

period (Lang 1996, 1996). It should be mentioned that the greatest amount of 5<sup>th</sup>- to 6<sup>th</sup>-century items imported from Scandinavia discovered in Estonia was found in Proosa (Selirand & Deemant 1985), in addition to imports from the areas of Latvia and Lithuania and the eastern part of the forest zone of eastern Europe.

A new general treatment of Estonian prehistory (Jaanits *et al.* 1982) provided the most comprehensive and exhaustive treatment of the Middle Iron Age published until that time. The authors have avoided phraseology typical to Soviet historiography. Nevertheless, the conclusions drawn in this book on the basis of archaeological finds clearly follow the tradition and periodization established by H. Moora. The authors are the first to draw attention to the imperfections of Moora's treatment, mentioning that the beginning of the Middle Iron Age is indicated by changes in grave construction and burial customs, but the end of the period 'remains somewhat conventional' (Jaanits *et al.* 1982, 255).

According to this treatment, the broadening of settled areas continued during the Middle Iron Age (Jaanits *et al.* 1982, 299 ff). No decisive changes took place in the development of the economy of central, eastern and southern Estonia. Slash-and-burn cultivation continued to hold an important place in the economic life of these regions. The most important changes in the development of the settlement were thought to have taken place in north-western and western Estonia, which should have been the result of a considerable development of the agricultural system. The new system was considered to be tightly connected with stock breeding, and the fact that most of the Estonian sickle and scythe finds of the Middle Iron Age originated from northern and western Estonia was seen as evidence supporting this opinion. The treatment in question offered a relatively traditional view of the development of social relations during the Middle Iron Age. During that period, 'the old community-based order' was thought to have 'remained generally intact', which is proved by settlement sites known from that period

with houses built closely together. As in previous treatments, the beginning of the formation of prehistoric parishes and counties was dated to the Middle Iron Age. The construction of hillforts was thought to have been accompanied by a somewhat increased influence of nobles in society. Thus, during the Middle Iron Age, a 'transition to territorial community-based social relations' had taken place, yet the position of nobles was 'generally determined by old habits and traditions dating back to the period of clan-based social relations'.

The excavation of graves from the Middle Iron Age continued during the 1980s. The grave-field of Maidla in western Estonia was totally excavated in 1983–1985 and 1987–1990 under the direction of M. Mandel. There was a large stone grave from the Viking Age and the Latest Iron Age, next to which a stone grave from the 5<sup>th</sup> and 6<sup>th</sup> centuries was situated. At the same place, but somewhat deeper, in a hollow dug into the virgin soil, the remains of an inhumation were found, and on the basis of the grave goods, Mandel also dated this to the 5<sup>th</sup> or 6<sup>th</sup> centuries (Mandel 2003a, 40 f). Mandel also led excavations at Ehmja grave near Martna in Läänemaa in 1982–1991, where burials had taken place during the 5<sup>th</sup>–7<sup>th</sup> and the 11<sup>th</sup>–13<sup>th</sup> centuries (*op. cit.*, 30 ff).

In north-western Estonia, T. Tamla directed excavations at a Viking Age settlement site in Pada in 1980–1982. The oldest finds from there date back to the end of the Middle Iron Age, namely the 8<sup>th</sup> century. In 1984, Valter Lang directed rescue excavations at the settlement site of Saha near Tallinn, where the area excavated lay next to the central area of the settlement. It was the first, and until the present time the only investigated settlement site (rather, a part of the site) where the cultural layer had only been deposited during the 7<sup>th</sup> and 8<sup>th</sup> centuries. The remains of four primitive *keris* stoves and a household pit were found; potsherds made up the majority of the finds (Lang 1996, 235 ff).

At the end of the 1980s, Estonian archaeology began to free itself from the constraints of Soviet

ideology. In an overview of the Estonian Iron Age by Jüri Selirand, published in Finland in 1989, clear differences can be seen in comparison with previous treatments. The author divided the Middle Iron Age into two parts: the 5<sup>th</sup>–6<sup>th</sup> centuries, and the 7<sup>th</sup>–8<sup>th</sup> centuries. The main development of the period, however, was still worded as 'the dissolution of clan societies and the appearance of individual families' (Selirand 1989, 11). At the end of the 1980s, however, the demographic calculations made by V. Lang on the basis of ancient graves showed that both the stone-cist graves and *tarand*-graves of the Early Iron Age should be regarded as the burial places of small communities, i.e. farms, and not kinship groups (Lang 1987a).

New investigations at Valgjärv directed by J. Selirand took place in 1984, 1988 and 1989. In 1988 Swedish underwater archaeologists took part in the expedition. At the bottom of the lake, new areas with piles were found, and wood samples were taken. The new radiocarbon dates appeared to be somewhat younger than those collected in 1958. Thus the dating of the pile-dwelling of Valgjärv is still rather vague – the 6<sup>th</sup>–9<sup>th</sup> centuries (Rönnby & Kenas 1988; Roio 2003 and this volume).

The only study dedicated exclusively to the Middle Iron Age, more precisely to the sites of south-eastern Estonia that date from the second half of the 1<sup>st</sup> millennium AD, was written by Mare Aun (1992). It presents the antiquities of the region systematically, analyses the find material and on that basis specifies the chronology of the said period in south-eastern Estonia. The author divides the Middle Iron Age of south-eastern Estonia into two stages: the 5<sup>th</sup>–7<sup>th</sup> centuries and the 8<sup>th</sup>–10<sup>th</sup> centuries (Aun 1992, 163). According to Aun, in the development of the culture of the region in question, an important role was played by foreign influences, namely those of the kindred Finnic tribes living in the east and the Baltic peoples in the south. In the second half of the 1<sup>st</sup> millennium, south-eastern Estonia was divided into two distinctly different regions, on the basis of material culture. In its western part, hillforts with

settlement sites next to them (the fort-and-settlement system) can be found, and pottery of the Rõuge style was in use. In the eastern part of the region, bordering on present-day Russia, no hillforts have been found, and the dead are cremated and then buried in sand barrows. Such barrows belong to the so-called Culture of Long Barrows known from large areas east of Estonia. The main emphasis of the study by Aun lay on the antiquities of the latter culture. The study of barrows is more extensively discussed in the special chapter of this article.

### **Fresh winds in Estonian archaeology (from the middle of the 1990s)**

In the 1990s, investigations started on a new type of antiquities, namely fossil fields, which had previously only been investigated as an exception. The latter have been investigated by V. Lang, who has summarized the results (Lang 1995b; 1996). On the basis of the results of the investigation of various fossil fields, Lang assumed that a new field system, namely strip fields, began to spread in Estonia during the Middle Iron Age. The earliest traces of their formation in Estonia have to date been found on the hillock of Tandemägi in Võhma, northern Estonia. In 1994 and 1995, a clearance cairn and a baulk were excavated there. Both the location of the baulks and the situation of the clearance cairns, which were often arranged in rows, indicate the existence of a strip field system, which corresponds to the division of a common field into strips, as depicted on a 19<sup>th</sup>-century map. The calibrated values of the radiocarbon dates from both features point to the 7<sup>th</sup>–8<sup>th</sup> centuries. The existence of strip fields and the appearance of settlement sites with a thicker cultural layer indicate, according to Lang, the formation of villages in the place of the previously existing single farms. One of the characteris-

tics of a village community is common land usage, and as strip fields indicate that the arable land of one settlement unit was divided between farms, it is possible to speak of the existence of village communities and villages. In addition to strip fields, Lang directed investigations on a field of clearance cairns in Ilmandu near Tallinn in 1994–1995 and 2002–2003. On the basis of the radiocarbon dates, some of the cairns are from the Middle Iron Age (Lang *et al.* 2004). As a result of this work, knowledge about ancient agriculture, land ownership and the organization of society has changed, broadened and developed considerably.

The existing understanding of Estonian prehistory was challenged by Priit Ligi, whose main article in this field was published in 1995. According to his point of view, a logical explanation of the scarcity of graves from the Middle Iron Age would be that we have not recognized all of the grave types from that period, as burial customs changed. The latter should mean such a type of burials at the first location, where there are no monumental signs above ground and which are thus difficult to find. The absence of grave signs is the result of a social strategy and a connected ideology, which did not necessitate new visible and enduring supplements to the existing ritual landscape (Ligi 1995a, 227). The graves of western and northern Estonia, which can be dated to the 5<sup>th</sup> and 6<sup>th</sup> centuries, are few in number, but they are rich in grave goods (including imports), and have shown an outstanding manner of burial. Ligi explained these as belonging to persons at the top of the social hierarchy (or nobles opposed to the former), for whom the legitimation of power was important and who probably wanted to concentrate more power in their hands. No rich burials have been found in southern Estonia, and the few existing stone graves from the 5<sup>th</sup> and 6<sup>th</sup> centuries have yielded only very limited finds. Ligi interpreted the situation in these regions such that the institution of the leader had firmly developed and been reinforced, and thus did not require additional legitimation (Ligi 1995a, 229).

In the middle of the 1<sup>st</sup> millennium AD, hillforts and compact settlement sites with an intensive cultural layer appear once again in Estonia. Ligi assumed that the formation of compact settlement sites was the result of an agricultural reform that took place during the Roman Iron Age, and which brought about at least a partial redistribution of land (Ligi 1995a, 231). According to Ligi, hillforts were symbols of power and residences of the social elite. He emphasized that the national-romanticist point of view, according to which the hillforts were constructed as defences against a foreign enemy, has no justification. Clashes between early state-like formations in Estonia were at least as likely. In Ligi's opinion, this led to the attempt by some regions to dominate others, and a struggle for resources, which was reinforced by information about the habits and power of the elite of more wealthy countries. For social relations in Estonia, the military conflicts meant that the status of a warrior needed more outstanding manifestation through ritual communication. Ligi considered this to be the most likely way to interpret the remarkably numerous weapons found in burials from 5<sup>th</sup>–7<sup>th</sup> (8<sup>th</sup>?) centuries. The Estonian rulers of that time probably already possessed a certain armed retinue, which was a means of implementing political power. Even hoards consisting of weapons, e.g. the hoard find from Rikassaare, could be interpreted as indicators of a conflict between two societies, as Ligi pointed out. The find from Rikassaare may have symbolized a military victory by one of the parties over its neighbour (Ligi 1995a, 233). Ligi did not deny the existence of ancient parishes as small state-like formations during the Middle Iron Age, as they had existed earlier, but he considered the existence of stable unions of parishes to be unlikely. Rather, a continuous struggle for power, and a decentralization of power took place among the elite during the 7<sup>th</sup> and 8<sup>th</sup> centuries. By the 8<sup>th</sup> century, the local elite had satisfied its thirst for power, which was also embodied in ideology. This is proved for example by the fact that northern

and western Estonia is relatively empty of weapon finds during the 8<sup>th</sup> century.

In his doctoral dissertation, published in 1996, V. Lang specified the chronology of the northern Estonian Metal Period (in addition to other topics) on the basis of antiquities found in the vicinity of Tallinn. Lang divided the Middle Iron Age into two stages: the Migration Period 450–700 AD and 700–850 AD, which he termed the Pre-Viking Age (Lang 1996, 331). The latest correction to the chronology of Estonian prehistory was made in 2001, when the Middle Iron Age was divided into two stages, as was also common previously: the Migration Period 400–600 AD and the Pre-Viking Age 600–800 AD. The transition from the Pre-Viking to the Viking Age is derived from the chronology of the neighbouring countries. In the territory of present-day Estonia, there are only limited indications of change in approximately the year 800 (Lang & Kriiska 2001). This periodization is used in a popular scientific overview of Estonian prehistory compiled by Aivar Kriiska and Andres Tvauri (Kriiska & Tvauri 2002).

After Estonia regained its independence, a few graves from the Middle Iron Age were investigated. In Koela, western Estonia, the remains of a grave from the 5<sup>th</sup> and 6<sup>th</sup> centuries were investigated using a metal detector and small-size excavations in 2000–2001 (Mandel 2003a, 97 f). An extremely interesting and important site, a grave called Katkuauk ('Pestilence Hole'), was investigated in Lepna in Saaremaa (2001–2003 Mägi). A hollow in the shape of a regular quadrangle (7.8 × 4.3 m) surrounded by a low stone wall was found, which was interpreted as the remains of a house for the dead. Most of the extremely rich complex of finds and the bones was collected from inside the hollow. The finds of the grave described can be dated to the 5<sup>th</sup> and 6<sup>th</sup>, and probably partially also to the 7<sup>th</sup> century (Mägi & Mägi 2002; Mägi 2004b). The first iron-smelting site from the Middle Iron Age, in Saunakünka (north-eastern Estonia), was investigated in 1996. On the

basis of the radiocarbon analysis, it dated from the 7<sup>th</sup>–9<sup>th</sup> centuries (Peets 1997, 56 f).

## The investigation of long barrows in Estonia

During the period from the 5<sup>th</sup>–6<sup>th</sup> to the 10<sup>th</sup> century, the people of south-eastern Estonia, i.e. the later historical counties of Võrumaa and Setumaa, and partially also eastern Tartumaa, buried their dead in sand barrows, which were mostly erected in groups on the banks of river valleys, usually in sandy areas with sparse tree cover. Both round and long barrows were erected (Fig. 36). The latter usually arose when two or more round barrows were connected into a new one.<sup>1</sup> During the Middle Iron Age, similar barrows have been erected over a wide region from south-eastern Estonia to the upper reaches of the Volga River, and from the surroundings of Lake Ilmen in the north to the surroundings of Polotsk and Smolensk in the south. The Estonian barrows belong to the Pskov group of the so-called Culture of Long Barrows<sup>2</sup>, which contains the southern and eastern part of the drainage area of lakes Peipsi and Pihkva/Pskov. Thus, the investigation of these antiquities in Estonia is closely connected with the investigation of analogous antiquities in Russia, and should thus be treated separately

<sup>1</sup> The length of the barrows is usually in the dozens of metres, and in exceptional cases even a hundred metres; their height is most often between 0.5–1 m. In such cemeteries, the cremation remains of the dead were buried either in a pit dug in the ground beneath the later barrow, on ground below the barrow, or in the already existing sand barrow. In less common cases, the cremated remains were buried in a clay vessel. There are numerous burials in one barrow – these are collective burial places, like *tarand*-graves.

<sup>2</sup> A widely used term among the culture-historical school of thought, although the concept of ‘culture’ is by no means thoroughly illuminated in this approach.

from the investigation history of other antiquities of the Middle Iron Age in Estonia.

The earliest written mention of long barrows dates from 1799, when treasure-hunters destroyed barrows in Arniko forest in Tartu County. In one of the barrows they found a clay vessel filled with cremated bones, ashes and charcoal (Schmiedehelm 1965, 17 and sources cited therein). In the 1830s, Friedrich Kruse, Professor of History at the University of Tartu, visited the barrows at Arniko (Kruse 1846, 79). In the 1840s, Alexander Friedrich von Hueck and Johann Samuel Boubrig, who are known as the founders of the Learned Estonian Society, described and excavated the barrows (Hueck 1846; Boubrig 1844). Even Friedrich Reinhold Kreutzwald, doctor and compiler of the Estonian national epic *Kalevipoeg*, is said to have excavated ‘about fifty’ barrows. Kreutzwald considered the barrows to be burial places of the local population (Kreutzwald 1851, 99).

In one of the biggest barrow cemeteries in Estonia, situated at Loosi near Vastseliina, six long and six round barrows were excavated in 1888 under the direction of Georg Loeschcke. In one of the long barrows, a striking-stone was found in a mass of cremated human and animal bones. In another mass of cremated bones, the fragments of a clay vessel were gathered; the vessel had probably been situated over the bones in an upright position. Loeschcke also excavated other barrows near Vastseliina. On the basis of what he saw and found, he concluded that the barrows belonged to Estonian tribes. Loeschcke assumed that the men who occupied outstanding positions in the society were buried in sand barrows, while men of lower rank and women and children were buried in stone graves (Loeschcke 1889, 210 ff).

In the areas of north-western Russia, the excavation of long barrows also began during the 1840s, because of scientific interest. At that time, the long barrows were dated to the 9<sup>th</sup>–10<sup>th</sup> centuries and connected with the Slavs, more precisely with the Kriviches mentioned in the chronicles of Old



Fig. 36. Long barrow from Rõsna-Saare (photo: AI).

Rus (see Sedov 1974, 5 ff for investigation history). Russian amateur archaeologist V. Krejton excavated six round and one long barrow during a single day in Obinitisa village, Setumaa, in 1913 (Krejton 1914, 10 ff). Of these excavations, the method deserves most attention. At earlier excavations, a hole was dug at the top of the barrow, just as treasure-hunters did. At Obinitisa, however, the barrows were totally excavated, following arbitrary levels. As a result, it was discovered that the burnt bones were situated in a charred wooden construction, and in one case the corner of a log building built using the corner-jointed technique can be assumed (Aun 2003a, 18 f). Krejton (1914, 11) erroneously dated the barrows to the 8<sup>th</sup>–9<sup>th</sup> centuries. He considered sand barrows with cremations to be Slavic graves. In the case of Obinitisa cemetery, he thought it was likely that the Baltic Finns and Slavs commonly used these burial places (*op. cit.*, 22 ff).

During the 1920s and 1930s, the investigation of barrows in Estonia was not very common. H. Moora carried out investigations by the watermill of Arniko in 1925. In that area there are 28 barrows in three groups; 13 of them are long, and the rest are round barrows. Moora excavated six long and five round

barrows; in the case of two extraordinarily long barrows, only one end could be excavated. Many cremation burials were distinguished and finds collected, the most remarkable of which is a complex of grave goods collected from among a mass of cremated bones. It contained five bell-shaped pendants, three glass beads, the iron head of a rivet, a clay crucible and two stone moulds for casting ornaments, as well as other smaller fragments of moulds.

During the 1920s, the long barrows could not yet be distinguished from those with inhumations that were erected during the Late Iron Age. All of the barrows were considered to be from the Late Iron Age (see Moora 1926b, 105 f; 1928, 109). Moora still assumed that long rampart-like barrows generally dated from the first half of the Late Iron Age (i.e. before the year 1000), and that in the case of the barrows, cremation was an older burial custom than inhumation (Moora 1926a-b). In Moora's estimation, barrows in Estonia represent a foreign cultural influence that originates from the Slavs. On the basis of the finds, Moora nevertheless attributed the barrows to Estonians, and assumed that only the type of grave construction was adopted from the Slavs (Moora 1932, 76). Namely, neither in the



written sources nor in the oral tradition did there exist any reminiscences that any other peoples than the Estonians had once lived in that part of Estonia (Moora 1956, 108 f).

The distinguishing of long barrows from later barrows with inhumations began in both Estonia and Russia during the 1930s. The long barrows were dated to a period between the 6<sup>th</sup> and 9<sup>th</sup> centuries, and their appearance in south-eastern Estonia was connected with the oldest Slavic influences on Estonian ethnic groups. The oldest linguistic loans from the Slavs were also dated to the same period (EA I, 1935, 129). A few barrows were excavated during the 1930s, but the investigations remained sporadic. In Savastvere near Lake Peipsi, A. Vassar thoroughly excavated one destroyed barrow in 1935–1936; O. Saadre excavated the barrows of Verepkova (south-east of Izborsk) in 1937.

After World War II, the investigation of barrows became a more important issue. The reason for such a change was the demand of the authorities to investigate the relations between Estonian and eastern Slavic tribes during the prehistoric period. In a presentation given in Leningrad in 1949, Moora already stressed the need to investigate the relations between Estonian and eastern Slavic ethnic groups for the researching of the Middle Iron Age (Moora 1949, 36). In connection with that need, in 1951 Moora excavated three long barrows in Lindora near Vastseliina in south-eastern Estonia (Moora 1952b, 123 f). The long barrows excavated then, just as those that had earlier been investigated in Estonia, were acknowledged to be ‘total counterparts of Slavic barrows [...] in all their details’ (Moora 1952b, 123). In the same publication, Moora introduced into Estonian archaeological writing the official standpoint of Soviet Russian archaeologist Susanna Tarakanova about the origin of the long barrows of Estonia. This was formed at the beginning of the 1950s and remained an unquestioned postulate for the following decades: ‘Considering the truly Slavic character of these barrows, Tarakanova has raised a justified question, whether it should be inferred

from their existence that in the areas of south-eastern Estonia there lived at the time of the construction of the barrows together with the Estonians, also Slavic, more precisely Krivich inhabitants, who had friendly relations with the Estonians, and were later assimilated by the latter’ (Moora 1952b, 124). Even in 1949, Vassar, in his presentation entitled ‘Slavic–Estonian relations from the 6<sup>th</sup> to the 12<sup>th</sup> century’ in Leningrad, had viewed the Estonian barrows of the Middle Iron Age as an example of a Slavic influence on the burial practices of the southern Estonians (Jaanits, L. 1991, 29).

The official ideology of that period permitted only one description of the relations between the forefathers of the Estonians and the Russians. Relations with the Slavic neighbours caused a ‘multifaceted fertile influence’ on the prehistoric Estonian tribes, and these relations ‘accelerated economic growth, the development of social relations and culture’ (Moora 1952a, 17). In the first volume of the new general examination of Estonian history, it was stated that the Slavic population already reached the southern Estonian areas in the middle of the 1<sup>st</sup> millennium. In the areas where there exist both stone graves and barrows, it was stated that ‘Slavic and Estonian inhabitants lived amicably side by side’. The Slavs were thought to have been assimilated by the Estonians by the 11<sup>th</sup> century (EA I, 1955, 65 f).

In an article published in 1956, Moora describes the dispersion of the Slavs to the forest zone of the eastern Baltic, its reasons and the process itself in greater detail. ‘Improved ways and tools of grain cultivation and the higher level of development of the productive forces in general granted the Slavs certain superiority over the locals in terms of economy, and were, together with the more developed organization of the society, the reasons why they also gained superiority ethnically,’ he wrote (Moora 1956, 106). Arguments that would support the hypotheses that contacts with the eastern Slavs began as early as the Middle Iron Age were sought from the field of linguistics. In that sense, Moora relied on the work of linguist Mari Must (1954),

which had concluded that in the easternmost Estonian dialect, the Võru dialect, there exist a lot of traces that are similar to the Russian language. Such similarities, Must argued, could only be explained by the fact that in that area, dialects of Slavic and Estonian languages were once spoken side by side. In the whole phonetic composition of the Võru dialect, there exist many Russian-style traces that 'have their roots deep in the composition of the dialect and should thus be quite old' (Moora 1956, 109). The same conclusions exist in the works of Vilma Trummal in the 1950s and 1960s; she then studied the history of the relations between Slavs and Baltic Finns (e.g. Trummal 1955; 1960). A popular treatment of Estonian prehistory by Jüri Selirand and Evald Tõnisson also reached the same conclusions (Selirand & Tõnisson 1963, 148). The basis for such assessments was significantly influenced by the works of Piotr Tret'yakov (1953), S. Tarakanova (1954) and Valentin Sedov (1954).

In commenting on the scientific literature about long barrows published in the 1960s, special reference should be made to an article by M. Schmiedehelm (1965). In the article, she analysed the results of excavations at Lindora in Võrumaa, where two long and three round barrows were excavated between 1959 and 1961. At the same time, she summarized the results of the investigations of long barrows in Estonia as of that time, and thoroughly observed the material published about the barrows of the Pskovian and Smolensian territories. Although Schmiedehelm acquiesced with earlier statements that the appearance of long barrows in Estonia should be connected to the northward migration of the Kriviches (Schmiedehelm 1965, 46), she was the first Estonian researcher to draw attention to the fact, traceable from the works of V. Sedov, that the barrows of the Pskov group are older than those of the Polotsk and especially those of the Smolensk group. This circumstance makes the thesis that the long barrows are connected with Slavic immigrants unlikely. Also in 1965, J. Selirand published the results of his investigation at six barrows

in Kose forest on the western bank of Lake Peipsi (excavated in 1959, 1961 and 1963). Many cremation burials in clay vessels were found, but no item finds could be collected. Selirand dated the barrows to the period from the 6<sup>th</sup> to the 9<sup>th</sup> centuries and attributed them to the immigrant Kriviches, in accordance with the standpoint that was then prevalent (Selirand 1965, 481).

The article by M. Schmiedehelm and S. Laul (Schmiedehelm & Laul 1970) was mostly based on excavation results from the cemeteries of Loosi and Kõnnu, which form an interesting complex of both long barrows and *tarand*-graves. For the first time in Estonia, the authors mentioned that these antiquities were earlier considered to be the burial places of the Kriviches, but the latest investigations, especially at the Polotsk and Smolensk groups of the long barrows, have revealed so many Baltic traces that many investigators have considered these sites to be a grave type of the Balts, or of the Slavicized Balts. The authors refer to the works of Evgenij Shmidt and Ivan Lyapushkin (Schmiedehelm & Laul 1970, 163 and publications cited therein). Schmiedehelm and Laul also saw the influence of stone graves on the long barrows: in addition to the use of stones in barrow construction, the barrows are constructed stage by stage, just as *tarand*-graves. For the first time during the Soviet period, the authors left the ethnic origin of the barrows undecided; they emphasized that in order to solve this problem, thorough archaeological excavations and the full excavation of some groups of barrows would be required. At the beginning of the 1970s, Laul studied the south-eastern Estonian areas in the first half of the 1<sup>st</sup> millennium AD. In the question of the ethnic affiliation of the barrows, she went still further, and attributed the barrows of south-eastern Estonia and the Pskovian lands to the tribes of the eastern group of the Baltic Finns, namely the Chuds (Laul 1971; 1973, 101). These articles earned objections from V. Sedov (1974, 40), who actually based his counter-arguments on the same old data Laul had already refuted in her article.



**Fig. 37.** Mare Aun (left) excavating a barrow in Lemmaku (photo: V. Lang).

Russian archaeologist Aleksander Spitsyn was the first to present, in as early as 1914, the standpoint that the long barrows of the Pskovian group may belong to the Baltic Finns. He had, however, changed his earlier opinion that these antiquities were created by the Kriviches (see Sedov 1974, 7). Subsequently, numerous well-known Russian archaeologists have reached the same conclusion, e.g. Mikhail Artamonov (1967), Ivan Lyapushkin (1966) and Gleb Lebedev (1982; Bulkin *et al.* 1978). What is more, the barrows of the Smolensk and Polotsk group have later been considered to be the burial places of the Baltic tribes, and not the Slavs (Shmidt 1969). In the 1960s and 1970s, researchers' interest in native populations increased in the Soviet Union, as in the rest of the world. At the same time, it should be admitted that the archaeologists who supported the theory of the early arrival of the Slavs in north-western Russia, and the idea that the long barrows of the Pskov group were constructed by Kriviches, were then and even later more prominent, and they supported their ideas vigorously. The most productive of these archaeologists was V. Sedov.

During the period from 1973 to 1985, Mare Aun (Fig. 37) studied the antiquities of south-eastern Estonia from the second half of the 1<sup>st</sup> millennium

AD, in order to submit a candidate of sciences thesis. In 1980, an intermediary summary of that work was published (Aun 1980). By 1985, Aun had completely excavated 36 barrows from the barrow cemeteries of Arniko III, Piusa II, Laossina, Velna, and others (Fig. 38); of the barrows investigated, 24 were long and 12 round. The cemeteries of Rõsna-Saare I and II were excavated completely. The extensive material collected allowed the investigator to reach some conclusions concerning the tradition of the long barrows. In particular, the results from the investigations at Rõsna-Saare enabled her to state more assuredly than before that time, the people who buried their dead in barrows in Estonia and Setumaa did not arrive from any other territory. The local population, who earlier buried their cremated dead in graves dug into the ground, began to construct barrows in approximately the 6<sup>th</sup> or 7<sup>th</sup> centuries. That meant that cremated bones placed in hollows dug into the ground, or positioned on the ground in formations, were covered with an agglomeration of sand, and later burials were placed in already existing agglomerations (Aun 1992, 134 ff). Aun sees a difference in the social status of the people buried in the barrows. Among other reasons, she sees the difference in the fact that some of the burials do have grave goods, while others have not, and only some of the burials have been positioned in special burial areas, or in the agglomerations (Aun 1992, 151).

In the general treatment *Eesti esiajalugu*, the authors stressed that the northern groupings of the eastern Slavs, i.e. the Kriviches, the Slovens and the Vyatches, were largely formed on a non-Slavic, mostly Baltic and Finnic basis (Jaanits *et al.* 1982, 251). The similarities in the construction of, and the burial customs in, the barrows and the stone graves in the rest of Estonia were emphasized. The book outspokenly supported the idea that the barrows in Estonia belong to the Finnic tribes, namely to one of the easternmost groups of them, which mostly lived in the vicinity of Pskov and to the east and south thereof (Jaanits *et al.* 1982, 303). Somewhat later, J. Selirand also supported the same standpoint, thus



**Fig. 38.** Excavations of a long barrow at Suure-Rõsna (photo: V. Lang).

opposing the ideas of V. Sedov even more acutely (Selirand 1983b; 1992; 1996).

Priit Ligi left a strong imprint on the history of the investigation of Estonian barrows. At first, he showed, with the help of demographic calculations, that judging from the number of persons buried in the barrows, barrow cemeteries should be considered to be the burial places of a single family, or at least a small group of people (Lang & Ligi 1991, 226 ff; Ligi 1989b; 1993b), and they were not cemeteries of a kinship group, as had been thought earlier. Furthermore, in the 1990s he presented and gave arguments for a thesis that there exist no reasons to speak of a massive Slavic immigration to areas next to Estonia, either during the Middle Iron Age or the Late Iron Age (9<sup>th</sup>–13<sup>th</sup> centuries) (Ligi 1993b; 1994a; 1995a). Ligi firstly connected the construction of barrows with changes in the society, i.e. a transition from slash-and-burn cultivation to per-

manent fields. According to Ligi, the barrows can be interpreted as symbolic markers of land ownership. What is more, the long barrows as a monumental grave construction might have had an ideological reason: these might legitimate the growth of the power and land possession of some families (Ligi 1995a, 230). Ligi also paid attention to the situation that at least some of the long barrows were heaped upon more than one burial area or smaller round barrow. This again raises the question of the duration of the period of time from the first burials to the accomplishing of the long barrow in its final design. Could it be that the leading families began to construct long barrows some time (e.g. a century or two) later, thus covering the earlier burials, in order to legitimate their social position? According to the interpretation given, it should be assumed that the bigger the barrows, and the more of them stand in one cemetery, the more outstanding was the family

that created them (Ligi 1995a, 230 f). On the basis of calculations based on the human remains found in the barrows, Ligi had earlier supposed that settlement in the areas of the Pskov and Novgorod groups of the long barrows was extremely sparse (Lang & Ligi 1991; Ligi 1989b). Now he presented a new interpretation, according to which only some of the members of the society were buried in the barrows, while the others were still buried in pits without visible and enduring signs above ground, or in some other way out of reach of archaeology. This leads to the conclusion that the 'barrow people' were considerably socially stratified (Ligi 1995a, 230).

From the end of the 1990s, the investigation of long barrows in Estonia began anew after a hiatus of 15 years. M. Aun has excavated many antiquities of the Culture of the Long Barrows, and has published articles concerning different phenomena of that culture, mostly concentrating on the antiquities of Setumaa. In 1999, small-size excavations took place at the barrow cemetery of Obinitisa, where investigations were restricted to one destroyed and another threatened round barrow. In 2002, her article on the use of ceramics in the burial customs of the inhabitants of the western periphery of the Culture of Long Barrows in the second half of the 1<sup>st</sup> millennium AD appeared (Aun 2002). In 2003, she published an article about the sites of the second half of the 1<sup>st</sup> millennium AD in Setumaa (Aun 2003b), while in 2004, her article on ornaments in the long barrows in Setumaa appeared (Aun 2004). Her latest paper (Aun 2005) is dedicated to the construction of long barrows; she stresses that these long mounds of sand were erected simultaneously rather than gradually and it was done in connection with the burial of a socially remarkable person either in the middle or in one end of the barrow.

In summarizing the research into sand barrows, one should emphasize that in the circumstances of the Soviet occupation, changes in the opinions concerning the ethnic affiliation of the users of long barrows took place on the basis of the works of Russian investigators. In the 1950s, the idea that

these antiquities were constructed by Kriviches was adopted from Russian investigators. When, in the 1960s, the barrows of Smolenskian and Polotskian territories began to be affiliated with the Balts, and the barrows at the upper reaches of the Volga with the Finno-Ugrians, the first cautious hesitations about the existing dogma were also expressed in Estonia. During the 1960s and 1970s, when many Russian archaeologists had reached the assumption that the long barrows of the Pskovian and Novgorodian groups were also the burial places of Finnic peoples, this idea was quickly admitted in Estonia. P. Ligi has clearly expressed the reasons why Estonian archaeologists of that period had to reiterate the standpoints of their Russian colleagues: if it was G. Lebedev who argued that the long barrows are non-Slavic antiquities, it was accepted; if it was an Estonian archaeologist who expressed the same opinion, he was accused of nationalism (Ligi 1994a, 106). The same continued even after Estonia had regained its independence, as Russian archaeologists supporting the theory of the early northward migration of the Slavs accused Ligi of national extremism and anti-Communism (Panchenko *et al.* 1994, 96).

## Summary

In conclusion, it should regrettably be stated that the Middle Iron Age in Estonia has never been expressly investigated, and is thus the least investigated period of the Estonian Iron Age. A special study has been written only concerning the Middle Iron Age in south-eastern Estonia (Aun 1992). Knowledge of this period has improved primarily because of the eventual discoveries of antiquities from that period. The overall treatment of the period has been shaped in connection with the composition of broader overviews or studies of the whole prehistory of Estonia. The understanding of the processes that took place in Estonia during the period from 450 to 800 AD

has changed many times and completely since the middle of the 19<sup>th</sup> century.

The period under consideration has always been enigmatic, the main reason being the limited finds from the period. Investigators of Baltic German background explained it by the disruption of settlement. As antiquities that could be dated to the Middle Iron Age were found during the 1920s, the thesis of the disruption of settlement was rejected, but the Middle Iron Age was seen as a period of economic and cultural regression. As the first half of the period coincides with the Migration Period in Europe, the developments of that period in Estonia have mostly been explained by external influences, e.g. the deterioration of conditions for trade, the northward expansion of the Balts and the Slavs to areas earlier inhabited by the Baltic Finns, as well as emigration from Estonia to Finland. This understanding of the Middle Iron Age, formulated already by Tallgren, remained current until the second half of the 1930s, when the large-scale excavation of Estonian hillforts and the settlement sites at their feet were started. At some of these, e.g. Iru near Tallinn, or Peedu in south-eastern Estonia, it was possible to distinguish habitation strata that partially belong, or were thought to belong, to the Middle Iron Age. After World War II, other similar places were excavated, e.g. Rõuge, Alt-Laari, Unipiha, Otepää, Kivivare, etc. Finds from hillforts and settlements helped to fill the gaps in knowledge about the Middle Iron Age, which was mostly formed on the basis of graves and hoards. Later new graves were found, and their chronology was established. The idea that the Middle Iron Age was a period of economic and cultural regression has been dismissed. The emigration of the Finns to Finland via Estonia, and the negative influences of the emigrating population have not been mentioned either in Estonia after World War II. This is connected with the general dismissal of migrationism as a means for interpreting archaeological material.

Since the middle of the 1990s, investigators have begun to stress the socio-political factors within

Estonia in interpreting archaeological material (e.g. Ligi 1995a; Lang 1996). According to Ligi, one possible explanation of the scarcity of finds from the Middle Iron Age in Estonia is that we simply do not know the majority of the graves of the period, as burial practices changed and no monumental signs were constructed above ground; thus such graves are hard to find. The absence of such signs is directly caused by social strategies and ideologies connected therewith (Ligi 1995a, 227). During the 1990s, the peculiarity of Estonian development was no longer emphasized, and instead investigators try to fit local developments into the broader northern European context.

There still exist many important gaps in the investigation of the Estonian Middle Iron Age. Too few settlement sites of the period have been found and investigated. Finds from that period have also been studied insufficiently. Only decorative pins (Schmiedehelm 1934b; Ariste 1938; Lang 1996, 187 f; Mägi 1997), battle knives (Mandel 1977), and swords (Mandel 1991) have been addressed in a special article or in a detailed section of other studies. In addition, one article has been dedicated to the pottery of the hillforts and settlement sites of south-eastern Estonia during the second half of the 1<sup>st</sup> millennium AD (Aun 1976), one to the 5<sup>th</sup>–10<sup>th</sup>-century pottery of Iru hillfort (Lang 1985) and one to the pottery found in the long barrows of Estonia (Aun 2002).

The investigation of long barrows has followed an independent historiographic pattern. Most of the discussion has concentrated on the ethnic affiliation of this type of antiquities. Until the beginning of the 1970s, these barrows were mainly considered to be the burial places of the Slavs, according to the assumption that was predominant among Russian archaeologists. Later, Estonian investigators have been unanimous in the question that the Pskovian and Novgorodian groups of the long barrows should be connected with the eastern group of the Baltic Finns (e.g. Laul 1973; 1997; Aun 1980; 1990; 1992, 135;

Selirand 1983a-b; 1989; 1992; 1996; Lang & Ligi 1991; Kriiska & Tvauri 2002, 160).

All of the energy in the discussions about long barrows has been concentrated on ethnic questions. At the same time, the question of the relation between long and round barrows has not yet been answered. Are these grave types contemporary or not? Does the reason for a different grave design lie in the field of social relations? Limited financial possibilities have constrained the radiocarbon dating of the organic matter gathered from the barrows. For that reason, it has usually remained unclear how much earlier the cremation burials were placed in

the ground or onto the ground in comparison with the barrows agglomerated on top of them. In future, not only the barrows, but also the areas in between them and surrounding them should be excavated, in order to find traces of possible burials outside the barrows, and remains of rituals which took place on the graves. In the area of distribution of long barrows, there has been insignificant investigation of hillforts and settlement sites, and a small number of these are actually known. For these reasons, we still know too little about the development of the economy and society of the people of that area during the second half of the 1<sup>st</sup> millennium AD.

# Research into the Late Iron Age

AIN MÄESALU AND HEIKI VALK

## Introduction

In Estonian archaeology the term 'Late Iron Age' designates the period between the Middle Iron Age and the Middle Ages. It starts with the beginning of the Viking Age (c. 800 AD) and lasts until the German-Danish conquest and violent Christianization of Estonia in the first quarter of the 13<sup>th</sup> century – in the course of the crusade wars depicted in the chronicle of Henry of Livonia (HCL). The period is divided into two parts: 1) the Viking Age (800–1050) and 2) the Latest Iron Age (1050–1225).

The term 'Viking Age' was introduced in Estonian archaeology since the 1920s. However, between the two world wars it was regarded as a term for opening the broader context of the epoqe, and not as a special period in Estonian prehistory. In the Soviet period, the use of this nomination was avoided in written texts for ideological reasons (in the context of the Anti-Normanist theory predominant in Russia), and the Late Iron Age was regarded as one period without any inner division. The return of the 'Viking Age' into archaeological terminology has occurred in parallel to the re-gaining of political independence, i.e. since the late 1980s, and since then it has been used to designate a separate sub-period within the Late Iron Age. The changes became 'legitimized' somewhat later in re-written archaeological chronologies (Lang 1996, 332 ff; Lang & Kriiska 2001, 102 f; Kiristaja 2004). The 'Latest Iron Age', as a term, was introduced in English quite recently – to designate the period that followed the

Viking Age and lasted until the end of prehistory. Although at that time adjacent Scandinavia already lived in the Middle Ages, in the eastern Baltic the Iron Age persisted.

All researchers since Constantin Grewingk, who presented the first periodization of the prehistory of the Baltic countries (Grewingk 1871), have seen the Late Iron Age as a separate period in Estonian archaeology, preceding the Middle Ages. In the course of history, its beginning has been dated differently – between the 8<sup>th</sup> and 10<sup>th</sup> centuries. As the 9<sup>th</sup> century is quite poor in finds and it is often difficult to distinguish the finds from that period, in the previous monumental general treatment of Estonian archaeology, the Late Iron Age was estimated to have begun in 900 (Jaaniets *et al.* 1982). However, the accumulation of new material and the need to use a common language with the archaeology of the Nordic countries have caused, since the 1990s, a transition to the year 800 – a stipulated but still generally accepted date.

In former research, the end of the Late Iron Age has been estimated in different ways: as taking place in the year 1200 (EA I, 1935), in the early 13<sup>th</sup> century (Jaaniets *et al.* 1982), in 1250 (Lang 1996, 334), or somewhere between 1200 and 1250 (Lang & Kriiska 2001, 102 f). The date 1225 presented in this volume is also stipulated. As the transition to the new epoqe, i.e. the Middle Ages, caused no rapid and profound changes in the native culture and in the settlement pattern, on the basis of the archaeological material the upper border of the Late Iron Age might also be considered to lie in c.



1250 or even later. The favouring of the date 1225 in this treatment is conditioned by two reasons. First, for the native population the conquest period (1208–1227) still meant the continuation of the Iron Age. Real innovations of a ‘European’ origin initially remained very limited and, considering the uprising of 1222–1224 (HCL, XXVI: 2 ff), also episodic. Second, the genesis of the ‘European’ objects – the first towns, stone castles and churches – as well as the social, economic and political structures of the Middle Ages – belongs mainly to the second quarter of the 13<sup>th</sup> century (see Russow *et al.*, this volume). The favouring of the year 1225 over 1227 – the time of conquest and Christianization of the last Estonian district, Saaremaa – is conditioned by the desire to keep the archaeological chronology in a similar rhythm of 25-years periods.

In contrast to earlier epochs, the Late Iron Age is also represented by occasional data in the Scandinavian sagas and the Russian and German chronicles. A special place among the latter belongs to the chronicle of Henry of Livonia (HCL), the fourth part of which depicts the conquest and Christianization of Estonia. The chronicle provides essential data about the society, territorial division and warfare of Estonia, also offering a foothold to interpretations of the archaeological material. Historical studies have shown the high reliability of this chronicle, and the same can also be said on the basis of a comparison between it and the archaeological record. Here it is especially important to mention several hillforts: excavations at these sites have made it possible to relate the archaeological cultural layer to definite historical events.

Archaeological sites from the Late Iron Age are numerous in Estonia. Among them we can distinguish:

- (1) stone graves:
  - with a compact setting (often formed from earlier *tarand*-graves or cairn graves),
  - with sparsely located stones (covering a large area);
- (2) cemeteries with flat pit-graves:
  - with inhumation burials,
  - with inhumation and cremation burials,
  - with cremation burials;
- (3) sand barrows (in eastern and south-eastern Estonia):
  - with inhumation burials,
  - with cremation burials;
- (4) open settlements;
- (5) hillforts;
- (6) shelters;
- (7) fossil land usage systems;
- (8) iron smelting sites;
- (9) harbour sites;
- (10) offering sites (trees, groves, springs, stones, hills, etc.);
- (11) hoard finds;
- (12) stray finds.

Since the mid-19<sup>th</sup> century the investigation of these sites has continuously provided new data about the final period of the prehistory of Estonia.<sup>1</sup>

### The earliest investigations (from the end of the 18<sup>th</sup> century to 1920)

Already at the end of the 18<sup>th</sup> century, when archaeology was only in its infancy in Estonia, several Late Iron Age hillforts, which were also well known in the oral tradition of the native peasantry, were among the first things to attract the attention of the local Baltic German scholars. Short descriptions of some hillforts were thus presented by pastors August Wilhelm Hupel and Johann Adam Andreae, as well as by Ludwig August Mellin, who was known as a cartographer. The latter also compiled the map of

<sup>1</sup> In the following survey, research up to 1944 is presented by Ain Mäesalu, and from 1944 to 2005 by Heiki Valk.

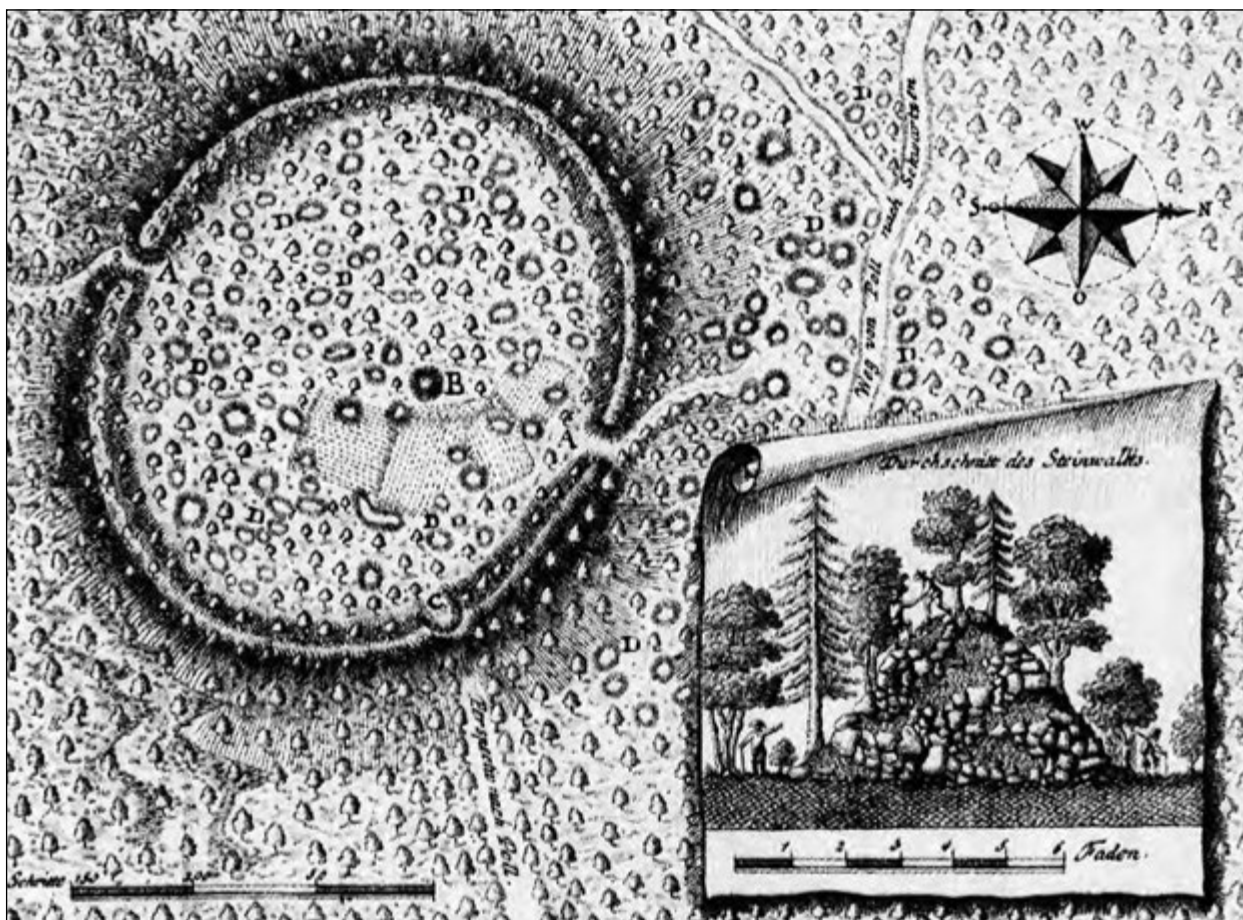


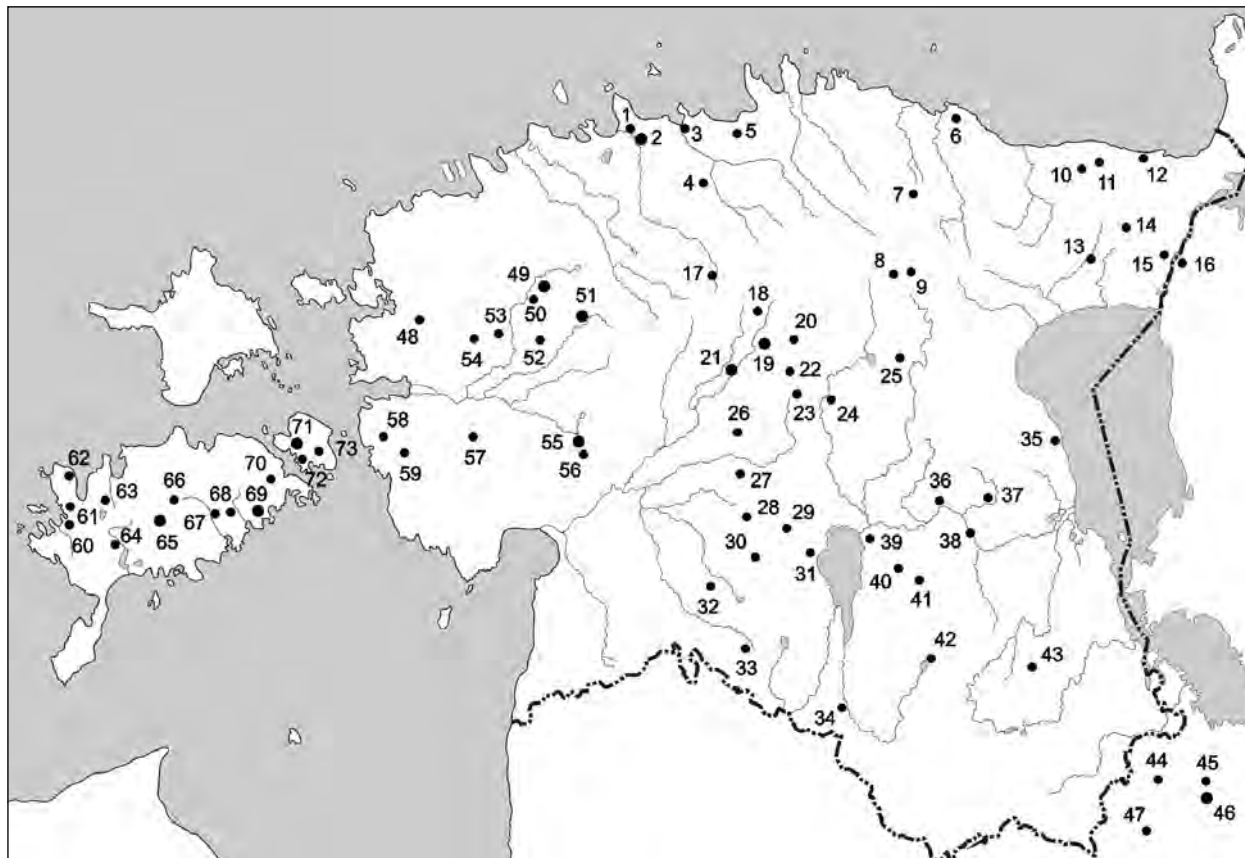
Fig. 39. A view of Varbola hillfort by L. Mellin (1788).

Varbola hillfort (called Jaanilinn) and its surroundings (Mellin 1786; Fig. 39). The collection of archaeological artefacts (see Tvauri, this volume, b) and the drawing of antiquities began at the same time (e.g. Eduard Philipp Körber and Johann Christoph Brotze).

From the late 1830s onwards, archaeological activity intensified, as several local learned societies and accompanying museums were established, the most important among them being the Learned Estonian Society in Tartu and the Estonian Literary Society in Tallinn. The Late Iron Age objects constituted a relatively large proportion of the stray finds and sites collected and excavated by the members of these societies.

The first to be mentioned as an academic researcher of those times dealing with the Late Iron Age is Professor Friedrich Kruse. During his tours of inspection in the areas of present-day Estonia and Latvia in 1838 and 1839, he performed small-scale excavations at several Late Iron Age hillforts and graves. He published the results of these excavations as a separate book (Kruse 1842). In this, the Late Iron Age antiquities were dated to between the 9<sup>th</sup> and 13<sup>th</sup> centuries, and they were related to the Scandinavian-Germanic tribes that in Kruse's view inhabited the above-mentioned areas at that time.

In some of his articles, Professor Constantin Grewingk also discussed Late Iron Age antiquities,



**Fig. 40.** Late Iron Age sites excavated until 1944. 1 Iru, 2 Saha and Lagedi, 3 Jõesuu in Jägala, 4 Kehra, 5 Kuusalu, 6 Iila, 7 Inju, 8 Rohu, 9 Punamägi in Äntu, 10 Kohtla, 11 Kukruse, 12 Türsamäe, 13 Jõuga, 14 Kuremäe (Pühtitsa), 15 Kuningaküla, 16 Olgin Krest, 17 Ardu, 18 Leedu, 19 Miku in Tarbja and Valgma, 20 Kahala, 21 Virika and Väätsa, 22 Huuksi, 23 Eistvere, 24 Pajusi, 25 Kõola, 26 Villevere, 27 Lõhavere, 28 Madi, 29 Kuude, 30 Heimtali, 31 Riuma, 32 Sammaste, 33 Taugasalu, 34 Hummulu, 35 Lahepera, 36 Õvi, 37 Kobratu, 38 Tartu, 39 Sandimardi in Verevi, 40 Alt-Laari, 41 Peedu, 42 Otepää, 43 Metste, 44 Verepkova, 45 Mõla (Maly), 46 Irboska, Konetchki and Slovenskoye Pole, 47 Laura, 48 Kirimäe, 49 Vardi and Varbola, 50 Limandu, 51 Kuusiku and Iira, 52 Haimre, 53 Laukna, 54 Väike-Kalju, 55 Margu in Mõisaküla and Lehu, 56 Tabria, 57 Soontagana, 58 Kõmsi, 59 Pajumaa, 60 Paju, 61 Kurevere, 62 Tagamõisa, 63 Pidula, 64 Kogula, 65 Kaarma, Loona and Kaku, 66 Piila, 67 Valjala, 68 Tõnija, 69 Asva, Randvere and Viltina, 70 Pöide, 71 Viira and Päälda, 72 Muhu, 73 Mäla and Kantsi.

e.g. the cemeteries of Riuma and Inju (Grewingk 1877b; 1887), (Fig. 40). He argued that these graves belonged to the Estonians who he believed to have arrived in the area of what is now Estonia in the 8<sup>th</sup> century, thereby taking the place of the earlier Gothic population.

On the island of Saaremaa, local gymnasium teacher Jean Baptiste Holzmayer (1839–1890)

engaged himself in the investigation of antiquities. He carried out small-scale excavations at the ancient strongholds of Kaarma, Pöide and Muhu, and composed the descriptions of all of the hillforts on Saaremaa (Holzmayer 1868). In 1868–1874 he excavated the stone graves of Piila, Kantsi, Päälda, Paju, Loona, Mäla, Kurevere and Viira (Holzmayer 1880).

Some Late Iron Age graves were excavated by Professor Georg Loeschcke. He tried to relate the different burial sites originating from the early 2<sup>nd</sup> millennium to the different social strata (Loeschcke 1889). However, his suggestion that the stone graves were these of the lower strata, and the sand barrows were dedicated to outstanding persons has found no support in subsequent investigations.

Jaan Jung, the first (amateur) archaeologist of Estonian origin, whose contribution to the registration of antiquities is of inestimable importance, also performed excavations at several Late Iron Age sites, such as the stone graves of Villevere (1878), Sammaste (1880), Taugasalu (1880), and the hillfort of Lõhavere (1880). In addition, Jung was the first to identify this stronghold as *castrum Leole*, mentioned in the chronicle of Henry of Livonia as the residence of Lembitu, who was one of the main Estonian leaders in the struggle against the crusaders. Although Jung's writings appear to be strongly influenced by the ideas of the Baltic German researchers, the data he collected is of lasting value.

In addition, in the last third of the 19<sup>th</sup> century plenty of graves were excavated by dilettanti such as schoolteachers, clergymen, landlords, etc. Thus, Late Iron Age stone graves were excavated by Nicolai Knorring in Pajumaa (1866), by Hans Wühner in Riuma (1875), by Leopold Schroeder and Carl Duhmberg in Kõola (1889) and by Jakob Rennenkampf (the 1880s) in Ardu. Otto Dieckhoff excavated the barrows at Kuremäe (1869), and August Bielenstein those in Metste (1895). Carl Georg Sievers undertook an expedition of two and a half week duration to Saaremaa Island in 1877, and he managed to investigate several graves at Kurevere, Pidula and Tagamõisa in that time. In north-eastern Estonia a few graves were excavated by Russian researchers. In 1886–1887 Professor Pavel Viskovatov investigated the stone grave of Türsamäe, and in 1892 he excavated the barrows of Pühtitsa together with Nikolai Kharuzin, a scholar from Moscow.

The first truly outstanding figure in the investigation of the Estonian Iron Ages was Professor

Richard Hausmann. In the introductory part of the exhibition catalogue, which was compiled by him on the occasion of the 10<sup>th</sup> Russia-wide Archaeological Congress held in Riga in 1896, he also provided a systematized review of the Iron Age in the then East Baltic Provinces of the Russian Empire (Hausmann 1896). He divided the Iron Age into an Early (1<sup>st</sup>–5<sup>th</sup> centuries) and a Late (9<sup>th</sup> – the beginning of the 13<sup>th</sup> century) stage. Although he observed a strong Gothic influence in the Early Iron Age material culture, he nevertheless related the evidence of the Late Iron Age to the culture of the local Estonians, Livs and Latvians. The borders of the areas of inhabitation of these nations were also clearly represented in the map of the antiquities of the 8<sup>th</sup>–13<sup>th</sup> centuries, prepared by Johann Sitzka (1896) for the above-mentioned Congress.

Hausmann's main targets for excavation were Iron Age cemeteries. In 1896, he excavated an exceptional monument in southern Estonia – a group of barrows at Hummulu near Valga. There were plenty of stone graves used in both the 1<sup>st</sup> millennium and at the beginning of the 2<sup>nd</sup> millennium AD investigated by Hausmann: those of Väätsa (1890), Pajusi (1894), Kukruse (1895), Heimtali (1895), Kuude (1895), Lahepera (1895), Kobratu (1900) and Eistvere (1901). In analysing the results of the excavation of the latter grave, he also provided general statements about Late Iron Age burial places in the eastern Baltic region (Hausmann 1902a). In Hausmann's view, both cremations and inhumations occurred at the beginning of the 2<sup>nd</sup> millennium AD in these areas. At the same time, he distinguished several grave types, such as stone graves, *tarand*-graves<sup>2</sup> and cemeteries with pit graves, as well as cemeteries with inhumation and cremation graves. Hausmann argued that the *tarand*-graves initially belonged to a nation that inhabited these areas in earlier times, as in the Late Iron Age the local Estonians also began to bury in these graves. Hausmann was, however,

<sup>2</sup> In those times, *tarand*-graves were called *Steinreihengräber* (see Lang, this volume, b).

quite modest in drawing conclusions. His contribution to the systematization and publishing of the archaeological data was nevertheless of great importance.

Preparations for the 1896 Congress in Riga also involved the investigation of hillforts. Some more notable hillforts (e.g. Punamägi in Äntu and Muhu) were discussed by local scholars in their writings. In addition, Sergei Bogoyavlenskij, archaeologist from Moscow, in co-operation with local landlord R. Stackelberg, performed minor excavations at several Late Iron Age hillforts, e.g. Otepää, Valjala, Muhu, Soontagana, etc. (Stackelberg & Bogoyavlenskij 1896). As only narrow trenches were made, the results of these excavations proved to be rather modest. Somewhat more attention should be paid to the distribution map of Estonian and Latvian hillforts compiled by A. Bielenstein (1895). He also presented a classification of the hillforts on the basis of their morphology (Bielenstein 1896).

At the beginning of the 20<sup>th</sup> century, most excavations involved stone graves. It was at this time that history teacher Artur Spreckelsen and doctor Adolf Friedenthal began their archaeological activity. Their main interest was in Early Iron Age antiquities, but they also excavated some graves that either completely or partially belonged to the Late Iron Age. Thus Spreckelsen excavated the stone graves of Saha (1903, 1905) and Lagedi (1906–1910), and Friedenthal these of Rohu (1910) and Kõmsi (1914). Some local learned societies that investigated the antiquities in their vicinity played quite an active part in the excavations. For instance, the Pärnu Society for Antiquities excavated the stone graves of Margu in Mõisaküla (1897), as well as Lehu (1900) and Tabria (1900), while the Järvamaa Antiquities Preservation Society performed excavations at the graves of Virika, Kahala, Valgma and Huuksi in 1903, and subsequently at the graves of Valgma (1904), Miku in Tarbja (1905–1907) and Leedu (1910–1911).

Max Ebert, a German archaeologist who worked in Riga for some time, played a significant role in the formation of Estonian archaeology. He was the first

to apply consistently the typological method to the archaeological material of the East Baltic provinces. In this context, his review of Estonian and Latvian antiquities should be emphasized (Ebert 1913). As concerns the artefacts of the Late Iron Age, he paid more attention to weapons. On the basis of swords and spearheads found in Estonia, Ebert stressed the strong Scandinavian influence on the local culture.

## Research from 1920–1944

In 1920, a new stage in archaeological activity was introduced, as the Chair of Archaeology at the University of Tartu was established in that year. By that time, the Late Iron Age data occupied the largest proportion of the entire archaeological record that had been accumulated. In addition, many hitherto unknown Late Iron Age sites were discovered in the course of the subsequent registration of antiquities in the 1920s. As a result of numerous fieldwork and the first general treatments (Tallgren 1925; Moora 1926b; see below), the Late Iron Age already became one of the best examined prehistoric periods in the early days of Estonian professional archaeology. Apparently this was the reason why no archaeologist subsequently specialized directly in the Late Iron Age, and primary attention was instead devoted to the Stone and Early Iron Ages.

## Archaeological fieldwork

### Cemeteries

As financial resources were rather limited, only small-scale excavations of cemeteries were performed in the early 1920s, in an attempt to investigate different types of graves in different parts of Estonia. Harri Moora conducted excavations at the stone graves of Kõola (1922), Kirimäe (1923) and Madi (1925). The latter had previously (1921) been investigated by Aarne Michaël

Tallgren, as were the graves of Käku (1920) and Tõnija (1921) on the island of Saaremaa, and the barrows of Mõla (Maly) and Konetchki in Setumaa (1921). The investigation of Setumaa was considered important, since this area became Estonian territory under the Peace Treaty of Tartu in 1920, and the previously obtained and compiled archaeological record was stored in Russia. In 1924, under the general supervision of Birger Nerman (while the individual excavation plots were monitored by Marta Schmiedehelm and Eerik Laid), excavations were undertaken close to the hillfort of Irboska (Izborsk) – at two graves of the *zhalnik*-type in the nearby Slovenskoye Pole cemetery, as well as at the barrows of Mõla (both sites are in present-day Russia).

For the reasons indicated above, in the late 1920s primary interest was focused on earlier periods, whereas the Late Iron Age remained in the background. However, as several Early Iron Age graves were also used in the final stages of prehistory, the excavation of these graves also contributed to the understanding of Late Iron Age burial customs. In addition, several Late Iron Age graves were rescue-excavated. Therefore, in the period 1925–1940, almost every year witnessed the excavation of some Late Iron Age cemetery, and actually every archaeologist of Estonia was involved in the excavations of sites from that period. Only a few specialized articles were published on these investigations, but to a certain extent the results were, however, included in general reviews of Estonian history. The findings and grave finds of the 1920s and early 1930s were partly used in the general treatment of Estonian prehistory (EA I, 1935).

As concerns the excavated sites of the 1930s, Moora conducted fieldwork at the stone graves of Sandimardi in Verevi (1932) and Kobratu (1935, together with Artur Vassar). Richard Indreko excavated the cemetery of Haimre (1929–1930, 1937–1938), and Vassar the cemeteries of Kehra (1937), Väike-Kalju (1939), Laukna (1939), and Õvi (1939). Osvald Saadre performed excavations at barrows, both in eastern Virumaa (1937–1938 at Olgin Krest;

1938 at Jõuga) and Setumaa (1937 in Verepkova). Schmiedehelm investigated the stone grave of Kogula in Kärla on the island of Saaremaa (1931), and the stone graves of Kobratu (1937) and Iila (1935) on the Estonian mainland. In 1935 she also excavated the barrows of Laura in Setumaa.

As for the Baltic German archaeologists, Friedenthal and Spreckelsen continued their archaeological activity. The former excavated the Late Iron Age stone graves of Kuusiku (1921), Iira (1921), Vardi (1933–1934), and Limandu (1937). The results of the Vardi excavations were published (Friedenthal 1938). In addition to these, Friedenthal excavated barrows in eastern Virumaa, opening four mounds at Olgin Krest (1933), and one in Kuningaküla (1934). Spreckelsen briefly discussed the Late Iron Age evidence in his work concerning the graves of Lagedi, which, for the most part, were dated to the earlier periods (Spreckelsen 1927; 1932).

The spring and summer of 1940 were the most intensive period in respect of the investigation of graves, as the archaeologists had to hastily excavate the monuments that were situated on the territory of the Soviet military bases that were to be exacted by the Soviet Union in 1939. The graves then excavated also included some of Late Iron Age origin, e.g. the stone graves of Randvere (Indreko) and Viltina (Saadre, Schmiedehelm and Vassar) on the island of Saaremaa.

### Hillforts

First of all, reference should be made to the early book about ancient strongholds by E. Laid (1923). In this, Laid presented a classification of hillforts that was based on their morphology. Due to the absence of excavated evidence, only quite a vague dating for hillforts was possible, i.e. the entire Late Iron Age (800–1200). As a matter of fact, there were very few hillforts excavated by this time in Estonia.

In the 1920s, some small-scale excavations were carried out at hillforts (in 1920–1923 at Jõesuu in Jägala, and in 1927 at Alt-Laari), but these monu-

ments were relatively poor in finds. In 1924 Nerman, together with Laid and Schmiedehelm, performed excavations of two-week duration at the hillfort of Irboska. Nerman was presumably concerned with the former presence of Scandinavian population there, since according to the Russian chronicles and oral tradition, it was the residence of Truvor, a Prince of Viking origin and one of the three legendary Varangian founders of the state of Rus in 862.

These investigations clearly indicated that more extensive excavations were needed in order to obtain more reliable results. However, at this time there were no financial means available for that purpose. The systematic investigation of Estonian hillforts did not start before the second half of the 1930s, whereas then the interest in hillforts even reached the governmental level. In this, the so-called Estonian National Clubs played an important role, presenting the investigation of hillforts as a research task of national significance and raising the issue in governmental circles. Consequently, financial support for the investigation of hillforts was provided by the Ministry of Education, the Cultural Endowment and many different enterprises and establishments.

The systematic investigation of hillforts was launched in 1936, when excavations began at three sites: Peedu near Tartu (see Moora 1939b), Iru (Vassar 1939) and Kuusalu (Schmiedehelm 1939) in Harjumaa. All of these also yielded a Late Iron Age cultural layer, though only from the first half of the period, i.e. the Viking Age. In 1937 and 1938, excavations were continued at Iru and Asva on Saaremaa (Indreko 1939). In fact, the latter had already been surveyed in 1934 using minor trial excavations. The excavations of Asva and Iru revealed that these places had been inhabited in as early as the Late Bronze Age, and thereby the chronology of ancient strongholds became more complete.

Subsequently, of the most important hillforts of the early 13<sup>th</sup> century, those of Lõhavere and Varbola were concentrated on. The battles around these forts were recounted in the chronicle of Henry of Livonia,

and in the case of Varbola, in the Russian chronicles as well. At the hillfort of Lõhavere, excavations were started in 1939 under the guidance of Moora and Saadre. The work proved to be successful, as the extensive remains of charred logs that were discovered provided good opportunities for the investigation of both defensive constructions and buildings (Moora & Saadre 1939). The excavations at Lõhavere were continued in the following years until 1941, when they were interrupted by the war.

In 1938 Laid began excavations at the hillfort of Varbola, the rampart of which is the mightiest of the Estonian hillforts (Laid 1939). These excavations also yielded numerous finds and discoveries, a well of 14 m in depth being one of the most remarkable of these. The investigations continued there until 1942.

#### Hoard, coins and artefacts

Several hoards originating from the Late Iron Age were discovered, among them those containing silver ornaments and coins. Some short articles on the coin hoards of the 9<sup>th</sup>–12<sup>th</sup> centuries were published by Friedenthal (1934a-b) and Walter Anderson (1938; 1939). Separate reference should be made to a more thorough article on the mid-9<sup>th</sup> century hoard of 470 Arabian coins found in the village of Kohtla (Anderson 1926). Friedenthal also published a synoptic article (1936) on the coin hoards found on the territories of present-day Estonia and Latvia. A separate article on the hoard of silver items found from Tartu was written by Schmiedehelm (1929).

Only a few special studies devoted to Late Iron Age artefacts were written by Estonian archaeologists. Only the article by Erna Ariste (1938) on the ring-headed decorative pins and Moora's studies (1929c; 1931), which included an analysis of some types of Late Iron Age eastern Baltic bracelets and neck-rings, can be noted here.

## General treatments

In the 1920s and 1930s, several general reviews were published on the Late Iron Age and its archaeological monuments on the basis of fresh as well as previously known data. The earliest of these, the above-mentioned small booklet by E. Laid about Estonian prehistoric strongholds (1923), which was also provided with a list of the hillforts, including their main characteristics, photos and plans, should be noted. In the first half of the 1920s, both Tallgren and Moora were vigorously engaged in the study of the Late Iron Age, and as a result they published thorough analyses of this period (Tallgren 1925; Moora 1926b).

In 1925, volume II of Tallgren's *Zur Archäologie Estis*, which devoted 30 pages of its total to the Middle Iron Age, and as many as 160 pages to the Late Iron Age, was published. In this synthesis, Tallgren attempted to discuss the archaeological data in relation to the contemporary natural environment. On the basis of the distribution of the finds, he demonstrated that by the Late Iron Age the distribution of settlement, especially that of western Estonia and Saaremaa Island, had expanded considerably in comparison with the Early Iron Age. As for the graves, he emphasized the variety of burial customs. He argued that in most parts of Late Iron Age Estonia, the dead were buried in stone graves resembling these of the Early Iron Age, while in western Estonia, stone graves with low and sparse stone cover, and in southern Estonia sand barrows were in use. The artefactual record was considered to reflect both southern Baltic and Scandinavian influences. At the same time, Tallgren admitted that the Estonian Late Iron Age culture possessed a specific national individuality, and that this culture was of a democratic and rural nature.

Moora's book (1926b) provided an excellent review of the Late Iron Age, although in a slightly more popular form than that of Tallgren. As one of his main conclusions, Moora stressed that by the end of prehistoric times, a distinct national culture of the

Estonians that differed from neighbouring nations, had come into existence. The society of prehistoric Estonia was regarded as more egalitarian than the societies of most of its neighbours.

B. Nerman, who was concerned with certain issues of the Estonian Late Iron Age, summarized his study in a book about the relations between the Scandinavian and eastern Baltic regions in the Late Iron Age (Nerman 1929). In this, he primarily outlined and emphasized Swedish, first and foremost Gotlandic influences in the material culture, especially the weapons, of the eastern Baltic Viking Age.

The most important synthesizing presentation of the early 1930s was Moora's book on Estonian prehistory, as it was more generalizing and concise than the previous ones, and published in German (Moora 1932). As a novel approach, in this study more attention was paid to cultural and trade connections. Moora argued that the Late Iron Age was a period of considerable upsurge, when Estonian culture became more independent than before. In addition to the contacts in southern and northern directions that already existed in the Middle Iron Age, in the Viking Age relations on the East–West axis also became important for Estonians. Estonia was situated at the crossroads of trade routes and consequently the influences came from various directions. By developing these influences creatively, the Estonians shaped their distinctive national culture. For broader perspective, Moora emphasized that throughout prehistoric periods, except for the Stone Age, the Estonian cultural border was roughly marked by the Narva River and Lake Peipsi. Therefore, in cultural terms this area did not belong to Eastern Europe but was part of the Baltic cultural region. Moora also criticized the view that it was not until the German expansion in the 13<sup>th</sup> century that Estonia was integrated into the West. He argued that this expansion brought no significant changes, as the present centres, connecting roads and cultural borders continued to exist.

In 1932 the first volume of the large general treatment of Estonian history (ERA I, 1932) was



published. No archaeologists were involved in the compilation of this popular and national treatment. The part concerning the Late Iron Age was written by journalist Juhan Libe, and the chapter about religion and mentality by folklorist Oskar Loorits.

A couple of years later, the whole of prehistory was embraced in the first volume of a new treatment of Estonian history (EA I, 1935), which was the most considerable synthesizing work compiled in the decades under discussion. The Late Iron Age comprised the largest part (130 pages) of the volume, almost as much as was dedicated to all of the previous periods. The Late Iron Age part was principally written by Moora and Laid, while the linguistic-historical problems were discussed by Julius Mägiste, and those of foreign relations by Hans Kruus. The latter also presented the review of the early 13<sup>th</sup> century crusade. As it was then only a few years since the previous review of Estonian prehistory (Moora 1932) had been published, no fundamental changes in the understanding of the Late Iron Age were made in the 1935 account. However, as this book was more capacious, the problems of settlement, economy (i.e. field cultivation, stock raising, hunting, fishing, apiculture), handicraft and trade, religion, societal organization, military matters and foreign relations were discussed more thoroughly therein. In comparison with the previous syntheses, more ethnographic and linguistic-historical data as well as written sources had been used in this book. As for the written record, *Die Estlandliste des Liber Census Daniae* by Paul Johansen (1933), providing a survey about the parish division, villages and landowners in Harjumaa and Virumaa in about 1240, was of great importance. New data about the topography of central Estonia – the location of the Pala River and the districts of that area that were mentioned in the chronicle of Henry of Livonia – were presented in the articles by historian Rudolf Kenkmann (1932; 1933).

As for the following works of a general character, reference should be made to the two works by Moora: as to an introduction to the collection of

articles on prehistoric hillforts in Estonia (Moora 1939a), and to an article about Estonian hillforts published in Finland (1940). In these he first presented the argumentation for the chronological classification of the hillforts, based not only on the morphology of the monuments. On the grounds of the investigation results of the hillforts, he also drew some novel and far-reaching conclusions about the society as a whole. Moora demonstrated that in around the year 1000 a lot of minor and less fortified strongholds, presumably belonging to a local community area (Germ. *Mark*, Est. *saras*), had been abandoned. New hillforts were larger and stronger, as their construction was a concern of a certain mid-level territorial unit (*kihelkond*), or even of a larger administrative unit. The hillfort of this larger district was designated by Moora by the term *maalinus*, which referred to their central position within a certain territory or land (*maa*). These strongholds were located on important roads, and they functioned as the political and religious centres for the districts in question.

In conclusion, in the 1920s–1940s the investigation of the Late Iron Age took a remarkable step forward, primarily due to the investigation of hillforts and the accumulation of data about Late Iron Age stone graves. The period also yielded four general treatments of Estonian prehistory, in which prime attention was paid to the Late Iron Age. Regrettably, this development was interrupted by the Soviet occupation and World War II.

## Research from 1944–1991

While the first year of Soviet occupation in 1940–1941 remained too short for the implementation of changes in archaeological approaches, since 1944 new imprints were also imposed on Estonian archaeology. For ideological reasons, the historical contacts between Estonia and Russia needed to be emphasized, and the main period in the

archaeological context was the Late Iron Age. The first treatment on this issue was provided by Harri Moora (1948). A positive response to the ideological demand was expressed in some treatments by Artur Vassar (1954b; 1960). The same question became the topic of Vilma Trummal's candidate thesis (1955). In the 1950s eastern Estonia was regarded as being subordinated to feudal republic of Novgorod, especially since the 1130s. Scandinavian contacts were neglected and disregarded or depicted in a negative light. In the first half of the 1950s even excavations occurred in a corresponding framework. In response to Paul Johansen's book (1951) on the founding of Tallinn – according to him, by Scandinavian merchants after 1219 –, in 1952–1953 Svetlana Tarakanova from Moscow directed, with Osvald Saadre, excavations in the capital of Estonia. The aim of the works was to find the traces of an earlier urban centre and obtain evidence of its inhabitants' close friendship with Old Rus (Tarakanova & Saadre 1955; Mäll & Russow 2003), (Fig. 41). The major excavations that began in 1950 in Otepää hillfort (first mentioned in 1116 and besieged by the Russians in 1217) might also belong to the context of the study of Estonian–Russian relations.

Although in the Soviet ideological system the only accepted theoretical approach was Marxism, it actually found no far-reaching reception in Estonian archaeology. It was mainly from its theoretical tools that the concepts of the primary meaning of material and natural preconditions and economy for the development of the society arose. In fact, throughout the Soviet period, in spite of the compulsory Marxist phraseology, there continued to be a nation-centred research approach. As the latest period of prehistory, the Late Iron Age was of special meaning here.

The moderation of the political climate in the 1960s also marked the end of the ideologized accentuation of Estonian–Russian relations in archaeology. Contacts with Russian colleagues, however, remained limited, and joint projects were avoided. Co-operation with Latvia in the investigation of



**Fig. 41.** *Archaeology and ideology: sculpture symbolizing Estonian–Russian friendship in the struggle against the Germans (1952) (photo: H. Valk).*

the Late Iron Age was most intensive in the 1960s, when Evald Tõnisson was involved in the study of the Gauja Livs – a Finnic ethnicity in the southern neighbourhood of south-western Estonia.

Up to the 1970s, in the studies of the Late Iron Age the territory of Estonia was not divided between researchers into research areas: only Aita Kustin's topic was concentrated upon the islands of Saaremaa and Muhu since the mid-1950s. In the mid-1970s, when a new generation of archaeologists emerged and the practical need for field inventories increased, most of Estonia was divided between archaeologists into areas of responsibility. As a result of such a division, of researchers engaged in Late Iron Age studies, Mare Aun concentrated on south-eastern Estonia, Ain Lavi on northern Tartumaa, Mati Mandel on Läänemaa and Evald Tõnisson on Järvamaa. Toomas Tamla's main research area

involved the Pada River basin in Virumaa, and Priit Ligi's research concerned (since the early 1980s) the Alutaguse district north of Lake Peipsi.

## Archaeological fieldwork

### Cemeteries

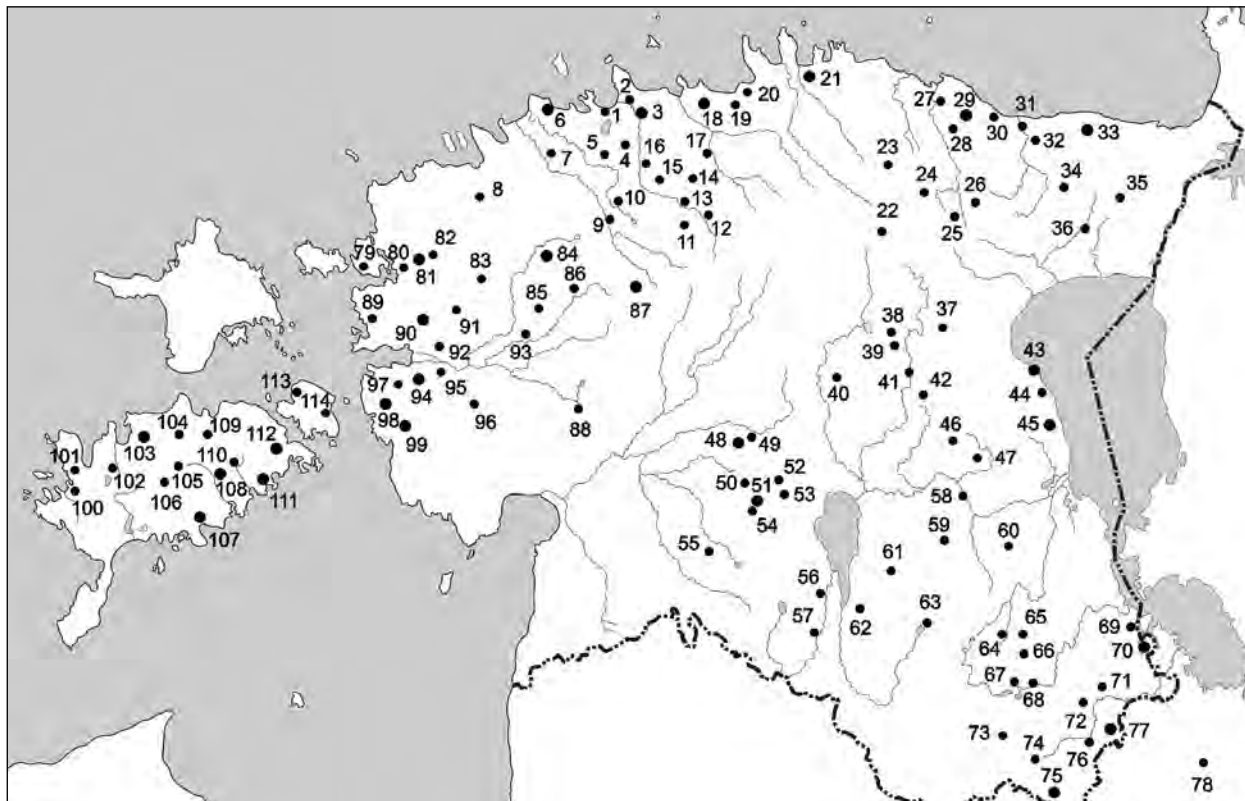
In the 1940s–1960s, among Late Iron Age sites (Fig. 42) much attention continued to be paid to the study of cemeteries. New data about *cremation graves* remained quite limited in continental Estonia. The first post-war excavations in Lootvina (1946 Vassar), launched due to rich Late Iron Age cremations in pit graves found occasionally in 1942, yielded no new grave complexes from that period. In north-western Estonia, smaller excavations took place on the damaged stone graves of Haimre (1948 Ariste) and Mallavere in Harjumaa (1955 Laul), both with a sparse stone setting. The continued excavations at Kõola (1950 Moora) only yielded limited finds, but some Late Iron Age finds were gained from the Aseri *tarand*-grave (1951 Saadre). In northern Viljandimaa, as a larger project, Jüri Selirand continued excavations on the Madi stone grave in 1959, 1961–1963 and 1965–1966. In those years, an area of almost 1000 m<sup>2</sup> of the 11<sup>th</sup>–13<sup>th</sup> century cemetery, which contained rich finds, was excavated. On the island of Saaremaa, part of Käku cemetery with graves within and between stone circles was studied (1948–1949 Metsar). Aita Kustin directed excavations at Rahu cemetery (1959–1963), and opened three enclosed stone-circle graves in Kurevere dating from the 7<sup>th</sup>–8<sup>th</sup> up to the 12<sup>th</sup> century (Kustin 1966).

The 1940s–1960s also yielded new information about Late Iron Age *inhumations* which since the 11<sup>th</sup>–12<sup>th</sup> centuries had become numerous beside cremations in Estonia. Additional data were primarily acquired from northern and eastern Estonia. In 1949 and 1950 Erna Ariste (in 1950 together with Moora) continued excavations at Jõuga barrows in

the Votic inhabitation area of north-eastern Estonia. Soon trial excavations on a barrow at Palasi cemetery occurred (1958 Moora and Tõnisson). Other excavations took place mainly on inhumation cemeteries from the late 12<sup>th</sup> century and the first half of the 13<sup>th</sup> century, largely similar in character – with mainly west-oriented graves and richly furnished female burials. The graves of that group were first studied in Kūti in Virumaa (1948 Ariste). Similar inhumations of that period, totalling 62 graves, came to light during long-lasting rescue excavations in Kaberla, where the cemetery was damaged by gravel-digging (1955 Kustin; 1956 Laul; 1958, 1961, 1964 Selirand; 1966 Aun). The results of the first excavation years have been published in a special article (Selirand 1962). The north-east oriented graves from Tammiku in Virumaa, excavated by Evald Tõnisson in 1958, date from the pre-conquest era – the late 12<sup>th</sup> century (Tõnisson 1973). Some Late Iron Age inhumations were also discovered in stone graves with cremation burials. In Läänemaa such graves, dating from the very end of the period, were opened in Enivere (1947 Vassar; 1950 Tõnisson), Haimre (1948 Ariste) and Mallavere (1955 Laul). On the island of Saaremaa, some inhumations from the late 12<sup>th</sup> century were studied in Loona (1956–1958 Kustin). The material from Karja cemetery on the same island, excavated in 1955 (Kustin 1958), was predominantly from the 13<sup>th</sup> century.

In the 1960s, together with Latvian colleagues, Tõnisson excavated the Livic barrows of the 11<sup>th</sup>–13<sup>th</sup> centuries in the Gauja River basin. The works in Krimulda in 1959–1962 (together with Jānis Graudonis) and in Biriņi in 1964 yielded new data about richly furnished inhumation graves.

Since the 1970s, new researchers became involved in the study of Late Iron Age cemeteries. In the study of *cremation graves*, advances were greatest in Läänemaa, where data on Iron Age cemeteries were most limited up to the 1970s. The research into the almost uninvestigated topic was commenced with digging on Kõmsi III stone grave (1970 Lõugas). In the 1970s Mati Mandel launched a long-term



**Fig. 42.** Late Iron Age sites investigated during 1945–2005. 1 Tallinn, 2 Iru, 3 Proosa and Lagedi, 4 Lehmja, 5 Padiküla, 6 Ilmandu and Muraste, 7 Kumna, 8 Padise, 9 Lohu, 10 Angerja, 11 Harmi, 12 Paunküla, 13 Kose, 14 Mallavere, 15 Ubina, 16 Vaida, 17 Kehra, 18 Kaberla and Kodasoo, 19 Kuusalu, 20 Muuksi, 21 Vatku, Tõugu, Võhma, Uusküla and Ilumäe, 22 Sauevälja, 23 Levala, 24 Küti, 25 Tammiku, 26 Palasi, 27 Linnuse in Kunda, 28 Varudi-Vanaküla, 29 Viru-Nigula and Pada, 30 Aseri, 31 Purtse, 32 Maidla in Virumaa, 33 Kohtla-Käva and Edise, 34 Tarumaa, 35 Kuremäe, 36 Jõuga, 37 Reastvere, 38 Ripuka, 39 Kõola, 40 Kalana, 41 Kurista, 42 Kassinurme, 43 Raatvere and Sääritsa, 44 Punikvere, 45 Alatskivi (Peatskivi) and Lahepera, 46 Saadjärve, 47 Vedu, 48 Lõhavere and Kärevere, 49 Olustvere, 50 Madi, 51 Viljandi, Aindu and Mustivere, 52 Naanu, 53 Kuude, 54 Sinialliku, 55 Sammaste, 56 Vooru, 57 Tõrva, 58 Tartu, 59 Unipiha, 60 Lootvina, 61 Uderna, 62 Aakre, 63 Otepää, 64 Tilleoru, 65 Metste, 66 Vana-Koiola, 67 Kिरumpää, 68 Kääpa, 69 Laossina, 70 Väike-Rõsna and Pedäjäsaare, 71 Tuderna, 72 Lindora, 73 Rõuge, 74 Plaani, 75 Siksälä and Hino, 76 Vastseliina, 77 Kalatsova and Uusvada, 78 Irboska, 79 Einbi, 80 Linnamäe, 81 Koela and Uugla, 82 Vidruka, 83 Maidla in Läänemaa, 84 Varbola and Keldrimäe, 85 Haimre, 86 Jalase, 87 Keava and Linnaaluste, 88 Margu in Mõisaküla, 89 Kolu (Ahli), 90 Ehmja, Enivere and Keskvere, 91 Kullamaa, 92 Väike-Rõude, 93 Konovere, 94 Lihula and Sipa, 95 Kirbla, 96 Soontagana, 97 Järise, 98 Kaseküla and Kõmsi, 99 Vatla and Linnuse, 100 Loona, 101 Kurevere, 102 Lihulinn, 103 Tuiu and Paatsa, 104 Tõrise, 105 Piila, 106 Käku, 107 Sutu and Pälla, 108 Valjala and Rahu, 109 Karja, 110 Kogula, 111 Randvere, Viltina and Käo-Matsi, 112 Põide and Tornimäe, 113 Tamse, 114 Võlla.

research program on the stone graves of Läänemaa, mainly yielding material from the 11<sup>th</sup> – early 13<sup>th</sup> centuries. The excavations began with work in Linnamäe (1976–1980) and continued on two stone

graves in Uugla (1977, 1981) from the 11<sup>th</sup>–12<sup>th</sup> centuries. Excavations also took place on Kõmsi III stone grave (1979), in Ehmja (1982–1991), Kolu/Ahli (1986), Kirbla (1983) and Maidla (1983–1985, 1987–



Fig. 43. Excavations at the stone grave of Sammaste (photo: H. Valk).

1990). The Maidla stone grave is the largest completely excavated site of that type in Estonia. In that cemetery, which has been damaged by collective farming activities, an area of 2850 m<sup>2</sup> was opened. Excavations have shown that most typical graves in Läänemaa were flat stone settings with dispersed cremations, although in some cases closed complexes of artefacts could also be distinguished. The Margu cemetery in Mõisaküla (1986 Pärn), which also contained post-medieval inhumations, belongs to the same group of western Estonian stone graves.

In northern Estonia, new data from Late Iron Age cremation graves came from Proosa cemetery near Tallinn. In the course of long-lasting excavations directed by Kaupo Deemant between 1970 and 1984, the whole cemetery dating from the Late Bronze

Age up to the crusades (a total of c. 1500 m<sup>2</sup>) was studied.

New data from northern Tartumaa have been obtained by Ain Lavi. The cemeteries of Raatvere and Vedu, which were excavated in 1981–1983 and 1987 respectively, had no stone constructions, but included dispersed cremations or cremations in shallow pit-graves. Säaritsa cemetery on the shore of Lake Peipsi may also originate from the Late Iron Age. From the preserved remains of this site, stone-layers of presumed cultic purpose were studied in 1983.

In southern Estonia, rich Late Iron Age material – numerous fragments of weapons and riding equipment – was obtained from Sammaste stone grave (Fig. 43; 1989 Valk), which had been continu-

ously in use from the late Pre-Roman Iron Age to the conquest. The excavations were commenced in order to study the transition from a stone grave to a medieval village cemetery, but the site appeared to have stopped functioning as a burial place at the time of Christianization. Data concerning the dispersed cremation graves of the 11<sup>th</sup>–13<sup>th</sup> centuries were obtained at Siksälä cemetery in the south-easternmost corner of Estonia (1980–1993 Peets and Laul).

After Kustin's death, research into the Late Iron Age cemeteries of Saaremaa ended for a decade. Investigations were continued with the excavation of the Rahu stone grave (1980 Lang) and the opening of two graves at Piila cemetery (1989 Lõugas).

Since the 1970s, various new data about *inhumation graves* were obtained in eastern Estonia. Research on the south-eastern Estonian barrows containing inhumations was commenced by Silvia Laul. The purpose of the work was to obtain information about the burial rites and ethno-cultural situation after the end of the use of the long and round barrows, i.e. since the 11<sup>th</sup> century. In Lindora, in south-eastern Võrumaa, a cemetery with 16 mounds from the 11<sup>th</sup> or early 12<sup>th</sup> century was totally excavated in 1977 and 1978; in the latter year a 12<sup>th</sup> century barrow was also studied in Tuderna. Research continued in 1980–1993 on Siksälä cemetery. This work unearthed rich inhumation graves from the second half of the 12<sup>th</sup> and 13<sup>th</sup> centuries – some of them flat and some marked with barrows. Most characteristic of Siksälä were weapon graves and the finds of well-preserved textile remains. The richly furnished graves also continued into the 14<sup>th</sup> and 15<sup>th</sup> centuries. In parallel to the Siksälä excavations, a 12<sup>th</sup>-century barrow was opened at Plaani (1987 Peets). Trial excavations at Metste barrows near Põlva (1987 Aun and Juzar), where rich 11<sup>th</sup> century graves had been excavated in the late 19<sup>th</sup> century, yielded no undisturbed inhumations.

In eastern Estonia, Late Iron Age inhumations in two cemeteries in northern Tartumaa were studied by Ain Lavi. Excavations at the *tarand*-grave of

Lahepera in 1977–1978 revealed a group of burials from the late 12<sup>th</sup> and 13<sup>th</sup> centuries by the side of the stone grave. Raatvere cemetery, studied in 1981 and 1983, provided data about richly furnished graves from the 11<sup>th</sup> or early 12<sup>th</sup> century, whereby also some weapon graves with smithing tools were opened. In Virumaa, within Toomas Tamla's studies of the Pada archaeological complex, consisting of two hillforts and a settlement site (see below), 172 inhumation graves were also opened on the cemetery from the mid-12<sup>th</sup> up to the mid-13<sup>th</sup> century (1986, 1988–1989 Tamla). Burials with different orientations were richly furnished with ornaments, and often also with weapons.

Excavations were also continued on the barrow cemetery of Jõuga in eastern Virumaa (1980–1986, 1990) by Priit Ligi who took control of the investigation of the Votic settlement area of north-eastern Estonia. In parallel to that work, small excavations took place on the barrows of Kuremäe (1985 Ligi) and Palasi (1985 Ligi and T. Tamla), the latter being the north-westernmost cemetery in the area of distribution of the Votic barrows.

### Hillforts

After World War II, research on Estonian hillforts continued from the beginning of the 1950s. To establish their chronology, Harri Moora performed trial excavations on several sites, mainly in south-eastern Estonia in 1950 (Moora 1955).

From 1950–1974 large excavations directed by Osvald Saadre took place on Otepää hillfort, which was one of the main centres of south-eastern Estonia in the final centuries of the Iron Age and also at the time of the German conquest. The Iron Age cultural layers were partly damaged by the bishop's castle, which dated from the 13<sup>th</sup>–14<sup>th</sup> centuries. As a matter of fact, due to the methodology and poor documentation of the work, the excavated materials have lost most of the information about their context. After Saadre's death, smaller excavations took



**Fig. 44.** Late Iron Age hillfort in Soontagana (photo: V. Lang).

place in Otepää, on the hillfort's lower plateau (1983 Mäesalu).

In the 1950s and 1960s several excavations occurred on the hillforts of Viljandimaa. In 1952 and 1953 Naanu hillfort was studied by Moora. Between 1956 and 1962, Moora's excavations continued on Lõhavere hillfort. By the end of the expedition, c. 1500 m<sup>2</sup>, i.e. more than 2/3 of its area, had been opened. The work offered a good overview of the housing and defensive structures, and the gateway and two wells with well-preserved timber artefacts were also studied. In southern Viljandimaa, digging followed at the Viking Age hillforts of Tõrva (1965–1967 Harri and Henn Moora) and Vooru (1969–1970 Henn Moora), as well as on Sinialliku hillfort, which dated from the 11<sup>th</sup>–12<sup>th</sup> centuries (1967–1969 Selirand).

Work in south-eastern and eastern Estonia continued on the hillfort of Rõuge. Its plateau, with several remains of dwellings, was totally excavated (1951–1952 Moora; 1953–1955 Schmiedehelm), and the earthen rampart was cut with a trench. The stronghold, with an intensive cultural layer, had been in use from the 6<sup>th</sup> to the 11<sup>th</sup> century (Schmiedehelm 1959). Excavations also took place on the hillfort of Tartu (1956–1958, 1960 Trummal), where the Late Iron Age layers were disturbed by the medieval castle even more badly than in Otepää. Work done in 1979 and 1980 under the direction of Ain Mäesalu provided information about the inner construction of the hillfort's wall. Mare Aun studied the hillforts of Alatskivi (Peatskivi), dating from the end of the 1<sup>st</sup> millennium to the 12<sup>th</sup> century (in 1968–1969, 1971), and of Unipiha, from the 8<sup>th</sup>–11<sup>th</sup> centuries (in 1968–

1970). In the context of Ain Lavi's research on the settlement history of northern Tartumaa, excavations occurred on the Viking Age hillfort of Kurista (1984–1985 Lavi and Peets) and on Saadjärve hillfort (1984 Lavi), which was in use from the Viking Age up to the crusades. In the 1970s and 1980s, extensive excavations were conducted by Russian archaeologist Valentin Sedov on Irboska hillfort on the eastern frontiers of the ethnic Estonian (Setu) areas.

In northern Estonia, the only major work of the post-war decades took place on the Viking Age hillfort of Iru near Tallinn (1952–1958 Vassar). After a hiatus, the excavations were continued by Valter Lang on its northern plateau and central rampart in 1984–1986 (Lang 1987b). Some Late Iron Age finds were discovered during the excavation of the village cemetery on the plateau of Varbola hillfort (1953 Mark). Excavations at the Viking Age hillfort of Padise in 1963 (Saadre 1970) and on Toompea ('Cathedral Hill') in Tallinn (1981–1982, 1987 Tamm) provided only limited data about Late Iron Age settlement traces.

On the island of Saaremaa, excavations occurred in Valjala, the last fort which was besieged during the Estonian crusades in 1227. The work directed by A. Kustin in 1962 and 1964 within the rampart-enclosed area also opened the fort's well. In 1963 Kustin excavated the hillfort of Paatsa.

The investigation of hillforts in western Estonia began with major work in Soontagana, a centre from the 11<sup>th</sup> – early 13<sup>th</sup> centuries (Fig. 44; 1965 Kustin; 1966–1971 Tõnisson). E. Tõnisson's (Fig. 45) Soontagana studies were followed by digging in Viking Age forts at Konovere (1971–1973) and Lohu (1974–1976), as well as by long-term work in Varbola, the largest stronghold of Estonia, from the late 11<sup>th</sup> – early 14<sup>th</sup> century (1974–1989, until 1982 with Selirand, since 1978 with Ü. Tamla). In the course of these expeditions, part of the plateau with stove remains, as well as one of the gates with unique defensive constructions, were opened. In addition, Tõnisson dug trial pits on many other hillforts with the purpose of studying their chronol-



Fig. 45. Evald Tõnisson (photo: AI).

ogy. In Läänemaa, in order to find the early post-conquest castle mentioned in the written sources, Kullamaa hillfort was studied with a trial plot (1974 Tamm).

In Virumaa, T. Tamla excavated hillforts belonging to the archaeological complex of Pada: the small Viking Age fort (1977–1979) and the big one from the final centuries of the Iron Age (1979, 1983, 1985). On that site, the gateway was also opened (1985) and reconstructed. In addition, rescue excavations occurred at the rampart of Purtse hillfort (1978–1981 Mäesalu and T. Tamla), which had been damaged by the local collective farm.



## Open settlements and other sites

The research into Iron Age *open settlements* began in Estonia with excavations in Mustivere, close to Viljandi (1948–1949 Moora and Kustin). The aim of the works was to get comparative data to materials from Lõhavere hillfort. As the expedition yielded less information than expected, interest in open settlements decreased for more than two decades. Up to the late 1970s, problem-based excavations remained connected mainly with sites related to Viking Age hillforts. Thus in Rõuge, about 1/3 of the settlement dating from the Roman Iron Age to the 11<sup>th</sup> century was studied (1954, 1956–1959 Schmiedehelm). Work also took place at settlements related to Aakre (1972–1973 Aun) and Pada (1977–1978 T. Tamla) hillforts. The number and amount of rescue excavations of Iron Age settlements remained limited until the late 1960s, with work at Tornimäe in Saaremaa (1963 Kustin) and at Iru (1967 Tõnisson).

Since the early 1970s, the cultural layers of Iron Age open settlements attracted the attention of the new generation of archaeologists. Gradually these sites also became regarded as source material for archaeological research. In the early 1970s, trial excavations occurred on Late Iron Age settlements at Linnuse in Läänemaa, close to Vatla hillfort (1972 Tõnisson), and in Kaseküla (1973 Lõugas and Mandel).

The systematic registration of open settlements in Estonia (see Lang, this volume, a) began in the surroundings of Tallinn in the mid-1970s under the direction of Vello Lõugas and amateur archaeologist Oskar Raudmets, but since the late 1970s, field-walking also involved many others (e.g. M. Mandel in Läänemaa, T. Tamla and Tanel Moora in Virumaa). The Heritage Conservation Act of 1977 laid the foundations for including Iron Age settlements in the list of nationally protected sites. The increasing number of registered monuments and their protected status also formed the basis for the growing number of rescue excavations that began at large melioration objects of state and collective

farms (Lavi 1997, 89 ff, fig. 2). The extensive and numerous fieldwork performed showed that Late Iron Age settlement sites mostly remained in use even in medieval and post-medieval times. As the sites are usually connected to the present-day settlement pattern and are often located in village centres or in the vicinity of manors, settlement continuity has in most cases lasted until the present day.

The volume of rescue excavations related to construction projects was greatest in the late 1970s and in the 1980s. This wave of rescue work began at the settlement at Iru hillfort (1976 Lõugas and Ü. Tamla) and also continued at the Iron Age and medieval site of Linnuse in Kunda (1978 K. Jaanits). Trial excavations also occurred at Kääpa settlement (1978–1979 T. Tamla and M. Laul) and at the Viking Age settlement at the foot of Otepää hillfort (1982 Mäesalu). The most extensive work on Iron Age settlement sites occurred between 1978 and 1985 in Olustvere (Lavi and Sokolovski, in 1983 also Lang) and Lehmja (1985–1989 Lavi and Niinre). In Olustvere, on the construction plot of an agricultural technical school, c. 2/3 of the settlement from the 11<sup>th</sup> to the 18<sup>th</sup> century (c. 16,000 m<sup>2</sup>) were studied. The excavations were largely initiated by the finds of two large hoards of silver coins – one from the 11<sup>th</sup> and the other from the 14<sup>th</sup> century. In Lehmja, large rescue excavations in connection with the Tallinn–Tartu road re-construction mainly provided data about later periods (the Late Iron Age occupation area was mainly studied in 1985). In connection with road building, Late Iron Age settlements were also extensively studied in Kuusalu (1979–1980 Kraut), in Uderna (1987–1989 Lang and Ligi), in Vana-Koiola (1985–1988 Aun; 1990 Udam) and in Pada (1980–1982 T. Tamla). Rescue works with a smaller extent took place at the settlements of Kirbla (1983 Mandel), Koela (1984 Mandel) and Angerja (1986–1987 Ü. Tamla and Valk), as well as at the foot of Peatskivi hillfort (1986 Lavi). In the context of the financial possibilities of the still existing Soviet empire, the layers disturbed by ploughing were also studied.

The number and amount of research-based excavations concerning Iron Age settlements was still quite small. Such work occurred at the settlements of Keldrimäe in Varbola (1985–1987 Ü. Tamla and Tõnisson), Kärevere (1985 V. and M. Sokolovski) and Pada (1985 T. Tamla). The Proosa settlement near Tallinn, which was studied with small plots during eleven field sessions (1985–1995 Deemant), was mainly medieval in origin, and yielded only a few finds from the Late Iron Age.

The investigation of *ancient fields* from the Late Iron Age began with the excavations of clearance cairns near Kõmsi in Läänemaa (1979, 1981 Mandel).

Research into Estonian ancient *iron smelting sites* was begun by A. Kustin with excavations in Tuui in 1962 and in Tõrise in 1969, both on the island of Saaremaa. Since the mid-1980s iron production has been studied by Jüri Peets: extensive studies were undertaken in Tuui in 1986–1996 and smaller fieldwork in Tõrise in 1989. Field inventories in the forests of Tuui have revealed the huge dimensions of the local iron production complex from the 12<sup>th</sup>–14<sup>th</sup> centuries. Related studies also involve excavations at the adjacent Paatsa hillfort in 1989 and related smithy, both dating from the same period. This 11<sup>th</sup>–14<sup>th</sup> century smithy, investigated in 1989–1990, is the only Iron Age smithy that has been excavated in Estonia. Peets has also studied ancient iron production in northern and eastern Estonia, where he excavated Late Iron Age and early medieval iron-smelting sites in Raatvere and Punikvere in northern Tartumaa (1983 together with Lavi), as well as in Palasi (1986–1987) and Tarumaa (1988–1989) in Virumaa.

### General treatments and specialized studies

**Society and economy.** During the Soviet occupation the theoretical treatment of the Late Iron Age was implemented within new ideological conditions. A new approach was especially demanded by the rul-

ing authorities for the basic concepts of social development, as well as for political reasons. In the framework of the Marxist approach, a key topic became the genesis of feudalism in the eastern Baltic region. This emphasis was presented in the first general Soviet treatment of Estonian history (Naan 1952), in some special articles (Moora 1953b; Vassar 1954a) and in the next general synthesis of Estonian history (EA I, 1955). On the basis of the Marxist model, the Late Iron Age in Estonia was regarded as a time of transition from a society based on kinship relations and territorial communities to a feudal society, whereby the late 12<sup>th</sup> century was characterized as developed feudalism already. The society was described as having an inner conflict between the old and new social elites. The authority of the first was based on traditions and kinship ties, the emergence of the new – on the personal qualities of the new militant leaders and on their military success. The smaller and strongly fortified new hillforts were regarded as belonging to the new class of feudals, whereby the larger and old ones were interpreted as communal centres ruled by the old elite – also becoming feudal as a reaction to the emergence of their new rivals. The society was depicted as being in the stage of the genesis of early feudal state formations. The poorer members of the community were regarded as depending on the feudal elite.

Although political and ideological factors remained alien to Estonian archaeological thought as a whole during the Soviet period, Marxist ideas about the meaning of the economic basis for the development of the society were more accepted. In the Soviet research milieu much attention was paid to the study of economy. An essential reason for this was that in this field of study researchers could express their ideas quite freely and history did not need to be distorted. At the same time, the study of production was one of the key topics of the Marxist research of history and, as such, also officially favoured. The results of investigations in the field of production and economy were summarized in special treatments on agriculture (Moora & Ligi

1964), handicraft, trade, cattle breeding and hunting (Moora 1966; 1969; 1971). Regarding the three Baltic States as one area made it possible to draw conclusions about the economy and social order on a comparative scale. The collective works of Harri Moora and agrarian historian Herbert Ligi (1969a-b; 1970), present definitive conclusions about the economy and society of the whole eastern Baltic region in the 11<sup>th</sup>–13<sup>th</sup> centuries. The comparative approach based both on the archaeological and written data, made it possible to distinguish considerable inner differences within the area: the more rapid course of the economic and social processes, including feudalization, in the southern part of the eastern Baltic region in comparison with Estonia. The main keyword, however, was, in contrast to the 1950s, not ‘feudal society’ but the ‘process of feudalization’ (Moora & Ligi 1969b).

The political thaw of the 1960s also enabled a more liberal approach to the crusade and conquest wars of the early 13<sup>th</sup> century. Research and writing in this field (e.g. Tõnisson *et al.* 1968), in fact, represented hidden support for the Estonian national spirit. The emphasis shifted from the Estonians’ and Russians’ joint struggle against German aggression – a reflection of official Soviet ideology resulting from World War II – to the Estonians’ fight against the crusaders. Also the general approach became more balanced and neutral (Vassar & Tarvel 1975).

Since ideological control over archaeology became milder since the 1970s, the compulsory ideological demands, except for Marxist terminology, were already greatly neglected in the new monumental treatment of Estonian prehistory (Jaaniits *et al.* 1982). The situation made it possible to provide a new picture of Late Iron Age society. By the 1980s and early 1990s the model of the feudal society and the process of early state formation had been rejected and, as a reaction to former pressure, the society was regarded as a largely egalitarian one (Tõnisson 1992a-b).

The liberalization of the disintegrating Soviet Union also enabled a political re-estimation of

Estonia’s Late Iron Age in the national spirit (Laar *et al.* 1989). Contacts with the east and the west were now treated in a balanced manner. The gradual re-gaining of freedom since the mid-1980s generated increasing interest in Estonia’s Late Iron Age western contacts. This context includes articles on Estonian Viking Age coin and weapon finds (Selirand 1988b) and the Estonian perspective of the Viking expeditions (Tõnisson 1988b). In fact, the archaeological views concerning the political and social aspects of Late Iron Age Estonia had been de-Sovietized and largely resembled those of the late 1930s.

During the Soviet period, considerable advances occurred in the investigation of *hillforts, open settlements and settlement patterns*. The mid-1950s brought new conclusions about the Estonian hillforts and open settlements (MAL, 1955). In the first general analytical survey on Estonian hillforts (Moora 1955), these sites were not regarded as much as military monuments but as reflections of the society and social development. The article was later also published in German with some additions (Moora, H. 1967). A survey on the hillforts of Saaremaa was composed by A. Kustin (1959). From case studies, the excavation results of Rõuge hillfort were presented in a long article (Schmiedehelm 1959). The materials from Rõuge made it possible to distinguish the so-called Rõuge Culture, characterized by specific types of pottery from the second half of the 1<sup>st</sup> millennium AD.

In the first half of the 1960s, in the course of the Lõhavere excavations, the study of Estonian hillforts gradually became part of the research activities of E. Tõnisson. He published a booklet on Lõhavere (1965), a small book on hillforts (1966a) and an article on Estonian shelters (1972). After the death of H. Moora and A. Kustin, the investigation of Late Iron Age hillforts was taken over by Tõnisson. The results of the investigations were presented in his doctoral dissertation (1988a), which offers a general overview of this group of monuments in Estonia. Several ideas in this work, which remained unpublished due to the author’s premature death in 2001

are presented in articles. Thus, there are examinations of the meaning of the term *summitas castri* in the chronicle of Henry of Livonia (Tõnisson 1981c), about the chronology of Estonian hillforts (Tõnisson 1985b), and about hillforts as a reflection of the society (Tõnisson 1982a). The large west Estonian forts enclosed with circular ramparts now came to be regarded as centres of a certain territorial unit (*maa*) that was no longer directly related to the *kihelkond* system (Tõnisson 1985a). There is also a special article about the natural conditions in the surroundings of Lõhavere hillfort (Rõuk & Tõnisson 1984).

Tõnisson's treatments of Estonian Late Iron Age dwellings (1980; 1981a) and stoves (1981b) are also mainly based on the results of the excavation of hillforts. The results of the investigation were later developed into surveys on dwellings in the Baltic countries (Tõnisson 1985c) and in the broader Finnic context (Tõnisson 1986; 1990).

Since the 1980s, analytical attention has been paid to the hillforts of north-eastern Estonia. Toomas Tamla analysed the sites and their chronology in the Pada River basin (1984), and performed a survey on the defensive constructions of the hillforts of Virumaa (1987). In the context of hillfort studies, an article about Viking Age Irboska must also be noted (Sedov 1985).

Special studies were dedicated to the origins of Estonia's main centres – Tallinn and Tartu. As mentioned above, in Tallinn excavations occurred in 1952–1953 in order to find traces of Late Iron Age urban settlement and Russian contacts. Later the materials were critically reviewed and Tallinn became regarded as a seasonal trading place, located at the foot of a non-permanently used hillfort (Tõnisson 1976). The results of the archaeological excavations on the hillfort of Tartu were presented in a book (Trummal 1965), and there is an article concerning the relations between archaeology and the raid of Prince Yaroslav I the Wise of Kiev in 1030 (Trummal 1971). The problems of the establishment of towns were also regarded in a broader perspec-

tive, i.e. in the context of the eastern Baltic region (Tõnisson 1987).

The analysis of material from open rural settlements remained, due to the extensive amount of fieldwork, limited with short surveys about buildings from Olustvere (Sokolovskij 1985) and construction remains from the Lehmja settlement (Lavi & Niinre 1990).

Of Late Iron Age *regional studies*, the first major result of a general character was A. Kustin's manuscript thesis on the islands of Saaremaa and Muhu at the beginning of the 2<sup>nd</sup> millennium (Kustin 1962a) which remained unpublished due to the author's early death. The main conclusions are presented also in an article (Kustin 1967). In another article (Kustin 1962c) published in the book dedicated to the so-called Battle of the Ice on Lake Peipsi in 1242, when the Livonian army was defeated by the Russians, Kustin discussed sites on the western coast of Lake Lämmijärv (the southern part of Lake Peipsi). New treatments were provided about Estonia's Late Iron Age administrative or territorial divisions – about the location of the Korbe district (Arens 1949) and about the medium-level territorial units (*kihelkonds*) of southern and western Estonia (Tarvel 1968; 1971).

Studies on Late Iron Age *cemeteries and burial customs* were published in three monographs based on candidate dissertations. The book by Jüri Selirand on Estonian burial customs in the 11<sup>th</sup>–13<sup>th</sup> centuries (1974) is based on the cemeteries, finds and burial rites of continental Estonia. E. Tõnisson's profound monograph about the Gauja Livs (1974) presents the rich grave finds from the barrows in the basin of the Gauja River, using them as a basis for drawing conclusion about Late Iron Age Livic society. Mare Aun's study (1980) concerns the Viking Age long and round barrows of south-eastern Estonia (see also Tvauri, this volume, a). The abundant material from the cemeteries of Saaremaa was handled in A. Kustin's dissertation (1962a). Kustin also published an article about Randvere cemetery (1962b), which was studied with rescue work in 1939. The results

of the investigation of the Votic cemeteries in the Alutaguse area (north of Lake Peipsi), both the old data and the materials from new fieldwork, were presented and analysed by Priit Ligi in his candidate thesis (1987), which was defended in Leningrad (St. Petersburg), and in two articles in Estonian (1988; 1993c). The burial customs of the Late Iron Age are also reflected in a popular book on ancient Estonian cemeteries (Selirand 1967).

A favourite research topic in Soviet archaeology was *ethnic history*. In spite of the ideological pressure of the 1940s and 1950s, Estonian archaeology was able to use the possibilities and benefits offered by the new system in order to promote research in fields related to ethno-cultural identity. It is important to note the meaning of this topic for national identity and self-consciousness in the conditions of occupation and Russification. The interdisciplinary research project to study the ethno-genesis of the Estonians and neighbouring peoples launched by H. Moora in 1948 yielded output in the form of a collection of articles (EREA, 1956) that also involved the archaeological record of the 11<sup>th</sup> – early 13<sup>th</sup> centuries. Later attention has been paid to the decrease in regional cultural differences and to the formation of the Estonian common identity in the Late Iron Age (Selirand 1980; 1989), as well as to the general ethno-cultural situation in the eastern Baltic region at the threshold of the crusades (Selirand 1995b).

In the context of Late Iron Age ethnic studies, the question of Finnic–Slavonic relations was highly topical during most of the Soviet period. It was expressed first in the interpretations of the long and round barrows of south-eastern Estonia, which in the 1950s and 1960s were attributed to the eastern Slavs. In the 1970s, however, the Estonian archaeologists presented another interpretation: these monuments were assigned to the eastern Finnic population (see also Tvaauri, this volume, a). Changes occurred also in the interpretation of the Latest Iron Age barrows of Alutaguse. Instead of earlier approach which attributed the barrows to the

Votians (Moora 1929b), these monuments were since the 1950s interpreted as sites related to the mixed Slavonic–Votic population that migrated in the 12<sup>th</sup> century from the Novgorodian Land (Trummal 1960; 1970b; Moora, A. 1964, 22 ff). Since the 1980s, however, ideas of the Votic identity and autochthonic origin of this ethnic group were presented again by Priit Ligi (1987; 1989a; 1993c). In the category of Late Iron Age ethno-cultural studies, one might add a treatment on the topic of the Chuds in the written sources (Ligi 1980) and respective chapters from the studies on the ethnic history of the Votians and the Izhorians (Moora, A. 1964; Moora & Moora 1965; Laul 1982, 20 ff). The questions of Finnic–Slavonic relations have also been discussed on a broader scale by J. Selirand (1973a).

Since most of the Livic finds, those from the tsarist period excavations, were stored in the archaeological collections of the Learned Estonian Society in the Institute of History in Tallinn, the study of the Livs as a special topic emerged. In the 1960s Evald Tõnisson paid much attention to the study of the Late Iron Age Livic culture and society in the framework of his candidate thesis. His monograph on the Gauja Livs (1974) was preceded by short treatments on the Livic barrow cemeteries of Krimulda (1966c), as well as on the relations between the Couronian Livs and those in the Gauja River basin (1970a). The main data about the Late Iron Age Livic society were also presented in Estonian (Tõnisson 1982b). A short article concerns the population of Idumea district, located between the Livs and the southern Estonians (Tõnisson 1966b).

In the 1950s and 1960s, much attention was paid to human osteology (palaeo-anthropology), primarily craniological measurements. Karin Mark has studied the respective data from Estonia in a long-term perspective – from the Neolithic to the 18<sup>th</sup> century. As it was only since the 11<sup>th</sup> century that inhumation graves with well-preserved skeletons became numerous again in the Estonian Iron Age archaeological material, osteological data from the Late Iron Age are, in fact, of special value here.

These data were analysed within a general treatment of the Estonians' ethno-genesis (Mark 1956) and in a special study about the anthropology of the eastern Estonian population in the 2<sup>nd</sup> millennium (Mark 1965). An article was also published on the basis of the first years of the excavation of Kaberla cemetery (Mark 1962).

Questions of *religion* were not a favoured topic in Soviet archaeology. A survey of Estonian prehistoric religion published by ethnographer Alice Moora (1956b) in the context of the 'Khrushchevian thaw' long remained the only study in that area. During the Soviet period, archaeologists' treatments on religion were limited to studies on the emergence of the first Christian influences in Estonia (Selirand 1979), on the ideological message of pendant finds from Lõhavere hillfort (Tõnisson 1984) and on Estonian springs possessing cultic significance (Tamla 1985) (see also Valk, this volume, b).

The period also made its contribution to *artefact studies*. A survey of the main artefact types is presented in the monograph by J. Selirand (1974, 87 ff). The dating, however, is based not so much on closed complexes but on data from neighbouring areas. There are also case studies about certain artefact types and find groups: chains with double-spiral-headed pins which belonged to women's head-dress (Selirand 1966), wide bronze-covered knife sheaths (Selirand 1970), Estonian sword finds with master's signs (Selirand 1982) and damascened spearheads (Anteins 1962; Selirand 1975). Other weaponry studies include articles on three northern Estonian swords (Lääne & Selirand 1979) and on blacksmithing (Selirand 1981), on scramasaxes and swords (Mandel 1977; 1991), as well as on arrowheads from Otepää hillfort (Mäesalu 1989). The article on archaeological scythes and sickles (Laul & Tõnisson 1991) is also based mainly on the Late Iron Age data.

Valter Lang has written about the fine pottery dating from the 5<sup>th</sup>–10<sup>th</sup> centuries found in Iru hillfort (1985) and on carinate vessels (1991); he has also discussed Late Iron Age finds from ancient Rävälä

(1996). There are special studies on hand-moulded pottery from south-eastern Estonia (Aun 1976), on the history of wheel pottery in Estonia (Selirand 1988a), on the reflections of Scandinavian contacts on the basis of some artefact finds from Saaremaa (Kustin 1970), on pendants from Lõhavere hillfort (Tõnisson 1984) and on bracelets with thickening ends (Tamla, T. 1991). There exist two studies about metal vessels – one of them dealing with the vessel from the hoard of Tartu (Bank 1962), and another discussing the *Keiser-Otto-Schale* from Kuude (Vassar 1970). The latter find was regarded in connection with the Estonian uprising of 1223.

Within *costume studies*, in the general ethnographic survey on Estonian national costumes, existing data from the Late Iron Age were published (Moora 1957b). Textile studies were continued by S. Laul, who discussed common traits in the ancient dress of the Finnic population (1985b; 1990). A survey of prehistoric textiles is presented in the general treatment on ancient Estonian textiles from the 1<sup>st</sup> to the 17<sup>th</sup> century (Laul 1986). There are also special articles about silk finds in Estonia in the late 12<sup>th</sup> and early 13<sup>th</sup> century (Peets 1985), about burial mittens among the Finnic population (Peets 1987), and a study on lead ornaments in the eastern Baltic region (Moora 1963).

The most important sources about the Late Iron Age communication and trade contacts are *hoards and coin finds*. The first survey on Estonian hoards was made by Tõnisson (1962), who also published the silver hoard of Kumna from the early 13<sup>th</sup> century (1970b). Ülle Tamla's main research concerns Late Iron Age silver ornaments. She has written about ornaments from the Varudi-Vanaküla (Tamla, Ü. 1991) and Angerja (Tamla & Valk 1987) hoards. The Soviet period produced several publications on Late Iron Age coin hoards. There are articles on the Kohtla-Käva hoard from the 12<sup>th</sup> century (Sõerd 1965), on Byzantine coins from the Võlla hoard (Sokolova 1961), on the Viking Age hoards of Tartu (Noonan 1977b), Kehra, Levala (Dobrovolskij & Molvögin 1985; 1986), Maidla, Kose and Väike-

Rõude (Leimus 1979; 1986; 1991) and on the Tamse hoard from the early 13<sup>th</sup> century (Molvõgin 1970).

During the period under discussion also several general studies on coin finds and coin circulation were published. In numismatic studies, Arkadi Molvõgin has characterized coin circulation in Estonia in the second half of the 12<sup>th</sup> and early 13<sup>th</sup> century (1985) and in the eastern Baltic region in the late 11<sup>th</sup> and the early 12<sup>th</sup> century (1987). On the basis of coin finds, he provided a survey about Estonia's foreign contacts in the early 13<sup>th</sup> century (Molvõgin 1978). There are also articles about the role of oriental silver in the trade contacts of Viking Age Estonia (Selirand 1978), the pre-970 dirham hoards from Estonia and Latvia (Noonan 1977a), the finds of Sigtuna coins from Estonia (Molvõgin & Talvio 1980) and a 12<sup>th</sup> century hoard of English coins (Molvõgin 1980).

## Research from 1992–2005

### Archaeological fieldwork

The period since Estonia regained its independence was initially characterized by a decreasing number of rural excavations. This change was caused by several factors: the drastic fall in budget-based funding, the collapse of the state and collective farm system and the end of extensive road construction projects financed from the Soviet Union's central resources. For these reasons, up to the mid-1990s only rare excavations occurred in the countryside. This mainly concerns some projects that had been started in the late Soviet period or small-scale rescue work. The number and amount of excavations has increased due to the increasing research support that has been granted by the Estonian Science Foundation only since the late 1990s.

New data about *cemeteries* were mainly obtained in northern and western Estonia. In Läänemaa some

smaller studies were related to M. Mandel's grant about the Middle and Late Iron Age cemeteries of the region. In the framework of this project, trial excavations and field inventories using metal detectors were carried out from 2000–2002, whereby the research mainly concerned the stone graves of Sipa, Järise, Vidruka and Keskvvere (Mandel 2003a, 94 ff). In northern Estonia, Late Iron Age cemeteries – flat pit-grave cremations at Kodosoo were studied (2003 Vedru).

In the late 1990s the investigation of Saaremaa stone graves was continued by Marika Mägi, who excavated seven 10<sup>th</sup>–11<sup>th</sup> century graves at Piila cemetery in 1997–1998. Fieldwork using the metal detector made it possible to discover a rich grave find at Kõo-Matsi farmstead near the Late Iron Age harbour site of Viltina in 1999. Use of the metal detector also yielded rich finds from cemeteries disturbed by ploughing at St. Mary's chapel in Viru-Nigula in Virumaa (1998 T. Mägi and M. Tammet) and Harmi in Harjumaa (2001 Ü. Tamla).

The excavations of *hillforts* continued mainly in the framework of regional or local studies. In northern Tartumaa, Ain Lavi has studied five hillforts – Kassnurme and Reastvere in 1998, Kalana in 2000, Kurista in 2001 and Ripuka in 2002. Most of these forts were founded in the 11<sup>th</sup> century and were in use up to the early 13<sup>th</sup> century German conquest. Only in Kurista and Reastvere did the sites seem to have been deserted somewhat earlier, i.e. in the 12<sup>th</sup> century. In Saaremaa work continued on Põide (Kahutsi) hillfort (1990–1993 Lõugas; in 1993 also Mägi-Lõugas) and on Lihulinn in Kärula, the largest ancient fort on the island of Saaremaa (1995–1996 Peets).

A long-term project of research excavations in the ruins of the Teutonic Order's Viljandi Castle has provided some information about the cultural layer of the previous Viking Age hillfort there. The site has been excavated with small plots and trial pits in different areas since 1997 (1997–1998 Tvauri; 2000–2004 Haak). The layers from the 12<sup>th</sup> century and most of the 13<sup>th</sup> century have not yet been dis-

covered. They were presumably removed in the construction of the Teutonic Order's castle.

In southern Harjumaa (now Rapla County), fieldwork (2001–2005) at Keava hillfort and its surroundings were directed by Valter Lang, Andres Tvauri and Marge Konsa. The suggested late Viking Age centre proved to be from the Latest Iron Age and also from the period of the crusades. As a unique find, the excavations unearthed a hidden gateway that passed under the rampart. New data related to the hillfort or related settlement were also gained about Late Iron Age settlement on Toompea Hill in Tallinn (1995 Aus and Talvar).

In 2005 Heiki Valk launched a project to study the chronology of the southern Estonian hillforts, digging three sites in Võrumaa. It was established that the large fort of Tilleoru dated from the 10<sup>th</sup> and 11<sup>th</sup> centuries. Excavations at Vastseliina and Kirumpää provided data only about medieval and post-medieval times, although concerning Vastseliina this date cannot yet be regarded as final.

As the collapse of the Soviet Union put an end to the large projects of road construction, since the 1990s the study of *open settlements* has mainly been limited to small-scale excavations. In northern Estonia such work also occurred within V. Lang's Keava project in 2001–2003. The Linnaaluste I and III settlements close to the hillfort date from the 8<sup>th</sup>–11<sup>th</sup> centuries, and Linnaaluste II is from the Latest Iron Age. Some Viking Age finds were obtained from rescue work at Lagedi (1998 Sarv) and Lehinja (2004 Lavi) near Tallinn, and rescue work followed the discovery of a Viking Age hoard at Ubina in Harjumaa (2005 Ü. Tamla and Kiudsoo). Trial excavations also took place at the Late Iron Age settlement of Kaberla (2002 Vedru), and problem-based research was launched at the settlement of Uugla (2005 Mandel).

In southern Estonia, new data on Late Iron Age settlements were obtained from Viljandi and its surroundings during the 1990s. Rescue work was carried out at the Late Iron Age settlement of Aindu (1992–1993 Valk), which is located 4 km north of

the town and was damaged by melioration activities. The settlement complex of Viljandi, which was studied in the course of research excavations financed by the town, provided rich finds from the 10<sup>th</sup> – early 13<sup>th</sup> centuries. The study concerned two settlement sites – one in the Lossimäed ('Castle Hills') area, the other c. 500 m south-east of it, close to Lake Viljandi. The first complex (1999–2002, 2005 Valk; 2003–2004 also Rammo and Veldi) includes disturbed layers transported into the foundations of trebuchet platforms built when the hillfort was besieged in 1223, and the remains of a household on a tiny hilltop. It cannot be ruled out that the complex included also a ritual site. The location of the first settlement unit on several hillocks with steep slopes and with no direct access to water does not make it possible to interpret it as an ordinary village. The second open settlement, studied in 2002, dates from the 10<sup>th</sup>–11<sup>th</sup> to the early 13<sup>th</sup> century and is probably related to a single farm. In addition to Viljandi, Late Iron Age cultural layers related to a settlement at the foot of a central hillfort of that time were also studied in Tartu – in Ülikooli St. in the 1990s (Piirits and Vissak).

In the 1990s, much attention was paid to the study of settlement sites in Setumaa. Several field inventories (mainly performed by Arvis Kiristaja and Ali Kikkas) have created a general and quite representative picture of the settlement pattern (Aun & Kiristaja 1998). A number of settlements were also studied in the course of trial excavations (Aun 2001b). The sites in Uusvada (1993 Valk), Kalatsova (1993 Peets), Väike-Rõsna (1996 Luik and Kiristaja) and Laossina II (2001–2002 Aun) have already been in use since the 11<sup>th</sup> or 12<sup>th</sup> century. The largest rural excavations on Late Iron Age open settlements in Estonia during the last decade occurred on the small island of Pedäjäsaare/Sosnasaare near Värskä (1998–2000 Aun). The site was studied in connection with the construction of the new centre for the border guard authorities. Close to Setumaa, in the framework of the Siksälä project, a trial pit was made at Hino settlement (2004 Rammo and Valk).



In recent years, the work done in Gotland by Dan Carlsson has inspired M. Mägi to identify and study **ancient harbour sites** on the coast of Estonia. In 2004–2005 corresponding studies were launched in Viltina, Kogula, Tornimäe, Sutu and Pälla (on the island of Saaremaa). In 2005 the cultural layers adjacent to the coast in Muuksi on the coast of eastern Harjumaa were interpreted as a harbour by Gurly Vedru.

Since the 1990s the intensification of the study of prehistoric land use systems by V. Lang has provided new data on Late Iron Age **land cultivation** in northern Estonia. The mapping and excavating of the field boundaries and clearance cairns, both in research and rescue contexts, has taken place in several places in northern Estonia: at Vatku (1996, 1999), Tõugu (1993, 1995), Võhma (1994–1995), Uusküla (1997–1998) (about these sites see Lang 2000a, 221 ff) and Ilmandu (2002–2003). Similar work also occurred in Muuksi (1995 Lang and Vedru) and Kaseküla (1999 Lang). The digging of the stone fences at Einbi village in the Swedish settlement area on the Noarootsi Peninsula in Läänemaa by Swedish researcher Felicia Markus in 1999–2001 has yielded data referring to the 11<sup>th</sup>–13<sup>th</sup> centuries (Markus 2002, 121 ff).

J. Peets continued studies on **ancient iron production**. His work on the 11<sup>th</sup>–14<sup>th</sup> century iron production complex in Tuiu on the island of Saaremaa lasted until 1996. Excavations were followed by successful iron smelting experiments using the ancient technologies, and furnaces re-constructed on the basis of excavation finds (see Kriiska & Lõugas, this volume). In the light of the fieldwork of 2005 in the recently deforested area, the Tuiu complex proved to have been much larger than even earlier suggested, and the remains of a Late Iron Age smithy were also identified in Käku. Traces of Late Iron Age iron production have also been found at Ilumäe I and III settlements (1996 Lang and Peets) in Virumaa. The investigation results of different sites show the continuity of iron-smelting with tuyere-furnished furnaces from the late 11<sup>th</sup>–12<sup>th</sup> up to the mid-14<sup>th</sup>

century, when the tradition was interrupted everywhere in Estonia.

### General treatments and studies

The new situation after the fall of the Soviet Union (access to western libraries and foreign contacts; see Konsa, this volume) led to changes in the interpretation of the archaeological record. Concerning the events of the early 13<sup>th</sup> century, in addition to the traditional concept of the ‘ancient struggle for freedom’, the concepts of the Baltic crusades and Europeanization emerged. In introducing the latter term, a great deal belongs to the project *Culture Clash or Compromise: Europeanization of the Baltic Rim 1100–1400*, initiated by Nils Blomkvist (Gotland University). The project also involved Estonian archaeologists engaged in the study of the Late Iron Age (M. Mägi, A. Pärn, E. Tõnisson and H. Valk).

The decreasing amount of fieldwork made it possible to pay more attention to the analysis of the already existing archaeological material. The end of political isolation, access to recent western treatments and the broadening of the theoretical basis caused changes in ideas about Estonian **Late Iron Age society**. Simultaneously, a gradual shift occurred in approaches towards Estonia’s position as a research area. Instead of nation-centred research, regarding the country as an ethno-political unit whose external relations are limited to ‘contacts with neighbours’, the broader view of the country as part of a larger network of societies and social developments has emerged.

In such a framework, the transition from the concept of an egalitarian (e.g. Tõnisson 1992a) to non-egalitarian society began in Estonian archaeology in the early 1990s. The opposition of two approaches in this question, as well as on principles of archaeological research as a whole, was expressed in a sharp discussion between P. Ligi (1993a; 1994b–c), on the one hand and Evald Tõnisson (1994a–b) and Jüri Selirand (1994b) on the other (see also Konsa, this

volume). Ligi's post-processual approach presented the 'social elite' and the 'legitimization and manifestation of power' as new keywords (Ligi 1995a).

In Estonian archaeology in general, the new approaches were accepted in a more moderate manner, just in certain contexts for interpreting the source material. The concept of non-egalitarian Late Iron Age society has, however, been expressed in all recent general analyses (Kriiska & Tvauri 2002; Mägi 2003a), as well as in monographs on the Late Iron Age of Saaremaa (Mägi 2002a) and Läänemaa (Mandel 2003a). In a short survey on the Viking Age society of Saaremaa, the role of the plundering economy has been emphasized (Ligi 1995b).

The concept of the non-egalitarian society has also evoked the question of taxation systems and taxation units. On the basis of archaeological data from southern Harjumaa, V. Lang suggests that the *vakus*-system, known from the medieval period, probably already existed in the early 13<sup>th</sup> century and is therefore of Iron Age background (Lang 2002). The pre-conquest origin of the *vakus* institution was however, denied by some historians, due to the lack of respective written sources (Tarvel 1999).

In the *study of administrative and territorial units*, the concept of hillfort district or land (*maa*) was, on the basis of the comparison of archaeological sources, toponyms and written data, added to the traditional hierarchical division based on districts – *maakonds* and *kihelkonds* (Tönnisson 1985a). This idea has recently once again been applied to Läänemaa (Mandel 2003b). There is also a study of the meaning of the *kihelkond* institution compiled on the basis of the written data (Tarvel 1998).

Important keywords have been territorial units, centres, peripheries and hinterlands, land ownership and power. These questions were discussed in regional studies of the ancient Rävala district (Lang 1996) and Late Iron Age Saaremaa (Mägi 1998; 2002b; 2004a), as well as in new district histories of Läänemaa (Mandel 1993) and Virumaa (Tamla 1996). In the Keava project, attention is being paid to the settlement pattern and administrative system

of southern Harjumaa. The question of Late Iron Age centres and temporal changes in their network is currently being studied in southern Estonia (H. Valk).

At the Institute of History of Tallinn University, most of the research involves northern and western Estonia in the Iron Age and Middle Ages, especially the coastal areas. Within these frameworks the topic of maritime cultural landscapes has emerged – both from a theoretical perspective (Ilves 2004) as well as concerning the study of coastal areas and harbours in Saaremaa (Mägi 2004a). For northern Estonia, the use of coastal areas has been defined as a research problem (Vedru 2001, 117 ff).

General attention has also been paid to the contacts between Scandinavia and the eastern Baltic region: both from the viewpoint of Late Iron Age Finnic culture (Tönnisson 1992c) and the eastern Baltic as a whole (Valk 2006f). As a special topic, the relations between Post-Viking Age Estonia and occidental Europe, including Scandinavia, have been examined (Tönnisson 1998). In this respect, the studies about Saaremaa should particularly be noted (Mägi 2002a).

During the last decade, the *transition from the Iron Age to the Middle Ages* and the integration of the Iron Age society into the new, European structures has emerged as a special field of research. The beginning of the Middle Ages is no longer regarded as an event connected with the end of the crusades and conquest, but as a dynamic process expressed in social, cultural and religious changes. Data from Saaremaa have shown both settlement continuity and the continuity of the native pre-conquest elite from the Iron Age to the Middle Ages (Mägi 1999b; 2001; 2002b). It is assumed that this social group accepted Christianity on the Scandinavian model, granting a smooth transition from the old to the new religion, whereby the transition may have begun even before the German conquest (Mägi 2002a; 2003b). On the basis of the weapons depicted, the trapezoid grave-stones at the churchyards of Saaremaa and Läänemaa have been attributed to the native elite of pre-con-

quest times (Sipelgas 2000), but these dates have, from an art historian's perspective, been rejected as too early (Markus 2003). Attention has also been paid to societal changes at the transition to the Middle Ages in northern Viljandimaa (Haak 2003b), and the role of the native elite as a mediator of cultural innovations of a European character has been emphasized in a broader context (Valk 2002; 2006c).

The period of Estonian independence has also provided new views on the *hillforts and the formation of urban centres*. There are special treatments about the hillforts of north-eastern Estonia (Tamla, T. 1992; 1993) and the eastern part of central Estonia, mainly northern Tartumaa (Lavi 2002). Special studies concern the strongholds of Otepää (Mäesalu 1993), Iru (Lang 1995d; 1996), Varbola (Tamla, Ü. 1992b; Tönnisson 1999) and Lihula (Mandel 2000), as well as the changes of the functions of south-eastern Estonian hillforts in the 8<sup>th</sup>–15<sup>th</sup> centuries (Mäesalu 1996). Of Tönnisson's heritage, the unfinished manuscripts of books on Varbola and Lohavere hillforts, as well as on Estonian hillforts in general, should be mentioned. A booklet about Irboska hillfort in the 8<sup>th</sup>–10<sup>th</sup> centuries appeared in Russia (Sedov 2002), and in spite of the author's death, the manuscript about the excavation results is still expected to be printed.

The formation of early urban centres was approached by Tönnisson (1996) from the point of view of Late Iron Age trading places related to hillforts. V. Lang (2004) has also emphasized the role of the hillforts, accentuating, however, the functional diversity of sites that are similar in appearance.

On the basis of the archaeological data there has been some discussion of Late Iron Age Tartu and Tallinn (see also Russow *et al.* this volume). Most of archaeologists who have studied Tartu (Trummal 1996; Metsallik 1992; 1995; Mäesalu & Vissak 2002) have regarded the town as a centre that developed continuously from the Late Iron Age into the Middle Ages. Andres Tvauri's monograph about prehistoric Tartu (2001a) considers it, however, to be a non-continuous settlement unit, having its heyday at the time when it belonged to Old Rus in 1030–1061. According

to Tvauri, there are no definite settlement traces from the 12<sup>th</sup> century, and he doubts even in the existence of a hillfort on the eve of the crusades. Data about prehistoric Tallinn were first summarized by Jaan Tamm (1993), who has also analysed the location of its Late Iron Age harbour sites (2003), its landscape situation and natural conditions (2004a), and the oldest settlement traces from Toompea Hill – the site of the ancient hillfort (2004b). A preliminary survey exists about the genesis of Viljandi, where Late Iron Age settlement units are located outside the area of the medieval town (Valk 2005).

Up to now, questions related to Late Iron Age *settlement history and settlement pattern* have not yet been studied to any great extent. Although numerous data on settlement sites have accumulated since the 1970s in the course of fieldwork, there exists no general analysis. A representative picture of Late Iron Age settlements has only been composed concerning the most investigated regions – the Pirita River basin (Lang 1996), Läänemaa (Mandel 1993; 2003a) and Setumaa. In the latter case, a thorough analysis exists concerning only the second half of the 1<sup>st</sup> millennium (Aun 2003b), and data about later periods are presented merely on a distribution map (Kiristaja 2000). Studies on settlement history involve also M. Mägi's research on Saaremaa. There are case studies about Jalase village in Harjumaa (Tamla 1994a), Ridala district in Läänemaa (Pärn 1999) and the surroundings of Kaberla in Harjumaa (Vedru 2003b). Conclusions on south-eastern Estonia in the 6<sup>th</sup>–10<sup>th</sup> centuries have been made by Mare Aun (1992), but the work is based on the studies performed in the 1960s–1980s. Since the 1990s, however, numerous new data about open settlements have been added. The recent thesis by Felicia Markus (2004) regards the question of the Swedish settlement in western Estonia in a long-term perspective, also including the Late Iron Age.

The future perspectives in the field of settlement pattern analysis are connected with the GIS-related database of place-related archaeological information that is being composed at the University of Tartu. A

similar approach has, for example, been used in the BA thesis of Priit Lätti about Latest Iron Age and medieval Järvamaa (2004).

Articles on the villages of northern Estonia in about 1200 (Vedru 2003a), on the buildings in Estonian villages of that time (Lavi 2003), on Late Iron Age economic buildings (Lavi 1995a) and the genesis of the Estonian smoke cottages (Lavi 2005) are also related to settlement studies. A. Lavi has performed a survey on Estonian wetland roads (Lavi 1998). The question of roads and communication in the Late Iron Age and in the Middle Ages has also recently emerged as a special research topic (Veldi 2004).

Concerning *rural economic activities*, attention has been paid to the study of land use systems (Lang 1995b) and cattle breeding (Maldre 2003c). Special articles deal with the Late Iron Age animal bones from Tartu (Saks 1994) and Viljandi (Saks & Valk 2002). Differences in the finds from Estonian Late Iron Age hillforts and open settlements, referring to the functional differences of these sites, have also been analysed (Tvauri 2002).

In *cemetery studies*, the main results of the recent years are monographs based on data from Saaremaa (Mägi 2002a) and Läänemaa (Mandel 2003a). M. Mägi discusses artefact finds, changes in burial rites and societal changes in Saaremaa at the transition to the Middle Ages. M. Mandel analyses different grave forms and burial practices, as well as questions related to settlement pattern and cultural contacts. Mägi has treated the changes in burial customs on the island of Saaremaa also in a separate article (2004c). A survey of Late Iron Age burial rites in the south-easternmost corner of Estonia is presented in a monograph about Siksälä cemetery (Laul & Valk 2006), which continued in the medieval period. Excavation data from Proosa cemetery, covering a long time-span, have also been analysed (Deemant 1993).

In addition to presenting the source material, new approaches have also been offered. In the case of Läänemaa cemeteries, much attention was paid to the analysis of cremated bones and animal bones

(Allmäe 2003; Maldre 2003b), and the studies have proved the partial deposition of the cremation remains in the cemetery. The finds and burial customs of the Late Iron Age stone grave in Madi have served as the basis of theoretical approaches (Konsa 2003a-b). In individual questions, the date of the emergence of Late Iron Age inhumation graves (Mägi 1995), burial customs and their religious aspects (Mägi 2003b), and the question of ancient grave robbery (Tamla 1998) have been discussed. In relation to experimental archaeology, the cremation of a pig, furnished with Viking Age female ornaments and costume (1998 Mägi), must be noted.

The analysis of the archaeological material from the cemeteries has also been performed from osteological and palaeodemographic aspects. The traditional comparative craniological studies have been complemented with cluster analysis (Heapost 1996), and on the basis of skeletal remains, a physical picture of the Estonians at about 1200 has been composed (Heapost 2003). Surveys have been performed on the basis of skeletal material from Siksälä cemetery (Heapost 2006) and on odontological data from Jõuga cemetery (Sarap 1993). A study has been undertaken about dental pathologies from the graves of Pada (Limbo 2004).

In *ethno-cultural studies* regional diversities within Estonia have been emphasized (Selirand 1989). The population in Alutaguse and areas north-east of Lake Peipsi has been distinguished, differently from the former concept of Votic-Slavonic mixed population, as being of Votic origin (Ligi 1992). P. Ligi also presented new views on the ethno-genesis of the population of present-day north-western Russia (1993b). Rejecting the traditional thesis of Slavonic colonization and instead presenting the hypothesis of language change caused a subsequent discussion in *Fennoscandia Archaeologica* (Panchenko *et al.* 1994; Ligi 1994a). The question of present-day and former ethnic identities was also discussed in an article on Soviet pan-Slavism in archaeology (Selirand 1996).

Also in the case of Siksälä cemetery, the question of its ethno-cultural background has emerged. The

community probably represents a Finnic ethnicity whose main area of inhabitation lay in the north-easternmost corner of Latvia (Laul & Valk 2006). The question of the Finnic population in north-eastern and eastern Latvia has also been emphasized in the context of textile studies (Laul 1990). The fact that parallels to the Late Iron Age and medieval archaeological textiles of Estonia and their ornamentation can be found in the ethnographic data from Estonia and other Finno-Ugric areas – both among the Finnic groups and the Volga Finns – refers to ancient contacts or a common culture in remote past (Laul 1996; 2004). An article has also appeared on the mutual relationships between the people of late prehistoric Saaremaa and the Livs (Mägi 2005).

Estonian Late Iron Age *religion* is discussed in the treatment of Estonian prehistoric religion in a long-term perspective (Jonuks 2003; 2005, 92 f). A survey about the latest phase of Estonian pre-Christian religion has been written from an anthropological viewpoint (Mets 2003).

The last 15 years have seen considerable advances in *artefact studies* and *the studies of ancient technologies*, whereby in these relations new, interpretive aspects have emerged. In addition to the traditional studies of distribution, typology and chronology, since the late 1990s the meaning of artefacts has also become a topic of discussion. The treatments of the first half of the 1990s are still of a traditional character. From that time there is a survey on finds from the Votic cemeteries of Alutaguse (Ligi 1993c) and three typological and chronological studies about Viking Age ornaments and their decoration: on penannular brooches, bracelets and breast pins (Mägi-Lõugas 1994; 1995; Mägi 1997).

Heidi Luik has written about the Estonian finds of oval brooches (1998b), S-shaped pendants and strap tags (1999a) and comb-shaped pendants (1999b). Her main work is a profound survey of Late Iron Age and medieval bone and antler artefacts. It includes a monograph on bone combs (Luik 1998a) and a PhD thesis (Luik 2005), based on a number of articles: on bone skates (Luik 2000) and small bone spades (Luik &

Tamla 2005), on bone artefacts as grave goods (Luik 2003a) and on the use of bone and antler in Estonia on the eve of the conquest (Luik 2003b). Special studies concern bone and antler finds from the hillforts of Otepää (Maldre 2001), Lõhavere, Soontagana, Valjala and Varbola (Luik 2004; Tamla & Maldre 2001), as well as from the hillforts and settlements of Kuusalu and Rõuge (Luik 2001; Luik & Maldre, in print) and from the settlement and cemetery of Pada (Luik & Maldre 2005).

Weapon studies have served as the basis for two MA theses: on Estonian scramasaxes and swords (Mandel 1992) and on the weapon finds from Otepää hillfort (Mäesalu 1992). Part of the latter-mentioned study concerning armour finds has also been published (Mäesalu 1995). There are also publications on the use of trebuchets in the Baltic crusades (Mäesalu 2001b), about the weaponry of the Estonians in about 1200 (Mandel 2003c), about weapons and edged tools from Siksälä cemetery (Peets 2006a) and about knife-shaped javelin heads (Peets *et al.* 2006; Valt 2006). The latter-mentioned article presents the typology of finds and makes changes to their chronology, showing that certain types were in use in the peripheries longer than had previously been suggested.

In addition to presenting source material, the monumental work on Viking Age M-type spearheads from the Baltic Sea region (Creutz 2003), which includes corresponding data from Estonia, also discusses several questions related to the manufacturing and distribution of the spearheads, as well as their meaning in Late Viking Age society. The work presents an innovative idea about the production of spearheads in many local centres. The same concerns silver-patterned finds – the complicated ornamentation is explained as being made in the manner of matrixes of Scandinavian origin.

In the study of Late Iron Age technologies, primary attention has been paid to the production of iron, textiles, pottery and silver ornaments. A survey about iron smelting and blacksmithing technologies was presented by J. Peets (2003a-b). His investiga-

tions, especially of the iron production complex at Tuui in Saaremaa (Peets 1996) show that tuyere-furnace based iron production of the Late Iron Age and early medieval period, i.e. from the 11<sup>th</sup>–12<sup>th</sup> to mid-14<sup>th</sup> centuries was extensively practised in Estonia. The quantity of iron produced annually in Estonia's main iron production regions – north-western Saaremaa and northern and eastern Estonia – is estimated at 4000–4500 tons per year, which exceeded twofold the expected iron needs of Estonia at that time. An article on Late Iron Age and medieval iron production in northern Tartumaa was written by A. Lavi (1999). There is also a special study about pre-historic and medieval smithing tools (Peets 2006b).

Peets has also studied textile finds and corresponding technologies used in Estonian Late Iron Age and medieval rural sites (1992; 1993). In future more attention will be paid to medieval urban textiles. There is a survey on the Estonian costume at about 1200 (Mägi & Ratas 2003) and an article on the shirt finds from Siksälä cemetery (Laul 2004). Research in the field of textile and costume studies is being continued by Riina Rammo (2005).

Andres Tvauri has studied pottery production. He has published surveys about Russian potters in Viljandi and Tartu in the 13<sup>th</sup> century (Tvauri 2000a) and Slavonic pottery of Rus origin in Estonia (Tvauri 2000b), but the main investigation results are presented in the recent monograph on Estonian pottery in the Latest Iron Age, i.e. the 11<sup>th</sup>–13<sup>th</sup> centuries (Tvauri 2005). Tvauri claims that the Estonian wheel-made pottery of the 11<sup>th</sup>–16<sup>th</sup> centuries is based on north-west Russian traditions and was either imported from Russia or produced at a limited number of centres by professional masters. The book also provides a general survey about the making, typology and distribution of pottery.

Research has also involved Late Iron Age silver hoards or some rare silver ornaments, especially their manufacturing technologies and chemical composition. In this area much has been done since the mid-1990s by Ülle Tamla and Urve Kallavus. An interdisciplinary approach has provided good

results concerning hoards from Varbola, Angerja, Paunküla, Padiküla and Lõhavere (Tamla & Kallavus 1998a-b; 1999; 2000; 2003; Kallavus & Tamla 2003; Tamla *et al.* 2002), as well as on the technology of making silver ornaments (Tamla, Ü. 1998; Tamla *et al.* 2004). Special treatments concern the hoard of Tõrma, a silver bracelet from Angerja, a disc-shaped brooch from Padiküla and Estonian silver hoards in the St. Petersburg Hermitage (Tamla, Ü. 1999; 2002; 2004; 2006). Late Iron Age silver ornaments have also been discussed from an art historian's viewpoint (Kirme 2000, 10 ff).

Some artefact groups are discussed in special articles. In the studies on the Estonian finds of spindle whirrs (Vedru 1999) and fishing implements (Lõugas 2001, 135 ff), finds from other periods are presented in addition to those from the Late Iron Age. T. Tamla has studied the finds of Hanseatic bowls in Estonia (1999): they are regarded as baptism vessels from the period of Christianization in the 1220s. There is also a study about a unique iron kettle from Raatvere cemetery (Lavi *et al.* 1998) and a survey of two Borre-style pendants from Tartu (Metsallik 1996).

Artefacts have also been used as a basis for the study of Scandinavian contacts. The latter have been analysed on the basis of the ornamentation of spearheads (Mägi-Lõugas 1993a; Creutz 1994; 1995), as well as on the basis of Viking Age Scandinavian ornamentation as a whole (Mägi-Lõugas 1993b). A special study concerns Scandinavian ornaments in Estonian Late Iron Age silver hoards (Tamla 1995).

During the last 15 years, much attention has been paid to *hoards and coin finds* and several Late Iron Age hoards have been published. Articles have been written about two Viking Age coin hoards in Estonia found in the 17<sup>th</sup> century – those of Järise (Talvio 2003) and a long-lost hoard (Leimus 1996). A find of Arabic coins stored in Saaremaa Museum and the Piila Viking Age hoard (Leimus 2005; 2003c) have also been published. As concerns the 11<sup>th</sup> century hoards, reference is to be made to the reports about the finds of Sauevälja (Molvõgin

1994b; Tamla 1994b) and Edise (Leimus & Molvõgin 1998) and the so-called Rezwow's hoard (Leimus 2001b). The long-lost 12<sup>th</sup> century hoard from Vaida (Molvõgin & Leimus 1995) and the Muraste hoard from the mid-12<sup>th</sup> century (Leimus 2004b) have also been dealt with. An article about the prehistoric coin hoards of Läänemaa (Molvõgin 1993b) has been published as a local-level survey.

Hoardings are the main basis for the study of trading contacts in the Viking Age and Latest Iron Age – both in the inland perspective (Tõnisson 1996) and especially for regarding Estonia within a broader network. Corresponding work on the Viking Age Arabic silver coins is currently being done by Ivar Leimus, who has published an article about the respective hoards (2004c) and about graffiti on silver coins (2003a). In the Viking Age silver trade, the role of beaver furs as an important exchange article has been emphasized (Leimus & Kiudsoo 2004). Arkadi Molvõgin has performed a survey on the western European coins of the Late Viking Age and the Post-Viking period. His monumental catalogue on corresponding coin finds from Estonia (1994a) was preceded by an article on the last wave of western European Viking Age coins (1993a). There exists a survey about the Estonian collections of Anglo-Saxon, Anglo-Norman and later British coins (Leimus & Molvõgin 2001). The study of hoards and coins has produced a survey about money in Estonia in about 1200 and articles about the first German merchants in Estonia and their origins (Leimus 2002b; 2003b).

## Conclusions

The Late Iron Age is the period with the richest archaeological material, the most attractive sites and the largest number of excavations in Estonian prehistory. The cemeteries of this period, rich in finds, offer good material for interpretations of the society and religion. The study of the impressive Late Iron Age hillforts has provided data not only about finds,

fortifications, construction remains and their dates, but has also formed the basis for discussions about administrative and territorial division. The digging of open settlements, which reached its greatest intensity in the late Soviet period, has provided a large amount of material, much of which has not yet been analysed. In artefact and technological studies, in addition to treatments of certain artefact groups – first traditional, and since the 1990s also of interpretive character –, during the last decades prime attention has been paid to iron production and iron tools, weapons, pottery, textiles, bone and antler artefacts and silver ornaments.

As a whole, Late Iron Age artefact chronology in Estonia needs to be revised, and numerous closed find complexes, both from graves and settlement sites, offer good opportunities for this. The study of the economic activities of the period, which reached its peak in the 1960s, has also undergone a revival in the last decade, especially in the framework of environmental research and work on tillage systems and archaeozoological material. The analysis of coin finds and the Viking Age and Latest Iron Age silver hoards have enabled to see Estonia's position in a broader network of economic contacts.

The investigations that began with the occasional fieldwork of the late 19<sup>th</sup> century have, since the 1920s and 1930s, produced general conclusions about the period and its society. Over the course of time, these conclusions have undergone considerable changes. Since the late 1940s, the idealized egalitarian model of the period of 'ancient independence' as a distant predecessor of the national state of the 1930s was replaced with the concept of feudalism. In parallel to the relaxation of the political climate, the latter gradually reduced in the 1960s and 1970s to the 'formation of feudal relations' and by the end of Soviet rule the concept of the 1930s had generally returned. The opening of contacts since the mid-1990s enables us to observe the latest period of Estonian prehistory in the context of northern Europe and in the framework of broader processes of social development.

# Medieval Archaeology of the European Context: Towns, Churches, Monasteries and Castles

ERKI RUSSOW, HEIKI VALK, ARVI HAAK, ANTON PÄRN AND AIN MÄESALU

## Introduction

### Time frame, political context and general characteristics

In Estonia, the end of the Iron Age and the beginning of the Middle Ages has traditionally been marked by the conquest of the country by the German and Danish crusaders in the wars of 1208–1227, as described in the chronicle of Henry of Livonia (HCL). The island of Saaremaa (Ösel) was the last of the Estonian counties to adopt Christianity, in 1227; the historical sciences consider this year to be the beginning of the medieval period. This period, which began with conquests, has since the 1920s also been called ‘historical time’ in the archaeological context.

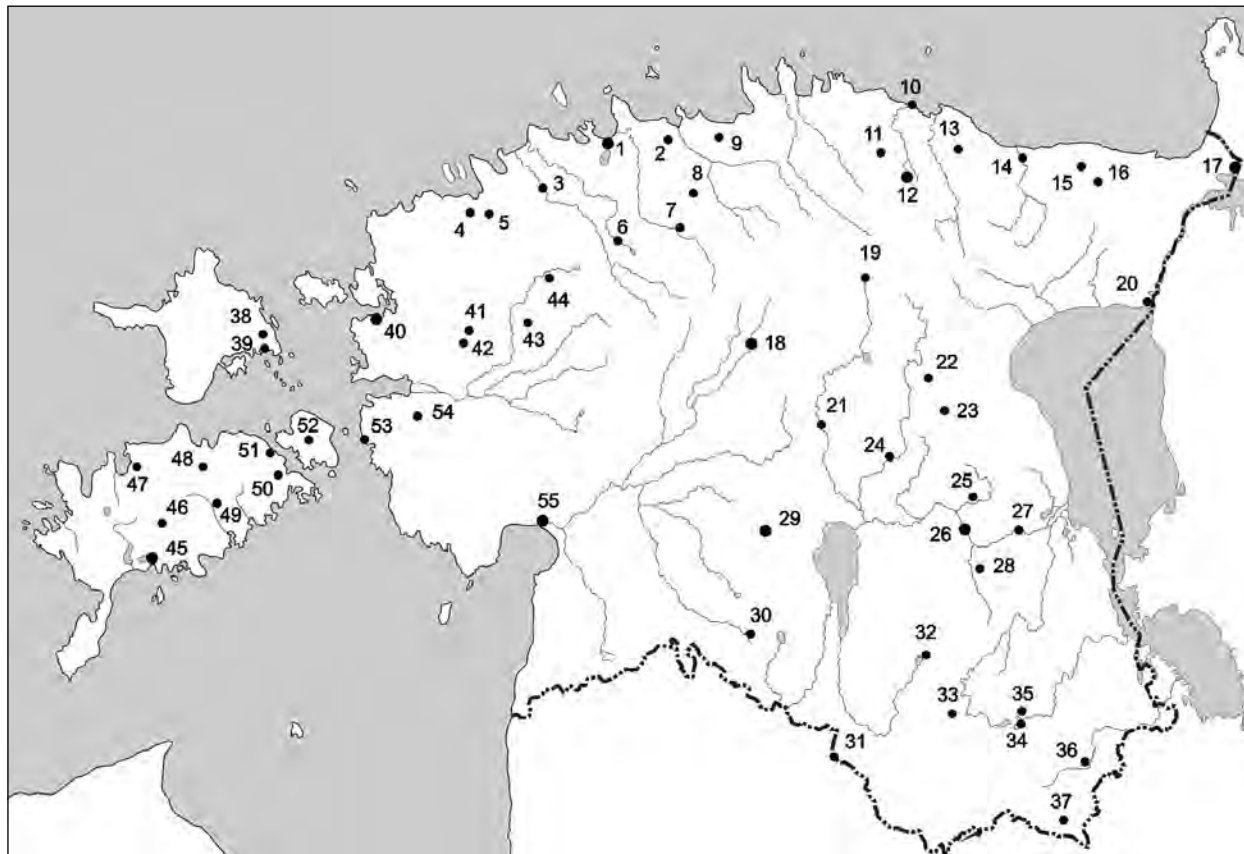
In the archaeological material, the border between prehistory and history is not as clear as it is for the historical sciences, which are based on written sources. Earlier approaches (see also Mäesalu & Valk, this volume) have dated the end of prehistory to the year 1200 (EA I, 1935) or the beginning of the 13<sup>th</sup> century (Jaanits *et al.* 1982). More recent views suggest a longer period of transition between prehistory and the Middle Ages – between 1200 and 1250 (Lang & Kriiska 2001, 102 f). The founding of new towns, churches, castles and monasteries that are typical of medieval Europe and which have left their mark also in archaeology naturally took several years and decades; changes in the cultural con-

text of the local peasantry took even longer. The initial major changes, however, occurred soon after mainland Estonia was conquered in 1224. Most of the ancient hillforts were abandoned, and according to the written sources (HCL, XXIX: 1, 3), at least some of the churches and castles had already been constructed by the year 1225. We may thus conceptually mark the beginning of the medieval Period to the year 1225. In the Estonian archaeological context the term ‘Early Middle Ages’ is sometimes also used, and it here stands for the 13<sup>th</sup>–14<sup>th</sup> centuries.

In the political context, the beginning of the Middle Ages is connected with the creation of a new political entity – Livonia. Medieval Livonia, which comprised the present territories of Estonia and Latvia, was a confederation of small feudal states. On the territory of what is now Estonia, the bishoprics of Tartu (in eastern Estonia) and Oesel-Wik (in western Estonia and on the islands) were formed. The northern part of Estonia went to the King of Denmark. The most important power belonged to the Livonian branch of the Teutonic Order (Livonian Order), which initially ruled over south-western Estonia and the central part of Estonia and also part of Saaremaa. In the year 1346, after a great uprising in northern and western Estonia, the King of Denmark sold his domains to the Order, which then became the central power in Livonia.

Medieval archaeology in Estonia is consistent with the history of Medieval Livonia as a political entity. The era ends with the devastating Livonian War (1558–1583), when severe battles took place





**Fig. 46.** Medieval sites mentioned in the text. 1 Tallinn, 2 Jõelähtme, 3 Keila, 4 Risti, 5 Padise, 6 Angerja, 7 Kose, 8 Kiviloo, 9 Kiiu, 10 Toolse, 11 Haljala, 12 Rakvere, 13 Viru-Nigula, 14 Purtse and Tarakallas, 15 Järve, 16 Jõhvi, 17 Narva, 18 Paide, 19 Kiltsi, 20 Vasknarva, 21 Põltsamaa, 22 Laiuse, 23 Palamuse, 24 Kursi, 25 Kärkna, 26 Tartu, 27 Uue-Kastre, 28 Kambja, 29 Viljandi, 30 Karksi, 31 Valga, 32 Otepää, 33 Urvaste, 34 Võru, 35 Kirumpää, 36 Vastseliina, 37 Kõugumäe, 38 Pühalepa, 39 Valipe, 40 Haapsalu, 41 Koluvere, 42 Kullamaa, 43 Märjamaa, 44 Varbola, 45 Kuressaare, 46 Kaarma, 47 Paatsa, 48 Karja (Kooljamäed), 49 Valjala, 50 Pöide, 51 Maasilinn, 52 Muhu, 53 Virtsu, 54 Lihula, 55 New-Pärnu and Old-Pärnu.

between the Russian, Polish and Swedish troops, but also between local armed groups. In the course of the Livonian War, the earlier state system and towns (except for Tallinn) were destroyed, and the whole country was completely devastated. This period of the war is considered to be the boundary between medieval and post-medieval archaeology (see Russow, this volume).

The conquest of Estonia in the first quarter of the 13<sup>th</sup> century brought about major changes in the life of the entire society – there began to develop

new political, social, economic, ecclesiastical and legal structures and new towns that were typical of medieval Europe. There were nine towns in medieval Estonia (Fig. 46) – Tallinn (known as Reval in the German-speaking countries; obtained its town charter in 1248), Tartu (Dorpat; town charter probably before 1248), New-Pärnu (Neu-Pernau; town charter at the beginning of the 14<sup>th</sup> century), Viljandi (Fellin; town charter probably in the second or third quarter of the 13<sup>th</sup> century), Narva (town charter in 1345), Haapsalu (Hapsal; town charter in

1279), Rakvere (Wesenberg; town charter in 1302), Paide (Weissenstein; town charter in 1291) and Old-Pärnu (Perona; cathedral in 1251, town charter between 1322 and 1337). The first four of these towns also belonged to the Hanseatic League. Apart from the towns, the other major centres in Estonia were Lihula (Leal) and Otepää (Odenpe), which did not, however, have town rights. Towards the end of the Middle Ages, the town of Kuressaare (Arensburg; town rights in 1563) was established on the island of Saaremaa.

Churches and ecclesiastical parishes were already established in the countryside during the conquest, and by the end of the Middle Ages there were nearly 80 stone churches in the country. As of the end of the medieval period, there were 12 monasteries in Estonia (Tamm 2002), two of them in the countryside (Kärkna and Padise). Confirmed data exist about c. 50 medieval castles (Tuulse 1942), although their number was considerably greater: many of the smaller vassal castles have been entirely demolished. Based on the present research, it is also not possible to claim which of the Estonian medieval manors – in the mid-16<sup>th</sup> century 483 manors are known (Ligi 1961, 325–374) – were in fact stone castles and which were timber buildings. The manorial economy, which was based on peasant labour, had already begun to develop in Estonia during the 13<sup>th</sup> century.

Medieval Estonia bordered on Russia in the east. For most of the Middle Ages it consisted mainly of the independent principalities of Novgorod and Pskov, which became a centralized power after they were incorporated into Moscow (in 1478 and 1505). In the west, Estonia shared a border with Sweden, with Finland in the north, which at the time belonged to Sweden. In the south, medieval Livonia bordered on Lithuania, which had only adopted Christianity in 1387. Hanseatic trade played a major part in the life of Livonia, and the intermediation of trade between east and west brought considerable wealth to the towns of the region.

The conquest, which marked the beginning of the Middle Ages in Estonia, split the society into an upper class of conquerors and a lower class of local inhabitants. In the towns, the distinction between different ethno-cultures was not initially so notable. In the countryside, on the other hand, the difference between the European culture of the conquerors and the traditional culture of the locals, which was based on Iron Age traditions, was already very clear during the conquest, and the differences grew wider from the mid-14<sup>th</sup> century onwards. Manor and land owners, the clergy and the inhabitants of the major castles formed a German-speaking upper class that was in distinct contrast to the local peasantry that gradually lost its independence during the 14<sup>th</sup>–15<sup>th</sup> centuries and were made into serfs. The role of free peasants was relatively small in Livonia, although the situation differed from one region to another.

Ethno-social and ethno-cultural opposition was so notable that Estonian medieval archaeology distinguishes between two separate sub-divisions: ‘common’ medieval archaeology on the one hand, which deals with ‘European’ heritage such as towns, castles, churches and monasteries, and the so-called rural archaeology, which explores heritage derived from the continuous development of Iron Age traditions (see Valk, this volume, a). The present paper is also based on such a distinction.

### **General development of medieval archaeology in Estonia**

Interest in antiquities from the Middle Ages began to develop in Estonia at the end of the 18<sup>th</sup> century and the beginning of the 19<sup>th</sup> century in connection with a general increase in interest in our cultural heritage. Artefacts from both prehistoric and historic times were gathered in various collections.

During the last quarter of the 19<sup>th</sup> century, the first archaeological excavations were carried out on architectural heritage objects built in the Middle Ages (Fig. 47). These excavations were initiated and supervised by architects (see Guleke 1896) and art



**Fig. 47.** *The first archaeological excavations at the castle of Viljandi, 1879 (photo: National Heritage Board).*

historians, and were primarily involved with the objects' architectural history. The excavations concentrated mainly on the remains of the buildings, although some attention was also paid to finds that were excavated.

After Estonia became independent, archaeological research was concentrated at the University of Tartu, and it became a separate science, bringing about changes in the basic trends of archaeology. Since then, archaeology became a national science and was devoted entirely to the study of prehistory. The period of the Middle Ages that followed the 13<sup>th</sup>-century German–Danish conquest was still dealt with only by historians and art historians. The archaeological investigation of heritage built in the Middle Ages only began in the 1930s. Finds obtained through fieldwork then began to be collected, the finds were documented, and thus a basis was cre-

ated for the first scientific archaeological collections in several local museums. Rural archaeology, which was interested in peasant culture, was left to the field of ethnography.

Also during the first decades after World War II, the archaeologists, most of whom were employed at the Institute of History of the Estonian Academy of Sciences, concentrated on the investigation of prehistory. The political leadership of the Estonian SSR commissioned a few excavations in Tallinn at the beginning of the 1950s, which had the objective of conclusively proving that Tallinn as a town had been established even before the Western colonists arrived in the 13<sup>th</sup> century (e.g. Tarakanova & Saadre 1955).

During the 1950s, archaeologists paid great attention to the study of prehistoric hillforts. In the course of archaeological excavations in Tartu and

Otepää, medieval castles on the same sites were also studied. The results of the excavations at Tartu hillfort carried out in 1956–1958 and led by Vilma Trummal (Fig. 48), Lecturer at the University of Tartu, were summarized in a monograph, which for the first time paid similar attention to the remains of the medieval castle and related finds, that had previously been reserved only for prehistory (Trummal 1965). Later Trummal continued excavations in the Old Town of Tartu, and the articles written about the research results also studied medieval material in depth (Trummal 1970a; 1974).

During the 1950s and 1960s, art historians and architectural historians organized field studies before the restoration of medieval buildings. At the excavations that were carried out in the course of these studies, most attention was paid to the building material used, and far less to the finds and the cultural layer. One of the positive exceptions to this were the excavations performed in the Dominican Monastery in Tallinn, led by Elfride Tool-Marran (1913–2005), an art historian, where numerous finds were collected, and these were also published (Tool-Marran 1971, 133–150).

At the end of the 1960s, the possibilities for conserving and restoring medieval buildings gradually improved, and archaeologists began to realize the necessity of enhancing the studies of these objects. An agreement was reached with the State Restoration Department to create positions for archaeologists. The University of Tartu began to prepare the necessary specialists, and within a few years the first archaeologists specialized in the investigation of the Middle Ages had graduated: Jaan Tamm in 1972, Toivo Aus (1945–1999) in 1978 and Kalle Lange, Romeo Metsallik and Urmas Selirand in 1979. They were first employed by the State Restoration Department, but since 1978 by the State Institute for the Design of Cultural Heritage (*Kultuuriväärtuste Riiklik Projekteerimise Instituut*; KRPI), which became a separate unit of the department. From then on, archaeologists were also engaged side by side with art historians in carrying



Fig. 48. Vilma Trummal (photo: AI).

out restoration projects and the necessary fieldwork and in compiling excavation reports.

In 1977 the Heritage Conservation Act entered into force in the Soviet Union, and from the end of the 1970s the first rescue excavations were conducted in the areas of the old towns of Tartu and Tallinn, on sites where new buildings had been planned. Rescue excavations were also mainly carried out by the archaeologists of the KRPI specialized in the Middle Ages. A few supervisory projects were also carried out in smaller towns.

The possibilities for publishing the results of the excavations were poor at the time; mainly short articles describing the excavations were published in the Social Sciences series of the Proceedings of

the Academy of Sciences. A few overviews were also published in the magazine *Ehitus ja Arhitektuur* ('Building and Architecture'); however, the articles were mainly short, and archaeology was only a minor sub-topic in the larger context of building heritage. The medieval archaeology of the 1970s can generally be characterized by an object-centred approach, since excavations were carried out on sites where buildings were to be restored or new buildings were to be constructed.

From the 1980s onwards, the role of medieval archaeology began to increase in Estonia: the number of institutions that performed excavations and studies increased, the number of researched objects grew, and the types of antiquities investigated became more diverse. It was generally rescue excavations that took place. The new Heritage Protection Act and the keen interest of heritage specialists and the new generation of archaeologists often also made it possible to stop construction work that had already been started. This often created conflict with the local authorities, and archaeologists initiated debates in the media, where the public often sympathized with the archaeologists and the heritage protectors.

The mid-1980s saw the beginning of a peak period in rescue excavations. In addition to the KRPI archaeologists and the archaeologists employed in the Ministry of Culture of the Estonian SSR (see Tvauri, this volume, c), archaeologists of the Institute of History also joined in the work, occasionally also contributing to rescue excavations in towns in addition to scientific investigations of prehistoric monuments. Their main role was in directing rescue excavations in medieval settlement sites outside towns. The next major change occurred in conjunction with the intense political and economic restructuring that took place in Estonian society during the second half of the 1980s and the beginning of the 1990s. Several new developments were initiated in archaeology at the time, which have an influence on medieval archaeology in Estonia even now, nearly twenty years later. Namely, major re-

organizations and re-structuring took place at the end of the 1980s in all state institutions, including the central institute specialized in medieval archaeology – KRPI. Partly due to the re-structuring of the KRPI and partly thanks to new opportunities to start private businesses, when the archaeologists lost their jobs at the above-mentioned institution, a small private company Agu-EMS Ltd. was established in 1988 as a subsidiary of the Estonian Heritage Society, and this company mainly involved itself with urban archaeology. During the following years, rescue excavations throughout Estonia were mainly organized through Agu-EMS Ltd. The same period marked a considerable growth in urban excavations in Estonia.

A noticeable change also took place in the academic and educational field from the end of the 1980s, when medieval archaeology acquired more official recognition. Whereas before 1988, all but a few students who graduated in archaeology were assigned a topic pertaining to prehistory for their graduation paper, from 1989–1995 eleven graduates out of twenty wrote their papers on medieval archaeology. Approximately the same ratio characterizes the situation in the younger generation of archaeologists of the past ten years.<sup>1</sup> Progress in post-graduate studies has been somewhat more modest. The first post-graduate study directly concentrating on medieval archaeology was performed in 1988, when Jaan Tamm defended his thesis on the material culture of medieval monasteries in Estonia (Tamm 1988). During the next fifteen years, another dozen MA theses have been added to this number, as well as a doctoral thesis on village cemeteries in southern Estonia (Valk 2001a), and three dissertations will be completed in the near future on armaments, ceramics and urban archaeology.

After overcoming political and academic barriers, contacts with colleagues from other countries

<sup>1</sup> The statistics are based on the data given on the website of the Chair of Archaeology, University of Tartu ([http://www.arheo.ut.ee/kaitstud\\_tood.htm](http://www.arheo.ut.ee/kaitstud_tood.htm)) from 01.05.2005.

began to develop, and opportunities for publishing, both in Estonia and abroad, improved. For example, at the end of the 1980s Estonian archaeologists and archaeology students first obtained the opportunity to gain new experience by participating in fieldwork in Scandinavia. In 1989 Swedish archaeologists directed excavations at St. Michael's monastery in Tallinn (Eriksdotter & Reinsnert 1990), and students from Finland participated in several excavations in Estonian towns.

Regarding publications and foreign contacts, two conference series that were initiated in the first half of the 1990s probably had the most important role. Since 1991 Estonian medieval archaeologists have actively participated in the conferences on the Baltic Sea castles entitled *Castella Maris Baltici* (I–VIII), which take place every other year, and since 1995 in the urban archaeology colloquia organized by the Lübeck Board of Archaeology (*Lübecker Kolloquium zur Stadtarchäologie im Hanseraum I–V*). The publications of both conferences offer a good overview of the results obtained by Estonian medieval archaeology in the investigation of castles and towns.

A multidisciplinary series of urban archaeology conferences was initiated in Tartu in 1997 in the framework of the international Hansa Days. Since then, five conferences have been organized by the Tartu City Museum and the Chair of Archaeology of the University of Tartu, and the speakers and delegates have been archaeologists, historians and art historians from seven countries; two publications of articles have been published with the conference reports (MTB, I–II). In the second half of the 1990s an international research project led by the University of Gotland and entitled *Culture Clash or Compromise* was initiated; this project concentrated on the development of the Baltic Sea region during the period 1100–1400 AD. Since 1997, eight publications of conference proceedings and monographs have been published by this project, which among other topics also discuss the development of Estonia from prehistory to the Middle Ages. During the past fifteen years mainly shorter articles about

problematic issues and excavation reports have been published in Estonia, but monographs have only been written about a few topics (Luik 1998a; Mandel 2000; Valk 2001a; Tamm 2002). A separate monograph summarizing the results of the investigation of Estonian medieval archaeology is yet to be compiled. Of the topics discussed in this paper, only the research results of urban archaeology have already been summarized (e.g. Altoa & Tamm 1992; Pärn & Tamm 1999; Pärn 1997; 2004a), and an overview has been written about the development of medieval urban archaeology after Estonia regained its independence in 1991 (Tvauri 2004a).

### Methodology of fieldwork

Depending on the specific character of the cultural layer of the Middle Ages – the deposits are thicker and contain more stone debris in comparison to the prehistoric cultural layer – the methodology of excavating objects dating from historic times has developed in a slightly different way than the archaeological methods used for prehistory. Until the 1970s, the attention of art historians and architects was concentrated mainly on recording the rooms and architectural elements revealed during excavations, and the connection of cultural layers to the unearthed walls was usually a secondary issue.

In the 1970s, when for the first time archaeologists who had specialized in the Middle Ages began to direct excavations, two different methods were used in researching the objects from historical times. In the excavations organized by the KRPI, main attention was paid to the exact recording of architectural details and the connected earth layers, while somewhat neglecting the documenting of finds and associating them with earth layers. Excavation by arbitrary levels and the division of the excavations into squares was not practised. In rescue and research excavations on sites from historic times, directed by the archaeologists of the Institute of History, traditional methods were used, excavating horizontally, using arbitrary levels, not considering the differ-

ent strata, drawing up plans about those levels and finds.

Despite the attempts to unify fieldwork methods and bring them up-to-date that were made at the beginning of the 1990s (for example, the University of Tartu compiled voluntary ‘Guidelines for the Documentation and Reports of Urban Archaeology’), fieldwork methods even now depend largely on the background of the archaeologist or his employer. However, tighter competition forces modern documentation methods to be applied more often in urban excavations today. For example, the Harris matrix, a benchmark of modern excavation methods, has been implemented in Estonia with unsteady luck since the beginning of the 1990s. In addition to the Harris matrix, other excavation and documentation methods that are accepted in Western Europe have been tried occasionally, including single-context-planning, the use of context sheets or the monitoring of the cultural layer using geo-radar (Vissak & Vunk 1996). The most urgent problem in this context is educating the students: the main attention in the universities is currently on teaching the methods used for the study of prehistory, while at the same time the majority of fieldwork is connected with rescue excavations in towns. Depending on the limited time and financial resources available for rescue excavations, not enough attention is being paid to the documentation and analysis of animal and vegetal remains. During the past fifteen years, however, several studies have been published concerning the archaeozoological and archaeobotanical material found at urban excavations (e.g. Maldre 1997a-b; Sillasoo 1995).

## Development and present stage of studies of urban archaeology

The beginning of the archaeological investigation of the cultural layers of medieval towns in Estonia can be connected with the excavations in Tartu that

took place from the 1880s (e.g. Hartmann 1881), when the remains of buildings and sometimes also pavements were recorded during excavations. First and foremost, the archaeological studies of the end of the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century were mainly concerned with individual military and sacral objects, whereas urban archaeology began mostly from the 1920s, and fell into two main periods.

### From the 1920s to the beginning of the 1970s

The first heritage conservation acts in Estonia adopted during the period between the two world wars (in 1925 and 1936) did not regard towns as objects for archaeological research. The only research work carried out in the 1920s and 1930s was concentrated mainly on architectural heritage; for example the Castle of Toompea (‘Cathedral Hill’), the town wall at the former Harju Gate and the convent church at Pirita (Tallinn) were studied; in Tartu studies were conducted at the Cathedral. Occasional construction remains in the Old Town of Tartu that were unearthed during excavations carried out in connection with various pipelines were also recorded (Stange 1933). Discussions about the development of Estonian towns that had begun in the 1930s and were partly inspired by the excavations on prehistoric hillforts, were interrupted by the outbreak of World War II and Estonia’s loss of independence (Kenkmaa 1937; Altoa & Tamm 1992).

During World War II the town of Narva was completely demolished, and the town centres of Tartu, Tallinn, Pärnu and Viljandi suffered great losses. No research work was carried out in any of these towns during the restoration, and destroyed blocks were often turned into green areas. In Narva the remains of the old town with its Baroque buildings was pulled down completely, which also demolished the street pattern dating from the Middle Ages.

The first post-war excavations on Toompea and in the Town Hall Square in Tallinn, which took place

during 1952–1953, had a political colour, emphasizing the early cultural contacts between Estonia and Russia and aiming to prove that urban settlement existed in Tallinn even before the Western colonization at the beginning of 13<sup>th</sup> century. Nonetheless, the first excavations in towns did not cause urban archaeology to develop as a separate discipline. As a result of a political debate, an archaeological protection zone was established for the Old Town of Tallinn in 1951, and in 1967 an architectural protection zone and planning regulations were determined. However, these actions did not require archaeological studies to be carried out in the protection zone before construction work. Occasional supervision was conducted over the construction of the Writers' House in Harju St. in Tallinn. At the end of the 1960s the first excavations were also carried out in Tartu. In general, town excavations mainly studied individual objects of architectural heritage such as churches, monasteries and castles. During this period, excavations were mainly connected with the restoration and conservation of architectural heritage, and were initiated for and focused on these aims.

### **From the 1970s to the present**

In 1973, protection and regulation zones were established for building work in all of Estonia's historic town centres – Haapsalu, Kuressaare, Pärnu, Paide, Rakvere, Tartu, Viljandi, Võru and the market town of Lihula. In 1977 legislation for the protection and use of historic and cultural heritage was adopted, regulating earthwork, construction and other work on listed buildings and protected monuments. The act distinguished architectural heritage and listed buildings, and foresaw protection areas to be established around them. Archaeologists were also involved in the preparation of some of the paragraphs in this new act, which made archaeological excavations obligatory prior to any construction work in the protection area, and this was to be financed by the developer. As a result, urban

archaeology became more recognized as a separate field, both by heritage specialists and researchers. In the 1970s it also became more evident and obvious that the urban cultural layer is an important source of information. Urban excavation became more frequent, which was partly connected with the fact that empty areas in towns where buildings had been destroyed during World War II began to be filled in with new buildings.

In 1985–1986, almost 40 per cent of all archaeological research was carried out in towns. The majority were rescue excavations. Urban excavations peaked in 1989–1990, when 85 per cent of all rescue excavations took place in towns. Most of the excavations were performed in Tallinn and Tartu, where apart from architectural heritage, plots in the old towns were also studied. The increase in excavations made it necessary to establish a central institution responsible for rescue excavations. The proposal to organize a separate department at the Institute of History of the Academy of Sciences, which would then have a leading role in archaeological studies, i.e. to coordinate medieval rescue excavations, was rejected by the Institute's board.

In the current situation, the leading role of organizing rescue excavations in towns was assumed by Agu-EMS Ltd. In May 1991 another company specialized in rescue excavations was formed – Tael Ltd. On the basis of these two companies, a system was established whereby archaeological rescue excavations in towns were mainly conducted by private companies, and the same system also functions at present. The culmination of Estonian urban archaeology came at the end of the 1980s and the beginning of the 1990s. During this period, excavations took place in all medieval towns in Estonia. The period is characterized by the application of geobotanic and pollen analyses in research, in addition to earlier dating methods, i.e. radiocarbon dating and dendrochronology. Towards the end of the 1980s and in the 1990s, palaeoparasitologists and archaeobotanists were also involved in the research (see Kriiska & Lõugas, this volume).



During the first years after the re-gaining of Estonian independence in 1991, the number of archaeological excavations diminished radically in Estonia. This was caused by the re-structuring of the economy (the re-establishment of private ownership), the adoption of the Estonian national currency and the freezing or termination of the grand construction plans of the Soviet era. The only state body responsible for cultural heritage was the Ministry of Culture, and in 1993 the National Heritage Board was formed in affiliation to the Ministry (Kraut 1995; Pärn & Tamm 1999). The Heritage Conservation Act that came into force in 1994 regulated archaeological excavations and stipulated that research work was to be financed to the full extent by the developer. From the mid-1990s the historic Estonian towns obtained new statutes concerning heritage protection areas, which among other things also determined the need to obtain permission for any earth work to be done in the area. From the beginning of the 1990s, new positions for archaeologists were established in city governments (Pärnu, Tartu, Narva), or archaeology was incorporated into cities' cultural heritage departments (Tallinn, Viljandi, Haapsalu). Changes in the structure of the local authorities allowed the position of archaeologist to remain only in Tartu (e.g. in Tallinn the new structure retained a part-time non-staff archaeologist). This regression took place despite the fact that the end of the 1990s had seen an increase in urban archaeological excavations. The reasons for this probably lie in the concentration of building activities mainly in Tallinn and Tartu, and the overall negative attitude of the local authorities towards heritage conservation.

During the period of the culmination of urban archaeology, at the end of the 1980s, a research project called *Medieval Towns in Estonia* was planned on the example of the medieval archaeology projects in Finland and Sweden, which foresaw work for the period 1992–2000 (Alttoa & Tamm 1992). Unfortunately funding for the project was rejected. Preparatory work was done in Haapsalu, where a

database was created about the sources from the Middle Ages and the modern era in all of Haapsalu and the cadastre plan concerning the cellars in the old town was compiled (see Pärn, A. 1995).

The report will give a general overview of the present situation in archaeological studies in Tallinn, Tartu, New-Pärnu, Viljandi, Haapsalu and Lihula, which are the places that have been most intensively excavated (Pärn 2004a).

#### Tallinn

The archaeological investigation of Tallinn started with excavations on Toompea in 1952 and in the Town Hall Square in 1953 (see above), (Tarakanova & Saadre 1955). Subsequent investigations of the finds and the documentation proved the methods of the 1950s excavations and the dates to be incorrect (Mäll & Russow 2004). However, the excavations provided primary information concerning the oldest market place in the town and its early piping system. Critical analyses of the excavation results and their interpretation suggest public use of the eastern side of the Town Hall Square from at least the mid-13<sup>th</sup> century, as compared to the western side of the square, which was initially divided into plots (Mäll & Russow 2004; see Pärn 2004b). In connection with restoration work in the Dominican St. Catherine's Monastery, archaeological excavations also took place in 1954–1955 (Toot-Marran 1971). From the mid-1970s, continuous urban archaeological studies started with excavations in the old marketplace (1979 Deemant) and on the territory of the town's new *Marstall* (stables and smithies) (1973–1974 Tamm).

The investigation of plots began with large-scale excavations at the beginning of the 1980s, initiated by the plans of filling in the blocks. By Dunkri St., an area of building foundations was unearthed on nine plots. Here unique wooden wickerwork fences marking the borders of the 14<sup>th</sup>–16<sup>th</sup> century plots (including enclosures for cattle) were recorded (Lange & Tamm 1983). For the first time, the



**Fig. 49.** Tallinn, 10 Sauna St. 13<sup>th</sup>-century wooden building D (photo: V. Sokolovski).

14<sup>th</sup>–17<sup>th</sup> century cesspits of the plots were studied. Excavations on the plots on the west side of Harju St. (1988–1990 Aus) provided primary information about the *kemenate* of the end of the 13<sup>th</sup> century and the beginning of the 14<sup>th</sup> century that were situated at the former streetline (see Pärn 2004b). Concerning the early timber and stone buildings, an important role was played by the excavations in Kohtu St. on Toompea (1981–1982, 1987, 1995 Aus, Tamm and Talvar) and downtown, in Aida and Viru streets (1983–1988 Lange and Tamm; 1997 Sokolovski and K. Jaanits). The most important object in terms of well-preserved remains of timber buildings from the 13<sup>th</sup>–14<sup>th</sup> centuries was in Sauna St. (1998–1999 Sokolovski; Fig. 49). The results of these excavations have not yet been published.

Among the most thoroughly studied individual objects are St. Nicholas's Church and churchyard (1978–1979, 1981–1982 Tamm; 1999 Talvar) and the St. Michael's Cistercian Convent and its territory (1997–1998 Mäll and Tamm). Apart from the Old Town, archaeologists have also studied settlements and buildings in the suburbs. The most remarkable of these are the former execution place of medieval Tallinn, called Völlamägi ('Gallows Hill') (1995 Lavi), St. Barbara's cemetery from the 14<sup>th</sup>–18<sup>th</sup> centuries, together with a nearby settlement from the 13<sup>th</sup>–14<sup>th</sup> centuries on plots at Roosikrantsi St. (1988–1996 Sokolovski, K. Jaanits and Shevelyov); the territory of St. John's leprosy hospice by the former Härjapea River (2001–2003 Sokolovski, Kadakas, Mäll *et al.*) and a 15<sup>th</sup> century water-mill on the Härjapea River

(1994 Sokolovski); sections of the Karjaallika and Karjakaevu water canals (1997 Mäll; 1998 Vissak and Piirits; see Pärn 2004b). Small-scale excavations and supervision work at various places in the Old Town have made an important contribution to the information we possess (e.g. Mäll 2004).

In discussions about the development of Tallinn before and after World War II, researchers fall into two separate groups concerning two main issues: first, when Tallinn as a town arose, and second, whether the town emerged as a result of the socio-economic progress of the local communities or was established by ‘outsiders’. After World War II, Paul Johansen (1951) developed a well-known hypothesis that originally an ancient Estonian hillfort stood on Toompea in Tallinn, with a marketplace at the later Vanaturu (‘Old Market’) area. Another opinion is that before the Danish conquest there was also an early town-like settlement populated by Estonians year round in the present-day down-town area, in addition to the hillfort at Toompea.

In conclusion, the extensive archaeological investigations of Tallinn have once again initiated a debate about early settlement prior to the establishment of the town and about the so-called early towns (pre-town settlement) throughout Estonia (see Tamm 1993; 2004a; Pärn 2004a; Mäll 2004; Lang 2004).

## Tartu

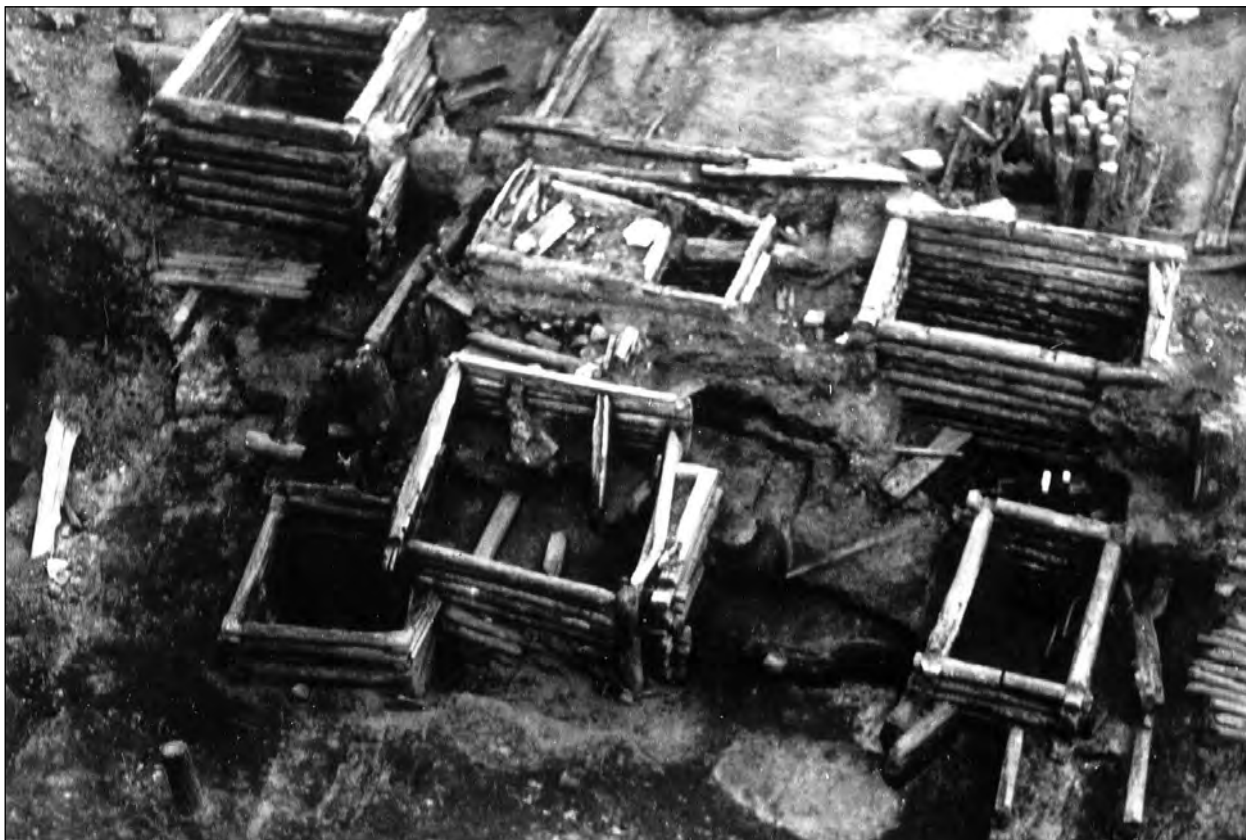
The first excavations were connected with the investigation of the Cathedral and St. John’s Church (see below). The first scientific excavations in the old town were conducted by Vilma Trummal in 1966 in Magasini St. Later she also directed such excavations in other areas, and the results of these excavations were quite thoroughly presented in publications (Trummal 1970a; 1974). At the same time, Uno Hermann (1922–2005), an engineer and geodesist and Udo Tiirmaa, an architect, recorded mainly architectural remains from many other excavations.

In 1979 the so-called era of rescue excavations began. The first objects were an excavation on the slope of Toomemägi (‘Cathedral Hill’) by the former gunpowder cellar, followed by excavations that were mainly connected with various pipeline construction works, but which provided archaeologists with a great deal of useful information regarding the nature of the cultural layer, the buildings, pavements, etc. (see Metsallik & Tiirmaa 1982; 1983).

Field work culminated in 1985–1991 (see Metsallik 1995; Mäesalu 1997; Vissak 1999), when large-scale excavations took place in Lossi St. in the Old Town (1985–1990 Metsallik, Mäesalu and Trummal), in the Botanical Gardens of the University of Tartu (1981–1982 Aun, Lang and Ligi; 1988–1992 Mäesalu and Trummal), in the VII Quarter of the Old Town (1988–1989, 1991, 1994 Aun, Vissak, Metsallik and Ollerma), in Kompanii St. (1992 Lange) and other places. These excavations covered medieval town blocks and provided much more information, including buildings, crafts, etc.

At the same time, relatively extensive rescue excavations were begun in the southern suburb of medieval Tartu (1986–1988, 1990–1994 Aun), and these have also continued during the past ten years (2001–2002 Vissak and Piirits; 2003 Sokolovski and K. Jaanits). The suburb had heretofore been considered to have been mainly an area of gardens for the townspeople, until new archaeological evidence proved clearly that it must also have been a manufacturing area (brick baking kilns) and a dwelling area for Estonians who had moved away from the villages and were engaged in crafts, e.g. making ornaments for the village people. The southern suburb expanded considerably at the turn of the 15<sup>th</sup>–16<sup>th</sup> century in connection with the increase of economic wealth in Tartu.

Due to the high level of ground water in Tartu, organic material, including the remains of earlier timber buildings, have been preserved very well in the cultural layer. The various cases of remains of earlier timber buildings and timber fences marking the borders of the plots came mainly from the



**Fig. 50.** Tartu. Wooden cesspits from the VII Quarter of the Old Town (photo: R. Vissak).

VII Quarter and from a suburb (which is presently on the territory of a supermarket) (Aun 1995; 1998). The remains of the 13<sup>th</sup>–14<sup>th</sup> century buildings from the Botanical Gardens are well dated, including horizontal beam constructions, dwellings built using corner post construction and frame construction from the second half of the 13<sup>th</sup> century. The latter represented a specific type of *keris* stove with a brick wall and a rectangular hearth with a timber coping in front, that had only been discovered in Tartu (Mäesalu 2001a). The oldest examples of stone buildings are a one-room brick building in Kompanii St. constructed in the 13<sup>th</sup>–14<sup>th</sup> century (Lange 1994) and a brick building on the present-day territory of the Botanical Gardens. The latter had been joined with a frame construction building.

Rich finds were discovered in the wooden cesspits in the former yards on Lossi St., in the VII Quarter of the Old Town, etc., which resembled wells and dated from the end of the 13<sup>th</sup> century to the beginning of the 16<sup>th</sup> century (Fig. 50). The measurements of the cesspits were 1.3–1.6 × 3–3.5 m, and their depth was c. 2 m (Mäesalu 1990; 2004b; Vissak 1994).

Two trends can be detected in the investigation of the development of medieval Tartu. Some researchers (V. Trummal, R. Metsallik, A. Mäesalu and R. Vissak) connect the medieval settlement with an earlier administrative centre that had emerged in prehistoric times. According to their theory, the prehistoric site here was permanently settled since the 8<sup>th</sup>–9<sup>th</sup> centuries, and the basic components of the centre, such as the hillfort/castle, harbour, market-

place and some of the streets, also remained at their original location in the medieval town. A different view is suggested by Andres Tvauri (2001a). In his opinion Tartu at the end of prehistoric times was largely a military stronghold defending an important river crossing without any permanent inhabitants. According to Tvauri, the medieval town emerged during the 13<sup>th</sup> century independently of the prehistoric settlement, which in his opinion was interrupted between 1061 and 1224.

The medieval town wall has been studied in the western part of the town (Devil's Tower, area of St. Catherine's Monastery), in the north-eastern part (Russian Gate, the Botanical Gardens) and in the eastern part (Riga Gate, Poe and Rütli streets). It has been suggested that in connection with the construction of the stone town wall after the year 1262 (the wall was finished during the 14<sup>th</sup> century), the ground plan of the town underwent some changes in order to offer better protection, concentrating the previously scattered houses to areas inside the protective wall. This may be the reason why the formerly centrally located marketplace remained on the town's outskirts (Mäesalu 1999b, 428 ff; Mäesalu & Vissak 2002, 154 ff).

#### New-Pärnu

The investigation of the town's medieval territory (c. 8 ha) began in the year 1977. There was a boom of excavations in 1990–1992, when blocks in the eastern and southern parts of the town were studied together with sections of the bordering town wall. Major excavations took place on plots in Hospidali (1990–1991 Udam), Pühavaimu (1992 Udam), Munga (1990–1991 Ü. Tamla) and Uus (1993 Vunk) streets. Ground water in Pärnu is naturally quite high, and therefore the cultural layer is rich in organic matter and a large number of well-preserved remains of timber buildings: the lower layers of logs, the remains of wooden floors, wooden pavements, cesspits, wells, drainage pipes, bordering fences, etc. The material dates mainly from the

14<sup>th</sup>–16<sup>th</sup> centuries, and the oldest traces of settlement date from the second half of the 13<sup>th</sup> century. The investigated section of the town wall (up to 2 m high and 2.4–3.2 m wide) was built on conifer logs dating from the mid-14<sup>th</sup> century (Tamla, Ü. 1992a). The studies done in the 1990s concluded that the town was erected 2.5–3 m above sea level on east–west oriented sand dunes (Vunk 1999). This explains the location of the oldest stone buildings on top of the dunes. In recent years, studies have been carried out in the northern, western and southern parts of the town (the streets of Aida and Vee, 2002 Saluäär and Haak), and also on the site of the former Castle of the Order and at St. Nicholas's Church, which was destroyed during the war (2002 Mäll and Kadakas). Important information concerning the absolute chronology of the stages of construction of the timber and stone buildings was obtained from excavations at the plot on Nikolai St. The large number of small-scale excavations and supervision work on the plots in Hospidali, Uus, Nikolai and Malmö streets has provided a substantial amount of supplementary information on the housing and structure of the plots on almost the whole territory of the town. New research has given grounds for the collection and analysis of the material culture of the post-medieval period, which up to now has been somewhat neglected (Saluäär *et al.* 2004). In addition to the excavations in the town, the remains of a sunken cog in the Pärnu River have been studied. The <sup>14</sup>C analyses of the timber dated the remains from the mid-13<sup>th</sup> century to the first half of the 14<sup>th</sup> century (Mäss 1992; Roio, this volume).

#### Viljandi

Studies of the town's territory began with the excavation of the water pipes in 1911, when the first observations were made about the streets' pavement layers and the town gates (Freymann 1918). Research considering the architectural history of the area began in the year 1979 with the search for the town wall by the Tartu Gate (Henn Moora and Altoa),

and the studies continued in 1981 as part of the Riga Gate was unearthed (Altoa and U. Selirand; see Valk 1993a). During 1980–1981 the territory of the former Franciscan Monastery by the present St. John's Church in the south-western part of the town was excavated (Altoa and U. Selirand).

Rescue excavations in the Old Town of Viljandi that were necessitated by the construction of pipelines began in 1989 in Munga St. Work continued during 1989–1991 at the cemetery on the south side of St. John's Church; in 1992 a large part of the Tartu Gate was opened due to the installation of new pipelines (Valk all these sites). In the beginning of the 1990s, excavations of the layers underneath various pipelines predominated. The quarter on the north side of the marketplace (1993–1996 Kodar) was the only area in the Old Town that was excavated on a large scale. The reports, however, have not been completed and thus the material cannot be used for scientific purposes.

Viljandi was the first town in Estonia where the local municipality funded scientific research aimed at explaining the town's history. In 1996 the extent, thickness and nature of the medieval cultural layer was determined by means of a geo-radar and drillings (Valk), and from 1997–1999 studies were carried out to locate the medieval town wall and the moat (Tvauri). For the first time in Estonia, geo-radar and drillings were used side-by-side, allowing the results obtained by the geo-radar to be instantly checked. The earlier research is summarized in a paper about the town's development that is based on the archaeological sources (Valk 1993a). The author later supplemented this with updated material from 2001 (Valk 2005). Most of the excavations in Viljandi have been connected with the construction of various pipelines; thanks to these pipelines, an overview of the medieval street pattern has been compiled (Haak 2003a). The most thoroughly studied trade is pottery, especially that from the second half of the 13<sup>th</sup> century, as potter's kiln with waste material was excavated on the west side of the town, in the immediate proximity of the town wall (Tvauri 2000b; 2001b).

Excavations have also been carried out in the suburbs, outside the territory of the medieval town. Near the Riga Gate, a settlement of craftsmen (blacksmiths, bone workers) dating from the 14<sup>th</sup>–16<sup>th</sup> centuries was studied (1999 Tvauri). The northern suburb in front of the Tartu Gate has also been studied (1996 Kodar; 2001 Haak and Valk). Numerous finds of sewing needles, bone treating remains and the remains of blacksmithing refer to an area populated by craftsmen.

### Haapsalu

Archaeological excavations on the town's territory began in 1986 and reached a peak during 1988–1991 (Pärn). Two plots on the south (Jaani St.; Fig. 51) and north (Lossiplats/Väike-Mere St.) sides of the marketplace have been studied more thoroughly. The oldest traces of housing, dating from the mid-13<sup>th</sup> century, were found south of the marketplace (Pärn 2004c). The stage of development of the urban settlement was characterized by a so-called one-room ancient smoke house that was typical of the countryside and a combined house with a timber dwelling room and a stone half-cellar typical of the town's early stage of development. Early traces of plots date from the mid- and second half of the 13<sup>th</sup> century, the lower waste deposits on streets can be dated to approximately the same period (Pärn 2001; Russow 2003). The first stone houses date from the end of the 14<sup>th</sup> century. In the mid-15<sup>th</sup> century, the original smaller stone buildings with a rectangular ground plan were replaced by *dornse-diele* type dwelling houses. From the mid-1990s up to the present day, it is mainly the layers underneath pipelines that have been studied on the territory of the Old Town (Russow 2003; 2004). In 1965 a section of the town wall was recorded together with the German Gate on the north side of the town (Rüütli St.), which was opened up entirely in 1996. The opening of the gate restored the original line of Deutsche ('German') St. (present-day Linda St.), which demonstrated how the street pattern had shifted during the post-



**Fig. 51.** *Haapsalu, 4 Jaani St. Remains of buildings from the 13<sup>th</sup>–18<sup>th</sup> centuries (photo: A. Pärn).*

Livonian War period, i.e. at the end of the 16<sup>th</sup> century (Pärn 1996; Russow 2003). In 2003 a section of the town wall was recorded between Wiedemanni and Suur-Mere streets at the crossroads of five streets (Russow 2004). In Suur-Mere St. a piece of 17<sup>th</sup>-century monumental pavement that marked the way to the harbour and was uncommon in Haapsalu, was recorded.

In conclusion, a very good cross-section of the stratification, intensity and spread of the cultural layer in the whole of the Old Town area has been obtained. Based on the intensity of the cultural layer, one can state that a decisive enlargement of urban settlement took place at the end of the 13<sup>th</sup> century

or the turn of the 13<sup>th</sup>–14<sup>th</sup> centuries. Noteworthy layers are the destruction layers typical of the second half of the 16<sup>th</sup> century and the beginning of the 17<sup>th</sup> century and the consequent levelling layers, which occur all over the town (Russow 2003). The collection and recording of material from the post-medieval period is one of the characteristic features of the excavations underway in Haapsalu at present.

#### Lihula

Studies of the market town began in 1987 and peaked in 1997–1998 (Mandel), when the residential area of a medieval settlement in front of the outer

strongholds of a 13<sup>th</sup>-century stone castle was studied (Mandel 2000). The oldest types of houses were combined houses with a timber dwelling room and a stone half-cellar behind it, and stone houses with a rectangular ground plan but no cellar (Pärn 1998; 2004a). The open fire-places that were discovered probably belonged to frame construction houses. The oldest housing was erected between the mid-13<sup>th</sup> century and the beginning of the 14<sup>th</sup> century, when the settlement was most prosperous. Over the centuries, the settlement that was originally founded in front of the castle enlarged along the slopes on both sides of the ancient road. In addition to the settlement, trial excavations were also carried out in 1991 at the site of the Cistercian nunnery that was situated near the settlement in front of the castle (Mandel 2000). Investigations have proved that the medieval cultural layer in Lihula and the remains of the buildings there were not destroyed by later construction work. The distinct feature of the archaeological excavations in Lihula as compared to the study of other urban settlements in Estonia is the large amount of scientific excavations that have been done there. The excavated houses together with the preserved castle ruins form an archaeological park that has nowadays become an important tourist attraction in western Estonia.

In conclusion, urban archaeology in Estonia is now in a situation in which archaeological excavations have taken place in almost all medieval towns and historic town centres. Regardless of the fact that excavations in different parts of Estonia have had different extents, the material collected concerning medieval town culture and early urbanization processes in Estonia has been remarkable. The material on urban processes has largely not yet been scientifically analysed, and awaits publication. Basically, no find complexes have been studied as an entity, which would cover the development of a single plot together with the analysis of the finds. Supplementary studies are also needed in the area of urban crafts. A separate field is the spread of the so-called local finds typical to certain rural regions

in urban areas; this would lead to a re-assessment of the role of the native peasantry in the development of towns after the conquest. The opinion of Estonians as peasantry predominated until the 1980s, and this has hindered the study of their role in the development of medieval towns. Today there is no central institution in Estonia to co-ordinate scientific research in urban archaeology, to organize studies and academic research and to re-start the implementation of the research project *Medieval Towns in Estonia*.

## Churches, monasteries and urban churchyards

Interest in the archaeological investigation of churches and monasteries was born in the overall framework of art history. In this context, documenting architectural details and fragments of building materials (profiled bricks, limestone ashlar fragments, etc.) began in the late 19<sup>th</sup> century (Guleke 1896). Field work at the ruins of Kärkna (Germ. Falkenau) Cistercian Monastery near Tartu (1888 Guleke) and the medieval Chapel of St. Catherine in Viljandi (1908 Löwis of Menar) provided material for the reconstruction of the basic plans of these buildings. In Tartu, the foundations of the Church of the Holy Spirit and of the Dominican abbey were studied by Richard Otto in 1890 and 1909 (Otto 1910). However, no interest was yet paid to the cultural layer, stratification and finds, except for architectural details.

### The 1920s – the 1970s

Between the two world wars, fieldwork at churches and churchyards was continuously carried out in the framework of the paradigm of art history or architectural history. Excavations were based on interest in certain objects located mainly in towns.



The main fieldwork of that period was performed in the ruins of St. Bridget's Bridgettine Convent near Tallinn (Tuulse 1936). Systematic research using test pits was carried out by Otto Freymuth (1892–1953) in the ruins of the Cathedral of Tartu (1924–1926, 1927–1929) and in Palamuse church (1929). Publication on the medieval gravestones of Tartu must be noted as a special work (Sild 1928). The collection that belonged to the University of Tartu (*Kabinet* of Christian Archaeology) disappeared in the 1940s as a result of the closure of the Faculty of Theology and its institutions by Soviet authorities.

The practice of studying the construction history of certain prominent buildings by making test pits and trenches continued in the Soviet period. In the course of architectural investigations, attention was continuously concentrated upon the remains of buildings. In northern Estonia this methodology was applied in the ruins of Padise Cistercian Monastery (1950s and 1960s Raam), at the Dominican Monastery in Tallinn (1954–1955 Raam) and in the course of new excavations at Piritä Convent (1960–1964 Raam). Fieldwork in the ruins of St. Nicholas's Church in Tallinn, which was also ruined in 1944, has provided much information about the architectural history of that building (Lumiste & Kangropool 1990).

In Tartu, research of a similar character was begun by Olaf Prints (1915–1996). In the 1950s and 1960s, his attention was concentrated on St. John's Church, which was ruined in 1944 (see Lange 1995) and, in the 1960s, also on the Cathedral's choir section. From the mid-1970s to 1982, investigations continued in the ruins of the Cathedral (Alttoa and Tiirmaa), and the objectives set and the methodology used were common to studies of the history of architecture. The art history analysis combined with data gained from trial pits has provided conceptually new information about the construction history of the nave, choir, and western towers of that building (Alttoa, K. 1980; 1995, 94 ff).

In architectural investigations, the cultural layer itself and the finds found therein received either no

attention or limited attention. Although the documentation of stratification at construction details gradually also began, data about graves can, however, mainly be found on plans.

At the end of this period, the first research excavations at urban cemeteries were also started. The work carried out by V. Trummal at St. John's cemetery in Tartu in 1969 – the first investigations with the aim of obtaining data about the medieval churchyard – turned out to be more than 20 years ahead of the spirit of time. An exceptional episode in churchyard archaeology was the excavation of the cemetery of St. John's Church in Valga in 1961 by physical anthropologist Karin Mark in order to obtain data for human osteological analysis.

### The 1970s – 2005

While the earlier excavations were mainly directed by art historians, since the 1970s archaeologists also became involved in the investigation of churches and monasteries. The rise of the new approach is designated by several fieldwork projects in Tallinn directed by J. Tamm. The new epoch began with his trial excavations at St. Michael's Cistercian Monastery (1972, 1974) and assumed larger dimensions with extensive work at Piritä (St. Bridget's) Bridgettine Monastery (1975–1980), initiated by the project of conserving the ruins for the Olympic regatta in Tallinn in 1980. The first large-scale excavations of medieval urban cemeteries took place in Tallinn at St. Nicholas's churchyard (1978–1979, 1981 Tamm): during this work, 755 graves from the 13<sup>th</sup>–18<sup>th</sup> centuries were studied.

The genesis of medieval archaeology in the 1970s and 1980s was a multi-step process, and it took some time to change the traditional attitudes, which regarded only the prehistoric period as valuable for archaeological research. In Tartu the new approaches appeared somewhat later than in Tallinn. Thus the construction of a central heating pipe in St. Mary's churchyard in 1985 yielded only some varied finds, although data about find complexes were noted.



**Fig. 52.** *Tartu, St. John's Church. Presumably pre-stone church coffins (photo: K. Lange).*

The same concerns archaeological works at Tartu Cathedral cemetery in 1986, which was conditioned by similar circumstances.

The gradual and controversial process of making church archaeology can be observed in the course of work carried out in the ruins of St. John's Church in Tartu (1983–1984 Metsallik and Tiirmaa; 1988–1990 Rappu, Metsallik and Tiirmaa; 1993–1996 Lange and Kalling; 1993 Aus; 2002–2003 Piirits). In the course of this work, conditioned by the reconstruction of the ruined church, almost the whole interior of the building and a large part of the churchyard were opened. The work, which began in the context of the architectural history research, yielded a profound amount of documentation about the architectural history of the building (Tiirmaa). The archaeological aspects of the fieldwork – the excavations took place over a period of eleven years and were directed by five institutions and seven supervisors

– have, however, provided only fragmentary and as yet incomplete documentation about the cultural layers and graves. The problems documenting the graves appeared even in the early 1990s, when attention was paid to the church foundations and cultural layers, but not the graves: these were studied solely from the perspective of physical anthropology. Only the latest excavations in the churchyard (1993 Aus; 2002–2003 Piirits) have yielded documentation at the level of individual graves. The synthesis of the excavation results of St. John's in Tartu has remained limited to a brief general survey (Metsallik 1992, 27–60) and a paper on earlier research history (Lange 1995). The analysis of the human osteological data from the oldest layer of graves has, however, provided much new information about the population of Tartu in the 13<sup>th</sup> and early 14<sup>th</sup> centuries (Kalling 1995; 1997). During excavations at St. John's cemetery, several well-preserved timber coffins (Fig. 52)



**Fig. 53.** *Tallinn, St. Barbara cemetery. 16<sup>th</sup>-century mass burial (photo: V. Sokolovski).*

from the 13<sup>th</sup> and 14<sup>th</sup> centuries have been found (Tiirmaa 1997). The dendrochronological investigation of coffins found next to a wooden structure (probable wooden church antecedent to St. John's) made it possible to date these to the years 1223, 1260 and 1288 (Läänelaid 2002).

Other work in Tartu in the 1980s and 1990s has also been of a rescue character, but more successful in terms of documentation methodology. In connection with the laying of communication trenches, excavations took place at the Cathedral ruins in 1987 (Valk 1995b) and 2001 (Haak 2002). Work for the supporting of the foundations of the main building of the University of Tartu (1994 Aus) provided only fragmentary and limited data about medieval St. Mary's Church and its churchyard. Large excavations (over 600 graves) took place in suburban St.

Anthony's cemetery in Riia St. (1987 L. Jaanits; 1991 Kalling) which, according to the written sources, was presumed to be of medieval origin. The excavations, however, revealed a Russian Orthodox cemetery from the 18<sup>th</sup> century. Small-scale work in the interior of the Dominican abbey in Tartu (2005 Tvauri) has provided new information about the history of its construction.

Estonia's largest present-day cemetery excavations were carried out at St. Barbara's suburban cemetery in Tallinn (1988–1992, 1995 Sokolovski), where c. 2550 ordinary graves and 1076 burials from 5 mass graves (Fig. 53) were studied during rescue work. These excavations provided a methodology and experience for excavating large cemetery areas in the course of intensive rescue work. The investigation of the cemetery was also continued later (1999–2000

Mäll). Excavations in Tallinn also included work at the medieval gallows and cemetery (Lavi 1995b). At St. Michael's Cistercian Monastery and its cemetery, excavations were recommenced in the framework of an international co-operation project (1990, 1992 Tamm, Eriksdotter and Reinsert), and also continued later (1997–1998 Tamm, Toos, Kalman and Mäll; 1999–2000 Mäll). Extensive excavations of the suburban cemetery of St. John's Hospice in Tallinn were carried out at the place where the new breakthrough of the Tartu Road passed through the former living quarters in 2001. In the course of this work, both the late-medieval and post-medieval cemetery (Sokolovski) and the ruins of the hospice buildings (Kadakas, Mäll and Vaheoja; Fig. 54) were studied.

Of the other towns of Estonia, churchyard and monastery excavations have taken place in Viljandi and in Rakvere. In Viljandi the research began with architectural investigations in the ruins of the Franciscan Monastery (1980–1981 Alttoa and U. Selirand), and was continued later in connection with the re-construction of the related St. John's Church. Work in the interior of the church (1987–1988), which was closed and deserted in the Soviet period took place, yet with the most limited archaeological presence. The transition to the new approach can be observed during the excavations in the churchyard. The work was started using the methodology of partly excavating and partly observing (1989 Grosberg), and was continued using the methodology of excavating the village cemeteries (1990–1991 Valk). In Viljandi the rescue excavations made it possible to determine the exact location of an inside corner of the medieval town's main church (1996 Valk). The ruins of the Rakvere Franciscan Monastery were partly opened by large-scale excavations in 1989–1991 (Aus and Tamm). In the countryside, the ruins of Kärkna Cistercian Monastery were studied using trial excavations (1999 Tvauri).

The digging of test pits has also provided new information about the architectural history of some rural medieval churches. This methodology was



**Fig. 54.** Tallinn, St. John's Hospice. Ruins of the main building (photo: J. Mäll).

applied since the 1960s by Villem Raam (1910–1996) in the case of several churches in northern, western and central Estonia (e.g. Valjala, Muhu, Pühalepa, Haljala, Kose, Risti, Märjamaa, Jõhvi, Jõelähtme) (see Alttoa & Palginõmm 1991, 15 ff; Alttoa, E. 1995) – the earlier approach applied in art history was based solely on visual observations. Concerning the churches of Valjala and Muhu on the west Estonian islands, this method led to a new conception about the history of the whole building (Raam 1976; 1990a), and new data were added also for the churches of central Estonia and Harju County (Raam 1986; 1990b). In rural southern Estonia, work of a similar nature has been established to a more limited extent, e.g. in Urvaste.

A new quality has arisen since the 1990s, when architectural investigations took place using both architectural and archaeological methods. Such fieldwork provided new data about Põide church (Mäll 1998) and Viru-Nigula church (1988 Aus and T. Tamla). In Kambja also, larger excavations caused by the reconstruction of the church ruins provided some information about the architecture of medieval buildings (1993 Valk).

As a whole, the 1980s can be regarded as a period of gradual changes in the field of churchyard and cemetery archaeology. As a result of changes in ideas and attitudes, in the archaeology of churches and monasteries the methods of architectural investigations, which are based in most cases on making limited trial pits in places of crucial importance, have been replaced by a new approach: the cultural layer, artefacts and graves are also regarded as historical source material requiring proper digging and documentation. Parallel to the formation of medieval archaeology, the art historian's interests and approaches have been replaced by interdisciplinary ones, and the last decade has seen the development of a real co-operation between the architectural history and archaeology.

Within the archaeological context, the first half of the 1980s can be characterized by interest in the finds, but not yet in the proper documentation of individual graves. This change in approach partly lasted until the end of the 1980s, and sometimes even longer (St. John's Church in Tartu). The turning point lies in the early 1990s, and since the middle of that decade the methodology of full documentation and the human osteological analysis of the skeletal material has become a generally accepted norm. Cemeteries have come to be regarded as valuable source material concerning the medieval population and its burial practices.

Extensive excavations of cemeteries from the medieval and post-medieval period have posed archaeology a number of questions with practical, scientific and ethical aspects. Of these, the main problems are the storage or reburial of numer-

ous medieval and post-medieval skeletal materials. Practical problems (storage), as well as ethical aspects related to well-preserved human remains have led to the principle of re-burial after analysis in field conditions or post-field research.

The synthesis of archaeological data on monasteries and urban churches is still quite limited. A survey of the material culture of Estonian monasteries of the 15<sup>th</sup> and 16<sup>th</sup> centuries has been presented by J. Tamm (1986; 1988), and recently a general treatment on Estonian medieval monasteries based on different sources was also published (Tamm 2002). The results of archaeological investigations in the churches and monasteries of southern Estonia were summarized by K. Altoa (1995). Concerning cemeteries and burial customs, there exists an examination of the cemetery of Tartu Cathedral (Valk 1995b) which should, however, be supplemented with the results of later excavations (Haak 2002), as well as about the cemetery of St. John's Church in Viljandi (Valk 2004a). The recent general survey of burial customs in Estonian medieval and post-medieval urban churchyards (Valk 2004b) presents the research situation as it was in 2001.

## Research of medieval castles in Estonia

25 castles of the Order, Bishop, Commander or Fogt are known in Estonia; apart from Kursi castle, their ruins can nowadays be observed or their foundations have been located through sondages. The number of vassal castles and fortified manors was probably larger, but only c. 25 of them can be located and are partly preserved (incl. re-built, basements only, etc.). Archaeological excavations have been carried out in most of the major castles and in a few vassal castles.

Medieval castles, the majority of which are in ruins since the 16<sup>th</sup>–17<sup>th</sup> centuries, were mostly

clearly visible in the landscape in the 19<sup>th</sup> century. Therefore it is no wonder that people with an interest in history paid attention to them before other historic monuments. Written sources often refer to castles (and especially to their besiegement), and this made it possible to start compiling a ‘biography’ of the castles at quite an early stage. One of the first persons who took an interest in castles was Eduard Philipp Körber, a vicar from Võnnu, who collected historic data about the castles of Livonia, made drawings of several castle ruins and from the year 1844 gave talks about the ruins of Paide, Vastseliina and Vasknarva castles at the Learned Estonian Society (Tuulse 1938). Johann Christoph Brotze also made drawings of castle ruins, and his drawings<sup>2</sup> are now considered to be more reliable than those made by Körber. There were inevitably some gaps in the approach based on written sources, and some active researchers were keen to fill them in using fieldwork, which would hopefully also prove a few dubious allegations.

The first excavations of medieval castles, which were initiated by an interest in heritage, are connected with Friedrich Kruse and the two inventories he made in 1838 and 1839 (Kruse 1842). In 1850 the courtyard of Kirumpää castle was cleared of debris and soil down to the stone pavement, and finds were taken to the Museum of the Learned Estonian Society (Löwis of Menar 1922, 71).

### From the 1870s to World War I

Systematic studies of castles in Estonia (and Latvia) began in the last decades of the 19<sup>th</sup> century. Whereas at the beginning of the 19<sup>th</sup> century, romantic ruins were mainly appreciated as an integral part of garden architecture, the Baltic German approach to history, which became more active from the 1850s, regarded the period following the conquest in the 13<sup>th</sup> century as the best period in Baltic German

history, and termed it the ‘independence period’. Hence the visually prominent castles obtained an important place in the Baltic German conception of history. Attempts at Russification by tsarist Rus and the beginning of the movement of Estonian national awakening became serious threats to the social position of the Baltic Germans. The upsurge in interest in history and architecture can be explained by the political situation of the time, and the threatened social position could be explained in historical writings, which also helped to create a common Baltic German identity. Medieval castles, as powerful symbols of the mighty Baltic German period, deserved and required detailed research, clearing and display under the current circumstances. The first studies on Estonian castles were conducted mainly by the Baltic Germans.

Archaeological excavations of medieval castles in Estonia began during the last decades of the 19<sup>th</sup> century and continued at the beginning of the 20<sup>th</sup> century. The first large-scale excavations were carried out in Viljandi from 1878–1879, and were directed by Theodor Schieman (1847–1921). Schieman was specialized in early modern and modern times, and later became the Head Archivist of Tallinn and Professor at the University of Berlin. Excavations (1890–1891 in Virtsu, 1896 in Pärnu) were also conducted by Karl von Löwis of Menar (1855–1930)<sup>3</sup>, who emerged as the best specialist in the castles of the East Baltic provinces, and well-known architect Reinhold Guleke (1834–1927), (1888 in Vastseliina, 1889 in Viljandi).

Occasional studies were also performed by others interested in heritage. Schoolteacher Jean Baptiste Holzmayer excavated in Pöide in 1888–1889, and Sergei K. Bogoyavlenskij, an archaeologist from Moscow, did smaller excavations in 1895 in Otepää and at Kooljamäed in Karja (Saaremaa), where he was looking for a fortification that, according to folklore, had been used during the St. George’s Night Uprising in 1345, but which remained undiscovered.

<sup>2</sup> Reduced copies of his drawings can be consulted at the Internet address <http://www3.acadlib.lv/broce/>.

<sup>3</sup> About him, see Ose 2001.

Architect Karl Rudolf Hermann Seuberlich (1878 – lost in 1938) measured the architectural details of Kuressaare Castle during its reconstruction in 1904–1905. Several research results were published as special articles (Löwis of Menar 1897; Seuberlich 1907), others were summed up in newspaper articles and reports (Schiemann 1878; Guleke 1889) or in later research work (Holzmayer 1891). Guleke (1896) presented reconstructions of the medieval buildings of Livonia in an album entitled *Alt-Livland*.

The excavation reports of the time concentrated mainly on the opened-up rooms and on describing the architectural details; yet depending on the competency of the director of the excavations, finds were sometimes also described (exceptionally in the works of Löwis of Menar), and sketches were drawn of the most noteworthy architectural details. In general, excavations were carried out rapidly, no attention was paid to the buildings' cultural layer, and the cultural layer was not used for dating. Primarily constructional details were recorded from the finds, and other exceptional finds were only sporadically introduced (e.g. Schiemann 1878). Finds were recorded with the precision of the pit or room in which they were found, but since the finds were not numbered, it is impossible to match the finds with their finding places today.

It cannot be ascertained whether the reasons for excavations in that period can be generalized or whether they were determined by local initiatives. Although in his numerous works on castles, Löwis of Menar encouraged the excavation of unstudied castles, the leading role in conducting excavations was still played by local heritage activists, who also organized the necessary funding. For example, the aim in Rakvere was to clean and reinforce the ruins on the ground, and the suggestion to perform at least minimum studies obtained no response (Löwis of Menar 1907).

The studies carried out in that period were summarized only by Löwis of Menar, who presented a talk entitled *Estlands Burgen* in 1912 (Löwis of Menar 1914). Ten years later his work *Burgenlexicon* (Löwis

of Menar 1922), which is basically an expansion of his previous work, was published. These works do not generalize castle architecture in Livonia, but they can instead be considered to be lexicons in a direct sense, presenting known data about each castle at the time. Thus these works can be viewed as an evolution of the tradition established by Körber and Brotze.

### From the 1920s to the mid-1970s

With the establishment of the Chair of Archaeology at the University of Tartu in 1920, medieval castles became a field of interest for art historians. The great changes that took place in society (World War I, the Russian revolutions, the establishment of the Republic of Estonia and the Estonian War of Independence) terminated most of the activities of German learned societies, including fieldwork on medieval castles and the funding thereof.

In the 1920s the number of excavations of medieval castles diminished, and mainly walls discovered during reconstruction work were recorded, as in 1922, when the *Riigikogu* (Parliament) building was incorporated into Toompea Castle (Ederberg 1924). The excavation reports described only the discovered remains of the walls, and finds or the stratification of the cultural layer were not even mentioned.

Of the new generation of art historians that studied at the University of Tartu under the instruction of Sten Karling (1906–1987), Armin Tuulse (Neumann) (1907–1977) specialized in the study of medieval castles. In 1935 he defended his MA thesis on the chronology of medieval castles in Estonia and their types of plans (Neumann 1935a). Tuulse continued his investigation of the castles, and also conducted archaeological excavations. In 1935 he directed excavations in Tallinn on the reconstruction of Toompea Castle, and in 1939 in Viljandi (Fig. 55), in the Bishop's Castle in Haapsalu and smaller test excavations in Karksi, Paide and Kirumpää. His studies were summed up in a monograph published in 1942 as his doctoral thesis (Tuulse 1942). In the



**Fig. 55.** *Viljandi. Armin Tuulse's excavations in 1939. Tuulse is fourth from the left (photo: Viljandi Museum).*

descriptions of the development of the castles, the author also to some extent introduced the results of fieldwork, although he only used archaeological material to supplement his theories of the development of a few individual castles.<sup>4</sup> For the most part, Tuulse's thesis was based on the written sources and the style-critical investigation of the preserved or revealed architectural remains. In some cases his unpublished excavation notes also contain descriptions of usually earlier strata.

Hence we may conclude that the direction and methods that Löwis of Menar had introduced

<sup>4</sup> For example, in describing the development of Karksi castle, the author suggests that an earlier wooden castle preceded the stone castle, because the excavations performed in 1939 revealed timber constructions underneath the stone walls (Tuulse 1942, 244).

remained topical in the study of castles. Tuulse supplemented this with contemporary knowledge about architecture and the finds, and thus became recognized as a well-known architectural historian.

After World War II, scientific research concerning medieval castles ceased for some time. Tuulse had left Estonia for Sweden in 1944, before Soviet troops occupied the country. The Soviet ideology that then became predominant in Estonia did not favour the investigation of medieval castles.

In 1950 the first excavations directed by an archaeologist – Osvald Saadre – began on the medieval castle in Otepää. His interest probably initially lay in the prehistoric hillfort at the same location, which was well known from the written sources. In time, Saadre concentrated more on the study of the medieval castle (Fig. 56), and excavations continued





**Fig. 56.** *Otepää. Castle ruins revealed during the excavations performed in the 1950s (photo: AI).*

(with a hiatus from 1963 to 1966) until 1974. These large-scale excavations provided rich material, yet the recording of find conditions and unearthed structures remained problematic. For most of the years, there are no excavation reports, and few of the excavation results were published. During the excavations in Otepää, the first attempts were made in Estonia to use radar in archaeology; this method is quite common today. Since 1957, 'electronic reconnaissance' was used in co-operation with geophysicists to determine the location of the ring wall and the gate. The data obtained was checked with small test pits (see Mäesalu 1993).

The second object where medieval castle buildings were archaeologically studied on a larger scale was Tartu Castle. The excavations' results were

summed up in a monograph by V. Trummal, who directed the excavations. In addition to the description of prehistoric and medieval strata and structures, the monograph also paid thorough attention to finds (Trummal 1965). At the excavations, which were organized mainly in order to solve some of the issues concerning prehistoric hillforts in Rakvere (1959–1960 Tõnisson) and Paatsa in Saaremaa (1963 Kustin), medieval finds were also collected, and ruins from the medieval period were dated. At the same time, research concerning the architectural history of several other castles was initiated, and smaller excavations were undertaken there. From the point of view of heritage conservation, medieval castles were treated as listed buildings, and their reconstruction had to be preceded by architectural

studies with the objective of obtaining ‘a scientifically proved basis for drawing up conservation-restoration projects’ (Aluve 1993, 92). The first outstanding researcher was V. Raam, who graduated from the University of Tartu in 1939 as a student of S. Karling. He studied Kiiu castle in 1960 (Raam 1969), Järve castle from 1966–1976 (Raam 1983) and performed several studies at the Bishop’s Castle of Haapsalu from 1960–1970. Raam also managed to thoroughly study the vassal castles at Angerja, Purtse and Kiviloo. In 1968, studies directed by architect Kalvi Aluve began at Kuressaare Castle (Aluve 1980a).

The general practice in research foresaw establishing a hypothesis on the basis of the existing material and then checking the theory in nature. Such research supplemented knowledge about the differences in detail between castles, yet it also had a number of drawbacks. First, because most attention was paid to the remains of the walls, the castle’s cultural layer received very limited consideration. Hence the archaeological dating of the walls was often rendered impossible. As the newly graduated archaeologists mainly concentrated on prehistory, there were few possibilities for architectural historians to engage archaeologists in the research. Second, research that concentrated on one single hypothesis did not consider it important to record material – compiling excavation reports was more of an exception than a rule, and storing finds was exceptional. Hence an ironic situation developed, as the Baltic German studies stored more archaeological finds than the later excavations by architectural historians.

At the beginning of the 1970s, the architectural studies of the castles became more wide-spread and the role of archaeologists in them grew. Most of the work was connected with the projects for the conservation and reconstruction of the castles, in which the State Restoration Department and later KRPI (see above; architects Aluve, Tiirmaa, art historians Raam and Alttoa) played a leading role. In 1971 excavations began at Kuressaare Castle, directed by

archaeologist Jüri Selirand. In 1971–1972 Viljandi Castle was studied, with the aim of drawing up a conservation project for it (Alttoa and Tiirmaa). In order to search for remains of medieval vassal castles, smaller test pits were dug at Valipe in Hiiumaa (1974 Tamm; 1975 Tamm and Aluve) and Kullamaa in western Estonia (1974 Tamm); the latter did not reveal any traces of medieval structures.

In conclusion, we may say that during the period from the 1920s until the beginning of the 1970s, medieval buildings received only moderate attention. Studies directed by archaeologists traditionally concentrated (as established in the 1920s) on prehistoric hillforts. In this Estonia was relatively backward in comparison to Latvia, where the study of medieval castles started with a comprehensive recording of all stages of habitation on heritage objects that were presumed to be prehistoric (e.g. Šnore 1961), and by the second half of the 1960s gradually became an important field of research, concentrating on castles erected at the turn of the 12<sup>th</sup>–13<sup>th</sup> century (platform position Murgurēvičs 1968, 48 f). At the beginning of the 1970s, professional archaeologists in Estonia also became engaged in the scientific research of architectural heritage, even though they mainly specialized in prehistory. As the competence for the research of the Middle Ages was insufficient (i.e. for the precise dating of finds), the possibilities to become involved with the architectural history of buildings based on archaeological material was initially quite modest.

### **From the mid-1970s to the beginning of the 1990s**

From the mid-1970s it became customary to form research teams consisting of an archaeologist and an architect or an architectural historian. This change was brought about partly by legal causes (heritage protection acts from 1977 and 1978) and partly by the emergent new generation of archaeologists with an interest in the Middle Ages (e.g. art historian K. Alttoa, archaeologists J. Tamm,

T. Aus and K. Lange). Of the castles' studies in the 1970s and 1980s, examples of such co-operation are offered by the castles in Rakvere (1976–1988) and Narva (1984–1989, for both objects Aus, Altoa and Tamm), and also in Paide (1985–1987 Lange and Altoa). In Haapsalu, Lange joined the studies directed by Aluve in 1981. The excavations at Põltsamaa Castle that had begun in 1970 continued (Raam and Tamm). Aus made test pits at the castle of Kiltsi (1986). Archaeological excavations at the vassal castle in Keila in 1977 were distinguished by their precision and comprehensiveness; the excavations were directed by Mati Mandel, who until then had been working with prehistoric objects. Special mention should be made of the activities of geodesist U. Hermann, who during the 1970s drew plans of the majority of medieval castles that had been preserved in ruins. His geodetically precise general plans became the base plans for researchers in planning the trial pits and mappings, but also in drawing up designs for reconstruction. At some castles, rescue excavations necessitated by the adoption of the new Heritage Protection Act also took place, and these were directed exclusively by archaeologists: in 1983 at the outer stronghold in Otepää (Mäesalu), in 1988 at Põltsamaa Castle (Kraut) and in 1989–1993 at the outer stronghold in Haapsalu (Pärn). In Haapsalu the construction of the drawbridge of the eastern outer bailey was studied in 1989–1991, as well as a section of the *Zwinger* wall (additional curtain wall) on the northern side of the stronghold (Pärn 1993).

The most important improvement of the above-mentioned excavations as compared to previous excavations is the devotion of a great deal of attention to the cultural layer. Research methods were based on the traditional methods used in the study of prehistory, yet many researchers began to develop these methods further in order to fit the needs of the investigation of the medieval period. Although many of the works of the time also recorded the cultural layer mainly on drawings, and the collected finds were not connected with the strata, a great

advance was made towards archaeological research methods recognized today in terms of the precision of recordings, the categorization of stages of construction, the use of finds in dating stages of construction, etc.

In parallel to the above-mentioned research, excavations directed by architects and art historians in the framework of drawing up conservation projects for castles continued, with main attention being paid to building remains and not to the stratification of the cultural layer (e.g. Virtsu 1976–1977 Hein and Aluve; Haapsalu 1977–1981, Paide 1976 and Toolse 1985, directed by Aluve).

Attention should also be drawn to a few castles that from the outside resemble prehistoric strongholds, while the excavations testify that they were still in use in the second half of the 13<sup>th</sup> century and the first half of the 14<sup>th</sup> century. Ramparts laid as limestone walls and/or timber defence constructions point to the preservation of ancient local traditions. In 1985–1986 one such site, described as a 'hillfort' in the folklore, was studied on the hill of Kõugumäe, near Misso (Peets & Valk 1989). The last defensive stage of the ancient stronghold of Tarakallas in Purtse, excavated in 1978–1982 (Mäesalu & Tamla 1983), and the majority of material from Paatsa hillfort in Saaremaa excavated by Jüri Peets in 1989–1990 belongs to the same period. Finds from the 13<sup>th</sup>–14<sup>th</sup> centuries have also been collected from Varbola hillfort (Tamla, Ü. 1992b).

A huge step forward was also made in the publication of excavation reports. Since the 1980s, most of the recent archaeological research results began to be published as overviews of excavations in the Proceedings of the Academy of Sciences. The few articles that offer a synthesis of the material collected are connected with the work of art historians. Based mainly on earlier research, style-critical analyses and written sources, Altoa (1974; 1978) proposed a new concept concerning the stages of construction of the castles at Laiuse and Vastseliina. Raam (1983; 1985) made a major contribution with articles about the general stages of development of

castles and churches and vassal castles at Järve and Purtse. The results of the excavation of Kuressaare Castle were published as a monograph by Aluve (1980a). Due to the restricted possibilities for publishing research results, several important theories concerning castles were published in the year-books of amateur local historians (e.g. Raam 1983). Aluve's paper on Haapsalu Bishop's Castle (1998) is mainly based on the research results of the period dealt with in this section.

### From the beginning of the 1990s to the present

When the political and economic situation changed at the beginning of the 1990s, the funding of conservation projects ended, and this also meant a sharp decrease in castle excavations in Estonia. In fact, large-scale excavations in the first half of the 1990s took place at only two castles: in 1990–1995, 1997 and 1998 M. Mandel directed excavations at Lihula Castle, where 500 m<sup>2</sup> were studied (Mandel 2000; 2001). During 1991–1997, extensive studies continued at a small castle in Keila, on the initiative of the local museum (Pauts and Mandel, over 500 m<sup>2</sup>), which allowed the proposition of a new hypothesis about the development of the castle (Pauts 1997). The above excavations opened up extensive parts of the castle, using more precise research methods than ever before. The third castle that was studied thoroughly was in Viljandi, where in 1996 the ground plans of the outer baileys and the cultural layer were studied using a geo-radar and drillings (Valk). Archaeological excavations were carried out from 1998–2004 on an area of c. 150 m<sup>2</sup> at the main castle and the first outer stronghold (Haak and Tvauri). Minor excavations occurred in the cellars of Kaarma parsonage (Saaremaa), which gave evidence of the medieval origin of the building. The suggested interpretation of a 13<sup>th</sup>-century stone building at Kaarma parsonage as a manor of a post-conquest native nobleman can still strongly be questioned (Pärn & Russow 2005).

In the second half of the 1990s, the number of rescue excavations and the amount of supervision work on castles increased considerably. Major rescue excavations were carried out in 1999 at the gate house of Põltsamaa Castle (Tvauri) and in 2001–2002 at the Bishop's Castle of Uue-Kastre, the development and dating of which were completely revised (Tvauri 2003b). Smaller rescue excavations were carried out in 2001–2002 in the area of Pärnu Castle of the Order (Vunk) and in 2001 in Koluvere (Russow), in 2002 in Laiuse (Vissak), in 2001–2003 in Kiltsi vassal castle (Jonuks), in 2001 and 2003 in the wall-house of the Bishop's Castle in Haapsalu (Russow), and in 2003 in Rakvere Castle (Jonuks). In 2000 and 2004, studies continued on Pöide Castle of the Order (Mäll and Kadakas). In connection with conservation and restoration work on Maasilinn castle on the island of Saaremaa, Tõnu Sepp acted as archaeological supervisor for the work.

In the 1990s, and especially during the second half of the decade, the precision of recordings improved, the researched areas became smaller, and finds were more often connected to their context and interpreted in connection with the stages of construction. For almost all excavations, reports and overviews were compiled. A certain regression could be noted in this decade as compared to earlier periods, as concerns the decrease in the number of architects involved in the study of medieval castles. This fact may diminish the credibility of several technical reconstructions.

The number of publications increased exponentially – both the analyses of fieldwork of the last decade and recent research results were published. Special mention should be made of the series *Castella Maris Baltici*, publications of the seminars on the castles of the Baltic Sea. In addition to bringing contemporary theories about the study of castles in Estonia to the attention of an international public (e.g. Alttoa *et al.* 1996; Dubovik 1993; Pärn 1993; Mäesalu 1993), the issues that deserved special attention were connected with the development of the Estonian castles of the type of convent buildings

(Alttoa 1993) and the unsolved problems of tower-castles (Lange & Alttoa 1993).

In 1993 K. Aluve published a monograph about medieval castles in Estonia that summed up the research results of mainly architectural historians since World War II (Aluve 1993). Unfortunately, little attention is paid to archaeological studies in that monograph.

In conclusion, we can say that although the role of archaeology has increased in the studies of medieval castles in Estonia, and the precision of the recording and analysis of finds has improved, there is still not a single case in which all of the results of archaeological studies on a castle have been summed up and a new hypothesis proposed about the development of the castle on the basis on these studies. Also, at the beginning of the 21<sup>st</sup> century the development of medieval castles in Estonia is still largely based on architectural dating, and archaeological finds only illustrate and supplement the concepts. The finds from several large-scale excavations have only partly been brought to the attention of researchers. No single castle has been studied as an economic entity together with the hinterland of the villages/manors that belonged to the castle. Hopefully the near future will bring an alternative approach, based on the investigation of a particular castle.

## Artefact studies

As mentioned above, the interest of the intellectuals in the Baltic countries in antiquities and the establishing of the first private collections in Livonia began in the second half of the 18<sup>th</sup> century. In addition to prehistoric finds, the collectors of the time also took an interest in objects from later periods, especially coins and documents. It may seem, at first glance, that the interest of the Baltic German amateur historians was first and foremost caused by aesthetic reasons and a passion to possess ‘beauti-

ful things’, as it were namely the medieval and early modern finds that allowed the German-speaking population to clearly demonstrate their superiority over the native population. The scientific approach to the cultural heritage objects from the 18<sup>th</sup>–19<sup>th</sup> centuries was rather casual, and was mainly concentrated on publishing numismatic and written sources. Other finds, which mostly consisted of stray finds, were treated as museum objects at best, and were occasionally published in museum catalogues (Hartmann 1871; Hansen 1875).

In the last quarter of the 19<sup>th</sup> century, scientific excavations that mostly involved architectural history were undertaken, and publications about these excavations concentrated only on architectural data, often leaving finds of items in the background. Since excavations were directed by art historians, and it is understandable that their interest was mainly caught by the very few exceptional finds that were of value from the point of view of art history. This attitude towards finds from historic times that were collected at archaeological excavations also predominated during the 1920s and 1930s.

Several excavations in the 1930s that were aimed at studying the architectural history of castles and monasteries also demonstrated an increased interest in the medieval finds. For example, during the archaeological excavations at Pirita Convent in Tallinn and the Castle of the Order in Viljandi, finds discovered during the removal of the soil were carefully recorded. In some cases summaries of the excavations (e.g. Pirita Convent) contained a longer overview of the finds (Tuulse 1936; 1938). At the same time, articles that introduced especially one artistic item or type of finds began to be published (e.g. Neumann 1935b; Peets 1936).

Studies of medieval objects performed in the 1950s and 1960s were divided into two groups. Excavations that were carried out on architectural heritage objects in order to compile conservation and restoration projects were directed by architects or art historians. These excavations paid little attention to finds, and they were seldom described

in publications. One of the positive exceptions was the archaeological excavation directed by E. Tool-Marran at the Dominican Monastery in Tallinn, where many finds were collected and also published (Tool-Marran 1971, 133 ff).

At the excavations directed by archaeologists, finds were collected in the same way as at ordinary excavations at prehistoric monuments. They were also analysed to a greater or lesser extent in the publications on the excavations. Finds were more thoroughly analysed in the book and articles about the excavations at the Tartu Castle and the Old Town of Tartu (Trummal 1965; 1970a; 1974).

Special attention should be paid to the work concerning the finds discovered at the excavations in the 1950s. The fieldwork carried out at that period was undertaken because of political reasons, finds collected at the excavations played a major role in giving a 'politically correct' interpretation to the results (Mäll & Russow 2004, 146 ff). The interpretation brought out also the socio-topographic differentiation of the medieval finds and several 13<sup>th</sup>-century items were dated to prehistory without any sound arguments. However, regardless of the biased conclusions, the article about the excavation results remained one of the few publications on early finds from Tallinn and it was referred to in scientific publications until the 1980s.

The only specific study of artefacts that dealt with medieval and modern pottery in Old Livonia was published in Switzerland (Strauss 1969). Although the data presented in the book is mainly based on the material that had been gathered in the museums and archives of Latvia and Estonia by the early 1940s, the monograph by Konrad Strauss was the first study to consider the archaeological, ethnographic and archival materials. Thanks to its numerous illustrations, the study became the most important reference work for archaeologists in the coming years. Even now, nearly forty years after it was published, the work has not lost its importance, as no overviews of such a general nature have been published since.

The investigation of medieval artefacts underwent a more serious change with the new trends that arose in medieval and urban archaeology during the 1970s. One of the most remarkable outputs of the decade was the addition to the excavation reports of a separate volume dealing only with finds.<sup>5</sup> Although such supplements in the form of a manuscript were often rather schematic and lacked any deeper analyses about the finds discovered, it was still an important step forward in comparison with previous periods. For the first time ever, an overview of medieval material culture in the towns, monasteries and castles of Estonia based on archaeological material began to develop.

Since the capacity of the annual excavation reports of the Proceedings of the Academy of Sciences was limited, the sections discussing the finds remained rather brief in the 1970s and 1980s. Also, only a few short research papers concentrating on medieval artefacts or expanding upon material culture were published (e.g. Tamm 1978; Mäesalu 1986), as possibilities for the publication of such articles were limited. University graduation theses also remained unpublished, as was the case with the only candidate dissertation on medieval topics (Tamm 1988). This situation, in which finds were systematically analysed in excavation reports, but only a few works were published, continued until the end of the 1980s. To a certain extent the 13<sup>th</sup>-18<sup>th</sup> century archaeological finds were analysed in specific research papers on carved stones, ornaments and coin and leather finds (e.g. Üprus 1987; Kirme 1986; Valk-Falk 1985). As these publications were mostly concerned with issues of other disciplines, the archaeological material largely remained in the background, and such research was seldom used by the archaeologists. However, the importance of this research work cannot be overlooked as supplementary material in dating archaeological finds and determining

<sup>5</sup> This applies mostly to the archaeologists of KRPI, who had specialized in rescue excavations in towns and constructed heritage outside historic town centres.

their function. In fact, such an approach reflects the role of the investigation of artefacts in medieval archaeology in a broader sense – artefacts were treated from the point of view of culture-historical archaeology, mainly concentrating on solving issues of chronology and typology. Yet, if we look at the general level of medieval archaeology in Europe at that time, it is obvious that a rather similar typo-chronological approach to finds prevailed everywhere until the beginning of the 1990s (see Gerrard 2003). We should also not forget the political barriers, which before the great changes at the end of the 1980s hindered the free exchange of ideas and information between academics in Eastern and Western Europe.

Naturally it is not possible to determine the exact time when changes in the study of medieval artefacts first began to take place, but by the second half of the 1980s changes had already begun to occur. One of the reasons for such a change was the sudden increase in the number of excavations in medieval towns and the great collections of artefacts gathered. Simultaneously, changes also occurred in the academic field: since 1988 opportunities for students to specialize in medieval archaeology and material culture improved (see also the introduction of this article). These changes became evident in the first half of the 1990s, when in addition to the traditional excavation reports published in the Proceedings of the Academy of Sciences (where the share of medieval archaeology steadily grew since 1989), the number of specialized articles on the study of material culture increased. One may see a symbolic beginning to this process in the publication of the book *Muinasaja teadus 1* in 1991, funded by the private company Agu-EMS Ltd. Apart from studies on the archaeology of prehistory, articles describing the arbalest bolts (Mäesalu 1991), 13<sup>th</sup>–17<sup>th</sup> century rings from southern Estonia (Valk 1991) and the decorative and finishing details of medieval monasteries (Tamm 1991) were published. For the first time it was possible to publish longer and more thorough studies at one time on artefacts from his-

toric times through archaeological finds. However, most of the source material used in those articles dated from earlier decades and not from the times directly preceding the publication. Since at the time archaeologists who specialized in the Middle Ages were mainly engaged in large time-consuming rescue excavations, the typological and chronological frameworks for the most common types of finds (pottery, wood, leather, etc.) could not be determined then, and these tasks have partly not been fulfilled to the present day.

In parallel to the above-mentioned articles, the first studies on the finds of recent excavations in towns were published as graduation papers and MA theses at the University of Tartu and also as separate articles. For example, in 1991 Aldur Vunk defended his diploma on the archaeological finds of stove tiles in Pärnu (Vunk 1991). The source material for this study were the large tile complexes that were discovered during archaeological excavations at 2 Munga St. in Pärnu, which had only been carried out in the previous year (Tamla, Ü. 1992a). Although the greater part of the study still treated tiles in a traditional way (typology and discussion about the motifs used), the author also considered the finds from an entirely new point of view, complementing the study with natural scientific analyses of the clay and the glazing, with the aim of explaining the differences in the fairly homogeneous set of finds. In addition, the interpretation of archaeological material in the light of archival material about the plot also distinguishes the study from earlier research.

An innovative approach to medieval archaeological finds in Estonia was also demonstrated in the article by T. Aus about pottery in Tallinn, which clearly illustrates the changed opportunities for the study of artefacts that had emerged after the opening up of state borders (Aus 1992). Having been influenced by the overviews of medieval pottery that had been published in western Europe, Aus decided to implement the methods of pottery studies used there in treating also local finds. His work was based on the so-called A-B-C method that was

widely used in Scandinavia (Selling 1976). By adjusting this method to the finds from Tallinn, he divided local and imported pottery into five main groups and twenty-five sub-groups. In addition to the detailed description of the material that was based on the technological and mineralogical aspects of the sub-groups, Aus attempted to connect the finds as precisely as possible to a context of the location, and on the basis of these findings to draw conclusions about the whole area. Although later studies have proved this methodology to be misleading and essentially unsatisfactory (Mäll & Russow 2000, 125; Russow 2001, 12), the concepts presented by Aus and his theoretical approach to the study of artefacts deserve recognition.

The accumulation of medieval finds in the storage space of various institutions and the emergence of a new generation of archaeologists in the 1990s also enlarged the scope of the study of artefacts. Whereas previously main attention was devoted to describing the finds (with a particular focus on pottery) according to excavations, now the general practice is in-depth analysis of the find groups, both in terms of material, function and geographical distribution. The most thorough studies during the past 15 years from various approaches have been carried out on bone objects. Heidi Luik has treated them both according to the types (e.g. a monograph on combs 1998a) and to the locations of finds (e.g. Luik 2002). Numerous overviews have been published concerning medieval arms, which form a rather small proportion of archaeological finds, but comparisons with written sources and information from other countries made it possible to specify the development trends of several types of arms (e.g. Mäesalu 1998; 2002; 2004a, c).

On the basis of the so-called mass material, especially from pottery, several graduation papers, an MA thesis and shorter publications have been compiled (e.g. Russow 2001; 2002a; Tvauri 2000a; Vunk 1996; 1998). Some articles have been written on glass objects (Mäesalu 1999a), wooden vessels (Vissak 2002), leather items (Sarv 2000), round brooches

(Valk 1999c) and pilgrim badges (Vunk 2002), etc. Some recent articles testify that medieval archaeology in Estonia, which so far had not been very involved with theory, is gradually adopting new interpretations of finds (see e.g. Vunk 2000; Sarv 2004; Valk 2004b).

## Conclusions

At the beginning of the 21<sup>st</sup> century, medieval archaeology has defined its place among the sciences in Estonia. The heritage protection acts from the second half of the 1970s already placed prehistoric and medieval monuments on an equal footing. In the 1980s the legislation that obliged the developer to order the archaeological investigation of the cultural layer at his own expense in the event of construction works also became effective in small towns. Great improvements have also taken place in managing the storing and conservation of finds. Since the 1980s, the number of treatments published about the Middle Ages has increased, and the beginning of the 1990s was an especially active time. The role of the international contacts that were established at the time in appraising medieval archaeology and diversifying research trends cannot be overestimated. In addition to publishing information about finds and excavation results, the beginning of the new millennium has also witnessed the first content-rich generalizations.

Academics specializing in medieval archaeology work at the University of Tartu, the Institute of History of Tallinn University and the Estonian History Museum in Tallinn, and courses on medieval archaeology are taught in both cities. At the same time, one of the first challenges faced by medieval archaeology is the lack of a uniform research centre and curriculum. Some research directions that are imperative in order to acquire a complete picture of medieval archaeology also lack necessary researchers. One should mention several study fields that use the methods of the natural sciences, above



all dendrochronology. The implementation of the methods of the natural sciences has been limited to analyses of material from single objects, and has not been extended to context-based generalizations.

The majority of excavations on medieval monuments are rescue excavations, and are mostly conducted by private companies. Such a situation may lead to cases when economic interests prevail over scientific interests (especially in the area of budget and time allocated).

The current state of research is such that no complex research results of any of the medieval monu-

ments in Estonia have been achieved. The first general overviews will hopefully be published in the near future, which will allow us to compare the material heritage of medieval towns and castles in Estonia with those of neighbouring countries.

In conclusion, we may say that in *Anno Domini* 2005, Estonian medieval archaeology is in transition from the phase of collecting and publishing material to the phase of analysing, generalizing and drawing conclusions on the basis of theoretical considerations.

# Post-Medieval Archaeology in Estonia

ERKI RUSSOW

## Introduction

People have affected their surroundings and shaped it according to their wishes for thousands of years, but never has human impact been as extensive as in recent centuries. The developments or events that have taken place since the end of the 15<sup>th</sup> century – be it devastating warfare, European expansionism, the formation of industrialized society, or other factors – have modified cultural landscapes throughout the whole world to an unparalleled extent. Various events and processes have given rise to many of the burning problems of the modern world – urbanization, globalization and industrialization being just a few of these. Many disciplines, including history, are committed to explaining the reasons for the rise of these problems and the estimation of the further development of these processes. Until recent times the role of archaeology in this work has been quite modest, but developments throughout the world prove that archaeologists can also contribute to the investigation of the post-medieval period (e.g. Orser 1996; Tarlow & West 1999). The present article gives a brief survey of the archaeological investigation of the post-medieval era in Estonia.

Traditionally, the middle of the 16<sup>th</sup> century is regarded as the borderline between the Middle Ages and the post-medieval period in Estonia. Then, in 1561, in the course of the Livonian War (1558–1583) the last medieval state formation in Livonia vanished from the political map (Laur 1999, 36). Instead of the former independent ecclesiastic states, in

the following centuries the present-day territory of Estonia was ruled by Denmark, Poland, Sweden and Russia. The periods in which Estonia belonged to the Kingdom of Sweden (1578–1710) and tsarist Russia (1710–1917) had the greatest influence on Estonia's further development. The first two decades of the independent Republic of Estonia (1918–1940) and extensive rearrangements due to the centralization of urban and rural life during the Soviet occupation (1940–1941/1944–1991) also left distinct traces on the formation of the present-day cultural landscape. The period under discussion is generally divided into the post-medieval period (mid-16<sup>th</sup> century – end of the 18<sup>th</sup> century), the early modern period (19<sup>th</sup> century) and the present period (20<sup>th</sup> century).

Distinguishing between medieval and post-medieval periods on the basis of the archaeological material, we must admit that the establishing of a symbolic line between these two periods presents different possibilities of interpretation. In analysing the material culture of Estonia in the 15<sup>th</sup>–17<sup>th</sup> centuries, we can see that in the first decades of the 16<sup>th</sup> century there appeared several tendencies that clearly reflect changes in both the mental and the physical environment. In urban households, for example, the innovations concerned the interior and structure of rooms, emphasizing a greater home-centred religiousness, political opinions and individuality (e.g. Vunk 2000; Russow 2005a; Kodres 2005a-b). Changes in mentality are also reflected in burial customs, where an increase in the number

of coin and ornament finds can be observed in the burials of the first half of the 16<sup>th</sup> century (Valk 2004b, 108). We should also not overlook the influence of the Reformation on the visual transformation of public space in both urban and rural areas. This took place in the second quarter of the 16<sup>th</sup> century, and brought about the demolition of Catholic monuments familiar from the Middle Ages, or their replacement by Protestant symbols. The same period witnessed the erection or reconstruction of large-scale defensive zones around medieval town walls (e.g. Zobel 2005). On the other hand, the influence of the Livonian War on the further development of Estonian areas should be emphasized: in addition to the eradication of the former political division, the war left traces on the cultural landscape that was formed in the Middle Ages. Apart from Tallinn, the buildings of most urban centres were destroyed in the course of the war, and hostilities between various foes devastated the land. As a result, the appearance of Livonia changed beyond recognition compared with the beginning of the 16<sup>th</sup> century. Hence we may draw an imaginary line between the Middle Ages and the post-medieval period, either into the first half of the century (changes in mentality) or the second half (changes in landscape). The 16<sup>th</sup> century should instead be regarded as a transitional period from the religious society of the Middle Ages to the secularized world of post-medieval national states.<sup>1</sup>

## Earlier interest in post-medieval heritage

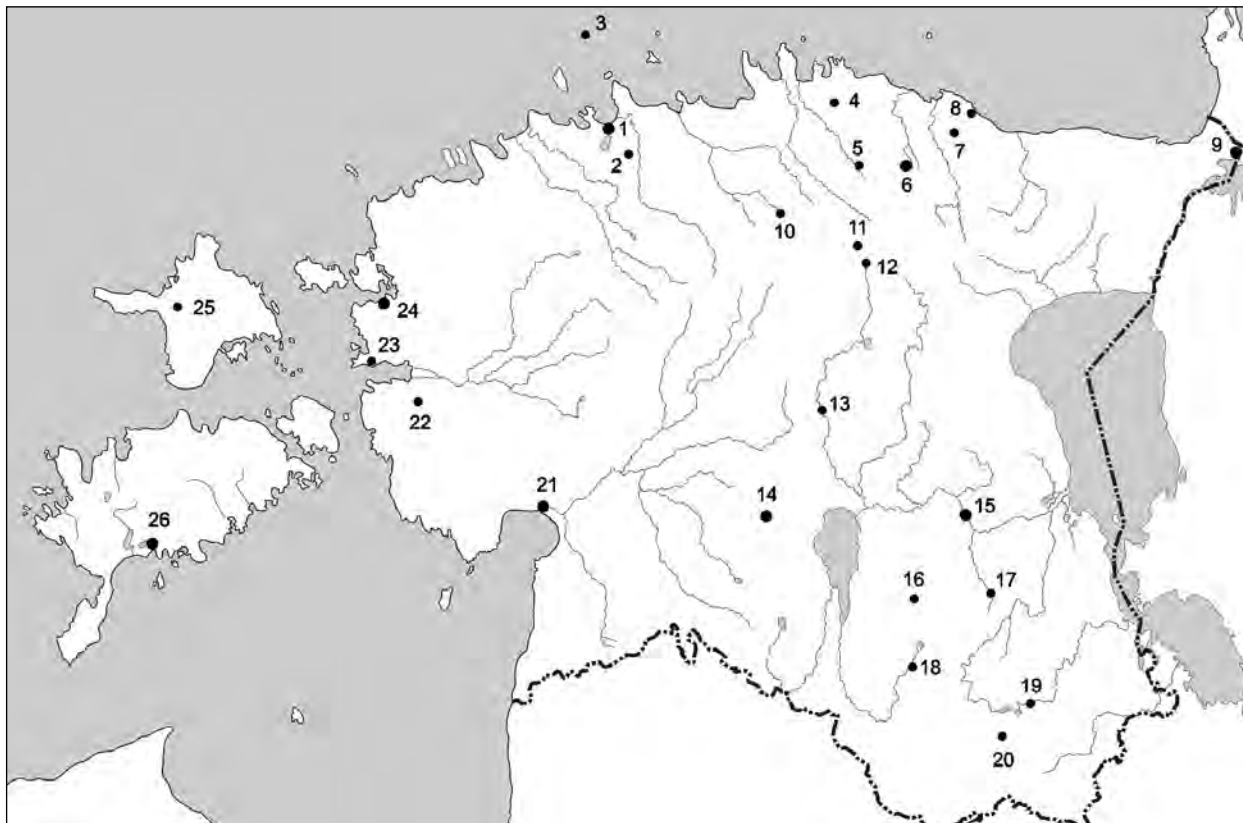
Concentrating next on the archaeological investigation of Estonian post-medieval monuments,

<sup>1</sup> These developments are not, of course, linear – there were, for example, Catholic anti-Reformation movements during the late 16<sup>th</sup> century and the beginning of the 17<sup>th</sup> century, when the Jesuits were active during Polish rule in southern Estonia.

we must first recognize that the monuments of the period under discussion are usually treated organically together with the material from preceding centuries, and it is therefore impossible at the moment to speak about post-medieval archaeology as an independent topic of research in Estonia. This is, however, quite understandable, because in these parts it is not possible to draw as clear a distinction as possible between the prehistoric period and the Middle Ages: while drastic changes occurred in the Estonian cultural landscape (the formation of towns, the appearance of a new type of architecture, the diversification of material culture, etc.) as a result of the Christian invasion at the beginning of the 13<sup>th</sup> century, the religious, political and economic innovations of the 16<sup>th</sup> century were based on the heritage created during the preceding centuries. Thus it would be advisable to avoid henceforth the use of period-based differentiations (Middle Ages, post-medieval period, modern times, etc.) in archaeology and, following analogous processes in Europe (compare e.g. Newman *et al.* 2001, 305), consider the use of a term with a much broader scope – historical archaeology – in discussing the material remains of written society.

There was moderate interest in the material culture of the post-medieval period ever since the first archaeological excavations of Livonian historic monuments organized by Baltic Germans (see Russow *et al.*, this volume). It was, however, mainly concerned with the collection of exceptional, i.e. whole or aesthetically outstanding, objects. Objects from the 16<sup>th</sup> century or later did not excite scientific interest at that time, and thus the discussions of late finds were quite vague when the results of the excavations were published (e.g. Frank 1906, 322).<sup>2</sup>

<sup>2</sup> One of the earliest known treatments of post-medieval artefact finds belongs to Johann Christoph Brotze, presented in his miscellany of 10 volumes discussing the monuments of Livonia (*Sammlung verschiedener Liefländischer Monumente, Prospecte, Wapen etc.*). It contains, for example, detailed drawings of a Siegburg stoneware tankard dating from 1590 and found in Porkuni (Russow 2002b) and a



**Fig. 57.** Post-medieval sites mentioned in the text. 1 Tallinn, 2 Lehmja, 3 Russalka, 4 Palmse, 5 Kadrina, 6 Rakvere, 7 Viru-Nigula, 8 Kalvi, 9 Narva, 10 Albu, 11 Porkuni, 12 Kiltsi, 13 Põltsamaa, 14 Viljandi, 15 Tartu, 16 Uderna, 17 Vooreküla, 18 Loku, 19 Võhandu, 20 Linnjärv in Rõuge, 21 Pärnu, 22 Lihula, 23 Kiideva, 24 Haapsalu, 25 Hüti, 26 Kuressaare.

The first major investigations specially concentrated on post-medieval monuments (Fig. 57)<sup>3</sup> were carried out after World War II: in 1958–1961

Westerwald stoneware jug from 1604, discovered in Tartu in 1780. The find from Tartu was considered so unique that it was donated to the Tsar Alexander I.

<sup>3</sup> After the completion of this article colleague Ulla Kadakas drew my attention to the short news from several Estonian newspapers (see the database of analytic bibliography of Estonian journalism – <http://www2.kirmus.ee/biblioserver/index2.php>). It seems that during the 1920s and 1930s there was lively interest concerning the post-medieval monuments. For example, during the 1930s in Narva there were organized small-scale investigations of the 17<sup>th</sup>-century fortifications, in western Estonia a certain learned society made small excavation at Võllamägi ('Gallows Hill') in Haapsalu and researched the 17<sup>th</sup>–18<sup>th</sup> century cemetery in Kiideva, and so forth.

the Hüti glass manufactory on Hiiumaa Island was investigated under the direction of art historian Maks Roosma (1909–1971). Although these excavations temporally coincided with the beginnings of industrial archaeology in Europe, the investigation of the Hüti glass manufactory (operated intermittently from 1628–1664) was only prompted by the personal interest of Roosma to have a closer look at the oldest traces of Estonian glass manufacturing (Fig. 58). The event was so exceptional in the temporal context that the author considered it necessary in his monograph to emphasize the lack of ear-

Unfortunately, no reports were made or survived. I am grateful to Ulla Kadakas for this information.



**Fig. 58.** *Archaeological investigations on Hiiumaa at the former site of the 17<sup>th</sup>-century Hüti glasswork (photo: Estonian History Museum).*

lier experience as well as the special methods used to investigate the site (Roosma 1966, 13).

The situation in which only art historians took interest in post-medieval construction remains and artefacts revealed in the course of excavation and restoration work lasted until the beginning of the 1970s. Thanks to the personal initiative of art historians (particularly Helmi Üprus and Marta Männisalu), the collections of local museums were supplemented with several substantial find com-

plexes. Here special mention should be made of two find complexes connected with restoration work in Old Tallinn: the investigations in 29 Lai St. brought to light an imposing collection of glass and porcelain from the 18<sup>th</sup> century (Böckler & Maiste 1993), and the finds from the 16<sup>th</sup>–19<sup>th</sup> centuries, discovered during the excavations carried out in connection with the restoration work done in 1959–1962, were published in the book discussing these investigations (Böckler 1964, 34, figs. 74–78). The excavations at the castle of Põltsamaa in 1970–1972 (by art historian Jüri Kuuskemaa) also had a clear art history emphasis – they were aimed at searching for the products of the porcelain manufactory that operated in the last three decades of the 18<sup>th</sup> century (Kuuskemaa 2005, 193 ff).

In the survey of medieval archaeology (see Russow *et al.*, this volume), it appears that since the end of the 1960s, the participation of archaeologists in the investigation of medieval sites was considered necessary. This change in interests also indirectly concerns the post-medieval period: investigations in towns and castles also provided information about later centuries. At the same time, it must be emphasized that this was not a purpose in itself. The reason was, on the one hand, the poor knowledge of the material,<sup>4</sup> and on the other hand the absence of precisely defined research tasks. Owing to the fact that large numbers of post-medieval finds (especially stove tiles and clay pipes) were stored in the collections of museums and research institutes in the 1970s–1980s, although the motive was not scientific interest in post-medieval material culture but the regulation of heritage protection. Such investigations mainly concerned rescue excavations in the medieval town centres of Tallinn (e.g. 2700 m<sup>2</sup> in Dunkri St., 1982 Tamm, rich find material from the 17<sup>th</sup>–18<sup>th</sup> centuries and building remains) and Tartu, as well as constructional-archaeological investigations of town and castle fortifications. Numerous

<sup>4</sup> In excavation reports it was a common practice that finds were dated vaguely into the 13<sup>th</sup>–18<sup>th</sup> centuries.

late cemeteries that had been endangered by road construction were also excavated (e.g. Loku, 1976 Molvõgin; Vooreküla, 1980 Aun), as well as various rural settlement sites, the intensive habitation of which belonged to the Late Middle Ages and early post-medieval period (e.g. Uderna, 1987–1989 Lang and Ligi; Lehmja, 1985–1989 Lavi). The only exception in this respect was underwater archaeology, which seriously investigated post-medieval objects. Alongside the search for older wrecks, in the 1980s the underwater archaeologists of the Maritime Museum engaged themselves in the ascertainment of later ship remains (e.g. Mäss 1990b). At the end of the 1980s the archaeologists also participated, together with historians, in the search for the remains of the great Estonian political figures of the 20<sup>th</sup> century and other persons who perished tragically in the course of Soviet repressions (see closer Lõugas 1991b).

Next, the archaeological investigation of late medieval and post-medieval monuments intensified at the end of the 1980s and in the first half of the 1990s, when construction activities in historical town centres increased abruptly. From the point of view of post-medieval archaeology, the expansion of the research area should be most strongly emphasized: whereas in earlier decades, rescue excavations were mainly concentrated in the central parts of Tallinn and Tartu, since the 1990s it was considered vital to pay attention to the investigation of suburbs as well as small towns. The reason for these changes, however, was not the increased archaeological interest in the monuments of the 16<sup>th</sup>–19<sup>th</sup> centuries, but mainly the desire of the heritage protection authorities to maintain and strengthen control over the processes in the renovation of historical town centres. As a result, heritage protection zones were established around the historic town centres by the mid-1990s, with the obligation that areas should be archaeologically investigated before construction activities begin. Owing to the regulation of heritage protection, the last 15 years have brought about an increase in the investigation of the monuments

which were formerly not regarded to be of any interest from the archaeological standpoint. Although as of 2005 the overwhelming majority of these investigations remain unpublished, I will try to give a brief overview of the present state of post-medieval archaeology in Estonia.

## The present state of post-medieval archaeology

### Urban archaeology

As a result of the fact that the real estate market concentrates on urban and suburban environment, most of the rescue excavations carried out since the restoration of Estonian independence have taken place in town centres and historic suburbs. Archaeological investigations in the old parts of Tallinn and Tartu have taken place on quite a small scale and in connection with busy construction activities, the traces of later (16<sup>th</sup>–19<sup>th</sup> centuries) habitation have mainly been preserved in the form of various construction remains.<sup>5</sup> The post-medieval layers of the historic suburbs and defensive zones of these towns, but

<sup>5</sup> An exception is the so-called attic archaeology – during the archaeological monitoring of the restoration work in the attic of the Town Hall of Tallinn (2002 Sokolovski) cultural layer from the 15<sup>th</sup>–20<sup>th</sup> centuries came to light. One of the most intriguing finds discovered there was a leather bag containing well-preserved documents from the second third of the 16<sup>th</sup> century. Construction-archaeological investigation of the attic (reconstructed in the 18<sup>th</sup> century) of the Swedish St. Michael's Church in Tallinn (1999 Kadakas, see more Kadakas 2001) also provided new information. These investigations are exceptions and not common cases, and the necessity of such investigations has not been widely recognized. Concerning the mentioned sites, the disunion of the investigations strikes the eye – different people with different background, methods and interests are engaged in documenting different parts of the objects (buildings and sites surrounding them), and their co-operation is usually minimal.



**Fig. 59.** Tallinn. Remains of a late 17<sup>th</sup>-century house in the Kassisaba suburb (photo: V. Kadakas).

also in small towns where construction activities were not too intensive in the 19<sup>th</sup> and 20<sup>th</sup> centuries, are considerably better preserved.

Of the numerous archaeological rescue excavations of the recent 15 years, I would like to mention just a few more telling examples of sites that have provided vital new information about the post-medieval period. The largest quantities of such information come from Tallinn, where construction activities are most intensive. In 1990, active development activities here were concentrated on the areas of two medieval suburbs: the Harju Gate suburb on the southern side and the Kivisilla suburb on the south-eastern side of the city. The extensive rescue excavations in the Harju Gate suburb are connected with St. Barbara's cemetery, which is located

at the beginning of Roosikrantsi St. (between 1988 and 1999 organized by Sokolovski and Mäll) and the investigations of the buildings located nearby (1996 Sokolovski and Shevelyov). Although the earliest traces of habitation in the region date from the 12<sup>th</sup>–13<sup>th</sup> centuries, the excavations concentrated on the investigation of early post-medieval remains, including the recording of the mass graves of the 16<sup>th</sup>–17<sup>th</sup> centuries in St. Barbara's cemetery. On the other hand, the fieldwork in the Kivisilla suburb brought to light the remains of several early post-medieval industrial buildings (powder mills and the 19<sup>th</sup>-century footwear factory in Tartu Road, 1993–1994 Sokolovski) or traces of earlier industrial activities (e.g. the early post-medieval copper industry in Maakri St., 1994 Lavi). Later buildings and a

cemetery from the 16<sup>th</sup>–18<sup>th</sup> centuries have also been investigated in this area (intermittently from 1993–2004 by Aus, Mäll and Sokolovski). Furthermore, numerous finds from the 16<sup>th</sup>–18<sup>th</sup> centuries have been recovered during these investigations, so that we can obtain a more detailed outline of the material culture of early post-medieval Tallinn (e.g. Russow 2005b), primarily thanks to the excavations carried out in this area.

Since the Kivisilla suburb has by now been almost completely covered with new buildings, construction activities are now concentrating on the next suburbs. For various reasons (destroyed cultural layer, pasture in the post-medieval period, peculiarities of construction techniques, etc.), however, archaeological investigations are usually minimal. One exception to this that should be mentioned is the rescue excavations in the south-western suburb of Tallinn – Kassisaba (2004 Kadakas; Fig. 59). The remains of a stone building with a large funnel-chimney have been discovered there. The director of the excavations has interpreted these as a probable manor-house, which in the late 17<sup>th</sup> – early 18<sup>th</sup> century was located in the immediate neighbourhood of the town's bastion. At the same time, archaeologists have begun to pay more attention to the zone of earthen fortifications around Tallinn, designed in the 17<sup>th</sup>–18<sup>th</sup> centuries but never fully completed. In addition to the small-scale investigations that were done in recent decades (e.g. prospecting in the 1980s), the Wismar ravelin, constructed at the end of the 17<sup>th</sup> century, was investigated in 2003–2005 by order of the municipal government of Tallinn (2003 Talvar), and the galleries in the bastion zone were mapped (2004–2005 Kadakas; Fig. 60). Concerning the investigations performed in recent years in Tallinn, special mention should be made of constructional-archaeological investigations in the park of Kadriorg Palace (Germ. *Katharinenthal*) (1999 Talvar), built by the Tsar Peter I.

Tartu was heavily damaged during the 18<sup>th</sup>–20<sup>th</sup> centuries in the course of hostilities and recurrent fires, and therefore the historic buildings of Tartu are considerably more incompletely preserved than



**Fig. 60.** Tallinn. The inner gallery of the 17<sup>th</sup>-century Swedish bastion (photo: M. Kagadze).

in Tallinn. Hence the archaeology of the post-medieval period plays a particularly important role from the point of view of the investigation of the town.<sup>6</sup> Although numerous rescue excavations and monitoring have been carried out in the centre of the town in the last couple of decades, the areas outside the medieval town wall are of greater interest from the point of view of post-medieval archaeology. Of these, the south-eastern, so-called Riga suburb of Tartu, has been investigated more thoroughly. Since the second half of the 1980s, an area of nearly 8000 m<sup>2</sup> has been excavated there (1986–1988 Aun and Tiirmaa; 1990–1994 Aun; 1994–1998 Vissak). The rescue excavations in question were mainly concentrated on locating

<sup>6</sup> Two longer treatments have been published about urban archaeology in Tartu (Metsallik 1995; Vissak 1999), but the material of later centuries has been discussed in them only superficially.



the prehistoric settlement of Tartu and documenting the medieval structures, while at the same time, in the more recent excavations, more attention has also been paid to the layers from the 17<sup>th</sup>–20<sup>th</sup> centuries. While in the former excavations the later artefact finds were just collected, in recent years the recording of late wooden and stone buildings in the course of fieldwork has also begun. For example, the extensive investigations in the so-called Hanseatic Quarter (2001–2002 Vissak and Heinloo; 2003 Sokolovski and K. Jaanits) brought to light a wooden pipeline from the 17<sup>th</sup>–18<sup>th</sup> centuries and the remains of several crossbeam buildings.<sup>7</sup> In earlier times, a Russian Orthodox cemetery of the 18<sup>th</sup> century was investigated in the same area (1987 L. and K. Jaanits; 1991 Kalling). In other suburbs of Tartu, archaeological fieldwork has not reached a scale that could be compared with the Riga suburb. Nevertheless, the extent of the early post-medieval settlement area of Tartu has been verified on the north-eastern and eastern sides of the town, on Narva Road, in Raatuse and Pikk streets, etc. (2002–2004 Metsallik, Tvauri and Vissak), and the earthen fortifications of the 17<sup>th</sup> century have been inspected on the southern and south-eastern ends of the town (e.g. 1999 Valk, Tvauri and Jonuks) through monitoring and excavation work on a smaller scale. Of the investigations in the centre of the town, recording work in the basement of the main building of the University of Tartu at 18 Ülikooli St. (1996 Aus and Kadakas), monitoring in the building and courtyard at 8 Jaani St., which housed the *Academia Gustaviana* in the 17<sup>th</sup> century (2003 Tvauri), and the recording work in the Russian Orthodox Uspenski Church at 1 Magasini St. (2005 Tvauri) deserve special attention. As in Tallinn, the respective investigation results from Tartu have, with only a few exceptions, not yet been published.

The historical centres of small Estonian towns have been investigated with varying intensity dur-

ing the last couple of decades, depending on the local initiative of heritage protection (Fig. 61), economic possibilities, as well as the extent of preservation. The extent of archaeological investigations in small towns is definitely not comparable with that in Tallinn and Tartu. The only other city that can be compared is Pärnu, where, in addition to the monitoring work connected with the installation of communications, extensive archaeological rescue excavations have also been carried out. In other small towns, the fieldwork is mostly either limited to short-term investigations or concentrated on small-scale research excavations (e.g. medieval castles in Viljandi, Lihula, Haapsalu). Therefore the generalization of the results is considerably more complicated from the aspect of post-medieval studies. Such an emphasis should also be well reflected in the state of the investigations of Kuressaare, the first Estonian post-medieval town, which received its town charter in 1563. There, with the exception of some brief archaeological monitoring (1989–1990, 2003 Sepp), all investigations have been concentrated on the most important tourist attraction of the town – the Bishop's Castle of Kuressaare, which dates from the 13<sup>th</sup>–14<sup>th</sup> centuries. Therefore the topography of the town in the 16<sup>th</sup>–18<sup>th</sup> centuries, to say nothing of the material culture of the town's citizens, is still *terra incognita*.

The situation in Pärnu is quite different – surprisingly, attention there was paid to the documentation of the layers from later centuries ever since the first larger rescue excavations in the early 1990s (e.g. 2 Munga St., 1990–1991 Ü. Tamla; 6 Hospidali St., 1990 Udam; 5/5 Uus St., 1991 Vunk). Thanks to this, we can obtain the indisputably best outline of the material culture of an Estonian (coastal) town in the 16<sup>th</sup>–19<sup>th</sup> centuries on the basis of finds stored in the archaeological collections of the Pärnu Museum. Nevertheless, a few investigations concentrated on the post-medieval period have also been carried out in other small towns. In Narva, for example, the Triumph Bastion, which belonged to the zone of fortifications constructed by the Swedish authori-

<sup>7</sup> During the second phase of the investigations the 16<sup>th</sup>–20<sup>th</sup> century deposits were removed without any archaeological documentation by reason of financial and temporal limits.



**Fig. 61.** Viljandi. 19<sup>th</sup>-century baking oven found during the archaeological monitoring and preserved by order of Estonian Heritage Board (photo: H. Helves).

ties in the 17<sup>th</sup> century, was investigated (1996–1997 Nikityuk), and recently interest has been taken in the Baroque centre of Narva (2004–2005 Kriiska and Lõhmus). In connection with the installation of various communications and the resulting monitoring work, the formation of the street network of the 17<sup>th</sup>–19<sup>th</sup> centuries was recorded in Rakvere (2000 Jaanits, Sarv and Smirnov; 2003 Jonuks). Analogous work has been done in various other places, but it must be admitted that the serious investigation of the post-medieval development of smaller urban centres still lies ahead.

### Rural areas

Of the monuments of the 16<sup>th</sup>–19<sup>th</sup> centuries that lie beyond the limits of urban centres, two types of

sites have recently been excavated more thoroughly – manor-houses and graves in churchyards or village cemeteries. Since Heiki Valk discusses burials and burial customs in his article (see Valk, this volume, a), there is no need to linger on the subject. Nevertheless, it should be emphasized that alongside the investigation of early post-medieval cemeteries, archaeologists have actively participated in the investigation of the burials of soldiers who perished in World War II. Owing to the energetic activities of the German Society of the Preservation of War Graves, this mainly concerns the graves of those who fought on the German side. In connection with these excavations, special military cemeteries were established in Estonia, and in several places the creation of cemeteries necessitated the reburial of the remains, and archaeologists also spo-



**Fig. 62.** *Kadrina. The 19<sup>th</sup>-century burial chambers in St. Catherine Church during the archaeological monitoring (photo: T. Jonuks).*

radically participated in this (e.g. Tael Ltd. in western Virumaa, Agu-EMS Ltd. in Nõmme (Tallinn) and Harjumaa). The archaeologists also frequently checked find reports connected with oral tradition, concerning the hostilities of the 20<sup>th</sup> century, as well as establishing the dates of occasionally discovered mass graves. Nevertheless, we must admit that such activities have been conditioned by the interests of heritage conservation, and not of science. The investigations of several chapels and crypts of the 18<sup>th</sup>–19<sup>th</sup> centuries (e.g. Viru-Nigula, 2004 Jonuks

and Johanson; the cemetery of the Kopli suburb of Tallinn, 2004 Kadakas) also began by local initiative (Fig. 62).

Archaeological and architectural-archaeological investigations in and around manor-houses are also connected with the restrictions established by heritage protection. Such work has frequently been limited to the installation of communications (Kalvi, 1998 Vissak), the ascertainment of the location of some earlier outbuildings (Palmse, 2003 Jonuks) or the revealing of architectural details (Albu, 1996 Lange), therefore the investigations were usually quite modest. Only the investigations carried out at the manor of Kiltsi in western Virumaa (2001–2003 Jonuks) were sufficiently extensive to permit the ascertainment of the new development pattern of the manor-house, which was established in the 17<sup>th</sup>–18<sup>th</sup> centuries on the site of a medieval vassal castle.

### Underwater archaeology

At the initiative of the Maritime Museum of Estonia, the investigations aimed at discovering and documenting underwater heritage that began in 1978 have continued. This primarily comprises the work of researcher Vello Mäss in mapping wrecked ships near the northern and western coasts, but alongside this, objects of underwater heritage of different function have also been recorded. In 1997–1998, for example, the remains of a stone and log construction, discovered in the Bay of Tallinn in 1985, were investigated. These turned out to be the remains of a marine fortification built in the 17<sup>th</sup> century to protect the ship route to the port of Tallinn. One of the most outstanding results in recent years was the discovery of the wreck of the battleship *Russalka*, which sunk in 1893 in the Gulf of Finland. Of the expeditions undertaken on inland water bodies, the investigations in south-eastern Estonia deserve special attention – traces of early post-medieval settlement (Võhandu River, 2002 Ilves) and also a Russian warplane destroyed in World War II (Liinjärv near Rõuge, 2002 Ilves) were discovered there.

## Artefact studies

As mentioned above, the earliest information about the collection of post-medieval artefacts in Estonia dates from the 18<sup>th</sup> century. Artefact collection in that period mainly involved artistic or better preserved objects. Fragmentary objects or later artefacts that came to light in archaeological excavations were then regarded as uninteresting, and the first surveys of post-medieval artefacts performed from the viewpoint of art history were only published in the second half of the 1930s and the first half of the 1940s (Neumann 1935b; Strauss 1944, and the summary of the previous investigation results: Strauss 1969). The following reviews of the Estonian glass industry, uniting archaeological and written sources (Roosma 1966; 1969) were also prompted more by aesthetic and historic motives. This situation lasted until the beginning of the 1990s, when the material culture of the 16<sup>th</sup>–19<sup>th</sup> centuries as a source of information was gradually relieved of the two most oppressive questions: how valuable is a particular object from the point of view of art history, and its precise age. As a result, the analysis of post-medieval archaeological material has become more contextual during the past 15 years, although it must be recognized that before realizing the *meaning* of an artefact, one must know its *nature* – without acquiring/studying basic knowledge (age, function, distribution, etc.), conclusions drawn on the basis of material about the habits of consumption and behaviour in post-medieval society may be profoundly misleading.

Hence we must admit that we have only begun with the interpretation of the post-medieval archaeological material. From the aspect of artefact studies,

the investigation of ceramics and early post-medieval coins and their circulation areas are covered best. The first of them mainly comprises stove tiles of the 16<sup>th</sup> century and the interpretation of their iconography from a theoretical point of view (e.g. Vunk 2000). Some generalizations have also been made on the basis of the pottery of the 16<sup>th</sup>–18<sup>th</sup> centuries and clay pipes (Russow 2001; 2005a-b; Tvauri 2004b), but, concerning both stove tiles and other ceramics, it is too early to draw extensive conclusions about social processes in Estonia in the 17<sup>th</sup>–19<sup>th</sup> centuries, until the material has been systematically revised. Some achievements concern the publication of Estonian early post-medieval coin and jewellery finds (e.g. Kiudsoo 2000; 2002), but we must hope that here, as with pottery and other archaeological find groups, research will soon proceed from the simple presentation of the material to its interpretation.

## Summary

In summary, we may recognize that, in parallel to the development of archaeological science in the world, since the 1990s the opinion has come to prevail in Estonia that objects of the historic period (i.e. 13<sup>th</sup>–20<sup>th</sup> centuries) must, like prehistoric monuments, be treated as an integral entirety. The tendencies of the recent years reveal that there is an increasing notion that the arbitrary preference of one part of the period covered by written sources (i.e. 13<sup>th</sup>–17<sup>th</sup> centuries) to another (i.e. the 18<sup>th</sup>–20<sup>th</sup> centuries) is artificial, and that in the deciphering of the development of a monument, both deserve equal attention (see also Saluäär *et al.* 2004, 187).



# Medieval and Post-Medieval Archaeology of the Native Rural Population

## Introduction

Transition to the Middle Ages, i.e. the conquest and Christianization in the early 13<sup>th</sup> century (1208–1227) caused the integration of Estonia into the political, social and religious structures of Western Europe. The conquest caused a big social and ethno-cultural watershed within the society, splitting it into the nobility of mostly German background and the native rural population who formed most of the lower classes.

This boundary can be clearly observed also in archaeology. The innovations of ‘European’ origin, conditioned by the conquest and mediated via Germany and Denmark, arrived in Livonia in a ‘ripe’ form and their distribution area remained limited with new centres founded by the colonists – towns, stone castles, churches and monasteries. Life among the native rural population was continuously based, however, on the traditions of the Late Iron Age. Also archaeological sites of the native culture differ much from those of the ‘European pattern’. In spite of certain common points, the differences between the ‘European’ and native traditions are big enough for a separate treatment of two archaeologies – those of the ‘native’ and ‘European’ culture (see Russow *et al.*, this volume).

In the rural context, the transition to the new epoch is not entirely clear: concerning the second quarter of the 13<sup>th</sup> century, we can speak also of a transition period, which means the end of the phenomena characteristic of the Late Iron Age. The

transition to the Middle Ages is expressed in archaeology in several contexts. First, the stone graves and the practice of cremation were abandoned, as a general rule, and replaced with the double system of churchyards and semi-Christian village cemeteries. Most likely, this change occurred rather quickly, being determined by the subjection treaties in parallel to the acceptance of Christianity. Second, the change is reflected in alterations of artefact forms and, probably, also changes in fashion. Transition to the Middle Ages marks the disappearance of several Late Iron Age ornament types: breast pins and breast chains, double hair-pins with chains, bronze neck-rings and most bracelet types. There are also changes in the types of fingerings, brooches and beads: the new ones replace the old. The fall of the old administrative system is not so easy to follow in archaeological terms but at least in southern Estonia the conquest means also the abandonment of pre-historic hillforts.

The main groups of sites that can be characterized as representing ‘native rural archaeology’ are as follows:

- (1) cemeteries:
  - rural churchyards,
  - village cemeteries (often associated with chapels);
- (2) rural settlements;
- (3) sacred sites in nature:

- sacred trees and groves,
  - sacred and healing stones,
  - sacred and healing springs,
  - other sacred places of natural character (e.g. hills),
  - chapel sites;
- (4) wetland logways;
- (5) shelter-sites;
- (6) hoards;
- (7) stray finds.

In addition, in northern and western Estonia also several hillforts were in use on the basis of the traditions of the Late Iron Age up to the end of the 13<sup>th</sup> century and sometimes maybe even later.

This list of the above sites differs greatly from the traditional pattern of research objects of medieval archaeology in western and northern Europe. On a broader scale, particular peculiarities are the double system of burial grounds (churchyards and village cemeteries), which lasted since the period of Christianization up to the 18<sup>th</sup> century and the long-lasting parallelism of sacred sites of different character.

## Medieval rural archaeology: the first steps (up to World War I)

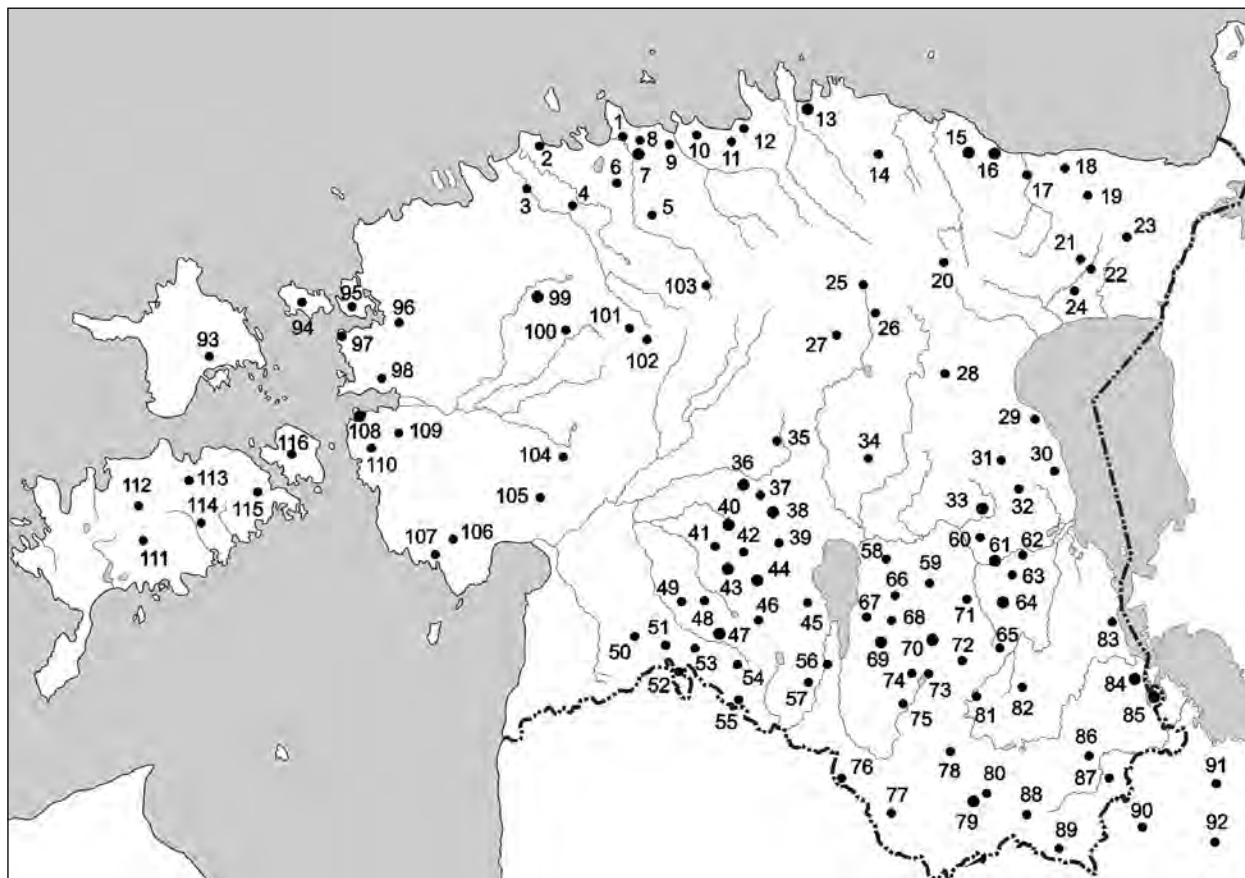
In the period of formation of archaeology as a special discipline in the last third of the 19<sup>th</sup> and early 20<sup>th</sup> century, no clear distinction existed between prehistoric and medieval archaeology. Most excavations were just occasional diggings, inspired not only by interest in ancient times and antiquities, but probably also by the joy of finding. Due to well-preserved bones, coins and numerous ornaments, the deserted medieval village cemeteries, often damaged by ploughing or gravel quarrying, were especially

attractive sites for the preliminary stage of research. Already since that period, most inspiring for excavation were cemeteries of southern Estonia where the number of medieval and post-medieval finds is much bigger than in other parts of the country.

The last decades of the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century can be characterized as a rather homogeneous period in the research of historical cemeteries, with the main activities concentrated around the Learned Estonian Society in Tartu. The earliest known archaeological excavations of *village cemeteries* took place in 1874 when, independently from each other, digging occurred at the cemeteries of Kabina (Constantin Grewing) and Pikknurme (unknown researcher) in northern Tartumaa (Fig. 63). The first major excavations were carried out on the cemetery of Kusma in the same area (1886 Duhmberg; 1887 Loeschcke). The finds and findings untypical for Estonia referred to a migrant community from present-day Russia. Some smaller excavations, published by Richard Hausmann, took place in Tartumaa and Võrumaa also on the cemeteries of Kaagvere and Tilga in 1902 and in Mäksa in 1907. The Mäksa cemetery also turned out to be of a character similar to Kusma and led to discussion of the question of its ethnic background. In western Estonia, small-scale excavations took place at Pullapää in Läänemaa (1899 Hausmann) and Are in Pärnumaa – the latter initiated by the Pärnu Society for Antiquities. In Tartumaa several post-medieval burials were also unearthed by Hausmann in 1901 when studying the Iron Age stone grave of Kobratu.

In southern Viljandimaa, many trial excavations were undertaken in the late 1870s and 1880s by the schoolteacher Jaan Jung. The poorly documented data from Vanamõisa, Nuudi, Kalbaküla and Polli-Peraküla refer to Late Iron Age cremation graves with inhumations from the historical period. Data are scanty also on Jung's excavations on some medieval chapel sites of southern Viljandimaa, which all yielded coin and bone finds.

Some excavations at the village cemeteries of southern Viljandimaa were carried out in 1886



**Fig. 63.** Medieval and post-medieval sites of the native rural population mentioned in the text. 1 Iru, 2 Ilmandu, 3 Keila, 4 Üksnurme, 5 Vaida, 6 Lehmja, 7 Lagedi and Proosa, 8 Maardu, 9 Jöelähtme, 10 Kaberla, 11 Kuusalu, 12 Muuksi, 13 Vatu, Vöhma, Uusküla and Ilumäe, 14 Haljala, 15 Viru-Nigula and Pada, 16 Tamme and Aseri, 17 Lügause, 18 Järve, 19 Kahula, 20 Roela, 21 Sõrumäe, 22 Jõuga, 23 Kuremäe, 24 Iisaku, 25 Kiltsi, 26 Räätsvere, 27 Preedi, 28 Tuimõisa, 29 Raatvere, 30 Lahepera, 31 Välggi, 32 Kusma, 33 Vedu and Kobratu, 34 Pikknurme, 35 Pilstvere, 36 Lõhavere, Olustvere and Kärevere, 37 Tääksi, 38 Välgita, Aimla and Naanu, 39 Kuude, 40 Risti Chapel in Vanamõisa and Kobruvere, 41 Metsküla, 42 Mustivere, 43 Heimtali, Rõõsa and Peetrimõisa, 44 Intsu and Paistu, 45 Tarvastu, 46 Ahimäe, 47 Halliste and Kaubi, 48 Sammaste, 49 Uue-Kariste, 50 Kärsu, 51 Kalbaküla, 52 Nuudi, 53 Vanamõisa, 54 Äriküla, 55 Polli-Peraküla, 56 Leebiku, 57 Helme, 58 Puhja, 59 Nõo, 60 Kõrveküla, 61 Kabina and Kaagvere, 62 Mäksa, 63 Mäletjärve, 64 Lootvina and Vooreküla, 65 Vana-Piigaste, 66 Vellavere, 67 Ervu, 68 Uderna, 69 Rõngu and Tamme, 70 Nõuni and Makita, 71 Kambja, 72 Tamme in Valgjärve, 73 Otepää, 74 Arula (Kabelimägi), 75 Loku, 76 Valga, 77 Koikküla, 78 Vaabina, 79 Tilga and Kõrgpalu, 80 Virunuka, 81 Kanepi, 82 Vana-Koiola, 83 Naha, 84 Laossina and Mikitamäe, 85 Pedäjäsaare, Väike-Rõsna and Podmotsa, 86 Lindora, 87 Tsirgu, 88 Plaani, 89 Siksälä, 90 Puriki, 91 Viski, 92 Novaya, 93 Käina, 94 Hullo, 95 Einbi, 96 Lääne-Nigula, 97 Pullapää, 98 Haeska, 99 Varbola and Keldrimäe, 100 Jalase, 101 Linnaaluste, 102 Paluküla, 103 Ardu, 104 Margu in Mõisaküla, 105 Are, 106 Soomra, 107 Tõstamaa, 108 Saastna and Salevere, 109 Parivere, 110 Kõmsi, 111 Kaarma, 112 Tõrise, 113 Karja, 114 Valjala, 115 Põide, 116 Viira.



also by C. Grewingk – at Rõõsa, Peetrimõisa, Uue-Kariste and Käršu. A limited number of early medieval and post-medieval graves were also discovered when digging the stone graves of Kuude (1895–1897 Hausmann) and Heimtali (1895) near Viljandi. These were initiated by the Viljandi Literary Society.

The main forum for presenting the results of fieldwork was the Learned Estonian Society. The Society's collections were the place for depositing the finds and its yearbooks are in most cases the only source of information about the early excavations. Characteristic for the era are poor documentation and missing data about find complexes; the only exception is the excavations of Georg Loeschcke in Kusma. The leading person in research activities on historical cemeteries was R. Hausmann, Professor of History at the University of Tartu. Being the initiator and supervisor of several excavations, he also published the materials of non-academic excavations.

Research on historical cemeteries started just as digging of 'ancient burials' or 'graves of the Christian period'. In the classification of archaeological sites of Estonia, based on the model of Finland and constructed in the late 19<sup>th</sup> century by Jung (1899), the village cemeteries were not regarded as a specific group of archaeological sites yet. Local, non-churchyard cemeteries from the medieval and post-medieval period were either regarded as burials related to rural chapels or as occasional 'plague burials'.

By the beginning of the 20<sup>th</sup> century the amount of archaeological data was extensive enough to distinguish the village cemeteries as a specific group of archaeological sites. This was done by Hausmann who summed up the existing material, comparing it with records about the village cemeteries (*Est. kalme, kalmet*, etc) in the medieval and post-medieval written sources (Hausmann 1903).

The tsarist period marked also the beginning of **rural churchyard archaeology**. The earliest churchyard finds come from the context of population and economic growth in the second half of the 19<sup>th</sup> century: these changes caused the re-construction of many medieval parish churches. Although the new

foundations cut through thousands of medieval and post-medieval graves, archaeological information is mostly either totally missing or limited to just some occasional stray finds (mainly in Tartumaa). A good indication about the potential extent of lost information is provided by the finds from Tarvastu where more than 200 artefacts from the disturbed graves in the churchyard, mainly ornaments, were delivered to the Learned Estonian Society in 1893. The missing documentation does not enable, however, to distinguish any definite find complexes. The only written, though rather limited survey about archaeological observations concerns the reconstruction work of Rõngu church in Tartumaa (1901 Hausmann).

Other native medieval and post-medieval sites were not excavated during the tsarist period. However, during the first inventory of archaeological sites, carried out by Jung and his correspondents, numerous data were stored not only about the local cemeteries, but also about sacred natural places, chapel sites, stone crosses, old log roads and shelter-sites.

## The 1920s–1970s

### General approaches and attitudes

The birth of the Republic of Estonia gave a new impetus for the disciplines connected with national culture and identity at the University of Tartu where the Chair of Archaeology was established in 1920. The innovations meant not only the beginning of systematic archaeological research but also the spread of modern trends that ruled the archaeology of northern Europe at the time. These ideas, introduced first by Aarne Michaël Tallgren, established a firm temporal upper boundary for archaeology's interests and its relations with ethnography and history. Following the general trend of that time,

archaeology remained also in Estonia limited to the study of prehistory, i.e. with the period before the German conquest in the early 13<sup>th</sup> century. As problems related to the medieval period belonged thereafter to historians, archaeology had no interest towards medieval and post-medieval sites any more. The study of the popular culture of the post-conquest times or the 'historical period' was left to ethnography. These new principles are well reflected also in the attitudes towards medieval finds: in the parish inventories composed by the students, they are characterized as 'ethnographic artefacts'. The same principle is reflected in the fate of the archaeological collections of the Estonian National Museum. In the late 1920s its prehistoric finds were deposited in the archaeological collections of the University of Tartu, but those of medieval and post-medieval origin remained in the museum.

As a result of the labour division, in the general treatments of Estonian history the chapters about the native rural culture and the respective finds were written by the ethnographers Gustav Ränk (1933) and Ferdinand Linnus (1937) – the former concerning the time of the Polish and Swedish rule; the latter about the medieval period. The survey of the Estonians' material culture in the Middle Ages was later published also in German (Linnus 1938). The ethnographic viewpoint predominates also an article on heart-shaped brooches, which is based also on the archaeological material (Kindlam 1935).

World War II and the beginning of the Soviet occupation led to great losses for Estonian ethnography. G. Ränk and Eerik Laid – the latter had specialized both in archaeology and ethnography – emigrated to Sweden, and F. Linnus died in a Soviet concentration camp. The continuity of the tradition that medieval and post-medieval artefacts are ethnographic objects is still expressed in an article about the Estonian hollow silver beads from the 16<sup>th</sup> and 17<sup>th</sup> centuries (Üprus 1947). The campaign against 'bourgeois nationalism' in 1950, however, led to the removal of the young researcher Helmi Üprus from work and made an end to the inter-

est in medieval finds among the ethnographers. In general, since that time the so-called 'finds from the ground' remained alien, too early and marginal from the ethnographic perspective and received no more interest. The only ethnographic treatment, which concerns also some archaeological finds from the medieval and post-medieval times, is a popular booklet on Estonian ornaments (Kaarma & Voolma 1970).

Since the 1920s, the new approaches also appeared in the research on archaeological sites. In the new context, the rural medieval and post-medieval sites were regarded as second-rate monuments, not worthy of real archaeological research excavations. Such an approach is expressed well in a book about archaeological sites of Estonia:

The village cemeteries still do not belong to prehistory, but to the historical period and are, thus, out of the realm of archaeology. But as they are often located at a place of pagan cemeteries and, consequently, may include also prehistoric graves, we cannot avoid them here. And although not all of them include prehistoric graves, their description is justified also by the fact that they may have preserved ancient traditions of our nation and that from them important data about prehistory and newer, the so-called ethnographic culture may be obtained (Karu 1925, 33).

Thus, in the new era, even writing about the village cemeteries in an archaeological context needed a justification. Although written by a student, this text, edited by Professor Birger Nerman, reflects the ideas cultivated in the university. The same principles, supported by the authority of Harri Moora, persisted in Estonian archaeological research for more than half a century. In fact, the archaeological sites of the medieval and post-medieval period were, from the perspective of research, even more neglected than the artefact finds of that time. While the latter were stored in ethnographic or archaeological collections, the archaeological sites of that time – the village cemeteries (*Est. külakalme* or *külakalmistu*), sacred offering sites

in nature (groves, trees, stones, springs, hills) and chapel sites – deserved neither archaeological nor ethnographic attention. The main interest towards them, i.e. towards the related oral tradition, was shown by folklore studies (see Valk, this volume, b). However, in spite of the lack of research interests, the inventory of archaeological sites carried out in the 1920s included data about medieval and post-medieval archaeological sites. The first Estonian Act of Heritage Conservation (1925) granted also these sites, if included in the lists, a full protection.

### Archaeological excavations

According to the new approach, excavations of *rural cemeteries* from the Christian period were almost stopped in the 1920s and 1930s. The only major excavation of that character was the rescue work in Otepää (1928–1929 Schmiedehelm; 1938 Saadre) where a part of a 14<sup>th</sup>-century cemetery was studied because of housing and road construction. A small-scale rescue work took place also at the Naha village cemetery in Võrumaa (1934 Ariste). A cemetery from the 15<sup>th</sup>–17<sup>th</sup> centuries was discovered in the course of archaeological excavations on the plateau of the Varbola hillfort in Harjumaa (1938 Laid) where fieldwork was continued in the early 1940s. Some graves from the post-medieval times were found when digging Late Iron Age cemeteries, e.g. in Kõrvküla (1923 Nerman) and Kobratu (1935 Vassar; 1937 Schmiedehelm) north of Tartu. The only region of more systematic excavations of the 13<sup>th</sup>–15<sup>th</sup> centuries' burial grounds was Orthodox Setumaa where the cemeteries in Viski (1928–1929 Moora) and Novaya (1929 Indreko) were studied. The interest was due to the circumstance that archaeological data about this area, which belonged to Russia until 1920, were almost missing, since the earlier finds from the tsarist period had remained in Russia. To the sites, related to the cultural traditions of the neighbouring eastern territories, belongs also the barrow cemetery of Jõuga (1938 Saarde) where excavations were continued after World War II

(1949 Ariste; 1950 Moora). An exceptional research case was the excavation at the chapel site of Saastna in Läänemaa, undertaken in 1930 by the church historian Olaf Sild.

From the 1940s up to early 1960s several cemeteries of the Christian period were studied as a by-product of investigating prehistoric sites. The post-war research on cemeteries started in Lootvina (southern Tartumaa) where in the wartime occasionally rich Late Iron Age cremations in a pit-grave had been unearthed (1946 Vassar). The same holds for several inhumation burials discovered at the Iron Age stone graves of Virumaa. Excavations at the Keritsmäe stone grave in Tamme (1944 Schmiedehelm) were, in fact, rescue work, prompted by road construction. When doing rescue excavations at Iron Age stone graves, numerous medieval and post-medieval inhumations were unearthed in Järve (1946 Schmiedehelm and Ariste). Some occasional burials were discovered also from the stone graves of Kahula (1948 Schmiedehelm), Aseri (Saadre 1951), Roela (1956 Tõnisson) and Tandemägi in Võhma (1969–1970 T. Moora). In south-eastern Estonia, Võrumaa, the secondary use of an Iron Age cemetery is indicated also by medieval graves found in a long barrow of Lindora (1951 Schmiedehelm), and at the Virunuka stone grave (1963 Laul). The village cemeteries of Aimla (1953 Kustin) and Otepää (Fig. 64; 1956 Saadre and Laul) were studied in parallel with the excavations of Naanu and Otepää hillforts. Several graves from the 17<sup>th</sup> century were discovered when digging Kõmsi III stone grave from the Late Iron Age (1979 Mandel).

A new impetus for excavating the village cemeteries was provided by the large interdisciplinary project on the ethno-genesis of the Estonians, launched in the late 1940s by H. Moora (see Lang, this volume, a). Within this framework Karin Mark, a young physical anthropologist, was given the task of collecting and analysing human osteological data from different parts of Estonia. Corresponding excavations on medieval and post-medieval cemeteries, mostly village burial grounds, took place e.g.

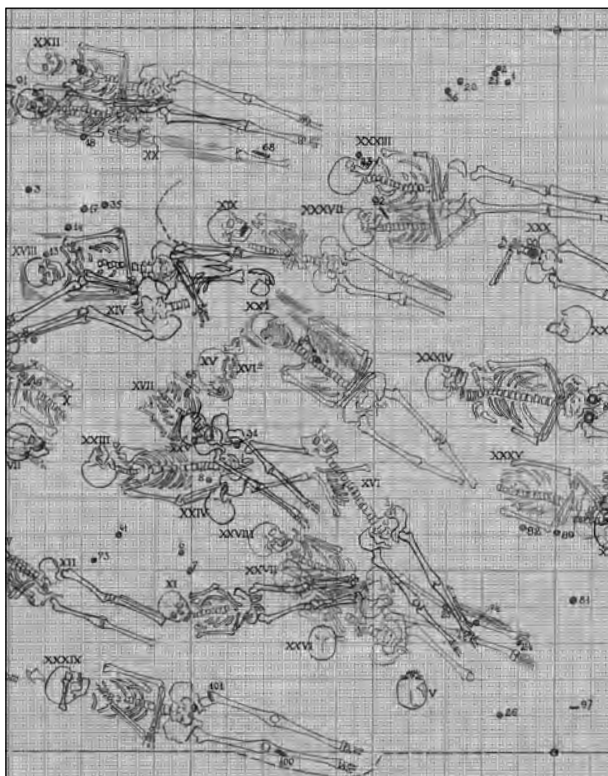


Fig. 64. Abstract from the excavation plan of Otepää cemetery (1956; AI).

in Varbola and Maardu (1953 and 1958), Kõrgpalu (1955), Iisaku (1956), Hiugemäe in Rõngu (1957), Tuimõisa (1961), Räitsvere (1960), Valga (1961) and Hullo on the island of Vormsi (1959). Although excavated by archaeological methods and documented at quite a good level, the materials of these excavations were neglected by archaeological research until the 1980s.

Since the 1950s several village cemeteries, damaged by various economic activities (ploughing, gravel quarrying, land improvement and road construction) were partly studied in course of rescue excavations. Such work involved the local burial grounds of Karja (1955 Kustin), Viira (1962 Kustin), Ardu (1961 Selirand), Kaberla (1955 Kustin; 1956 Laul; 1958, 1961, 1964 Selirand; 1966 Aun), Välgi (1958 Kustin), Tõstamaa (1955 Kustin), Tsirgu (1963

Tõnisson) and Preedi (1973 K. Jaanits). From these sites the cemeteries of Karja and Kaberla had been founded already at the end of the pre-conquest times. The largest was the work in Kaberla where, together with the Late Iron Age inhumations, a total of 242 burials were unearthed.

In the 1950s excavations were initiated also by local museums with the purpose of increasing their collections of finds. Extensive work was organized by Valga Museum at Koikküla cemetery (1958 Kustin) and some smaller excavations (in 1953 at Ahimäe and Kobruvere, in 1957 at Leebiku) were carried out by Viljandi Museum.

In the 1970s–1980s excavation of village cemeteries was undertaken mostly as case study projects – without any broader research context, set-up of problem or theoretical framework. To this category can be characterized the long-time excavations at the cemetery on the eastern side of Otepää hillfort (1977–1981 Molvõgin). As rescue work we can categorize some small-scale cemetery excavations initiated by Viljandi Museum – at Intsu, Metsküla and Äriküla (1975) and Välgi (1980). The same county museum has studied also the site of Risti chapel in northern Viljandimaa, unearthing the wall foundations and c. 90 votive coins from the 15<sup>th</sup>–18<sup>th</sup> centuries (1971, 1974 Henn Moora). In 1964 Silvia Laul studied together with Jānis Graudonis the *zhalknik*-type graves from the 13<sup>th</sup>–14<sup>th</sup> centuries at Balvi Rijnieki cemetery in eastern Latvia.

The improvement of the state system of heritage protection since the 1970s was reflected in the increasing number of rescue excavations on village cemeteries. From western Estonia, some finds were obtained from the Salevere village cemetery, disturbed by gravel quarrying (1971 K. Jaanits). Sites damaged by road construction were studied in Loku (1974, 1978 Molvõgin) and Nõuni (1975–1976 Molvõgin) in southern Tartumaa, and some graves were opened in Mikitamäe in Setumaa (1975 Aun). A group of 13<sup>th</sup>-century and post-medieval graves was unearthed also beside the stone grave of Lahepera (1978, 1980 Lavi).

In the context of those times also the *rural churches and churchyards* remained outside the sphere of archaeological interests. Although since the 1970s fieldwork with the purpose of studying construction history (initiated by Villem Raam) was carried out at several medieval churches of Estonia, the research interest remained limited to the church foundations: no attention was paid to the graves, the cultural layer and the finds. Archaeologists were involved in such work only in case of exceptional finds, e.g. to study richly furnished 13<sup>th</sup>-century graves at the Valjala churchyard (1973–1974 Selirand). The inside of the medieval Halliste church was emptied in the 1970s in the course of reconstruction work with machinery without any archaeology.

Other types of medieval rural sites remained almost unexplored by archaeology. Here we can mention only excavations at the Mustivere settlement near Viljandi (1948–1949 Moora and Kustin) which were started to get comparative data for Lõhavere hillfort. These works yielded also medieval material.

Thus, for a long period, since the 1920s up to the 1970s, archaeology almost totally denied its potential role in the research of the post-conquest period. The activities remained limited to excavations, largely imposed by non-research factors or legislation: the law of heritage conservation still involved sites of the medieval period. Before 1980 all excavations on medieval or post-medieval rural sites were based not on research problems related to the period but were undertaken because of other factors. From the traditional archaeological viewpoint, the only stimulating reason to study ‘historical’ sites was the possible existence of Iron Age remains. Using medieval finds and findings in archaeological publications of analytical character remained exceptional. In this context an article on Votic antiquities in Estonia (Moora 1929b) and the treatment of village cemeteries as a continuation of Iron Age traditions (Selirand 1961; 1974, 188 ff) can be noted. In a booklet on Estonian hillforts, also a survey was provided on the shelter-sites, probably

used most intensively during the Livonian War (1558–1583), the Swedish–Polish War (1600–1625) and the Great Northern War (1700–1710/1721), (Laid 1923).

The study of medieval and post-medieval popular culture on the basis of archaeological sources and methodology was not accepted by the leading academic institutions even after the death of the Grand Old Man of Estonian archaeology – Harri Moora. Thus, the topics of two diploma works defended at the University of Tartu in 1975 – about sacred springs and offering in water (Toomas Tamla) and the village cemeteries of northern Estonia (Ain Lavi) – did not have a chance to be continued as a research topic at the Institute of History. The limitations were, however, not only of scientific but also of ideological character. The article based on Tamla’s diploma work was prevented from publication in the Yearbook of the Estonian State Ethnographic Museum by the Soviet censoring institution Glavlit, as discussing a topic related to religion (T. Tamla, pers. comm.).

## Towards the concept of medieval rural archaeology: since the 1980s

### Excavations

The 1980s meant a continuous accumulation of new data in the course of rescue excavations. Corresponding work was carried out on several *village cemeteries* damaged by land improvement, gravel quarrying or construction activities. Such work was most extensive in southern Tartumaa, taking place in Vooreküla (1980 Aun), Mäletjärve (1984 Valk), Vellavere (1985 Valk), Mäksa (1988 Valk), Ervu (1990–1991 Valk) and Otepää (1996 Valk). For similar reasons, local rural cemeteries were studied in Vaabina in Võrumaa (1985 Valk), Kaubi in Viljandimaa (1998 Tvauri) and Sõrumäe (1983 Ligi)

and Kuremäe (2003 Sokolovski) in eastern Virumaa. In western Estonia, rescue excavations were carried out at Margu cemetery in Mõisaküla (1986 Pärn) and some graves were discovered in Soomra gravel quarry in 1985. In the course of excavating the Iron Age cemeteries of northern Tartumaa, several medieval graves were found in Vedu (1987 Lavi) and Lahepera (1977–1978 Lavi) and post-medieval graves in Raatvere (1981–1983 Lavi). In southern Estonia, near the Lake Valgjärve small-scale rescue work took place at Tamme cemetery, partly disturbed by a pit from treasure hunters (1982 Mäesalu).

Parallel to the growing interest in medieval archaeology, the 1980s also mark the beginning of problem-based excavations of ‘historical’ sites. To such a context belongs the fieldwork on Jõuga cemetery in north-eastern Estonia, undertaken by Priit Ligi in 1980–1986 and 1989. In order to get new data about the transition from the Iron Age to the Christian period, excavations were carried out on the cemeteries of Makita (1986–1987 Valk) and Sammaste (1989 Valk), but in both cases the work provided unexpected results. In Makita the excavations revealed a village cemetery, in its initial phase a burial ground of Votic immigrants with both inhumations and cremations. In Sammaste the site turned out to be an Iron Age stone grave with rich finds and numerous coin offerings related to a medieval and post-medieval chapel. Inhumation graves from the Christian period were limited to only some post-medieval, mainly infant burials. Of a research nature are also the investigations at Kärevere (1985 V. and M. Sokolovski) and Tääksi village cemeteries (1988–1990 V. Sokolovski). Both of these took place parallel with the large excavations of the Olustvere settlement site. Some medieval and post-medieval graves were discovered from the village cemetery on the plateau of the Varbola hillfort (1984–1985 Ü. Tamla and Tõnisson).

Research interest concerning the transition period is reflected also by two other major excavation projects: at the cemeteries of Siksälä in Võrumaa (1980–1988, 1990–1991, 1993 Laul and Peets) and

Pada in Virumaa (1986, 1988–1989 T. Tamla). While at Pada the cemetery of mid- or late 12<sup>th</sup> century origin (with the total of 172 graves investigated) was in use approximately to the mid-13<sup>th</sup> century, at Siksälä the continuity of Iron Age traditions can be observed up to the 15<sup>th</sup> century. The latter cemetery with some 250 graves from the post-conquest medieval period remains exceptional in Estonia due to the long persistence of archaic burial rites and extremely rich finds (weapons, textile remains). In Siksälä also the later, post-medieval phase of the same cemetery, located on the other end of the same ridge, was studied (2003–2004 Valk). In parallel with the work at Siksälä, small-scale research on a cemetery of similar character was carried out in Plaani (1987 Peets).

The 1980s are also a period of growing archaeological interest towards rural *churchyards*. The increasing amount of work is partly due to the fact that since the 1980s medieval churchyards and the insides of churches were included in the list of state protected archaeological sites. Since that time gradually also archaeological control over earthwork in churchyards was established, mainly connected with digging communication trenches and removing the layers of debris from around the church walls. The first major earthwork of that nature occurred at the medieval Käina churchyard in Hiiumaa (1988 U. Selirand).

The largest excavations inside Estonian medieval rural churches have taken place in Kambja. There the graves in the western part of the nave were excavated in 1993–1994 (Kalling) in the course of reconstruction work for the building ruined in World War II. The 17<sup>th</sup>-century finds typical for the village cemeteries witness for a native Estonian population but the large number of silver ornaments indicates the church graves as high-class peasant burials. To churchyard archaeology belong also the excavations in Kanepi (2003 Piirits) where the parish cemetery, founded in the 1670s, was partly damaged in the course of road construction.

In most cases, however, archaeological work at Estonian rural churchyards has been limited to communication trenches or trial pits, often in areas damaged by earlier work. Pits made in the course of construction historical investigations gave unexpected results in Viru-Nigula (1988, 1990 T. Tamla): directly at church walls furnished graves from the 13<sup>th</sup> century were found. Small trenches or trial pits have been made, e.g. also near the churches of Lääne-Nigula (1992 Pärn and Toos), Haljala (1992 Tamm), Lügánuse (1991 Aus), Nõo (1998 Tvauri), Pilistvere (1999 Valk), Põide (1990 Sepp; 1996 Mäll; 1999 Mäll and Kadakas), Paistu (2001 Kónsa), Kuusalu (2002 Rudi) and Puhja (2004 Piirits). Using a metal detector during the construction work inside Jõelähtme church (2002 Mäll) yielded several coin finds, mainly from the post-medieval period. As an exceptionally late research object, a vaulted nobility grave-chamber from the 19<sup>th</sup> century at Viru-Nigula churchyard must be noted (2004 Jonuks and Johanson). The work was prompted by the collapsing of vaults.

There are also some publications on the analysis of human osteological material. Beside general treatments of single questions (Allmäe 2000), special studies involve the cemeteries of Makita (Heapost 1993; 2001), Tääksi (Allmäe 1996; 1998; 1999a-b) and Pada (Limbo 2004). There are also articles on some extraordinary cases – a cranium with multiple wounds and an early case of syphilis – from Kaberla cemetery (Kalman 2000d-e).

Some steps have been made also towards archaeological study of *sites of cultic meaning*. In Tamme near Rõngu (southern Tartumaa) excavations were carried out in the surroundings of a sacred oak, destroyed by a storm (Fig. 65; 1985 Valk). Clearing the sacred spring at the ruins of the medieval Helme castle (1998 Tvauri) yielded numerous coins from the 20<sup>th</sup> century, probably from the period following the last such work. Excavations at two rural chapel sites have provided information mainly about the offering of coins in the 15<sup>th</sup>–18<sup>th</sup> centuries. In the course of excavations (1989 Valk) and re-siev-

ing the soil (2002 Valk), more than 250 coin finds were obtained from the chapel site in Sammaste. Excavation at the post-medieval chapel site of Siksälä (2003–2004 Valk) located on the village cemetery of that period, close to the cemetery of Iron Age and medieval use, yielded 230 coins. Two areas of coin offering were studied also at the hillfort of Varbola (1984–1985 Ü. Tamla and Tõnisson; see Molvõgin 1986; Kiudsoo 2004). One of these with coins from the late 14<sup>th</sup> up to the late 16<sup>th</sup> century was located in the gateway of the deserted hillfort, the other (with 89 coin finds) from the 15<sup>th</sup>–17<sup>th</sup> centuries can probably be connected with a sacred spring. Archaeological observations at Podmotsa cemetery enabled to date the erecting of the big late medieval Orthodox stone cross (2003 Valk). Digging a stone fence at the site of a sacred grove on Hiiemägi Hill in Paluküla (2004 Jonuks) gave a radiocarbon date from the 18<sup>th</sup> century.

The *settlement sites of medieval and post-medieval time* are often associated with an Iron Age component (see Mäesalu & Valk, this volume) and their study has occurred for the same purposes – due to rescue and construction work. Rich medieval and post-medieval material was provided by excavations at Olustvere (1979–1985 Lavi and Sokolovski; in 1983 also Lang). Smaller research-based work took place in the vicinity, also on medieval and post-medieval Kärevere settlement (1986 V. and M. Sokolovski). Extensive work (17,530 m<sup>2</sup>) at the settlement of Lehinja in Harjumaa in 1985–1989, prompted by the construction of the Tallinn–Tartu highway (Lavi & Niinre 1990), provided also mainly medieval and post-medieval material, especially about the genesis and development of the traditional Estonian farmhouse. Small-scale work on the same site followed in 2003 (Kadakas) and 2004 (Lavi). Excavations of similar character at the periphery of the settlement of Vaida (1997–1998 K. Jaanits) and at the settlement of Lagedi (2002–2003 Vedru), as well as research-oriented excavation at Proosa (1985–1995 Deemant), all near Tallinn, yielded mostly post-medieval finds. In northern Estonia, the Ilumäe I settlement

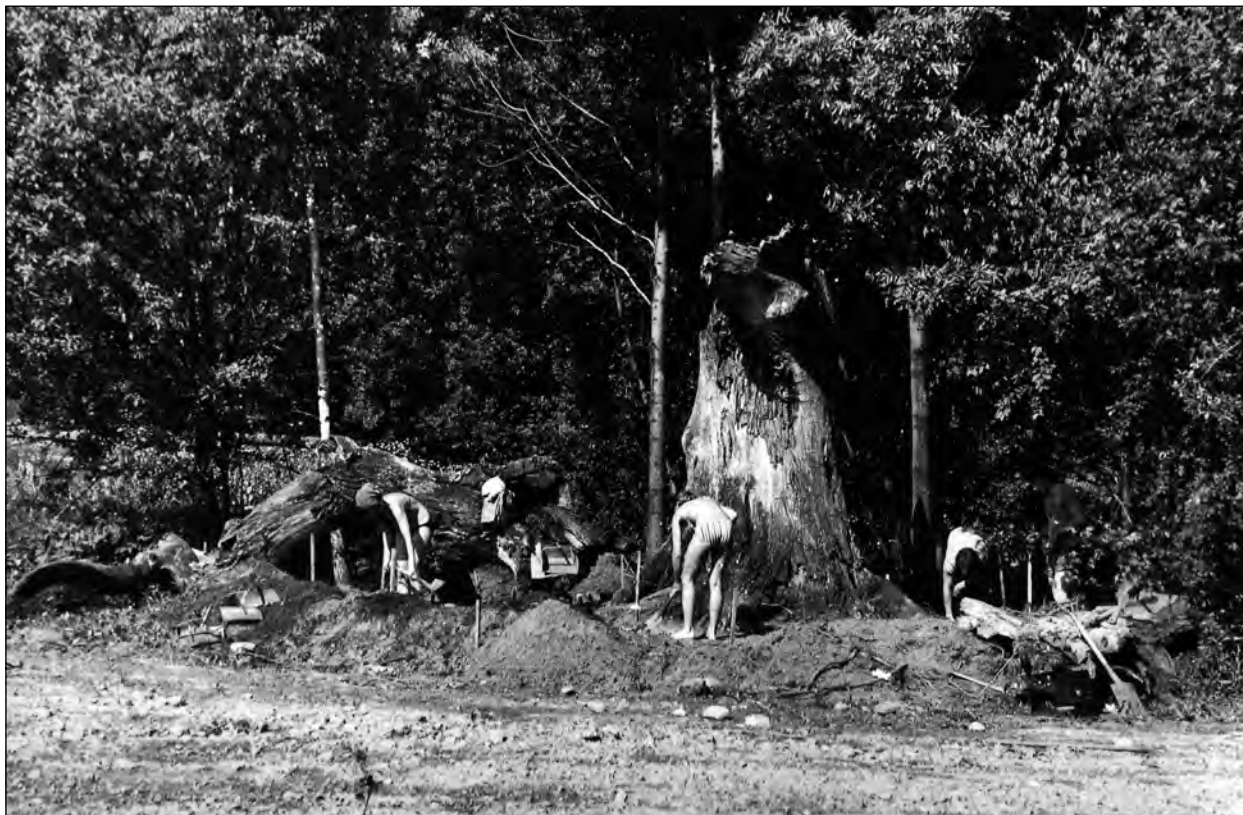


Fig. 65. Archaeological excavations around the sacred oak at Tamme in 1985 (photo: H. Valk).

(1996 Lang) was of medieval origin and finds from that period were obtained also from Keldrimäe in Varbola (1983–1985 Ü. Tamla and Tõnisson), Vatku (1994 Lang), Ilumäe II (1997 Lang), and Linnaaluste II (2003 Konsa and Lätti) settlements. Mainly medieval and post-medieval material was obtained at the excavations of the settlements of Uderna (1987–1989 Lang and Ligi), Vana-Koiola (1985–1987 Aun; 1990 Udam), Väike-Rõsna (1996 Luik and Kiristaja), Laossina II (2002–2003 Aun) and Pedäjäsaare/Sosnasaare (1998–2000 Aun). Trial excavations on several settlement sites of Setumaa (Valk & Peets 1994; Valk 1995a; Aun 1999; 2000a), as well as stray finds give also evidence of their medieval/post-medieval use or origin.

The occasional research of clearance cairns, which started in the late 1960s and the early 1970s as res-

cue works, yielded sometimes also medieval and post-medieval dates: e.g. in Iru (1974 Lõugas) and Kõmsi (1981 Mandel). New data have been obtained on the post-conquest period since the 1990s when research-based studies on the tillage and field systems were started by Valter Lang. In 1992–1993 complex investigations took place on the ancient fields at the well-preserved village complex of Jalase in co-operation with geological and soil studies (Heinsalu *et al.* 1994). Some of the clearance cairns were dated to the 14<sup>th</sup> and 15<sup>th</sup> centuries. The pottery finds and <sup>14</sup>C analysis of charcoal from under the clearance cairns and field boundaries have yielded medieval and post-medieval dates from the villages of Muuksi (1995 Lang and Vedru), Uusküla (1997 Lang), Vatku (1999 Lang), Kaberla (2002 Vedru) and Ilmandu (2002–2003 Lang *et al.*). There are





**Fig. 66.** Kabelimägi cemetery in Arula (photo: H. Valk).

medieval and post-medieval dates also from under the stone fences on Einbi village in Noarootsi in Läänemaa (Markus 2002, 121–126).

From numismatic studies, the candidate dissertation and articles by Arkadi Molvõgin on the coin circulation and coinage on Estonia's territory (1967; 1960; 1969) and the catalogue of coins minted on the territory of Livonia in the 13<sup>th</sup>–17<sup>th</sup> centuries (Fedorov 1966) must be noted.

### General approaches and treatments

Since the late 1970s, parallel to advances in the legislation on heritage conservation and the gradual formation of medieval archaeology (see Russow *et al.*, this volume), rescue excavations on medieval sites became a reality also for academic archaeologi-

cal institutions. Up to the 1990s, the main research centre – the Institute of History – still preferred rural prehistoric sites to urban ones and avoided developing of archaeological research on the medieval period. In spite of the lack of academic interest, the accumulation of new source material as well as changes in the general spirit of the time have contributed since the 1980s to new approaches towards the medieval rural archaeological material. Gradually, the magical boundary of 1227 has lost its former importance and later sites have also become to be regarded as a valuable source for archaeological research and interpretations.

Most attention has been paid to the study and interpretation of the material from medieval and post-medieval *cemeteries* (Fig. 66). Although based on the traditions of Iron Age archaeology, Priit

Ligi's study on the Votic cemeteries in north-eastern Estonia relied greatly on data from the 13<sup>th</sup>–16<sup>th</sup> centuries. His diploma work from 1981, supported by new excavations, was developed into a candidate thesis defended in Leningrad (St Petersburg) in 1987 (Ligi 1987). The research activities of Heiki Valk, both fieldwork and analytical studies, involved the southern Estonian rural cemeteries of medieval and early modern times. Study of the old and new materials lead to an MA thesis about the burial customs and their religious background (Valk 1992) and later on to a monograph on the southern Estonian medieval and post-medieval rural cemeteries in general (Valk 2001a). The changes in the burial customs in the 11<sup>th</sup>–17<sup>th</sup> centuries, especially in the 13<sup>th</sup> century have been regarded as a source material for the study of Christianization (Valk 1999b; 2003b-c). There is also a new treatment on the trapezoidal gravestones from the churchyards of Läänemaa and Saaremaa which, just as the previous article on that topic (Saal 1977), considers the earliest of these monuments to belong to the pre-conquest period (Sipelgas 2000). This date, however, has been rejected as too early by art historian analysis (Markus 2003) which attributes the gravestones of Saaremaa to the native elite of the post-conquest period and those of Läänemaa partly has discussed the topic of early medieval grave robbery on the basis of the finds from Pada cemetery.

During the 1990s the idea of the village cemeteries as a cultural phenomenon characteristic of the periphery of medieval Europe has gradually spread also in an international context (Valk 1995d-e). The period of use of the village cemeteries has been regarded as an indicator of the duration of the transition from the Iron Age traditions to those of medieval Christian Europe. Burying the dead at the villages shows that the same cultural processes which lasted in Scandinavia for some generations, extended in Estonia over some five centuries (Valk 1998). Also the long persistence of cremation (Valk 1993b) and burials with grave goods (even in churchyards), as well as the archaic forms of popular ornaments show that cultural processes had a slow

course in Livonia. These peculiarities indicate that the cultural and social situation in Estonia differed much from the common European pattern. The situation has been rather different also from the geographically adjacent Finland (Valk 1994). The spatial distribution of the rural cemeteries has served as a source for the study of differences in the cultural situation within medieval Livonia (Valk 1999a). The cemeteries have been used also as a basis for observing the changes in the society and the power structures at transition to the Middle Ages: regional variations have been interpreted as indicators of differences in the status of the old, pre-conquest social elite in the new, medieval society (Valk 2006c).

A special research topic is Siksälä cemetery in the south-easternmost corner of Estonia; the main results of its study with preliminary interpretations are presented in a special monograph (Laul & Valk 2006). The general idea of the book, written in the frameworks of the CCC-project (see Mäesalu & Valk, this volume), is to provide a survey on the situation in the extreme eastern periphery of medieval Livonia and medieval Europe. The conservation process of the finds from Siksälä has also given an impetus and opened new perspectives for the study of archaeological textiles and costume history (Fig. 67).

More generally, the 1990s have provided a new approach towards the medieval and post-medieval cemeteries. The concept of second-rate sites of no archaeological interest has been replaced by regarding them as essential source material for the study of the cultural, social and demographic processes of the period.

Regional differences in the archaeological material from rural cemeteries, especially from southern and eastern Estonia, have raised the topic of *local ethno-cultural identities* of the medieval period (Valk 1997a-b). The question of genesis of the Setu ethnic group is closely related to the geopolitical status of the south-easternmost corner of Estonia in the Middle Ages (Laul 1992; 1995; 1999; Laul & Valk 2006). The question of the ethno-cultural iden-

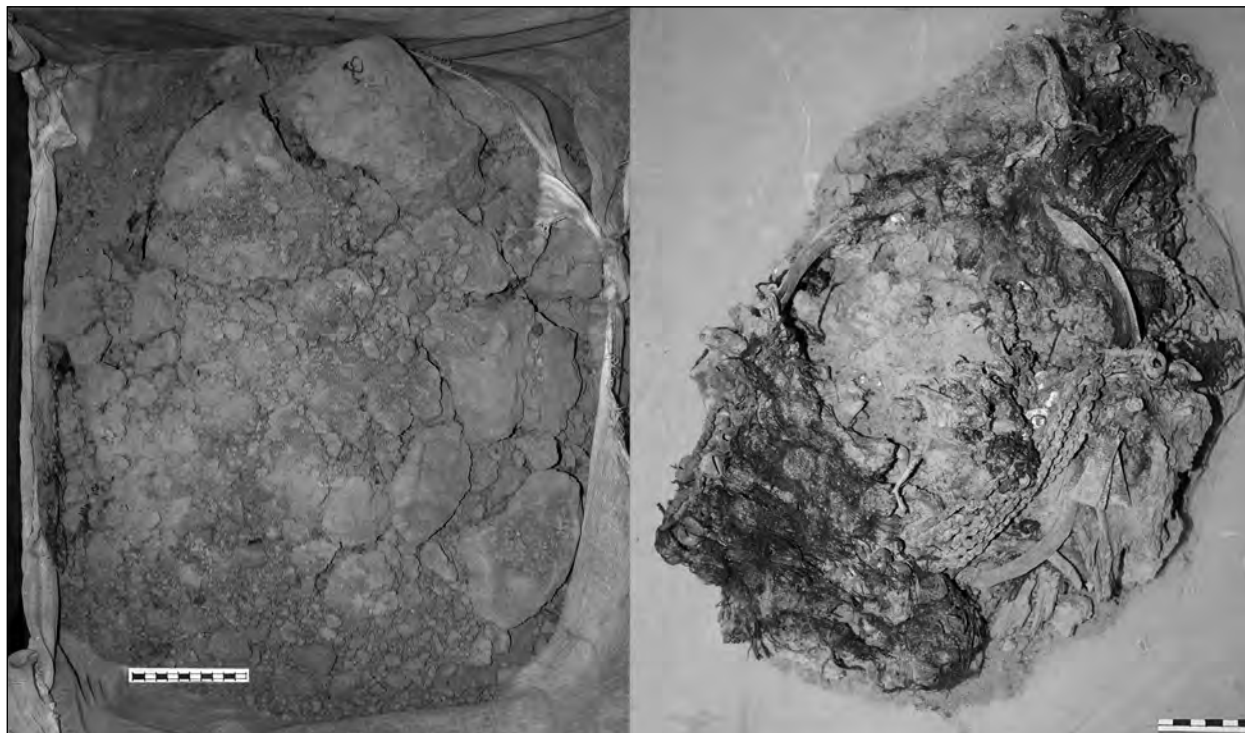


Fig. 67. Monolite of grave 43 from Siksälä cemetery before and after cleansing (photo: A. Tennus).

tity of the population of north-eastern Latvia has an essential role also within the frameworks of the Siksälä studies: the cemetery represents an ethno-cultural unit not reflected in the written sources. Much attention has also been paid to the study of the Votic population in Estonia whose presence had been already noted by H. Moora (1929b). The thesis of P. Ligi about the Votians in north-eastern Estonia (1987) has been published in Estonian in a shortened version (Ligi 1993c). A special treatment deals with the cemeteries of Votic migrants in Tartumaa: in the second half of the 13<sup>th</sup> century many Finnic immigrants arrived in the bishopric of Tartu from the Novgorodian or Pskovian Land (Ligi & Valk 1993). Ethno-cultural investigations have involved also broader questions related to the archaeology of the Baltic Finns. On the basis of the 13<sup>th</sup>–15<sup>th</sup> century horse-shaped pendants there arises the question about direct contacts between the Votians and the

Daugava Livs – not through the territory of Estonia but via the eastern coastal areas of Lake Peipsi, Setumaa and northern Latvia (Valk 2001b). There is a treatment also about the contacts between Estonia and Russia, as reflected in the archaeological data from the 13<sup>th</sup>–15<sup>th</sup> centuries (Valk 2001c).

As a new topic, in the recent years the problem of *religious syncretism* as a cultural phenomenon has emerged. In addition to the cemeteries, it is reflected also in the long-time use of natural sacred places – groves, trees, stones, springs and hills – and their parallelism with Christian sanctuaries – churches and chapels (Valk 2003b; 2004d). The meaning of the local rural chapels has been discussed on the basis of ethnological parallels from Setumaa, the Orthodox south-eastern corner of Estonia (Valk 2003a). The studies concerning the relations of archaeology and oral tradition (Valk, this volume, b) are, first and foremost, also related

to the medieval and post-medieval archaeology of the native population.

The material which has been accumulated on the medieval/post-medieval *settlement pattern* – i.e. data on the location of different types of sites has not been analysed as yet and, as in case of the Iron Age, we can speak only of regional studies. Within the CCC-project attention has been paid to the study of the Late Iron Age and early medieval rural settlement pattern in prehistoric Ridala district in Läänemaa (Pärn 1999) and in Saaremaa (Mägi 1999b; 2001; 2002b). In the latter case the continuity of manor sites of the local prehistoric nobility into the Middle Ages has been noted. However, the suggested interpretation of the remains of a 13<sup>th</sup>-century stone building at Kaarma parsonage in Saaremaa as a manor of a post-conquest native nobleman has still strongly been questioned (Pärn & Russow 2005). A good survey is available about the south-easternmost area of Estonia (Kiristaja 2000) and an interdisciplinary case study has been made about Haeska village in western Estonia (Pärn 2004d). The making of the GIS-related database of place-related archaeological information at the University of Tartu opens, however, new perspectives for respective analytical work of a broader nature. Good perspectives for comparative research are provided also by Swedish maps from the 1680s.

On the basis of some fieldwork and comparing of archaeological data with old maps, it has been established that the *land cultivation systems* originating in the Late Iron Age (the system of strip-fields) persisted without changes until the use of farm plots in the late 19<sup>th</sup> century (Lang 1995b; 2000a, 221–249).

The excavation results of medieval/post-medieval *settlements* have also undergone only a limited analysis to date. Special treatments have appeared about the potential of the settlements as source material for the study of medieval and post-medieval peasant architecture (Lavi 1997), on the genesis of the Estonian traditional long farmhouse (*rehielamu*) (Lavi 2001) and on the smoke cottage (*suitsutuba*) (Lavi 2005). Archaeological data about manors – a

possible contact point between the German and the native culture – are presently almost missing, being limited to data from fieldwork at the vassal castles of Keila in Harjumaa (1977, 1991–1998 Mandel) and Kiltsi in Järvamaa (2001–2003 Jonuks). Test pits were also made at the site of the presumed fortified manor at Vana-Piigaste in Võrumaa (1994 Kadakas, Mäll and Valk).

On the basis of the database of place-related archaeological information, research has started on the medieval *roads* of Estonia, mainly by comparing the distribution of archaeological sites with the roads marked on late 17<sup>th</sup> century maps. The first steps in this direction have been made by Martti Veldi, post-graduate student of the University of Tartu (2004). A survey about the Estonian medieval log roads in wetlands, often of medieval or post-medieval date, has been presented by Ain Lavi (1998). The Estonian *shelter sites*, meant for passive defence at wartime, have received a most limited archaeological interest yet (Laid 1923; Tõnisson 1972). As knowledge about them is based on the oral tradition, most of them should have been in use in the post-medieval or medieval period, although also earlier use cannot be precluded.

*Artefact studies* include surveys about the finds from the rural cemeteries of southern Estonia (Valk 2001a, 42–59) and from the Votic cemeteries in north-eastern Estonia (Ligi 1993c, 39–81) and Tartumaa (Ligi & Valk 1993). There is also a brief treatment of a general character, greatly based on the artefacts from Proosa settlement near Tallinn (Deemant 1992). From single artefact types, in addition to the study on sieve-shaped pendants (Valk 2004c), special articles have appeared about the rings of southern Estonia (Valk 1991), the 13<sup>th</sup>–14<sup>th</sup> centuries' round brooches, known also as the 'Hanseatic brooches' (Valk 1999c) and the 16<sup>th</sup>-century head ornaments of Läänemaa (Kiudsoo 2002) and Viljandimaa (Kiudsoo & Ratas 2005).

A preliminary survey about the finds from Siksälä cemetery will be provided in a monograph on that monument (Laul & Valk 2006). The book includes

also a special study concerning the weapons and edged tools (Peets 2006a) and presents new reconstructions of some early medieval textiles. Of the rich textile finds of Siksälä only a few examples had been published earlier (Kaarma *et al.* 2000; Laul 2004). A full publication of the materials of the cemetery is hindered by the fact that many graves with textile remains (bronze-decorated shawls, headbands, etc.) and mounted belts were taken out as monoliths for opening and cleansing in laboratory conditions. In 2004, the work on this material has been re-started at the University of Tartu by Kristel Luiges (c. 20 monoliths) but some additional years are needed for its completion.

In the case of several artefact groups – e.g. bone and antler artefacts, spindle-whorls, fishing implements, wheel-made pottery –, the treatments which start with the Iron Age (see Mäesalu & Valk, this volume) continue also into the medieval period. The first thesis of Jüri Peets on the technology of textiles (Peets 1992) and a case study on mitten finds from the graves – a reflection of specific Finnic burial customs (Peets 1987) – as well as a general archaeological survey on Estonian costume history (Laul 1986) also cover both periods. The same holds for the results of research on iron production and manufacturing technologies. J. Peets has shown in his recent monograph on ancient iron production and manufacturing in Estonia (2003a) that in Saaremaa and north-eastern Estonia extensive iron production, based on local bog ores and Latest Iron Age traditions, lasted up to the mid-14<sup>th</sup> century. Among artefact studies, finally, also Kaalu Kirme's studies pertaining to art history on Estonian ornaments of the medieval and post-medieval period must be noted (Kirme 1976; 1979; 1986, 17–50; 2000; 2002, 15–104). As his chronology is based merely on the criteria of art history, with the find contexts and closed complexes not considered, the dates provided are not always reliable, however.

Research has been done also on the medieval and post-medieval *numismatic material*. Ivar Leimus has published the late medieval hoard of Üksnurme

(1990), studied the coinage in Livonia in the 13<sup>th</sup> and 14<sup>th</sup> centuries, distinguishing also the earliest coins minted in Tallinn in the 13<sup>th</sup> century (Leimus 1994; 2001a; 2002a). He has investigated also the 16<sup>th</sup> century coin circulation in Livonia (1995) and treated the topic of inflation in the 11<sup>th</sup>–17<sup>th</sup> centuries (2004a).

During the recent years a new contribution to the study of the Estonian medieval and post-medieval coin hoards and coin circulation in the rural areas has been provided by Mauri Kiudsoo. There exist articles on the hoards of Tõrise from Saaremaa, Puriki from Setumaa and Parivere from Läänemaa, as well as regional surveys on the coin finds from Setumaa and from the surroundings of Siksälä (Kiudsoo 1999; 2001a-c; 2003; 2005; 2006a). In spite of their large number, especially from southern and central Estonia, the silver ornaments from the hoards from the period of the Livonian War and the Swedish–Polish War have received no treatment from an archaeological viewpoint yet. To date, their analysis has been limited to an article about the hollow silver beads (Üprus 1947) and to Kaalu Kirme's studies (1986; 2000; 2002).

## Conclusions

While the study and interpretation of archaeological material of medieval and post-medieval time, i.e. the 13<sup>th</sup>–18<sup>th</sup> centuries, was greatly neglected in earlier research, in the general framework of the genesis of medieval archaeology also the native rural archaeological record has gradually obtained the status of valuable source material in Estonia since the 1980s. Thus, the German conquest of the early 13<sup>th</sup> century is no longer considered as the time boundary for the research of native archaeological material. Archaeology shows the continuity of the settlement pattern and cultural processes during the transition from prehistory to the Middle Ages and provides essential source material for the study of

the Estonian native society and culture of the 13<sup>th</sup>–18<sup>th</sup> centuries. Answers to a number of questions which cannot be obtained from the written sources – the latter reflect mainly the life of the German-speaking nobility – can be obtained from interpreting the archaeological record.

Up to the late 1970s, investigation of the medieval and post-medieval archaeological record of the rural native population consisted mainly of occasional excavations. The share of rescue excavations, often large ones, increased greatly since the late 1970s. The accumulation of the new material and the gradual genesis of medieval archaeology laid in the 1980s the foundation also for new approaches: the material started to serve as a basis of interpretations and conclusions – both at the site level and more generally. The current trend seems to be an increase of problem-oriented research, although

most of the source material still comes in the course of rescue work.

The archaeological record of the native rural population from the medieval and post-medieval period differs greatly from that of the ‘European’, i.e. the German pattern and in many respects follows the traditions of the Iron Age. The rural cemeteries and burial customs, the sacred sites in nature, the hoards and artefact finds form a picture that does not fit at all with the cultural pattern of medieval Europe. In the European perspective, Livonia is a peripheral region where phenomena characteristic of the transition period to the Middle Ages had a much longer duration. The cultural situation in medieval and post-medieval Livonia is conditioned by and gives evidence of strong ethno-social polarization of the society into the German-speaking nobility and the native peasants. This dualism is strongly expressed also in the archaeology.



# **PART III**

## **Collections and the Conservation of Archaeological Heritage**





# The Establishment of Archaeological Collections in Estonia and their Current Situation

ANDRES TVAURI

## Introduction

At present, scientific archaeological investigations are unthinkable without systemized collections that investigators can access. Currently, Estonian archaeological collections have been organized as one larger and numerous smaller collections, which are located at scientific institutions and museums. The present situation has developed over the course of c. 165 years, i.e. as long as archaeological items have been systematically collected in Estonia. Although local history, as well as cultural and political circumstances, have influenced the formation of archaeological collections in Estonia, the process has progressed in a manner similar to that in other countries of northern and central Europe.

Since the formation of the first displays of curiosities and the first museums, the collection of archaeological items has been popular. Before the formation of archaeology as an academic discipline in the 19<sup>th</sup> century Europe, prehistoric items were mostly valued for their originality, aesthetic beauty or direct value as precious metal. As museum items, archaeological objects were similar to historic weapons, works of art, items from faraway countries or strange seashells. In the course of development of archaeology as an academic discipline, the principles for forming archaeological collections changed considerably, and this changed the position of archaeological collections among other museum collections. As the methodology of fieldwork developed and improved, more finds were

stored, including those that had no direct value outside their find context. It was no longer the value of the items themselves that was the main principle for collecting archaeological finds, but their value lay in their role as source material for scientific research. In addition to the growing importance of find context, the finds formed a body of scientific information collected during fieldwork – like excavation maps, drawings and photos. For these reasons, archaeological collections in museums were already transferred to separate departments during the 19<sup>th</sup> century, and these began to be established by universities and other scientific institutions.

## The Baltic German period

### Archaeological collections of the Learned Estonian Society and the University of Tartu

During the second half of the 18<sup>th</sup> century, the intellectual circles of the Baltic countries became interested in antiquities. At first, this was manifested by single individuals, who collected and preserved various grave and stray finds, coins, pictures, documents and copies thereof. The conditions for the creation of public and scientific archaeological collections evolved hand in hand with the establishment of learned societies in the East Baltic provinces during the first half of the 19<sup>th</sup> century. The first society

of the kind, formed in the territory of present-day Estonia, in Tartu in 1838, was the Learned Estonian Society (*Gelehrte Estnische Gesellschaft*). This society established its own museum, accumulating artefacts through excavations organized by members of the Society. In 1859, the Society's collection of antiquities and manuscripts contained as many as 7658 inventory items (Leppik 1999, 54).

In 1843, Friedrich Kruse founded the Central Museum of Fatherland Antiquities (*Das Central-Museum Vaterländischer Altertümer*) at the University of Tartu. By 1859, the museum contained 2533 objects. In 1860, the collections of the Learned Estonian Society (LES) and those of the University were merged into a joint Fatherland Museum of Tartu (*Das Vaterländische Museum zu Dorpat*), and both institutions continued to be the possessors of their collections. Starting from the 1860s, collections began to grow rapidly. Many new objects were obtained during the 1870s, when Count Carl Georg von Sievers (1814–1879), who was interested in antiquities, excavated several graves, mainly in northern Latvia. Hermann Eduard Hartmann (1817–1881), Conservator of the LES, did a great job in organizing the joint collections and compiled an illustrated catalogue of these, which was published in 1871 (Hartmann 1871). This was the first publication of its kind in Estonia. By that time, the LES museum was the largest and most organized archaeological collection in all of the Baltic countries (Moora 1938b, 53). The second period of more rapid growth of collections falls within the time immediately before the 10<sup>th</sup> Russia-wide archaeological conference, which took place in Riga in 1896 – a great number of monuments were excavated in order to obtain objects for the exhibition that was organized during the conference. The collection of the Society was supplemented up until World War I.

### The Provincial Museum of Estonia

The Estonian Literary Society (*Estländische Literärische Gesellschaft*), founded in Tallinn in 1842, became the centre of archaeological activity in

northern Estonia (then the Province of Estonia). Contrary to the LES, the founders of which also included intellectuals of ethnic Estonian origin, the Estonian Literary Society (ELS) consisted solely of Baltic German members and had a Baltic German mentality. The establishment of a museum was stipulated in the statutes of this Society and, thus, they immediately began to collect materials related to history, art and nature (Kuldna 2002, 12). By the beginning of the 1860s, the archaeological collection had become more elaborate, with 100 inventory numbers of finds being mentioned, including stone axes, bronze and silver jewellery, weapons, etc. (Kuldna 2002, 12 ff).

The constantly increasing collections gave the members of the ELS the idea of transforming their current museum into a Provincial Museum operating as a separate unit. The organization, which until then had been closed, decided to become a general educating institution that targeted the public (Kuldna 2002, 15). One of the relevant examples, in this regard, was the German National Museum in Nürnberg, launched in 1852 (Jordan 1892, 30). Thus the Provincial Museum of Estonia (*Das Estländische Provinzial-Museum*) was created in 1864. The same year, the newly established museum moved to the first floor of the St. Canute's Guild Hall building in Pikk St., where the exposition was opened to the public (Kuldna 2002, 17). Following the opening of the exhibitions to visitors, the collections began to grow rapidly. In 1875, the museum's catalogue was published in print (Hansen 1875). The next description of the collections was issued in 1892 (Jordan 1892). According to this data, archaeological finds from Estonia were deposited in two funds – 'Stone Age Artefacts of the East Baltic provinces' and 'Objects from the Fatherland'. In addition, there was a separate numismatic collection. In the beginning, the archaeological items increased on account of stray finds, obtained as donations, and some of the collections were also purchased. In 1895, the museum also became involved in archaeological excavations. Conservator Alex von Howen, who commenced

work in 1894, began to work through the archaeological collection, noting down and identifying the sites where the objects had been found. Before him, the material was primarily classified on the basis of typological features (Kuldna 2002, 25 f).

In 1911, the ELS acquired the former palace of Count E. Ungern-Sternberg, at 6 Kohtu St. on Toompea Hill, in Tallinn, and the museum was moved to these premises. The new exposition also displayed archaeological finds. In 1911, Artur Spreckelsen began work as the new conservator; he continued the review of archaeological collections and conducted several archaeological excavations. As of the year 1912, Adolf Friedenthal also participated in excavation work.

### **Local Baltic German learned societies and their museums**

Baltic German learned societies in 19<sup>th</sup> century Estonia were institutions dedicated to the creation and reproduction of the identity of the Baltic Germans, a minority of whom who had been in a governing position in a political, cultural and economic sense. The majority of such societies had their own museum, and were the centre of other activities.

In 1865, the Research Society of Saaremaa (*Verein zur Kunde Ösels*) was established in Kuressaare (Arensburg) on Saaremaa Island, and a museum was immediately set up at the Society. One teacher at the Kuressaare Gymnasium (secondary school), Jean Babtiste Holzmayer, deserves great credit for the foundation and development of the society. The finds obtained during the archaeological excavations carried out by Holzmayer, laid the basis for the museum's collections. In 1890, when he died, there were as many as 1163 archaeological objects in the museum and 1877 coins, the majority of them part of ancient hoards (Püüa 2003, 49). In 1892, the museum moved to medieval Kuressaare Castle, where it was also opened to the public (Püüa 1995).

In 1877, a committee was formed in Viljandi in order to perform archaeological excavations in the local medieval Castle of the Teutonic Order, and this conducted excavations in 1878 and 1879. In 1881, inspired by the excavations, the leading figures of the committee founded the Viljandi Literary Society (*Felliner Litterarische Gesellschaft*), with a museum, comprising the finds from the castle, as one of the operating units of the Society. During the 1890s, this collection was supplemented by the finds from several archaeological excavations carried out in Viljandi or its vicinity by University of Tartu Professor Richard Hausmann (Vislapuu 1998, 4 ff).

The year 1896 marks the foundation of the Pärnu Society for Antiquities (*Alttertumforschende Gesellschaft zu Pernau*), which also gradually began to possess collections of artefacts (Pölsam 1997). The archaeological collections of the museum primarily increased on the account of numerous Stone Age objects found at the bottom of Pärnu River, donated as presents by local collectors and lovers of antiquities who themselves also took part in museum work (see more Kriiska, this volume).

In 1892, prominent individuals in Paide founded a Tower Building Committee aimed at the restoration of the Vallitorn Tower in the medieval Order Castle in Paide. This was connected with archaeological excavations in the town of Paide and in the ancient graves in the vicinity, with archaeological finds being collected during this work. The fear that the finds would go missing led to the establishment of the Järvamaa Antiquities Preservation Society (*Gesellschaft zur Erhaltung Jerwscher Altertümer*) in 1904. In order to maintain the collections and have a place to meet, Paide town allocated rooms to be used free of charge by the Society in the girls' school in the town; in 1905, a permanent exhibition was opened on the same premises.

### **Estonian National Museum**

The Estonian national consciousness and the conception of Estonian national history took shape

during the 19<sup>th</sup> century. For this reason, the collection of material heritage associated with Estonian peasant culture became popular at the end of the 19<sup>th</sup> century. Initially, different collections were created in Estonian societies. The leading figures of these societies soon understood that the collection of national heritage had to be united under one organization. Thus, the Estonian National Museum (*Eesti Rahva Muuseum*) was established in Tartu in 1909, and this primarily focused on the collection of ethnographic and cultural material and oral tradition. Nevertheless, many archaeological finds were also deposited in the National Museum. However, in comparison with the quantity of ethnographic objects, the museum's archaeological collection was small.

## The 1920s and 1930s

### The Museum of Archaeology at the University of Tartu

In 1921, two units were formed at the Chair of Archaeology at the University of Tartu – the *Kabinet* of Archaeology, as a central research institution, and the Museum of Archaeology, on the basis of the collections of the former Fatherland Museum of Tartu. In addition, the archaeological collections of the LES were deposited in the museum.<sup>1</sup> Up until 1921, a total of 9983 objects had been collected in this museum (Indreko 1937c, 110). The archaeological collections of the Estonian National Museum, that of the Estonian Museum of Tallinn (established in 1919) and some of the items of the Saaremaa Museum in Kuressaare were deposited in the collec-

tions of the Museum of Archaeology during the first half of the 1920s (Moora 1930b, 36).

In the workrooms of the *Kabinet*, the collection was placed in cupboards and display units according to the periods and types of the antiquities. In order to facilitate orientation in the collections, Aarne Michaël Tallgren compiled a printed museum guide in both Estonian and German (Tallgren 1923b; 1924b). When Tallgren returned to Finland in 1923, it was Harri Moora who took over the management of the Museum of Archaeology.

The majority of new finds were obtained through excavations conducted by the *Kabinet*. As of 1925, the legislation established that this was the place to deliver stray finds handed over to the state. By the beginning of 1931, the gathered museum collections contained 2742 main index numbers<sup>2</sup> (approximately 20,000 objects) of ancient finds obtained from Estonia and partially from Latvia and elsewhere (Moora 1930b, 36). By 1937, the number of artefacts had increased to 26,173 (Indreko 1937c, 110). By April 1940, as many as 3868 main index numbers of items had been collected. The Museum of Archaeology was also allocated resources for the conservation of the finds (Moora 1930b, 36). As a result of the described work, the Museum of Archaeology had the largest and best organized archaeological collection in Estonia during the 1920s–1930s.

Due to the scarcity of material resources during the 1920s–1930s, archaeological finds could only be exhibited to a small extent. The first display was set up in the premises of the *Kabinet* in as early as 1923. The first permanent exhibition on archaeology was opened to the public at the Estonian National

<sup>1</sup> It should be mentioned that the LES continued functioning until 1950. However, the society was no longer engaged in archaeological research.

<sup>2</sup> In the archaeological collections of Estonia, one main index number may contain only one object (e.g. a stray find) or all of the finds obtained during the excavation of one monument. As the system for attributing sub-index numbers to archaeological finds has also been different (sometimes all the finds have been numbered in succession, but in some instances only the finds originating from one particular layer and square, and thirdly, in some cases, only the most representative pieces of pottery), it is only possible to give an estimate with regard to the total number of finds.



**Fig. 68.** Archaeological exhibition in the Estonian National Museum in the early 1930s (photo: Estonian National Museum).

Museum in 1927 as an introductory part of the permanent ethnographical exposition (Fig. 68). H. Moora compiled a thorough guidance book to facilitate the understanding of the archaeological exhibition (Moora 1927). An exposition entitled *Muinas-Eesti* ('Ancient Estonia') was organized in Tallinn in 1936, based on the results of excavations in the pre-historic hillforts of Estonia, carried out in the previous couple of years (Indreko 1937c, 112). For this instance, Moora had again put together an exhibition guide (Moora 1936). In 1937, the same exhibition was displayed in Tartu (Jaaniits, L. 1995, 33).

### **The Museum of Estonian Literary Society (former Provincial Museum)**

Together with the birth of the Republic of Estonia, a new phase also began in the activities of the Provincial Museum. Following the lack of activity caused by the years of war, the ELS was forced to practically re-launch its activities after the registration of the statutes of the Society in 1919. The museum initially retained its former title, but as of 1926, a new official name was adopted – the Museum of the Estonian Literary Society (former Provincial Museum). At

the beginning of the 1920s, the entire activity of the ELS was generally of a modest nature, and the membership had decreased nearly twofold. Regarding the previous fields of activity, the Society resumed the conducting of archaeological excavations; a relevant attempt at continuation was made by Museum Conservator A. Spreckelsen and A. Friedenthal, who assumed his position in 1934. The brief museum guide printed in 1925 and compiled by Spreckelsen reveals that the display also exhibited the materials of archaeological excavations and earth finds dating from the 13<sup>th</sup> to 15<sup>th</sup> centuries. As the structure of the exposition, originating from the pre-World War I period, had become out-dated, the archaeological exposition was rearranged in 1932, proceeding more firmly than the earlier one from the chronological-thematic principle and consolidating the displays in periods (Kuldna 2002, 49).

Whereas before World War I, the Provincial Museum had been the best museum in Estonia, during the years of independent statehood in the museological sense it lagged quite notably behind the Estonian National Museum and the Museum of Archaeology of the University of Tartu. The development of the ELS Museum was disrupted in 1939, when the Molotov-Ribbentrop Pact put an end to the local Baltic German minority and their institutions. The activities of the museum ceased completely in 1940, when it was nationalized after the Soviet occupation and its funds distributed between different museums.

### Local Museums

The majority of local Baltic German learned societies and their museums remained in a stagnation after Estonia became independent for the first time, and political power was transferred from Baltic Germans to Estonians. However, the activities of local museums did not disappear during the 1920s–1930s, and in several locations Estonian societies replaced the Baltic German societies in organizing this work.

The Antiquities Preservation Society in Paide concluded its activities in 1926, and its museum was handed over to the ELS, which made this into a branch of the ELS museum (Kuldna 2002, 47).

In Kuressaare, museum work was at a standstill during World War I, and numerous exhibits and inventory lists perished (Pesti 1995, 98). The Research Society of Saaremaa concluded its activities in 1923 (Püüa 1995, 93). The majority of the Society's archaeological collection (2538 objects) was deposited at the Museum of Archaeology of the University of Tartu at the beginning of the 1920s. The Saaremaa Museum continued operations, first under the subordination of the county government and then under the Kuressaare town government, but new finds were not added to the museum's collection during the 1920s–1930s (Püüa 2003, 56).

The activities of the Viljandi Literary Society decreased remarkably, compared with the pre-World War I period, yet they managed to open the museum to the public. In 1929, another society was founded in Viljandi, focusing on the study of local lore and history (Local Studies Society of Viljandi) and again, as one of their tasks they wished to set up a museum in Viljandi, and in 1936 were successful in this (Vislapuu 1998, 13 f). The vast majority of the collections belonging to the Viljandi Literary Society were also donated to the new museum (Järvi 1977, 107).

The Pärnu Society for Antiquities, which also kept the Pärnu Museum, successfully continued its activities until the year 1940. The typewritten museum guide, dating from 1922 (kept in the archive of the Institute of History) reveals that the exposition was located in eight rooms, with the Department of Antiquities occupying one of them. Like the others, the archaeological collection of the Pärnu Museum did not expand significantly during the 1920s and 1930s.

New local museums were also created during the 1920s and 1930s, although the number of archaeological artefacts gathered therein was extremely small, since the 1925 Heritage Conservation Act

stipulated that all stray finds were to be handed over to the Museum of Archaeology of the University of Tartu. Likewise, archaeologists, who could have organized excavations, were not employed in local museums during the 1920s–1930s.

### **Soviet occupation 1940–1941 and German occupation 1941–1944**

In 1940, the Soviet regime declared the nationalization of all the museums that had until then belonged to societies or foundations. The occupation authorities considered the museums to be a tool for Soviet propaganda, and quickly commenced the appropriate reorganizations. The Museum of the Estonian Literary Society was abolished in 1941, and its historical, ethnological and archaeological collections were transferred to the newly established State Museum of History and Revolution of the Estonian SSR. The Museum of Archaeology of the University of Tartu was transformed into a central educational museum. Although it was not possible to do research in the turbulent circumstances of the occupation that had recently begun, the University's archaeologists continued with archaeological excavations even during the spring of 1941.

The fieldwork and activities of the Museum of Archaeology were disrupted by Germany's assault on the Soviet Union in June 1941. German troops reached Tartu in July 1941. Although downtown Tartu was severely damaged during the battles, the archaeological collections remained intact. The German occupation authorities removed H. Moora from the University and directed him to reside in Tallinn, where he worked for a short while, acting as Director of the History Museum (*Ajaloomuuseum; Historisches Museum*), which was established on the basis of the former Provincial Museum. The Museum of Archaeology was formally separated from the University, but remained in its previous

location and continued work under the leadership of Richard Indreko. Although scientific research was strongly hindered in the turbulent wartime conditions, the collection of the Museum of Archaeology obtained supplementary material even in 1942 and 1943, both stray finds and excavation finds from the few excavations carried out by the University's archaeologists. In 1944, when Germany's situation at the front was constantly deteriorating, an important question concerned the rescue of the University's archaeological collections, both from being evacuated to Germany or from possible wartime damage. The majority of the collections were packed and delivered to several locations in the country, mainly in old manor houses with sturdy cellars. This precautionary measure was well justified – in the late spring of 1944, the premises of the *Kabinet* were hit by an aerial bomb that fell through the ceiling and floor but did not explode (Jaanits, L. 1991, 22).

## **Soviet period**

### **Archaeological collections at the University of Tartu 1944–1951**

The restoration of the damaged University of Tartu and the operations of its sub-units began in autumn 1944, when the front had rolled over Estonia for the second time. Fortunately, archaeological collections had survived the war with only minimal damage. As the building of the Estonian National Museum (in Raadi, Tartu) had perished in the war, the first post-war exposition of the pre-historic period was opened in 1947 on the premises of the University's Museum of Archaeology (Lõugas 1991a, 15), (Fig. 69).

However, Estonia's largest archaeological collection could not be located in Tartu for too long. In connection with the establishment of the Institute of History in 1947, the collections, archive and the library of the *Kabinet* of Archaeology of the University of Tartu,





**Fig. 69.** *Archaeological exhibition in the Academy of Sciences of the Estonian SSR in Tartu, 1951 (photo: AI).*

which until then had been located in their previous premises, were transferred to the new Institute in 1948 and 1949. According to the deed of delivery and receipt, the archaeological collections of the time comprised 51,412 inventory units. In 1950 the Chair of Archaeology at the University of Tartu was dissolved and in 1951 the Institute of History was moved to Tallinn. The archaeological exhibition (opened in 1947) in the Vanemuise St. study building was closed in 1952.

### **Archaeological collections of the Institute of History**

The archaeological collections that were brought to the Institute of History (IH) were transported to

Tallinn in 1952–1954 and housed in the lobby and workrooms of the Academy of Sciences (Jaamits, L. 1991, 33), (Fig. 70). Despite poor preservation conditions, the collections were continually supplemented in the 1950s and 1960s. By the end of 1950, the collection comprised 4034 main index numbers of finds, by the end of 1960, this figure was 4282 and, by the end of 1970, as many as 4551. Regarding single finds, and comparing this with earlier decades, the increase was remarkably more intensive than indicated by the main index numbers – indeed, several ancient hillforts underwent thorough excavation during the 1950s–1960s, revealing extremely extensive find collections.

Until 1971, the collections belonged to the IH's Department of Archaeology (since 1958 restruc-



**Fig. 70.** *Archaeological collections in the Institute of History (7 Estonia St., Tallinn) in the 1980s (photo: AI).*

tured as the Department of Archaeology and Ethnography). A separate department for collections was created at the Institute in 1971. The main task of the Department of Collections was to arrange, catalogue, maintain and preserve the collections, and to develop different lab activities. The department was also responsible for organizing temporary exhibitions.

During the 1970s, the IH's archaeological collections continued to grow at an increasingly rapid pace. By the end of 1977, these already comprised 4980 main index numbers – i.e. more than 200,000 archaeological finds (Selirand 1977, 61). The increase in the collections was also caused by the fact that, in addition to the investigation of the already identified monuments, the young generation of archae-

ologists who began work in the 1960s–1970s started to actively look for new monuments in the landscape (the so-called third Estonia-wide inventory of archaeological sites), and thus in addition to excavation and stray finds, the finds from these inspections also became a part of the archaeological collections.

The issue of the need to construct a new depository that would meet the requirements was raised as early as the 1960s. In 1971, a complex of buildings in Rataskaevu St. (now Rüütli St.) was selected for the construction of an archaeological centre. The construction of the archaeological centre lasted for a long time, which was characteristic of the Soviet era – design work commenced in 1974, immediately after the then owner had left the building, but construction began in 1981. The first part of the new

archaeological centre was completed by the end of the next year; the whole complex of buildings was finally finished in 1984. This renovated complex included rooms for researchers, laboratories, a lecture hall, exhibition rooms and a depository for archaeological collections (Selirand 1986a, 13). Although the new archaeological centre had specific rooms for expositions, the staff only managed to complete part of the permanent exhibition, which concerned the history of archaeology in Estonia and the Stone Age period in Estonia and, additionally, a separate exposition on the Metal Age in Estonia and the processing of metals. Apart from this, a temporary exhibition entitled *Ancient Hoards and Coins of Estonia* was completed in 1984.

By the beginning of 1986, the IH's archaeological collection contained 250,000 individual objects and the numeration of main index figures had reached 5360. In the following years, the collections underwent almost explosive growth, the reasons for which lay in the fact that large-scale rescue excavations were carried out on the sites of medieval towns in Estonia and also in the countryside on ancient settlement sites, the would-be premises of future construction activities. As of the end of 1990 there were 5933 main index numbers of finds in the collection.

### Archaeological collections of the State History Museum of Estonia

The State History Museum<sup>3</sup> was founded in 1946 on the basis of the cultural-historical and archaeological collections of the former museum of the Estonian Literary Society. During the 1950s and 1960s, the collections of the History Museum remained practically unchanged, with only limited supplementation. The fact that no archaeologist was employed at the museum was the main reason for this. During

<sup>3</sup> As a matter of fact, in 1946–1963 this museum was officially called the History Museum of the Academy of Sciences of the ESSR, and since then the State History Museum of the Estonian SSR. In 1989, the museum was renamed Estonian History Museum.

post-war years, the History Museum also underwent a harsh Stalinist purge, and this pertained to both the employees and the collections. It was only in the 1960s, that the weakening of ideological pressure made it possible to return to actual museum work. In 1972 the museum first employed an archaeologist, and since then the museum's archaeological collections have increased substantially.

### Archaeological collections of local museums during the Soviet period

Soon after the end of the war, local museums were established or re-established under the name of local lore and history museums. Nevertheless, their operation was strongly inhibited during the years of the Stalinist regime due to the lack of material resources and professional employees and, naturally, also due to ideological pressure. The primary aim of local museums was to make Soviet propaganda and collect materials about the proletarian movement, the Great Patriotic War, etc. Thus it is not surprising that apart from the implementation of orders from above, during the 1940s and 1950s the museums only managed to deal with the unavoidable organization and cataloguing of their collections. During the period under observation, the archaeological collections of local museums were only supplemented with a few stray finds. As of the end of the 1950s, local museums began to receive finds from archaeological excavations carried out in their particular region. The museums did not yet hire archaeologists, and archaeological excavations were mainly organized in co-operation with the Department of Archaeology of the Institute of History. In this way the archaeological collections of local museums gradually began to grow during the 1960s and 1970s. The size of local museums' archaeological collections increased explosively during the 1980s, when large-scale rescue excavations began on construction sites in the areas of medieval towns (see Russow *et al.*, this volume). This is the way in which the archaeological collections of Tartu City Museum and those of Viljandi and Pärnu have increased most.

## **The period of new independence (since 1991)**

### **Archaeological collections of the Institute of History**

For the Institute of History, the period of Estonia's restored independence has brought changes in subordination relations (transition from the Academy of Sciences to the Ministry of Education), although unfortunately, insufficient financing and uncertainty with regard to the future, have continued until recently. Nevertheless, the rapid growth in archaeological and numismatic collections has been continuous, although the organization of the initially planned archaeology-related permanent exhibition was halted.

### **Collections of the *Kabinet* of Archaeology at the University of Tartu**

In 1990, after the disruption in the Soviet period, archaeology-related research was resumed at the University of Tartu when the Laboratory of Archaeology commenced work under the Chair of Estonian History (Valk & Metsallik 1993). In 1991, once again, a new foundation was laid for the University's archaeological collections. At first, the collection increased on account of inventory trips near Tartu, and the finds of investigations carried out in southern Estonia during the 1990s. In 1993, the Laboratory was merged with the re-opened Chair of Archaeology and renamed the *Kabinet* of Archaeology, in the interests of historical continuity. The archaeological collection has continually increased in size, supplemented with finds from the excavations and inventories conducted by the archaeologists of the University of Tartu. In addition to the collection gathered by the staff, the Learned Estonian Society (re-established in 1988) secured its own archaeological collection (2513 main index numbers) at the *Kabinet* of Archaeology of the

University of Tartu; in the meantime, the society's collection had been maintained in Tallinn, in the depositories of the Institute of History. In addition, in 1999, the Tartu County Museum deposited the majority of its archaeological artefacts (225 main index numbers) at the *Kabinet*.

### **Archaeological collections of local museums**

Since the restoration of Estonia's independence, archaeology-related activities have constantly expanded, and this is also the case with local museums. As of the beginning of the 1990s, archaeologists have been employed in several town or county museums. At present, two archaeologists are employed at the Tartu City Museum, one at Pärnu Museum, one at Viljandi Museum and one at Lihula Museum. Two archaeologists are working on the archaeological collections of the Estonian History Museum; in addition, the keepers of numismatic and weapons' collections are archaeologists by education. A department of archaeology has been launched both at the Estonian History Museum and at the Tartu City Museum; at Pärnu Museum there is a laboratory of archaeology. In addition to the museums that had been operating up until now, a new museum was also opened in Põltsamaa in 1997, possessing a small collection of finds obtained from Põltsamaa Castle, which was used by the Teutonic Order.

### **The size of archaeological collections in Estonia in 2005**

As the principles of record-keeping and numeration are different in various collections and museums, and have also repeatedly been altered in the course of time, it is extremely difficult to obtain an overview of the precise volume of archaeological collections in Estonia. The estimated number of inventory items in Estonian archaeological collections is approximately 1.4 million. As of the end of 2005, the precise size of only a few collections is known.



**Fig. 71.** *Archaeological collections in the Institute of History at Tallinn University today (photo: AI).*

The largest archaeological collection is in Tallinn, at the Institute of History (united with Tallinn University in 2005), comprising material from ancient, medieval and modern times and from all over Estonia. This is the most representative archaeological collection in Estonia. By the end of 2005, there were 6731 main index numbers<sup>4</sup>, comprising approximately 1,000,000 individual finds (Fig. 71). In addition to archaeological and numismatic collections, the Institute of History also preserves a large number of human and animal bones collected in the course of archaeological excavations. Unfortunately this collection has not been systematized; it is therefore impossible to present data regarding the number of preserved bone finds.

The archaeological collection of the University of Tartu contains finds from all over Estonia and from different periods, with a total of 1455 main index numbers. The Estonian History Museum's archaeological collection, on the other hand, consists mainly of finds from northern and western Estonia. By the

<sup>4</sup> Since the archaeological collections (2513 main index numbers) of the Learned Estonian Society were returned to the Society in 2000, and it is not possible to alter the numeration, the actual size of the Institute of History's archaeological collection is 4218 main index numbers.

end of the year 2005, there were 1025 main index numbers (approximately 29,200 single items). The History Museum's numismatic collection contains approximately 10,000 coins that have been obtained from the archaeological context (hoard finds until the 17<sup>th</sup> century).

The largest archaeological collections of the local museums are situated at Tartu City Museum (far more than 100,000 single finds), at Viljandi Museum (517 main index numbers or 47,760 objects), Pärnu Museum (2609 main index numbers), Tallinn City Museum (approx. 20,000 items), Narva Museum (18,793 objects under 51 main index numbers) and Virumaa Museum (150 main index numbers with approx. 10,000 artefacts).

The archaeological collections of the above-mentioned museums have mainly been formed on the basis of finds collected in the course of excavations at the medieval towns and hillforts of Tartu, Viljandi, Pärnu, Rakvere and Narva. The archaeological collection of the Tallinn City Museum mainly contains archaeological finds originating from the city of Tallinn and its vicinity. Viljandi Museum preserves finds from the excavation of several ancient strongholds and graves located in Viljandi County. Pärnu Museum's archaeological collections comprise abundant Stone Age finds from the lower reaches of the Pärnu River. Similarly, a large share of the archaeological collections of the Narva Museum also contains excavation finds from Stone Age settlement sites on the lower reaches of the Narva River. Saaremaa Museum also has a considerable archaeological collection (4498 objects). Smaller archaeological collections are also owned by Järvamaa Museum (5042 objects), Läänemaa Museum (258 main index numbers), Valga Museum (3721 objects) and Võru Museum (4338 items under 43 main index numbers). Harjumaa Museum's archaeological collection of c. 800 objects contains the excavation finds of the small medieval fort of Keila. The collection of Tartu County Museum, 901 objects, mainly stray finds, is deposited at the *Kabinet* of Archaeology of the University of Tartu.

## Summary

Estonian archaeological collections have been established on a continuous basis. The losses caused by wars and occupations have luckily been insignificant. Nevertheless, the following has taken place in the course of time: institutional reorganizations, the division of collections or their movement from Tartu to Tallinn or from Tallinn to Tartu or from local museums to all-Estonian collections, mostly caused by a change in regime or system of government.

Since as early as the beginning of the 1920s, the largest archaeological collections in Estonia have been located at central research institutions dealing with archaeology – these being the University of Tartu and the Institute of History. Such a solution has provided researchers with favourable opportunities to use the collections; on the other hand, it has also caused insufficient exposition of archaeological collections. The amount of collection and research work done at the museums in the field of archaeology was small before the 1990s.

The total size of archaeological collections in Estonia is approximately 1.4 million inventory items. The most representative archaeological collection, containing c. 1 million inventory units, is located in Tallinn, at the Institute of History of the Tallinn University, which also accommodates the largest and most valuable numismatic collection in the country, which has more than 100,000 coins. Likewise, the *Kabinet* of Archaeology at the University of Tartu also possesses a collection of artefacts covering the entire area of Estonia and its past. The old and tradition-rich archaeological collection of the Estonian History Museum has mainly been collected from northern and western Estonia. The county and town museums also have smaller or larger archaeological collections, which generally

consist of the excavation and stray finds obtained from the vicinity of the museum.

The work on the collection of archaeological finds and the maintenance and organization of collections will never end. The status and financing of the archaeological collections kept at research institutions (Institute of History of Tallinn University and the University of Tartu) has been problematic throughout the entire independence period. There is hope for a solution to this problem, as in 2003, the Government of the Republic approved a national programme entitled *Humanitarian and natural-scientific collections*. The main objective of this programme, managed by the Ministry of Education and Research and devised for the period 2004–2008, is to guarantee the preservation, organization and development of the collections and to modernize the possibilities for access to them, in compliance with internationally acknowledged standards, in order to facilitate the utilization of the collections for both regional and global research and education, and also for post-school cultural and nature education work and in economic activities.

The information system regarding objects of cultural value (*Eesti Kultuuriväärtuste Infosüsteem*; KVIS), financed by the Ministry of Culture of Estonia, is also associated with the archaeological collections. The goal of the KVIS project, launched in 1997, was to provide a thorough overview of the collections in Estonian museums, with all interested parties having access to this through the Internet. The restructuring of the project (2004–2005) limited this information system to museum collections (MuIS).

Unfortunately, Estonia still lacks a proper permanent exhibition on archaeology. In the future, it will be necessary to set up such an exposition both in Tallinn University and in the planned new building of the Estonian National Museum in Tartu.



# The Formation of the Numismatic Collections of the Institute of History

MAURI KIUDSOO

## Introduction

The largest public numismatic collection of Estonia today is stored at the Institute of History. The main part of the collection of more than 100,000 coins consists of the former collections of the Learned Estonian Society (LES) and the Estonian Literary Society (ELS). Besides these, the hoards acquired by the History Museum of the ESSR during 1946–1961 are also stored at the Institute. Through the coin collection of the LES the coins collected by the Estonian National Museum (ENM) and the Estonian Museum of Tallinn (later the Art Museum of Estonia) are also included in the collection under discussion. Besides hoards and single coins, the collections of the LES and the ELS contain also dozens of former private collections, many of which can no longer be distinguished from the general bulk.

## The beginnings of the oldest collections

Interest in ancient coins and medallions was born in Italy in the 14<sup>th</sup> century. In the long run, the private collections of the sovereigns developed into national collections. For Estonian numismatics the Royal Coin Cabinet in Stockholm is extremely important, since it contains, besides a splendid collection of Baltic coins, also coins from our Viking Age hoards.

And naturally one should not overlook the world's largest numismatic collection (more than one million numismatic objects) of the Hermitage in St. Petersburg, where lots of particularly rare Livonian coins are stored (Leimus 1996a, 12 f). The latter are especially numerous in the former private collection of Jakob Reichel (1778–1856), who had close connections with several collectors in Estonia<sup>1</sup> (Pärn, F. 1995, 138). Ernst Julius Kieler (1880–1950) was an enthusiastic collector of Baltic coins in Denmark, but his unique collection was unfortunately sold and scattered in 1937. Fortunately the manuscript catalogue of his collection is preserved (Pärn, F. 1995, 143). A small part of Kieler's collection was also donated to the LES in September 1938, and today it is stored in the coin collection of the Institute of History (AI 5000/1265).

The collecting mania, started in western Europe in the 14<sup>th</sup>–15<sup>th</sup> centuries, reached the Baltic countries in the 17<sup>th</sup> century, when first collectors emerged here (Pelda-Ducmane 1988, 195). The most important private collector in Livonia was probably Friedrich Germann (1786–1856), a lawyer who worked in Riga. In 1848 he acquired also the famous collection of the Vegesack family<sup>2</sup>. Private collections became the foundation of most of the public collections in

<sup>1</sup> J. Reichel acquired, for example, also the collection of Carl Petersen (1775–1822), Secretary of the Library of the University of Tartu.

<sup>2</sup> Since 1792 the rich collections of the bailies of Riga Peter v. Schievelbein (1687–1771) and Georg Christoph Andreae (1708–1766) were also included in the Vegesack collection (Pärn, F. 1995, 134 f).



these parts – the so-called Himsel-museum in Riga (founded in 1773)<sup>3</sup> (Pelda-Ducmane 1988, 195), the Riga Society for Antiquities of the Baltic Provinces of Russia (Pärn, F. 1995, 137),<sup>4</sup> the LES and the ELS. In the collections of the Latvian History Museum, the Museum of the Navigation History, the Institute of History and the Estonian History Museum the collections of the mentioned societies are mostly preserved to this day (Leimus 1996a, 18).

Besides the societies already mentioned, in the second half of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century, learned societies were established in Narva, Kuressaare, Viljandi, Pärnu and Paide (Järv 1977, 43 ff; Pölsam 1997, 10; Tvauri, this volume, b). All these societies had public museums where among other objects numismatic finds were also collected. Most of the societies started to publish yearbooks, which contained records of sessions where information was often presented about the find context of the objects (including hoards and single coins) brought to the museum. Therefore, considering the losses which occurred in later times, they form an invaluable database for studying coin hoards found in Estonia.

In the Russian Empire of the late 19<sup>th</sup> century, the final decisions on the distribution of national antiquities were made by the Imperial Archaeological Commission (founded in 1859) the members of which were first and foremost concerned with the replenishment of the collections of Moscow and St. Petersburg. Therefore, unfortunately, several hoards important to us were scattered between the central museums of Russia. After the valuable coins were sorted out, the rest was returned to provincial museums or even sent to mints to be remelted. But these processes were unsystematic: for example in 1888 the LES acquired a part of the hoard of Lodejnoye Pole, which had no connection whatever with Estonia (Molvögin 1994a, 7; Leimus & Molvögin 2001, 2; Pelda-Ducmane 1988, 196).

<sup>3</sup> The collection of the doctor Nikolai Himsel (1729–1764) became the property of the town of Riga in 1773.

<sup>4</sup> Bequest of Johann Schweder (1790–1833).

## The Learned Estonian Society

The museum formed at the LES was, no doubt, the most important one among the museums storing numismatic objects. During the period 1843–1856 the collections of the society were committed to the custody of Christian Emil Sachssendahl, who was Secretary of the Society and, still more important, also a collector of coins himself. Apparently the latter was the reason why the coin collection increased in size remarkably during the first years of his tenure (Leimus & Molvögin 2001, 1). In 1850 the society acquired also the remarkable coin collection (more than 600 pieces) of Eduard Philipp Körber, which included, among others, also pennies from the Viking Age hoards of Lilli, Nõo, Rõngu, Võnnu and Võru (Molvögin 1994a, 6).<sup>5</sup> These coin hoards have been published in the book written by Professor Friedrich Kruse (1842) which, for the first time, attempts to record and publish the list of Estonian prehistoric hoards. Besides the information of the highschool teacher A. Hansen from Tartu, the manuscript by Körber (1822) has been used there as a source material (Molvögin 1994a, 5).

Kruse established another museum in Tartu in 1843 – the Central Museum of Fatherland Antiquities (Kruse 1844, 12). In 1871, an illustrated catalogue was published (Hartmann 1871), compiled by Hermann Eduard Hartmann, Conservator of the united museum collections. In that catalogue several medieval and post-medieval coin finds were also published.

While in earlier times the management of the coin collection was the task of the conservator of the collection of antiquities of the Society, a special post of a coin conservator was established in 1887 (Tender 1938, 46). During the incumbency of the first keeper of the coin collection Carl von Duhmberg, close

<sup>5</sup> Most likely the coins from these hoards are presently stored among the coins with unknown site of discovery. The fact that some years ago we managed to find out the precise location of some coins of Saaremaa from the collection of Körber supports this hypothesis.

connections were established with the coin cabinet in Berlin. A selection of German coins was sent for identification to Berlin, while Arabian coins were investigated mainly by the researchers from the Hermitage. After the resignation of Duhmberg, the coin collection of Tartu fell under the guardianship of several very incompetent persons. That resulted in the confusion of coins from several hoards returned from Berlin and St. Petersburg. This also happened to some other hoards during World War I (Molvõgin 1994a, 7 f).

In 1898 Eduard Frey started the profound reorganization of the coin collection of the Learned Estonian Society (Tender 1938, 46). By 1906 he had compiled the first systematic coin catalogue (Frey 1906). This catalogue was complemented some time later. For example, both of the hoards discovered in Mäksa in 1908 are included in it (Frey 1906, IX: L, 1–6 and IX: K). This manuscript catalogue was, until 1955, the only document, reflecting the contents of the collection.

The growth of the collection in that period is difficult to establish. For example, in 1870 the collection contained 4565 index numbers and in 1905 that figure was 8015. But since one index number often included several coins, the total number of coins was considerably larger. Donations formed the main source of the increase, while purchases were rarer. 1898 was the year of the largest growth: then the LES received a donation of 841 silver and 3169 copper and bronze coins from the liquidated Society of Estonian Literati. The main stress in collecting was placed on the completion of the series of coins of Old Livonia and Russia. Donations, however, included also various foreign coins – even a large quantity of Chinese ones (Tender 1938, 46).

World War I considerably paralysed the work of the Estonian museums. The functioning of German organizations, including the Baltic German societies, was prohibited (Rosenberg 1961, 14). In 1914–1918 the LES was dormant; the rooms of the Society were, under the orders from the administration of the University of Tartu, locked up and sealed;

they were opened only in the days of the German occupation. In the course of the Germans leaving and during the Bolshevik period many objects, mainly the more valuable coins, were embezzled from the collections of the LES (Tender 1938, 46). The acquisition of objects (including numismatic ones), naturally, also ceased. This is confirmed besides the *Sitzungsberichtes* (Sb. GEG) also by the *Accessionsbuch*, discovered in 2002 in the archives of the Institute of History, where the entries were discontinued. All in all, the LES collections survived relatively well in World War I.<sup>6</sup>

In the first decade of the independent Republic of Estonia the increase in size of the collection of the LES was rather small. More attention was paid to the numismatic collection since 1930, when Erik Tender (1902–1991) was elected the new conservator of the coin collection. Thanks to his energetic activities the former collection was renamed the Coin Cabinet (*Mündikabinet*) in 1933 (Molvõgin 1994a, 12). This was not just a name change. In Estonia there was no central institution dealing with numismatics, but the need for it was becoming more acute, particularly since the time when, in connection with the enforcement of the Heritage Conservation Act, more and more hoards found came into the possession of the state (Tender 1938, 47). Following the example of Sweden, the Coin Cabinet was proclaimed the central numismatic collection and the centre of numismatic research in Estonia on the basis of regulations validated by the general assembly in 1933 (ÕES Ar. 1933, 338). One of the results of this reorganization was the assignment of nearly 16,000 coins from the possession of the Ministry of Education to the Coin Cabinet (Tender 1938, 47).

<sup>6</sup> For instance, the fate of the numismatic collection in the Saaremaa Museum, third by size in Estonia (see Järv 1977; Püüa 1995), was considerably sadder. The numismatic collection there, as well as their archives, suffered badly during World War I. Many finds were dispersed by the soldiers lodged on the island, and many of them were transported to Germany. The catalogues of the collections are said to have been destroyed by Russian soldiers in 1917 (Pesti 1995, 98).

The information about them is contained in the files belonging to the coin collection of the LES, now stored in the numismatic archives of the Institute of History (ÕES märkmed). A contract was also concluded with the Estonian National Museum, about the latter transferring its numismatic collection (at least 24,500 coins and medals) to the Coin Cabinet (ERM Ar. 1935, 186).<sup>7</sup> The LES, in its turn, committed itself to lodge its objects of cultural history in the ENM and to arrange coin shows in the rooms of the museum (ÕES Ar. 1935, 334). A similar contract was also concluded between the ENM and the *Kabinet* of Archaeology. The archaeological collections of the LES were also transferred to the *Kabinet*. Besides the library and the collection of documents, seals, pictures, etc. associated with it, the LES retained possession of only the coin collection (Tender 1938, 47). The result of the dividing of the collections was that the constitution of many of the hoards was destroyed, i.e. jewellery was separated from the coins.

The rapid growth of the coin collection in the 1930s was due to the fact that every year some large hoards were discovered. It might be explained by the development of agricultural machinery and the extension of fields as well as by the enforcement of efficient laws concerning hoards. A new post of an inspector of heritage protection was established and Eerik Laid was assigned to the post (see Tvauri, this volume, c). Due to his energetic service many hoards reached local authorities who forwarded them to the Coin Cabinet (Molvõgin 1994a, 12). Laid as well as the Assistant of Heritage Protection Sulo Kaart frequently conducted follow-up surveys on the sites of discovery of coin hoards. In recent years we have been able to locate some of the reports of these survey trips (in the ENM and the Institute of History). Most likely more such reports will come to light in the archives of the department of collections of the ENM: Laid's latest job in Estonia was in ENM.

<sup>7</sup> Today, mainly medieval and post-medieval coin pendants are stored in the rich silver collections of the ENM.

During World War II, necessary precautions were taken to protect the coin collection of the LES. All hoards were packed away in a cache in a wall of the *Kabinet* of Archaeology. As a result of these precautions the coin collection of the LES, unlike other collections, survived without losses (Molvõgin 1994a, 15), at least physically. Regarding the preservation of the find contexts of the coins and hoards, however, the damage done was irrecoverable. In 1947 the LES was incorporated under the Academy of Sciences, and three years later it was dissolved completely. Although the last Chairman of the LES advised storing the coin collection together with archaeological finds in the Institute of History, the managing board of the Academy decided to hand it over to the History Museum of the ESSR (Molvõgin 1994a, 16). Thus, actually the two largest Estonian coin collections, those of the LES and the ELS, were united.

## The Estonian Literary Society

The predecessor of the Estonian History Museum was the Provincial Museum of the Estonian Literary Society, established in 1864 (Kuldna 2002, 9). At the time of the founding of the museum, the collection of the ELS already contained about 3000 coins and about 100 medals (Rosenberg 1961, 10). When the museum was opened for the visitors, the collections began to grow rapidly. Among the most valuable acquisitions of 1864 a selection of Baltic coins (530 items) obtained from Baron Rossillon from Vilnius has been mentioned (Kuldna 2002, 20). In 1875 the catalogue of the Provincial Museum was also published (Hansen 1875). Unfortunately the naturalistic collections and coins, as well as some of the banknotes, various orders and medals were omitted from this catalogue (Kuldna 2002, 20). The next possibility to have an inkling of the collections is the review of the operation of the ELS, compiled by Paul Eduard Jordan in 1892 (Jordan 1892). By that time about 6000 coins and medals had been

chronologically classified by countries. The numismatic collection was continually complemented with single coins, hoards and acquired collections. For example in 1893, the collection of Baltic medals – 174 items – of Conservator of the Hermitage Julius Iversen was received as a donation. As a result of all this, the numismatic collection of the Provincial Museum became one of the most accomplished ones in Estonia alongside the collection of the LES (Kuldna 2002, 25).

In 1894 the architect Axel von Howen was assigned to the post of the keeper of the numismatic collection of the museum. He intended to catalogue all coins contained in the Viking Age hoards of the museum. The preserved manuscript indicates that, although an amateur, his research was of high scientific value (Leimus & Molvõgin 2001, 4). Unfortunately he was not able to continue his work and in 1911 Artur Spreckelsen became his successor at the post. He started to compile a card catalogue (*Fundkatalog*) of the Viking Age hoards and single finds, which was continued until 1938. The entries there, however, are unsystematic and incomplete. For example, the recurrent numeration is missing and so are, in many cases, also the dates of discovery and acquisition. At the same time the compilation of another important catalogue (*Münzkatalog*) began. The latter contained a more or less detailed description and identification of every prehistoric coin stored in the collection. The catalogue, which included also the hoards already published, was being compiled until the mid-1930s. It was lost for a long time, but in 1992 it was rediscovered (Molvõgin 1994a, 10). Considering the plunder that took place during the war, this manuscript is of inestimable value.

After World War I, during the period of the independent Republic of Estonia, the Provincial Museum was supported by the German Cultural Directorate in Estonia (Molvõgin 1994a, 13). The few hoards acquired during that period were also donated mainly by the Baltic Germans. All Viking Age hoards collected during that period were pub-

lished by Adolf Friedenthal, the successor of A. Spreckelsen. Friedenthal retained the post of the keeper of the numismatic collection until the emigration of the Baltic Germans in 1939–1940, when the operation of the museum was discontinued (Leimus & Molvõgin 2001, 5).

After the occupation of Estonia in 1940, the whole system of museums was reorganized. In October 1940 the government issued the decree concerning the establishment of the State Museum of History and Revolution, on the basis of the collections of the former Provincial Museum (Leimus & Molvõgin 2001, 5); later it became the History Museum of the ESSR (under different official denominations). During the war the museum barely functioned. The greater part of the collections was hidden in the medieval artillery tower Kiek in de Kõk. But in September 1944 the greater part of the collection of the coins of the 10<sup>th</sup>–13<sup>th</sup> centuries (17 hoards with 2532 coins) disappeared from there. Most likely the coin collection was plundered by local inhabitants (Molvõgin 1994a, 15). This speculation is supported by the fact that in 1979 the State History Museum of the ESSR bought several coins from a goldsmith which, relying upon the inventory numbers preserved on some of the coins, came from the Paljassaare hoard. A large part of the Vaida hoard is at the present time stored in the Rumyantsev (Pushkin) Museum in Moscow, which purchased it in 1960s from a private collector. The preserved part of the coin collection was totally garbled. The disorder was further increased also by the museum worker A. Jasman (see Jasman 1949), who ‘took care’ of the coin collection after the war (Leimus & Molvõgin 2001, 5).

## The Estonian National Museum

In 1909 the ENM was established as an assembly. Its collections were based on these of the LES, Estonian Students Society and the Farmers’ Society of Tartu.

The committee summoned pledged the collectors to keep a diary and record the data concerning collected objects in a so-called collecting-book they had to carry with them (Leinbock 1934, 26). The energetic collecting of various antiquities, including coins, started immediately. In ten years time a total of 19,412 objects were collected in the course of numerous expeditions; 2/3 of them were collected during the three pre-war years (1911–1913). This point must be particularly emphasized, since the following war contributed to the perishing of antiquities in many ways (Leinbock 1934, 26). The objects collected during the expeditions are stored in the department of collections in the ENM. Besides the collecting-books of the ENM, similar ones from the Committee of Rescue of Antiquities are also stored there. This committee was founded in 1920 at the initiative of the management of the Society of the Estonian Museum of Tallinn. According to the agreement with the ENM, the Estonian Museum of Tallinn had to organize the collecting of antiquities in northern Estonia and the islands. In 1920 alone the committee acquired 632 coins (Järv 1977, 95). In 1925 the Estonian Museum of Tallinn was reformed into the Art Museum of Estonia and the ethnographic and other collections were lodged in the ENM in 1930 (Rosenberg 1961, 18).

Archaeological finds were at first entirely left to the care of the LES, but in the course of time archaeological material accumulated also in the ENM and so the respective collection was set up there in 1913. The curator of the archaeological as well as the numismatic collections was Gustav Matto (1886–1972). The growth of the numismatic collection was mainly due to donations, and by the end of 1915 it numbered about 9000 items. At the beginning coins were catalogued by Conservator of the LES E. Frey. But, relying upon the information published in 1934, the cataloguing of the coin collection of the ENM was almost stopped since 1915 owing to the shortage of staff (Leinbock 1934, 43). In the files stored in the numismatic archives of the Institute of History (ERM Mündikogu) the entries usually

include, besides the number of coins, the information concerning the find context, etc. However, if the latter can be associated with the existing coins, it is of an inestimable value, particularly because not all the collecting-books have survived.

## Splitting of the coin collections

When the two largest coin collections (those of the LES and the ELS) were united in 1947, Vilma Sõerd (1904–1989) became the new keeper. As a result of her hard work, a more or less complete catalogue of the coin collection of the former LES was completed by 1955 (see Sõerd 1955; Molvõgin 1994a, 16).

The steady development of the coin collections suffered the next blow at the beginning of 1960s. Due to the incompetence of functionaries, some hoards stored at local museums were scattered. For example, some of the coins from the Võlla hoard in the Pärnu Museum were assigned to the Valga Museum in order to increase its collections.<sup>8</sup> Likewise was the Viljandi Museum forced to hand over some of the coins from the Immaküla hoard to the freshly established Tartu City Museum (Molvõgin 1994a, 16). In these circumstances Harri Moora proposed to transfer the coin collection of the History Museum of the ESSR to the Institute of History, because the archaeological collections of the LES had already been deposited there. In 1960 the Presidium of the Academy of Sciences endorsed an extremely absurd resolution, as a result of which the coins from the numismatic collections of the LES and the ELS minted before 1710 were handed over to the Institute of History (Molvõgin 1994a, 17). Of the numismatic collection of the History Museum containing 124,000 items (Rosenberg 1961, 53) as many as 88,800 coins were transferred to the Institute of History (Molvõgin 1994a, 17). Besides the splitting of the two largest numismatic

<sup>8</sup> These coins perished later in a fire when the museum burned.

collections of Estonia, this action also split several former private collections. In 1961 Arkadi Molvõgin became Keeper of the newly founded collection. In 1997 Mauri Kiudsoo continued his work. In the History Museum Ivar Leimus has been Keeper of the Numismatic Collection since 1976.

### **Tips for orientation in the numismatic collection of the Institute of History**

Until the completion of the digital database, which is considerably hindered by the 'restoration work' of the find context, the four volumes of the catalogue by V. Sõerd (Sõerd 1955) still form the main database for the researcher. The main disadvantage of the so-called Sõerd's catalogue is the frequent absence of the find context; hundreds of coins are placed under the same index number, with some of the coins not identified, etc. Since the find context in the catalogue is mostly given only for larger hoards, other sources must be exploited to investigate the collection of the LES. In many cases a number is preserved either on the wrapping or the reverse side of a coin. If the coin belongs to the original collection of the LES and was not deposited later, it could be looked up either in *Accessionsbuch*, *Sitzungsberichte* (Sb. GEG), in the catalogues of Hartmann (1871), of Frey (1906), etc. The counterparts to the numeration of the collecting-books of the LES or the Committee for the Rescue of Antiquities (e.g. ERM k/r 7 15 or MPT k/r 8: 42) can be found in the department of the collections of the ENM. There we should certainly use, besides the collecting-books, also the catalogues and the file of archaeological finds also stored there: these manu-

script sources do not duplicate each other. If the collecting-book is not preserved, or only a successive number of the coin collection of the LES (e.g. 1814 ERM) is written on the wrapping of the coin stored in the Institute of History, we may find information in the files of the Coin Collection of the ENM (ERM Mündikogu) stored in the numismatic archives of the Institute of History. Information concerning the coins assigned by the Ministry of Education to the LES in 1930s (e.g. ÕES 56) is recorded in special books (ÕES märkmed). If a certain coin belongs to some hoard, the possibility must be considered that jewellery and/or the receptacle used for hiding the hoard may also be stored in the archaeological collections of ENM or the Institute of History: many hoards were dissociated between different collections at the very beginning.

### **Summary**

It is evident that the formation of the numismatic collection of the Institute of History is connected with various institutions. Owing to that, and the losses the collections suffered during the war, but mainly to the previous joining and separating procedures, the use of this specific collection is extremely complicated. At least medieval and post-medieval coins are from mass production. Without a find context, they do not possess particular value from the viewpoint of cultural history. Quite many of the single coins, as well as the hoards in the collection of the Institute of History have 'lost' the information of their origin and conditions of discovery. To ascertain these, researchers must rummage in archival materials of different societies, organizations and museums.



# The Conservation of Archaeological Heritage in Estonia

ANDRES TVAURI

## **Introduction: The beginning of the registering of archaeological monuments and the first attempts at their protection (up to 1920)**

The first known event associated with the protection of antiquities in the Baltic countries falls in the time when the territory of Estonia was part of the Kingdom of Sweden. In 1666, the Council of Regency of King Carl XI issued in Sweden the world's first heritage conservation act. This primarily demanded the protection of monuments connected with kings and rulers. As a consequence of this act, monuments were registered in Sweden and Finland, although there are no corresponding data regarding its implementation in Estonia.

As a result of the Great Northern War (1700–1721), Estonia and Livonia (present-day northern Latvia) became part of the Russian Empire. However, the Baltic German nobility, which had governed in these areas since the 13<sup>th</sup> century crusades, and the towns' citizens obtained extensive autonomy from the central Russian authority. Cultural impacts continued to arrive from the West, i.e. through Germany. The Enlightenment ideology of the second half of the 18<sup>th</sup> century gave an impetus to the diversification of cultural life – educated people took interest in their home area's nature, folk customs and recollections of the past. The earliest interest in immovable antiquities was revealed by the way these issues were reflected in writing. Descriptions of prehis-

toric sites made by several intellectuals in two series, *Topographische Nachrichten* (1774–1819) and *Nordische* (and *Neue Nordische*) *Miscellaneen* (1781–1798), edited by August Wilhelm Hupel, a clergyman from Pöltsamaa, are worthy of mention. First and foremost, the ancient Estonian hillforts with circular ramparts attracted attention and admiration. For instance, the above-mentioned series, *Topographische Nachrichten*, published several descriptions of Varbola hillfort, the largest in Estonia (Andreae 1785; Mellin 1788). Likewise, graves were also archaeologically excavated, although in their case, more interest was focused on the objects found (e.g. Hupel 1781). Similarly, the maps of the atlas of Livonia, completed by cartographer Ludwig August Mellin in 1798, depict the ancient strongholds that were known at the time (e.g. Lihulinn of Kärla in Saaremaa, Muhu and Varbola hillforts).

Baltic German learned societies had an essential role to play in the study of archaeological monuments. The Riga Society for Antiquities (*Gesellschaft für Geschichte und Altertumskunde der Ostseeprovinzen Russlands in Riga*), founded in 1834, which served as a role-model for other societies in the Baltic countries, published, among other things, the first guidelines for carrying out archaeological excavations in ancient graves in 1840 (Brackel 1840). The Society's abundant publications, which began to appear as of 1840, contain plenty of information regarding the ancient objects, skeletons, etc., found in the course of construction work. This, however, only involved the study of antiquities. Awareness



regarding the need to protect monuments only became more widespread during the last decades of the 19<sup>th</sup> century.<sup>1</sup>

The societal function of Baltic German research societies was the preservation and enforcement of the Baltic German identity; this activity obtained particular significance as of the 1880s–1890s, in conjunction with the Russification of the East Baltic provinces (Põltsam 1997, 11). Therefore, their activities mainly focused on the conservation of medieval buildings and art-related monuments. In 1896, a Department for the Preservation of the Antiquities of the Homeland was created at the Estonian Literary Society – this was the first organization for practical heritage conservation in Estonia. The activities of this department were relatively active, although the focus was instead on the conservation of architectural and art-related monuments (Kuldna 2002, 27). Likewise, the Learned Estonian Society (LES) also managed to have some impact in the field of heritage conservation – their intervention in 1904 halted the demolition of the remnants of the Tartu town wall; in 1907, the Society was involved with issues regarding the preservation of the ruins of Tartu Cathedral (Tuulse 1938, 42). The Pärnu Society for Antiquities was involved in the localization of medieval objects in the course of sewerage works (Põltsam 1997, 15). The antiquities of the earlier periods, and those generally associated with the indigenous peoples, were only afforded attention by the members of the LES.

The star event of Estonian heritage protection in the 19<sup>th</sup> century was the campaign for the registration of Estonian antiquities in the 1880s, launched by Jaan Jung. He primarily collected messages on archaeological monuments, by way of a network of correspondents that covered most of Estonia. As a result of this work, descriptions of antiquities from several counties were published (Jung 1898; 1910).

<sup>1</sup> The restoration of St. Olaf's Church in Tallinn in its original shape, which took place from 1828 to 1839, following the 1820 fire, could be highlighted as the only conscious heritage conservation-related act during the first half of the 19<sup>th</sup> century.

The incentive for Jung to register antiquities originated from Finland. In the 1880s, he met Finnish archaeologists Johan Reinhold Aspelin and Hjalmar Appelgren. Jakob Hurt's campaign for the collection of folklore was probably the second factor. By 1896, a total of 428 messages had been received with regard to Estonian antiquities.

A considerable state-supervised heritage conservation system was never established in the Russian Empire prior to its fall in 1917. The centre of the investigation of archaeology and the only national institution for heritage conservation in Russia was the Imperial Archaeological Commission (*Императорская Археологическая Коммиссия*), which operated in St. Petersburg since 1859, organizing the placement of finds in central museums (e.g. the Hermitage in St. Petersburg). The first initiative for the enactment of a heritage conservation act was made by the Moscow Society for Archaeology in 1869, during the first Russia-wide archaeological conference. It was as late as 1889 that Emperor Alexander III issued an order pursuant to which it was necessary to obtain a permit from the Imperial Archaeological Commission in order to perform excavations on monuments. However, the permit was necessary only in the case of excavations of ancient remains carried out on lands owned by the state, the Orthodox Church and communities (Lapshin 2002, 79 ff). As the relevance of such landed properties in the East Baltic provinces was small, the impact of the 1889 regulation was actually insignificant. Thus antiquities located on private land were still unprotected from the discretion of their owners. In 1898, the Imperial Archaeological Commission launched the drafting of the new heritage conservation act.<sup>2</sup> Again, the process proceeded in an extremely toilsome manner, reaching the *Duma* (the Russian parliament) for approval in as late as 1913; due to World War I, which began the following year, the law was not passed (Lapshin 2002, 83 ff).

<sup>2</sup> Regarding the draft act, see Pirang 1932.

The Baltic provinces of Russia enjoyed autonomy from Russia's central government, the so-called Baltic special order. This may have actually enabled the organization of official heritage conservation locally. Nevertheless, it was only at the beginning of the 20<sup>th</sup> century that the awareness regarding the need for a heritage conservation organization began to grow, and yet it was immediately prior to World War I that the research societies of the East Baltic provinces, headed by the Riga Society for Antiquities, set the goal of creating a position of provincial archaeologist (*Landesarchäologe*) for the Baltic provinces of Russia (Feuereisen 1914). Preparations had gone relatively far; a decision had even been made to invite one of the best experts in eastern Baltic archaeology, Max Ebert from Berlin, to take this position. For this purpose, Ebert did indeed arrive in Riga in 1913 (Feuereisen 1930, 61). Because of the start of World War I, however, this plan was never accomplished.

The 19<sup>th</sup> century was the time when archaeology and history were emerging and taking shape as scientific disciplines. The need for the protection of monuments was beginning to be understood, but practical steps for the protection of monuments were only taken in exceptional cases and mainly at times when medieval architectural monuments were in danger. Thus heritage conservation remained solely at the level of private initiatives organized by research societies.

A number of archaeological monuments, mainly stone graves, perished during the 19<sup>th</sup> century. During the century, Estonian peasants achieved individual freedom, and the purchasing of land from the lords of the manors commenced. All of this brought about more intense land utilization and construction activities, the clearing of fields for tillage, land improvement and other activities that endangered the archaeological sites. Likewise, ancient strongholds were destroyed: for instance, the rampart of Muhu hillfort was significantly damaged during the period 1894–1895, during the con-

struction of the dam of Väike Väin Strait, which connects the islands of Muhu and Saaremaa.

## Heritage conservation in the Republic of Estonia 1920–1940

### Heritage conservation during the years 1920–1936

In 1921, Professor Aarne Michaël Tallgren compiled a plan of the second registration of Estonian antiquities according to which the entire country had to be covered by archaeological description at the level of the parish<sup>3</sup> (see Lang, this volume, a). The registration of archaeological monuments and the on-site inspection of their condition immediately raised an issue regarding the need to also start protecting already preserved monuments. The first proposal for drafting a heritage conservation act was made by Tallgren to the Ministry of Education and Social Affairs in 1921, bearing in mind the relevant legislation currently valid in Finland and Scandinavia (Schmiedehelm 1935, 2). However, it was not before 1925 when the Estonian parliament adopted the Heritage Conservation Act (Riigi Teataja 1925, nos. 111/112), which was very ground-breaking under the circumstances then existing in Estonia. The passing of the law was preceded by heated discussions in parliamentary commissions, with the main topic of dispute being the limitations on the use of private property stipulated by the Act (Laid 1936a, 164).

Pursuant to the 1925 Heritage Conservation Act, the protected immovable monuments comprised, among other items, the following:

- (1) prehistoric settlements, old graves and burial grounds, strongholds, hillforts and tower hills,

<sup>3</sup> In 1921, Estonia was divided into 109 parishes, in addition to which there was the area beyond Narva and also four rural municipalities in Setumaa.

- sacrificial stones, script-covered immovable stones and rocks;
- (2) legendary and historic memorial sites, such as the *Kalevisängid* ('Beds of Kalev'), battlefields, sites for punishment;
  - (3) ruins of former fortresses, castles, convents and monasteries, churches and chapels;
  - (4) natural monuments, such as sacrificial sites, grove trees and holy springs;
  - (5) all other man-made or natural objects that preserve national or scientific memories of the past.

Regarding the conservation of archaeological monuments, the principle to protect all immovable monuments was applied in Estonia for the first time; excavation was allowed only for scientific purposes, under the supervision of an expert, with the requirement that each time a permit had to be requested from the Ministry of Education and Social Affairs.

Regarding stray finds, it was stipulated that all found objects that were so old that their owners remain unknown belonged to the state. If finders of ancient items requested, the state had to pay them a reward within the amount of the ancient value of the find; in addition, the government also had to pay for the damages that may be caused to a landowner as a result of archaeological excavations in an immovable monument or to an entrepreneur who, in the interests of heritage conservation, must halt construction work. The law stipulated that protected monuments be entered in the register of antiquities kept by the Ministry of Education. A number of restrictive conservation measures were applied with regard to movable and immovable monuments in private ownership: the prohibition of export; the state's right of pre-emption in the case of the sale of an antiquity; restrictions regarding the division of an estate; if necessary, acquisition of the antiquity by the state through expropriation; prohibition against the alteration of the appearance of antiquities, supervision of repair work; suspension and prohibition of excavation and construction work. The 1925 Heritage Conservation Act

also made provisions for convening a Council of Antiquities at the Ministry of Education and Social Affairs as an advisory panel. The council aimed at making proposals for taking ancient remains under protection or releasing them from protection, issuing permits for excavations, determining the size of rewards for finds, etc. The decisions by the Council of Antiquities entered into force following approval by the Minister of Education and Social Affairs.

In the course of the implementation of the 1925 Act, it soon turned out to be inadequate, particularly in respect to the protection of registered immovable antiquities. The general wording of the law as it related to the prohibition of altering an antiquity had to be amended to make it more precise with regard to the separate groups of immovable monuments, as these types of antiquities required different treatment. Thus a new compulsory regulation on the treatment of protective measures for registered sites was issued in as early as 1926 (Riigi Teataja, 1926, no. 47). This regulation was more precise than the Act in regulating what kinds of activities could be carried out on a monument.

The maintenance and supervision of abundant immovable monuments scattered all over the country, the checking of find reports and the registration of antiquities, archaeological rescue excavations, etc., required a labour force that had not been envisaged by the Heritage Conservation Act. The Ministry lacked employees whose qualifications would have enabled them to solve this task (Laid 1936a, 165 f). In as early as 1928, the Faculty of Philosophy of the University of Tartu, by way of the University Government, made a proposal to the Ministry of Education and Social Affairs to supplement the current heritage conservation organization by creating relevant positions, above all the post of heritage protection inspector. However, this initiative remained unaccomplished at the time. The one and only body dealing with the protection of monuments was the Council of Antiquities operating at the Ministry of Education and Social Affairs. The membership of the Council did not change dur-

ing the entire duration of the observed period. The Council was headed by Gottlieb Ney (1881–1973), who was also the head of the Ministry's Department of Research and Art. The members included Harri Moora, Sten Karling (1906–1987) and Hans Kruus (1891–1976), the University's professors of archaeology, art and history respectively, and Ferdinand Leinbock (Estonianized name Linnus; 1895–1942), Director of the Estonian National Museum. Within the period 1925–1935, the Council of Antiquities convened 44 times, i.e. a minimum of four times a year (Schmiedehelm 1935, 3).

The second significant drawback of the Heritage Conservation Act of 1925, was the fact that the restrictions stipulated therein were only applicable to monuments that were taken under official protection. Therefore, only some of the antiquities in private ownership could actually be taken under protection; a number of owners were not at all interested in reporting monuments. Thus the actual effect of the Act was insufficient.

Despite the shortcomings apparent in the law, the Act for the first time provided a legal basis for heritage protection work, the primary outcome of which was that all currently known archaeological monuments were taken under national protection. The preparatory work carried out since 1921 made it possible to submit a proposal to the first meeting of the Council of Antiquities to take under state protection 1102 archaeological monuments (Schmiedehelm 1935, 4). As of April 13, 1931, a total of 1163 immovable monuments were under protection (Laid 1931b). On June 1, 1935, the number of protected archaeological monuments was 1290 (see below, Fig. 74), among them 814 graves or burial sites, 102 ancient strongholds, 178 sacrificial stones, 55 sacrificial springs and 27 holy grove trees. The number of protected settlement sites was only 8 (Schmiedehelm 1935, 4).

By April 1, 1936, when the Heritage Conservation Act had been in effect for nearly 11 years, there were 1327 protected pre-historic immovable monuments in Estonia, 380 historic immovable monuments and

841 movable monuments or corresponding collections (Laid 1936a, 165). Thus, over those 11 years, the number of protected archaeological monuments had increased by 225 objects. This figure is not sizeable, however, and it is necessary to bear in mind that at the time, archaeologists did not specifically search for monuments – almost all of the increase occurred on account of accidentally found sites. At the same time, not all of the reputed archaeological sites were taken under protection. Considering the restrictions stipulated in the Heritage Conservation Act with regard to the use of private property, only these monuments were taken under protection 'which were preserved so well that their scientific archaeological excavation would be worthwhile' (Schmiedehelm 1935, 5).

At the time, the organization of archaeological excavations was primarily the task of the *Kabinet* of Archaeology of the University of Tartu. This was also a central research institution that did not need to apply for a separate permit for the organization of archaeological excavations. However, local government-owned or private museums were required to apply for an excavation permit from the Ministry of Education and Social Affairs. A permit was issued if the Council of Antiquities agreed to do so and the *Kabinet* did not want to carry out archaeological excavations at that particular monument. After the end of excavations, the institution that had organized the archaeological excavations had to submit a report with the enclosed list of finds and pictures of finds. The finds had to be sent to the *Kabinet*, which made an inventory thereof and then decided whether they should be preserved at the University or could be deposited in a pertinent museum.

The Ministry of Education and Social Affairs also carried out explanatory work in the field of heritage conservation, although to a relatively small extent. In 1929, the Ministry issued a popular booklet about the keeping of ancient monuments, which was sent to all schools and major enterprises performing earth work (see Schmiedehelm 1935, 9). In 1931, brief overviews were published in German and French with the aim



Fig. 72. Eerik Laid (photo: AI).

of promoting Estonian national heritage protection on the international arena (Ney 1931a-b). Likewise, the archaeologists of the University of Tartu were also active in heritage conservation-related explanatory and popular education work; for instance, both Harri Moora and Eerik Laid (Fig. 72) offered in-service training courses in archaeology to schoolteachers. In the same way, knowledge of the Heritage Conservation Act and relevant regulations was compulsory for all those at the University who took a preliminary examination in archaeology, and hence for all history students, the majority of whom later began work as teachers of history (Schmiedehelm 1935, 9). Thus, actual work regarding the protection of archaeological monuments during these years was indeed carried out at the *Kabinet* of Archaeology of the University of Tartu, which organized rescue exca-

vations, the registration of immovable monuments and stray finds and even the promotion of heritage conservation. All of this was done in the interests of research, through the personal initiative of the archaeologists.

An important overview of the condition of archaeological monuments is provided by the inventories carried out in 1927 in some of the rural municipalities of Setumaa that bordered with Russia, and in 1928, in the easternmost parishes of Muhu and Saaremaa islands, in the course of which the situation of all protected immovable monuments was inspected. In Setumaa, it turned out that, out of 16 registered immovable monuments, only 8 had been preserved intact, whereas the rest had been damaged to a greater or lesser extent. With regard to the former, police investigations were begun, but these did not lead to the punishment of the accused, as it turned out that the monuments had been destroyed during the period 1922–1925, i.e. prior to the entry into effect of the Heritage Conservation Act. However, all of the owners of immovable monuments in Petseri (Pechory) County were sent a warning letter. The situation was much better on the islands of western Estonia: among the 40 ancient remains that were checked, there were only eight monuments that bore traces of damage, and these were mostly smaller ones (Schmiedehelm 1935, 7).

Illegal excavation of monuments undertaken by various treasure-hunters was generally a serious problem at the time. In certain years, there were persons wandering about Estonia, mostly originating from the town of Narva, who actually tried to make their livelihood through gold-digging (Schmiedehelm 1935, 9).

### Heritage conservation during the years 1936–1940

Updating of the existing organization of heritage conservation became a more important issue in 1934 and 1935 in connection with the ‘rearrangement and enlivenment of our national life’ (Laid

1936a, 166). Behind this expression lies the authoritarian regime introduced in the Republic of Estonia by Konstantin Päts in 1934, which ushered in the so-called Silent Era, during which a state of emergency was announced in the country, the *Riigikogu* was dissolved and the press was muzzled.

This time, the legislative initiative for the preparation of a new heritage conservation act originated from the Ministry of Education. In addition to heritage protection, the coordination and organization of the work of museums also became a topical issue. On August 12, 1936, the amended Heritage Conservation Act was issued by decree of the Head of State (Riigi Teataja, 1936, no. 67). The Act must be observed in the context of the Archives Act and Nature Conservation Act adopted in 1935. The entire body of legislation concerning cultural and natural heritage was updated during these years. According to E. Laid's estimate, Estonia had reached the forefront in the world in legislation in this area (Laid 1936a, 168).

The new law was more thorough and appropriate than the earlier one, although it remained essentially the same. Under the new Act, heritage conservation was organized by the Department of Science and Art of the Ministry of Education and by a heritage conservation inspector, county-level heritage caretakers and heritage monitors or trust persons, all functioning under the authority of the department. Both of the latter-mentioned occupations were unpaid honorary duties. The last three positions were new in comparison with the earlier Act. The law stipulated an advisory body, the Council of Heritage Conservation (earlier called the Council of Antiquities), consisting of experts, whose task remained the same as under the previous law. The post of heritage conservation inspector was included in the staff of the Department of Science and Art of the Ministry of Education. The inspector's task was to actually organize and manage heritage protection, compile relevant plans and reports and, together with county-level heritage caretakers and heritage monitors, perform direct on-site supervision.

The law also stipulated that all stray finds that had been found, or would be found after June 19, 1925, and are so old that their owner is unknown should go to the ownership of the state. Provided the excavations were undertaken as the direct task of a certain museum, the provisions allowed the placement of the corresponding finds in the museum in question. By request of the finder, the state had to pay the finder a reward within the full ancient value of the find as determined by the Ministry of Education on the basis of a proposal by the Council of Heritage Conservation. A reward was not to be paid if the excavations were carried out at the state's expense. If an immovable monument was revealed during construction, farming or excavation work, the performer of the work had to immediately halt operations and announce the find to the Department of Science and Art of the Ministry of Education, which would then send an expert to the site. The prohibition regarding the explicit destruction, damaging and alteration of the appearance of monuments unfortunately concerned only immovable monuments. It was indeed prohibited to perform various types of work on protected monuments (e.g. tillage, digging, erecting a building, felling a grove of trees) that would damage them, although no sanctions were envisaged for the violation of these provisions. A permit for archaeological excavations had to be issued by the Minister of Education pursuant to a proposal by the Heritage Conservation Council; likewise, the report on the excavations had to be submitted to the Council.

As the whole state's heritage conservation was organized by only one official, the heritage conservation inspector, a lot depended on him or her. The person appointed to this position was the best person available at the time. In 1936, the person designated to be inspector was Laid, who had obtained an MA degree in both archaeology (1927) and ethnography (1932) from the University of Tartu. Laid eagerly commenced work in his new position. It is informative and relevant, in the interests of understanding the spirit of the time, to read his statements on heritage conservation that were published in the

press. Laid's reasoning for the protection of material cultural heritage was its inestimable scientific value (Laid 1938, 16). Laid repeatedly underlined the ideological relevance of heritage conservation in promoting national ethnic identity: '[...] heritage conservation has no direct value in itself, but it stands as a special system in the service of our country's cultural and societal interests' (Laid 1936b, 201). He wrote that through historic monuments, we learn to know 'that our ancestors have been the settlers and masters of this land from at least the beginning of our era. We have a primordial right to this land. [...] By learning the inventories of the graves of our forefathers, we can see how the culture of Estonians has been specific and independent, since ancient times. [...] For millennia, the Narva River and Lake Peipsi on one side and the Baltic Sea on the other have been the boundaries of an independent and viable cultural entity' (Laid 1938, 17). 'We understand that Estonia's current cultural, economic and also political independence is not an accidental phenomenon created only by extraordinary situations, but a natural situation that arose as a result of the millennia-long organizational and creative work of the Estonian nation, favoured by the country's geopolitical position' (Laid 1938, 19).

In the 1930s, some prominent figures in Estonian public life were of the opinion that the preservation of historic castles, manor buildings, ruins of convents, monasteries, chapels and other buildings constructed 'by strangers during the time of the conquest of our land', would not be necessary. Laid opposed such a chauvinistic view of heritage conservation, reasoning that 'this 'material' is primarily of scientific and artistic value, to be used by our own national scientific research as well as science in general' (Laid 1938, 22).

The implementation of national heritage conservation, under circumstances in which the entire state had only one paid official for this purpose, was not possible without the inclusion of popular initiative. In taking this position, Laid conceded that national heritage conservation could not effectively fulfil its

task without a conscious contribution by the citizenry. Laid was of the opinion that the realization of heritage conservation was largely dependent on the mutual trust between the state and its citizens (Laid 1936b, 201).

### Summary of the years 1925–1940

Prior to 1925, Estonia lacked any kind of national heritage conservation. The Heritage Conservation Acts of 1925 and 1936 were far from perfect. They had almost no function whatsoever with regard to the protection of architectural monuments – for instance, during these years, several well-preserved medieval buildings were demolished in the Old Town of Tallinn. At the same time, the protection of archaeological monuments functioned quite well in the 1920s and 1930s.

In observing the contemporary practice of heritage conservation, one could say that heritage conservation in Estonia focused on archaeological monuments, more precisely on monuments from prehistoric times. One of the reasons for this was that in Estonia, archaeology had slightly longer traditions than the history of art and architecture. The second reason was embedded in the ideology that was predominant in the young ethnic state, in accordance with which 'the period of ancient independence' was considered to be valuable, in contrast to the medieval era. The main aim of registering, collecting and preserving antiquities was to favour the study of Estonian history and culture (see Laid 1936b, 201).

In addition to giving preference to prehistoric monuments, the main problems in heritage conservation were connected with the insufficient financial and human resources for the execution of practical protection work. E. Laid himself admitted that the heritage conservation inspector had to be the manager, supervisor, administrator and also office clerk of his profession, all in one person. His area of activity involved four fields of science – archaeology, art history, history and ethnography. It was obvious that

one person could not have been equally competent in all of these four fields (Laid 1936a, 168).

## **New system of government and new ownership relations**

### **The Institute of History as the organizer of the protection of archaeological monuments, 1946–1949**

The Soviet and German occupations and the battles that took place on Estonian territory during the period 1940–1944 had had a devastating effect on the current organization of heritage conservation – a number of monuments had perished or were destroyed. First and foremost, the Republic of Estonia, with its elaborate legislation and institutions, had ceased to exist. Similarly, a considerable amount of the population had been killed, deported or had left the country. E. Laid had also left Estonia. The only archaeology-related institution left from the period prior to the occupations, which continued operating with essentially the same staff and field of work was the *Kabinet* of Archaeology of the University of Tartu, headed by H. Moora.

Following the occupation of the Republic of Estonia and the re-introduction of the Soviet regime in 1944, the land was nationalized and a large proportion of the owners of more sizeable farms were either murdered or deported to Siberia with their families. During the 1940s and 1950s, collectivization was carried out in agriculture. As a result of this, the existing farms were replaced by socialist farm enterprises, and thus the majority of the monuments also remained on the land of state and collective farms. This cardinally changed the existing foundations for heritage conservation.

After considerable institutional rearrangements, following the re-occupation of Estonia, the Department of Archaeology of the Institute

of History<sup>4</sup> of the Academy of Sciences of the Estonian SSR became the first heritage protection structure (see Lõugas 1991a, 10 ff). In connection with the establishment of the new system of government and the fact that the existing laws had been replaced with those valid in the Soviet Union, heritage conservation occurred in a legal vacuum, as there was no heritage conservation legislation in the USSR. The drafting of regulations concerning the protection of antiquities was completed in the Department of Archaeology of the Institute of History by the beginning of 1948. However, the regulation was not adopted, as in the autumn of 1948, the government of the USSR passed a regulation on measures for the enhancement of protection of cultural monuments, thus providing for the organization of heritage conservation. The tasks regarding this protection were imposed on the governments of the Soviet republics and on local executive committees of the Soviets of Workers' Deputies. From then on, research institutions did not have to be involved in the organization of heritage conservation. In 1949, this version of the union-wide regulation, adapted to local circumstances, was also implemented on Estonian territory together with the annexed statutes for the protection of cultural monuments (Eesti NSV Teataja, 1949, nos. 7, 43, 114). Pursuant to this instrument, the Committee of Cultural-Educational Institutions was the body that performed supervision. Still, it was the Institute of History that had to decide whether to take a monument under protection and also to issue excavation permits.

In addition to the elaboration of the draft regulation regarding the protection of antiquities, the more significant heritage conservation tasks of the post-war period comprised the compilation of a new list of monuments, the identification and excavation of the endangered monuments and the restoration of the network of heritage conservation monitors. The research and heritage conservation work of

<sup>4</sup> The Institute of History was established in 1947.



these years mainly relied on the database collected during the pre-war years. Nevertheless, the publication of the first list of antiquities in the republic as a whole only took place in the autumn of 1952, when the Council of Ministers of the ESSR adopted the regulation on the approval of the archaeological and historical monuments of the Estonian SSR.

The systematic determination of new monuments was not very constructive during these years. The Department of Archaeology of the Institute of History lacked the appropriate personnel and transport. Nevertheless, they responded to all requests (Lõugas 1991a, 12 f). As severe battles had taken place in north-eastern Estonia and new industrial enterprises and mines were being constructed in the vicinity, the archaeological monuments of Viru County were in direct danger. The first post-war archaeological investigation in this region was carried out in the years 1946–1948 in the oil-shale basin, where several graves that were in emergency condition underwent archaeological excavations (Lõugas 1991a, 13).

The restoration of the previous network of heritage conservation monitors commenced as of 1946. Although a number of earlier monitors or trust persons had either left the country, moved elsewhere, perished or been arrested by the Soviet Union's organs of repression, the total number of monitors reached 360 people at the end of 1949 (Maamägi & Vassar 1950, 36). Due to the fact that at the end of 1940s the organization of heritage conservation was transferred from the Institute of History to Soviet authorities, who were not interested in the existence of such a system of public initiative, the network of monitors did not actually begin to function. This activity was also precluded due to the 1949 deportation and the intensification of repression against the civil population, particularly the intelligentsia, following the 8<sup>th</sup> plenary meeting of the Estonian Communist (Bolshevik) Party in March 1950, acted out according to a scenario contrived in Moscow. It was not before the death of Dictator Jossif Stalin in 1953 that some relief came.

Opportunities for promoting heritage conservation during Stalin's years of power were extremely limited, although something was achieved. For instance, in 1948, the Institute of History published a brochure, edited by H. Moora, on the protection of antiquities (Muinasvarade kaitseks, 1948). Where possible, archaeological excavations were covered in newspapers, and Moora and Marta Schmiedehelm also took part in radio broadcasts (Lõugas 1991a, 15).

### **The Ministry of Culture as the organizer of the protection of archaeological monuments, 1949–1993**

Pursuant to the 1949 regulation, two parallel organizations shared responsibility for heritage protection in the Estonian SSR. The Inspectorate for the Protection of Architectural Monuments of the Republic dealt with architectural monuments. Archaeological, historic and artistic monuments, on the other hand, fell within the domain of the Committee of Cultural-Educational Institutions (later: Ministry of Culture of the Estonian SSR). The annex of the 1949 regulation stipulated the organization of practical heritage conservation (Eesti NSV Teataja, 1949, nos. 7, 43, 116). In comparison with the earlier legislation dating from the times of the Republic of Estonia, there was a novel provision stating that monuments of great significance also had to be entered in the list of monuments of union-wide relevance. Regarding archaeological monuments, this also meant that in order to carry out excavations on a monument that had been taken under the protection of the republic, the relevant permit was issued by the Institute of History of the Academy of Sciences, but, in the case of monuments of union-wide significance, it was necessary to apply for a permit from the Academy of Sciences of the Soviet Union. After Moscow demanded a list of monuments of union-wide importance, the issue was discussed at the beginning of 1950, and Moora

made a diplomatic decision – to include in this list the strongholds that had been mentioned in the Russian chronicles: Tartu, Varbola, Otepää, Keava and Muhu since, at the time, the attribute ‘union-wide significance’ actually meant importance from the viewpoint of Russian history. This list of monuments of union-wide relevance remained unaltered in Estonia for a couple of decades (Lõugas 1991a, 12).

In 1956, Regulation of the Council of Ministers of the Estonian SSR was adopted, laying down the rules for the registration, protection and strengthened verification of the conservation of the cultural monuments under national protection located on the territory of the Estonian SSR (Eesti NSV Teataja, 1956, nos. 16, 171). This instrument necessitated the conclusion of protection agreements and protection obligations between the state and administrators of monuments, and the organization of the network of heritage protection monitors. In addition, the regulation stipulated that cultural monuments be included in the land readjustment and forest utilization plans of state and collective farms<sup>5</sup> – this requirement was also present in the later heritage conservation regulations of the Soviet period. The 1956 Regulation also contained accompanying statutes for the protection of cultural monuments, which did not differ from the earlier regulation in the area of archaeological monuments.

In 1961, the Estonian SSR Act on the Conservation of Cultural Monuments (Eesti NSV Teataja, 1961, nos. 23, 80) entered into effect. This was the first legal act of its type in the entire USSR. Pursuant to the Act, the demolition and alteration of cultural monuments or other such activities were only allowed with the permission of the heritage conservation authorities. Criminal liability was established

<sup>5</sup> These 1:10,000 scale land utilization plans (without elevation marks) were actually the most precise maps in civil circulation during the Soviet period. As such, they were still semi-confidential, meant only for governmental use. These plans were also used by the national heritage conservation system.

for the intentional destruction of cultural monuments. The novel phenomenon envisaged by the Act was the possibility of taking cultural monuments of a ‘complex nature’, together with the surrounding protection area, under national protection as heritage protection areas. Heritage protection had to be organized by the Council for the Conservation of Historic and Revolutionary Monuments, which had been established at the Ministry of Culture. However, the heads of organizations, and also private persons had to take direct responsibility for the preservation of monuments in their possession or located within the territory that was in their use. Provisions were made for the restoration of the network of heritage conservation monitors. The new lists of monuments were approved together with this Act.

In 1964, another regulation was adopted by the Council of Ministers of the Estonian SSR, laying down practical rules for the protection of monuments. According to the regulation, the determination of archaeological monuments, their placement under protection and the protection thereof had to be organized through the Ministry of Culture’s structural unit that was renamed as the Inspectorate of Museums and Cultural Monuments.

In 1977, the Supreme Soviet of the ESSR adopted the Act on the Conservation and Use of Historic and Cultural Heritage (Eesti NSV Ülemnõukogu ja Valitsuse Teataja, 1977, nos. 51, 647). In principle, this repeated the 1961 legislation. The main change regarded the expansion of the hierarchy of monuments: these were classified as monuments of union-wide, republican and local significance. Following the entry into force of the Act, i.e. in the 1970s and 1980s, the majority of monuments were indeed placed under protection as being of republican and local significance. The 1977 Act for the first time established criminal or administrative liability (warning or financial penalty) for damaging a monument.

Although legislation on heritage conservation was enacted in Soviet Estonia and regularly up-dated



**Fig. 73.** *Juta Kornav (photo: National Heritage Board).*

since the end of the 1940s, the actual protection of archaeological monuments was in a very poor situation for many years. In the development of industry and agriculture, an abundance of undiscovered archaeological monuments were destroyed. The finances and number of staff allocated were continuously too scarce to ascertain monuments or even supervise protected ones.

Pursuant the 1961 Act, an Inspectorate for the Protection of Museums and Cultural Monuments was formed in 1963 at the Ministry of Culture, with an inspector on archaeology as a staff member. During the 1960s, the protection of archaeological monuments was the responsibility of the one and only inspector employed at the Ministry of Culture, who, in addition to protecting 2000 archaeological mon-

uments, also had to organize the protection of 600 historical monuments (Selirand 1964). Thus the situation was almost the same or even worse than at the end of the 1930s, as the number of monuments had increased. In 1970, Jutta Kornav (1942–1994; Fig. 73) commenced work as the inspector of archaeology at the Inspectorate, and she worked in this position throughout the entire existence of the institution.

The situation regarding the labour force improved in 1976, when the Scientific-Methodological Council of Museums and Cultural Heritage was established at the Inspectorate for the Protection of Museums and Cultural Monuments. The area of activity of the new unit comprised actual heritage conservation work, such as the identification of new monuments, co-ordination of construction and

land improvement projects, rescue excavations and the maintenance of registers. In 1978, two new university graduates commenced working there – Ants Kraut as Head of the Department of Archaeological Monuments and Ain Mäesalu as a researcher. In 1982, when Ants Kraut became Head of the Scientific-Methodological Council of Museums and Cultural Heritage, Heiki Valk was appointed to Head of the Department of Archaeological Monuments in 1983. During the period 1990–1993, the Department was managed by Anton Pärn, who had joined the institution as a researcher in 1986.

The 1961 lists of protected archaeological monuments had been completed in the office, mainly on the basis of the 1930 lists of protected items. Before the 1960s, there was almost no fieldwork performed for the identification of new monuments. In 1967, the Ministry of Culture of the USSR launched a plan to publish a multi-volume collection presenting the historical and cultural monuments of the peoples of the Soviet Union. First of all, it was necessary to collect subject matter for this purpose and to determine all of the known monuments. In 1969, the first relevant methodological guidelines were sent to the individual Soviet republics from Moscow. It was this regulation that gave the Institute of History the impetus to remarkably intensify fieldwork for the determination of yet unknown archaeological monuments (Lõugas 1985).<sup>6</sup> In essence, this was not only an idea dictated from Moscow – the initiative fell on fertile soil in Estonia. The generation of young archaeologists that had graduated from university during the 1960s – 1970s quickly understood the necessity to actively search for monuments in the landscape. There was a need to try and save what could still be saved. Namely, in the course of large-scale land improvement in the 1960s, prob-

ably more monuments were destroyed than during all previous centuries. The leader in charge of searching for archaeological monuments was Vello Lõugas, who also introduced a relevant expression ‘the third Estonia-wide registration of immovable monuments’ (e.g. Lõugas 1987). Whereas during the first registration, organized by J. Jung in the 1880s, data was collected locally through a network of correspondents, and in the course of the second initiative, launched by A. M. Tallgren, students traverse the country parish by parish, this time an objective was set that professional archaeologists cross the entire country on foot and register all the sites that had been preserved to even a small extent. The work began with regions that were undergoing construction activities or extensive land improvement (mainly in north-eastern and northern Estonia). In the course of the work, thousands of new monuments, particularly settlement sites, graves and cup-marked stones, were saved for research. This was also evidenced by the increased number of protected archaeological monuments. Whereas by the end of the 1960s, the number of archaeological monuments placed under protection in Estonia was 1976, by the year 1985 this figure had grown to 5477 (see below, Fig. 74; Lõugas 1985). Likewise, the principles for placing archaeological monuments under protection were also amended. In earlier times, only the best preserved monuments were entitled to national protection, but now all recognizable monuments were placed under protection, irrespective of their condition.

The possibility of creating heritage conservation areas had already been stipulated in the 1961 Act. However, the first heritage conservation area was created as late as in 1979, in the vicinity of Rebala village near Tallinn. The registration of monuments in Jõelähtme, Kostivere and Rebala villages, carried out during the first half of the 1970s, showed that this area is particularly rich in preserved monuments: more than 300 immovable monuments were located in the approximately 25 sq. km area. It was obvious that not only individual monuments, but the entire

<sup>6</sup> Despite the very active launch of preparations for compiling the book, the section concerning monuments remained unpublished in Estonia. Plans were made to have it ready by 1989 (Lõugas 1985), but the irreversible changes that had occurred in the USSR by that time made it impossible to issue such a collection.

natural environment in which these monuments were once generated had to be protected in this region. The natural environment in Rebala vicinity is a rare type of landscape – alvars (*loopealsed*) – a limestone plain covered with thin soil and stunted vegetation. The first step for accomplishing the plan was taken in 1975 when the Institute of History and the Chair of USSR History of Tartu State University proposed to the Ministry of Culture of the Estonian SSR that the Rebala National Agrarian-Historic Reserve, covering 5803 ha of the territory of what was then Kostivere state farm, be created. In reality, however, a 1338 ha protection area of local significance was established in 1979. This did not guarantee the protection of the Rebala monuments, since the monuments could have been easily destroyed in the name of the development of Soviet national economy. For instance, a plot of 178.5 ha was separated from the Rebala Reserve in 1981 in order to expand the local phosphate mine. In 1982, archaeological rescue excavations supervised by Lõugas began in this area, accidentally revealing fossil fields from the Early Iron Age. These valuable finds caused a change in the situation. Even Karl Rebane, President of the Estonian Academy of Sciences, appealed to the government not to undertake mining work within the 50 ha area in which the discovered monuments were located. This was the first time the protection of archaeological heritage and industry had collided in such a sharp manner (Paaver 1984). Rebala Reserve was saved thanks to the fact that Estonia regained its independence in 1991.

One of the most important tasks in the protection of archaeological heritage in the 1980s was the discovery of yet unknown archaeological sites, as unregistered ones were in constant danger of destruction due to construction and land improvement work. The maintenance of protected sites was another serious problem. The monuments that had been open prior to the mechanization of agriculture soon became covered with trees and brushwood after the launch of collective and state farms at the end of the 1940s; graves in the vicinity of fields were

littered with stones collected from nearby fields (Valk 1986).

During the 1950s and 1960s, the volume of rescue excavations performed on the basis of legislation was still not sizeable. Protected monuments seldom occurred in the path of construction activities. On one hand, at the time, the number of protected sites was much smaller than during the 1970s – 1980s. On the other hand, the cultural layer of a medieval town, for example, was not considered to be of sufficient value to justify systematic archaeological investigation. The volume of rescue excavations increased significantly in the 1970s, primarily due to intensifying construction work in the vicinity of Tallinn. In 1974, for instance, large-scale rescue excavations were carried out in the graves and remnants of fields located on the territory of Iru Power Plant; since 1978, similar work was undertaken on the monuments in Kuusalu that lay under the construction of the Tallinn–Narva highway. From 1982 to 1984, the stone-cist graves in Jõelähtme, on the route of the enlarged Tallinn–Narva highway, were excavated; from 1985 to 1989, large-scale rescue excavations took place at the Lehmja settlement site, which lay on the route of the Tallinn–Tartu highway. In the 1980s, there was also a need for large rescue excavations elsewhere in Estonia, for instance, at the Uderna settlement site in Tartu County. In most cases these excavations were supervised by archaeologists from the Institute of History, yet as of 1978 archaeologists from the Scientific-Methodological Council of Museums and Cultural Heritage were also assigned to rescue excavations. Indeed, 1978 can be considered a ground-breaking year, in which the need for archaeological rescue excavations gained wider awareness in society.

Up until the 1980s, even the archaeologists themselves did not attach great importance to the protection of the cultural layers of medieval towns (see Russow *et al.*, this volume). For instance, several new buildings were erected in the Old Town of Tallinn during the 1950s and 1960s, with at the most cursory observation of the foundation holes.

In the 1970s, some archaeologists, particularly those who had been working in the system for the protection of architectural monuments, gradually became aware of the need for the archaeological investigation of medieval towns. During the 1980s, the fate of the cultural layer of medieval towns in Estonia depended primarily on the activity of archaeologists themselves. Although there was a relevant law, it would not have been followed without the direct intervention of archaeologists. The need for archaeological investigations had not yet reached the awareness of officials and the heads of organizations. Therefore it was a kind of rule during the 1980s that in Tartu, for instance, in the case of construction sites, archaeological excavations were organized with great haste and quarrel only when archaeologists had called for the cessation of earthworks that had already begun, and made a big fuss about this in the press. The relevant example in Tartu that is worth mentioning is the construction of the palm house in the Botanical Gardens of the University of Tartu and the beginning of the construction of the Kaubahall supermarket in 1985.

Thus, during the 1980s, archaeologists were conscious of the need for rescue excavations, but there was no organizational basis for them to be performed. During the 1970s, rescue excavations were mainly performed by archaeologists employed at the Institute of History or the State Institute for Design of Cultural Heritage (KRPI; see Russow *et al.*, this volume), even in towns. Such rescue excavations, organized at the last minute and carried out hastily, often lacked methodology, and in some instances a lot of the valuable cultural layer was destroyed. Undoubtedly, there was a problem regarding the lack of archaeologists specialized in urban archaeology. During the 1980s, archaeologists repeatedly raised the issue of the need to create a special institution dealing with archaeological rescue excavations. However, a relevant national institution was never established. In 1988, a small enterprise called Agu-EMS Ltd., set up at the Estonian Heritage Society, also began to conduct archaeological rescue

excavations. In 1991, a company called Tael Ltd. was founded in Tallinn, with archaeological studies as its main field of activity. In Tartu, the main institution performing archaeological excavations was the Archaeological Research Group AEG, established at the Tartu City Museum.

### Summary of the Soviet period

Soviet-era heritage conservation in Estonia was exemplary in the circumstances that existed in the Soviet Union and, as of the 1960s, also satisfactory in the European context. The work done in the 1920s and 1930s definitely served as a model. Quite a number of archaeologists have, in hindsight, expressed the opinion that in the 1980s, at least the protection of archaeological monuments reached a good level in Estonia, in particular when one bears in mind the existing political and economic conditions (e.g. Lõugas 1987).

During these decades, archaeological monuments were primarily endangered by extensive agricultural and construction work. The worst time in this regard was probably the 1960s and 1970s, when, according to approximate calculations, nearly as many monuments were destroyed in the large land improvement sites of collective farms than during all earlier periods combined.

## The conservation of archaeological monuments in Estonia since 1993

### The legislative basis and organization of heritage conservation

The restoration of Estonian independence in 1991 meant an about turn from a socialist planned economy to a Western market economy. In addition to the reorganization of governmental structures, land ownership underwent changes. A large proportion

of land was returned to legal successors, and as a result the majority of archaeological monuments were now located on privately owned land.

Changes in the national heritage conservation system did not take place immediately after Estonia became independent. The era in the history of Estonian heritage protection that lasts until today actually began in 1993, when the National Heritage Board (*Muinsuskaitseamet*) was created through the consolidation of the employees and archives of the Soviet-era Inspectorate for the Protection of Museums and Cultural Monuments of the Ministry of Culture, the Scientific-Methodological Council of Museums and Cultural Heritage, the State Institute for Design of Cultural Heritage and the Inspectorate for the Protection of Architectural Monuments of the Republic.

Pursuant to the Statutes of the National Heritage Board, the main functions of the National Heritage Board are:

- (1) management and supervision of heritage conservation work;
- (2) organization of the identification, registration, investigation, protection, utilization, conservation and restoration of cultural monuments and the collection, preservation and distribution of relevant information;
- (3) maintenance of the register of cultural monuments and the reviewing of applications for taking items of cultural value out of the country.

In 1994, the Estonian parliament (*Riigikogu*) adopted the Heritage Conservation Act. The principles for protection and the list of protected monuments have remained essentially the same as in the earlier, Soviet-era law. The changes proceeded from the fact that the Estonian systems of government, law and economic relations had changed.

Pursuant to the new Act, heritage conservation is organized by the Ministry of Culture (through the National Heritage Board) and local governments. The task of rural municipality or town governments is to maintain records of monuments on their ter-

ritory and, among other things, monitor whether work involving monuments and relevant projects have been approved by the National Heritage Board. Data regarding monuments is entered in the national register of immovable cultural monuments and maintained at the National Heritage Board.

The hierarchy of monuments was discarded. A novel provision, on the other hand, makes it possible to place a cultural monument under temporary protection in order to determine whether it corresponds to the characteristic features of a monument. It is prohibited to destroy or damage monuments. If an archaeological monument, human bones or stray finds are discovered in the course of work, the person who conducts the work is required to halt the work and immediately inform the heritage conservation bodies thereof. If the above-mentioned finds are discovered, the National Heritage Board may suspend the work.

The owner of a monument is responsible for its preservation. The National Heritage Board shall compile a protection obligation notice for the owner, prescribing the responsibilities of the owner (possessor) in guaranteeing the preservation of the monument, and also the relevant support and incentives.

Everyone shall have unrestricted access to an immovable monument that is located on immovable property owned by a legal person in public law. A person in private law on whose immovable property a monument is located or over whose immovable a customary access route to a monument passes shall ensure unrestricted access to the monument for everyone from sunrise to sunset.

Finds of cultural value, including those of archaeological value, belong to the state. A find of cultural value is deemed to be placed under temporary protection from the moment of the finding thereof. The finder must immediately notify the relevant state authorities. The finder of an item of cultural value is entitled to receive a fee equal to one-half of the value of the object. Fees are not paid to persons, whose duties include searching for and excavating

the said objects, studying monuments or supervising them.

Over the course of time, certain shortcomings and omissions appeared in the 1994 Heritage Conservation Act, and therefore the Ministry of Culture submitted a new draft of the law to the *Riigikogu* in 2000, and proposed repealing the existing Act. In essence, this actually meant the amendment of the current legislation – the Act was simply adapted to the rapidly transformed economic circumstances and the legal situation in Estonia. Pursuant to the draft act, the spirit of the law and the principles of heritage conservation remained unaltered. In 2002, the *Riigikogu* adopted the new Heritage Protection Act. Compared with the earlier Act, there were no changes made with regard to archaeological monuments. The shortcoming of the 1994 law was the fact that it did not stipulate administrative liability for legal persons for violation of the Heritage Conservation Act. Thus a chapter was included in the new Act, providing penalties for violating the Heritage Conservation Act and rules for relevant misdemeanour proceedings.

The passing of the new heritage conservation law was not connected with Estonia's preparations for joining the European Union, as the protection of cultural heritage has not been regulated by EU legislation. However, the 2002 Heritage Conservation Act does indeed take into consideration the requirements of the Convention on the Conservation of Archaeological Heritage, which was ratified by the *Riigikogu* in 1996.

### Identification and registration of new monuments

6559 archaeological monuments had been placed under national protection in Estonia as of December 1, 2005 (Figs. 74–75). A comparison could be made with Finland, where there are 17,000 protected archaeological monuments, and the area of Finland is seven times larger than that of Estonia. Thus, in relative

terms, the number of monuments in Estonia is more than two and a half times greater than in Finland.

Regarding all types of antiquities, archaeological monuments are probably the most diverse, and the term itself – archaeological monument – has the widest meaning, comprising practically all remnants of human activity, the oldest ones being nearly 11,000 years old.

The development of archaeology has gradually brought the time-frame of archaeological monuments closer to today. Even in the 1930s, archaeological protection and investigation primarily comprised monuments from ancient times, dating from the period earlier than 1250 AD. At present, the youngest date of monuments of archaeological interest in Estonia generally lies in the 18<sup>th</sup> century.

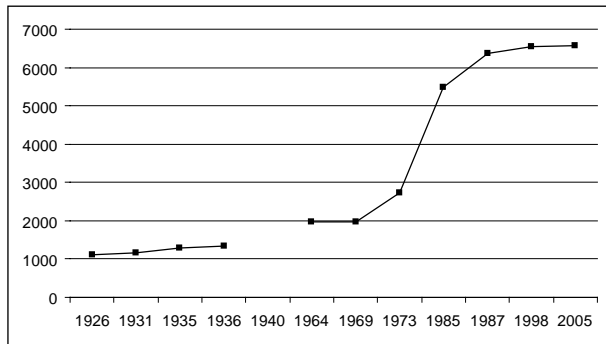
Archaeological monuments are not evenly scattered throughout Estonia. Naturally, there are more of them in ancient settlement regions, which are densely populated even today. The majority of archaeological monuments – 1672 – are located in Harju County, followed by Lääne-Viru (774), Põlva (767) and Saare (555) counties. The smallest number of antiquities is in Hiiu County – merely 43 archaeological monuments.

### Archaeological supervision and rescue excavations

Since the beginning of the 1990s, the volume of archaeological rescue excavations and supervision of excavations has been particularly great in the areas of medieval towns in Estonia. The legal basis for this activity has been provided by the fact that the historic town centres of Tallinn, Tartu, Viljandi, etc. were designated heritage conservation areas. The statutes of the relevant heritage conservation areas also stipulate the need for the protection of the archaeological cultural layer, in addition to the protection of architectural heritage.

As of 1993, the vast majority of archaeological rescue excavations have been conducted by archaeological companies, the largest of them being Tael Ltd. in





**Fig. 74.** Dynamics of the number of protected sites in Estonia.

Tallinn. In addition, another similar entity, Agu-EMS Ltd., also operates in Tallinn. In Tartu, most archaeological rescue excavation and supervision work has been performed by the Archaeological Research Group AEG operating at Tartu City Museum and by OÜ Arheoloogiateenistus ('Archaeological Service'), which operated from 1997 to 2001.

### The current situation in the protection of archaeological monuments in Estonia

In 1996, Estonia joined the European Convention on the Conservation of Archaeological Heritage, signed in 1992, stipulating the requirements that are acceptable for the protection of archaeological monuments in Europe. In comparing the goals provided for in this document with the situation concerning the protection of archaeological monuments in Estonia, it is possible to state that by today, the Estonian heritage conservation system and relevant legislation are completely in compliance with the European level.

The National Heritage Board was established in 1993, and its organizational structure has been fully developed. At present, three employees are directly involved in the protection of archaeological monuments, one with registration and underwater archaeology and the other with supervision. As a rule, one heritage conservation inspector operates in each county, whose duties involve all types of monuments;

only in Tartu and Harju counties, separate inspectors of archaeological monuments have been employed.

The development of the heritage conservation system can be considered successful in every respect; however, the number of employees at the National Heritage Board is too small, particularly in the counties, considering the amount of work to be done. For instance, county-level inspectors cannot manage to simultaneously keep an eye on more than a thousand sites under heritage protection, communicate with the owners of the sites, compile documents connected with protected objects/sites and engage in the identification of new sites and heritage protection-related promotion work. One of the reasons for the lack of staff is the fact that during the entire period since Estonia regained its independence, the National Heritage Board has been under-financed compared with the majority of relevant state institutions. An insignificant amount of money has been allocated for the identification and maintenance of archaeological monuments.

A partial solution for this problem has been the situation where, in Tallinn and Tartu for instance, the local government (according to relevant agreements concluded with the National Heritage Board) performs supervision of heritage conservation. In Tallinn, the relevant organization is the Department of Cultural Heritage Protection. In Tartu, a city archaeologist has been employed as of 1993, with the task of protecting and supervising archaeological monuments and keeping the register.

Ownership reform has been one of the problems of heritage protection. Landholdings, together with the immovable monuments located therein, are commercial objects, and relatively rapid changes can take place in the circle of owners. Unfortunately, the corresponding information does not always promptly reach the National Heritage Board.

Archaeological monuments in Estonia are primarily endangered by construction activities, which during the last decade have intensified, particularly in towns and in their vicinity. As heritage protection officials and archaeologists cannot manage to keep

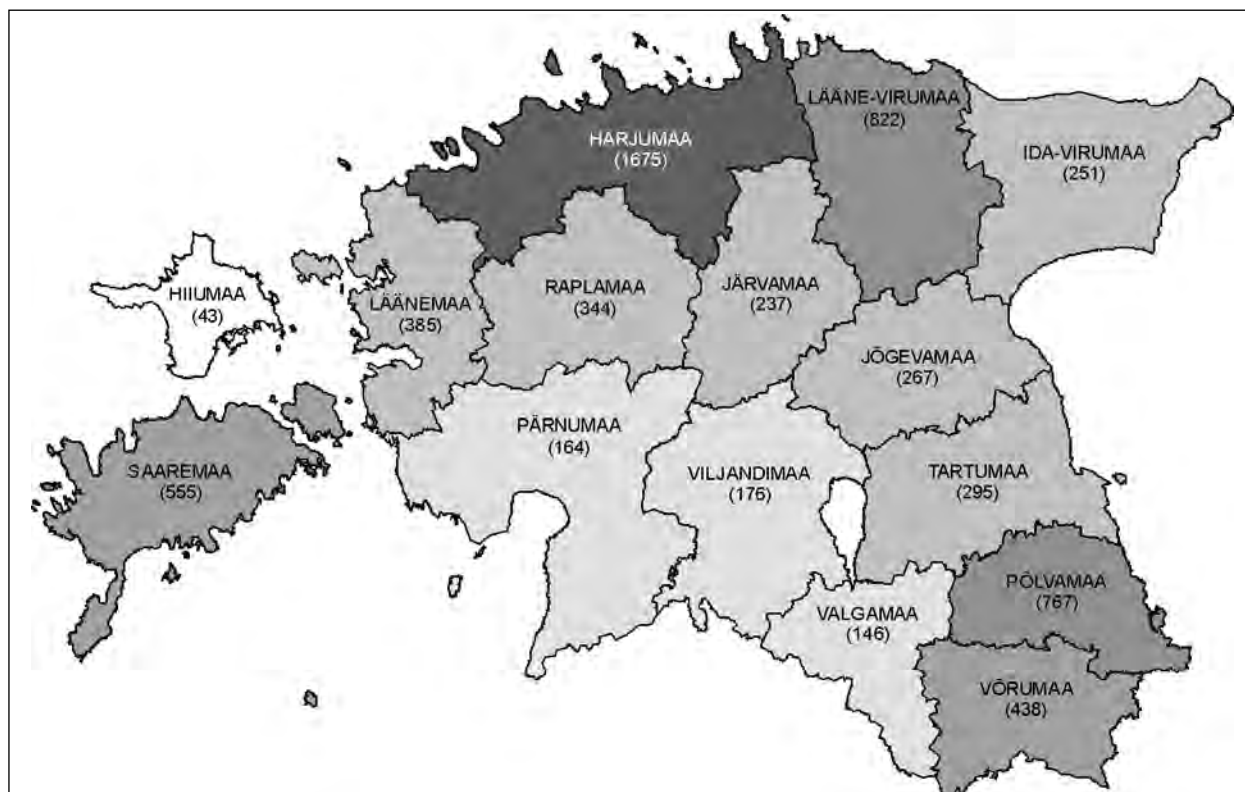


Fig. 75. Distribution of protected archaeological sites in the counties of Estonia.

an eye on everything, the preservation of archaeological monuments depends largely on the consciousness and attitude of the general public.

## Conclusions

The protection of archaeological monuments is in direct connection with the development of archaeology as a branch of research. Awareness concerning the preservation and protection of antiquities increased only when the researchers began to use monuments as a source material for scientific studies. In addition to the development of archaeology, heritage conservation has also been greatly affected by the political and ideological circumstances, which have sometimes favoured protection work

and in other instances have destroyed nearly everything that had been achieved by that time.

In the course of time, different types of monuments have been placed under protection, depending on the level of knowledge of how to recognize traces of the past in the landscape. When the science of archaeology was still in its infancy, interest was only shown in hillforts and graves. Later, attention also focused on settlement sites and, still later, on the remnants of fields and other remains generated in the course of economic activities.

Over time, the number of protected monuments has increased, resulting in the establishment of heritage protection-related legislation and the creation of official structures for heritage protection. Hand in hand with the growing efficiency of industry and the development of society, which is becoming more and more complex, the number of national

and local governments and the staff employed therein has grown considerably. Whereas at the end of the 1930s only one person was directly involved in the protection of archaeological monuments in

Estonia, today the heritage conservation system is staffed quite well, with dozens of people directly or indirectly employed in protecting and administering archaeological monuments.

# **PART IV**

## Some Special Fields in Archaeological Research



# Scientific Methods in Estonian Archaeology

AIVAR KRIISKA AND LEMBI LÕUGAS

## Introduction

Throughout time, developments in archaeology have been largely dependent on the natural sciences. Methods have been adopted which have led to research techniques adjusted for archaeology (e.g. stratigraphy) or which have become a routine part of research even though they are not conducted directly by archaeologists themselves (e.g. radiocarbon dating).

From the beginning, the use of scientific methods has played an important part in Estonian archaeology. During almost one and a half centuries methods of natural sciences have been applied to a greater or lesser extent by several archaeologists, but the help of specialized scientists has been used more often. The current article concentrates on only some of the activities and results considered more important by the authors. Naturally several changes have taken place in the use of scientific methods in Estonian archaeology, which we have tried to capture, at times reflecting on the reasons that brought them about. The general tendency is toward an increase in the number of questions addressed in the studies, in the variety of methods used and even in the number of other disciplines brought into the studies over time.

The hoped result of such studies in the first half of the 20<sup>th</sup> century has been clearly summarized by the researcher of Stone Age Richard Indreko (1934, 113):

Typology alone never gives as thorough a synthesis as does typology in conjunction with observations that

originate from natural conditions. With the help of the latter one can specify the questions of chronology, explain living conditions in a given environment as well as the subsistence possibilities of the settlers and, at the same time, demonstrate the preferences of habitation towards one area or another. Many other questions can be clarified if one begins from the problems of nature and landscape that form a living part of the prehistoric settlement history.

The goals of the scientific research were formulated again, but more thoroughly, half a century later when the Laboratory of Geoarchaeology and Ancient Technology was established at the Institute of History of the Academy of Sciences of the Estonian SSR (Rõuk & Selirand 1988, 11 f):

Among its research trends, retrospective studies have been recognized as the most interdisciplinary ones. Being based, first of all, on a synchronous investigation of lake and bog deposits and the archaeological cultural layer with scientific methods, they are aimed at elucidating and studying natural and anthropogenic dynamics of ancient landscapes and the prehistoric environment, development of interactions between the natural environment and human society as well as several changes resulting from human impact already in ancient times. Besides, the basic tasks of the Laboratory include metallographic studies, conservation of archaeological finds alongside the elaboration of new conservation techniques.

The thoughts and orientations of the beginning of the 21<sup>st</sup> century are expressed among other things by

the title of a research project started at the University of Tartu in 2005: *Interdisciplinary Archaeology: the Interactions of Culture and Natural Environment in the Past*. This leaves the door open for seeking assistance from all disciplines in exploring the past at the time of human habitation and, as a partner, offers the results of archaeology to help solve the problems of natural sciences (e.g. Jussila & Kriiska 2004).

### The descriptive studies in the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century

The beginning of the use of the results and methods of natural sciences for the study of prehistory, just as the beginnings of Estonian archaeology in general, was related to the achievements of Constantin Grewingk, the longstanding Professor of Mineralogy at the University of Tartu. In reference to Grewingk, one should emphasize, on the one hand, the mineralogical-petrographical identifications of archaeological finds. Grewingk (e.g. 1865; 1871) identified the lithic materials and minerals utilized as raw material for tools and presented a more comprehensive analysis of stone use. On the other hand, in the case of one of his main research objects – the Kunda find-place of bone artefacts and the settlement site of Lammasmägi – he paid attention to the geological history of the area, showing that a lake was situated at the location during the time of habitation (Grewingk 1882; 1884b). With the identification of animal bones found from Kunda, Grewingk laid the foundation for palaeozoology based on archaeological data that except for short intervals has been an essential part of the foundation of archaeology (especially Stone Age archaeology) until the present.

At the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century, the animal bones found from the

bottom gravel of the lower reaches of Pärnu River (Glück 1906), the Neolithic burial site of Kõljala in Saaremaa (Hausmann 1904, 79) and the stone-graves of Lagedi near Tallinn (Spreckelsen 1927) were analysed by Aleksander Rosenberg (1839–1926), Professor of Anatomy at the University of Tartu, who has been considered one of the researchers with the greatest knowledge of osteology of his time in the whole world and a very good specialist of the history of Estonian fauna. Among other contributions, he collected almost 20,000 examples of the bones and teeth of oligocene fossils and the skulls of contemporary primates, toothless, marsupials and predators. It is possible that some of the animal bones found from the lower reaches of Pärnu River were identified by Eduard Glück, the primary collector of prehistoric artefacts at the beginning of the 20<sup>th</sup> century (for more information, see Kriiska, this volume).

The identification of lithic materials during the time of Grewingk and for a long time afterwards was done only occasionally. For example, out of the hundreds of stone axes gathered by Martin Bolz, an amateur archaeologist and a collector (see Kriiska, this volume), the material has been identified only for a single specimen by Franz J. Loewinson-Lessing (1861–1939), Professor of Mineralogy at the University of Tartu (Bolz 1914b).

In the 19<sup>th</sup> – early 20<sup>th</sup> century, the chemical analysis of metal objects, iron slag found from graves and glass beads was started (Lõugas 1988, 13). This, however, remained a sporadic and, as a matter of fact, a completely unexploited undertaking in the contemporary interpretations of the past.

The anthropological study of human bones also began during the period under discussion. Richard Weinberg (1904) described the Corded Ware Culture skeleton found from Käo in central Estonia and the human bones found from Pärnu River (Lõugas 1988, 17); and Carl Fürst (1914) the Corded Ware Culture skeleton from Kõljala in Saaremaa.

Needless to say, the scientific techniques and methods have had an important role in the con-

servation of archaeological finds through time. In Estonia, the physical cleaning and conservation of corroded metal artefacts has been used since the 1880s (Dragendorff 1882), including the use of the so-called Kräfting method (Hausmann 1902b). Also this practice remained mostly sporadic in the period discussed and the majority of the unearthened metal items deteriorated and were lost over time.

### **1920–1945: expanding cooperation with natural scientists and using the data in interpretations**

A transformation in the use of scientific methods in archaeology started in the 1920s. It had a special effect on the research of the Stone Age since the huge influence of natural environment on people and their need to adapt to the post-glacial changing climate has always been emphasized. On the other hand, the scarcity of material has forced the archaeologists engaged in the problems of the Stone Age to approach the solving of their questions ‘creatively’, collecting everything that could offer the slightest piece of additional information.

In Estonia the changes in archaeology were brought about by a general brightening of the science and the creation of the Chair of Archaeology at the University of Tartu in 1920. Ever since the generalized writing of Estonian prehistory by Professor Aarne Michaël Tallgren (1922c; 1925), natural conditions were handled similarly in all the subsequent publications of this kind, by giving a brief description (in Stone Age discussions, as for example Indreko 1937a, even a thorough and detailed overview) of the climate, fauna and flora as well as the main developmental phases of the bodies of water (especially the Baltic Sea).

Tallgren followed the topography of find-places and started to compile simpler palaeogeographical reconstructions by combining geological and geographical

data to some extent (having Johannes Gabriel Granö, Professor of Geography at the University of Tartu as a consultant) with the archaeological records. In the northern part of Lake Võrtsjärv – the area of the greatest concentration of Stone Age stray finds – he completed a palaeogeographical reconstruction by correlating Stone Age artefacts with isobases (Tallgren 1922c, 30 ff). However, the detailed identification of the supposed Stone Age shorelines based on the location of the Stone Age finds and assuming that these have been lost or deposited on the shores of the large prehistoric lakes sometimes gave misleading or false results (Tallgren 1922c, 29).<sup>1</sup> Judging by the location of the sites, Tallgren made an attempt to deduce the Late Stone Age shoreline in Saaremaa but, as pointed out by his opponent Julius Ailio a couple of years later (Ailio 1924, 44), he had based his research on a wrong group of sites (the Corded Ware Culture burial site that was not situated on the shore) and did not take the land upheaval gradient into account.

Several palaeogeographic reconstructions (for the lower reaches of the Pärnu and Narva rivers, Lake Võrtsjärv and the surroundings of Kivisaare) based on topographic maps were later completed by Richard Indreko (1932a, 285; 1932b; 1935c, 221; 1937a). During the discussed period, Indreko was undoubtedly the one most active in uniting the natural sciences and archaeology, using the direct or indirect (through literature) help of several high-level natural scientists. The most numerous research group had gathered in the first half of the 1930s around his projects at Kunda, where seven scholars took part in one way or another (Indreko 1936, 226 ff). Successful cooperation was achieved also on the lower reaches of the Narva River (Indreko 1932d). At the same

<sup>1</sup> Tallgren emphasized the close connection of the Stone Age settlement with water and hence probably understood the possibility of dating the sites with the help of geology, using the shoreline changes of the bodies of water. Julius Ailio, another well-known Finnish Stone Age archaeologist, was the first to measure altitude relations on the Neolithic settlement site of Jõesuu in Jägala in 1923 (Lõugas 1988, 16); the correct results in this field, however, were achieved as much as 80 years later (Jussila & Kriiska 2004).





Fig. 76. Johannes Lepiksaar (photo: L. Lõugas).

time, Indreko (1934) connected the scientific (lakes, distribution of elk, soils and reconstructions of prehistoric shorelines) and archaeological information ('the southern boundary of the settlement of the fishermen – the carriers of bone culture', Stone Age artefacts, boat-shaped and flat-backed stone axes), obtaining several new starting points (including some that were supported by later, more detailed studies) in order to interpret the settlement pattern of the different periods of prehistory.

Several so-called pure scientific studies were used in archaeological research in the 1920s–1940s. Of

interest for archaeological research, the most consistent have been the studies of Wilhelm Ramsay (1929) on the changes of the bodies of water, the studies of Paul William Thomson (1929; 1930b) on the changes of flora, as well as the geological publications of Karl Orviku (1930) and Matti Sauramo (1918).

A fresh foundation for research of the natural environment was created by pollen analysis, which at first delighted archaeologists as a possible method for indirect dating of archaeological material. The palynological method, developed by Swedish scientists in the first quarter of the 20<sup>th</sup> century<sup>2</sup> was quickly put into practice in the second half of the 1920s. The first one to analyse Estonian archaeological material – a marl test from a bone artefact from Kunda in 1924 – was Lennart von Post, one of the founders of pollen analysis (Jaanits 1961b, 250; Lõugas 1988, 16). In Estonia, the method was applied by Paul William Thomson (1892–1957), a student of von Post, later a private docent at the University of Tartu. Among other efforts he analysed the soil samples from the archaeological find-places of Kunda, the lower reaches of Pärnu River (Thomson 1928; 1930a) and Siivertsi (Indreko 1932d, 65). The combining of Stone Age find assemblages and interesting phenomena with vegetation-historical chronozones became a standard (e.g. Indreko 1932b; 1937a). Thomson advised Indreko on fenogeological questions of Moksi, Siivertsi and the Kunda area (Indreko 1932b, 199 f; 1932d, 50; 1936, 226), and made a pollen analysis from diatom and peat in Tõrvala near the places of Stone Age finds (Thomson 1937).

In the 1930s the identifying of faunal remains found during archaeological excavation was started again. This field was taken over by palaeozoologist Johannes Lepiksaar (Fig. 76) who after graduation from university started out as an assistant to lec-

<sup>2</sup> The so-called intellectual father of the method that was first introduced in 1916 and published in 1918 was the Swedish scientist Gustav Lagerheim. It was developed further by his student Lennart von Post (Robertsson 1989).

turers and Conservator in the Museum of Zoology of the University of Tartu. He identified animal bones gathered from the settlement sites of Moksi and Lammasmägi in Kunda (Indreko 1932b, 208; 1936, 227), Tamula and Akali (Jaanits 1959b, 24 f), the Stone Age cemetery of Jalukse (Indreko 1935c, 207), the stone-cist graves of Muuksi (Vassar 1938a, 332) and several hillforts excavated at the end of the 1930s (e.g. Asva, Iru, Lõhavere); in addition, Lepiksaar published many articles on the history of fauna (e.g. Lepiksaar 1930; 1935; 1937; 1938; 1940).

A new quality in palaeogeographical reconstructions was brought about by Karl Orviku, the later Professor of Geology and Geomorphology at the University of Tartu, with geological studies of the prehistoric lake of Kunda which took place parallel to the archaeological excavation of Lammasmägi in Kunda in 1935 (Orviku 1948; Indreko 1948a). For decades these works remained the most thorough and successful common undertaking of geologists and archaeologists in Estonia, although Orviku assisted archaeologists on geological questions at other sites, especially in the framework of the research project on hillforts in the late 1930s (e.g. Pajulinn in Kuusalu; see Schmiedehelm 1939, 128 f).

To some extent, human bones were investigated during the period under discussion as well. Juhan Aul, the founder of Estonian anthropology and later Professor at the University of Tartu, examined the skeletons from the Sope and Ardu pit graves of the Late Neolithic Corded Ware Culture (Indreko 1937b, 198) and the stone-cist graves of Muuksi (Vassar 1938a, 311), and published a few minor studies on the results of the research (e.g. Aul 1935).

The chemical composition of artefacts was continuously being identified. In the 1920s, the archaeologists of Tartu had their chemical analysis done in the laboratory of Tartu Mineralogical Institute. In 1930, H. Tamm examined iron slag and analysed the substance from the eye-socket of a birdhead-shaped bone figure found from the Lõhavere hillfort (Jaanits, L. 1995, 40).

In a few cases lithic materials used for tools were identified as well. These studies were mostly completed either by K. Orviku or Armin Öpik (1898–1983), Professor of Geology at the University of Tartu (Indreko 1936, 227), and possibly also by Indreko.

The identifications and analyses that provided archaeologists with important additional information were undertaken within the framework of various tasks, especially under the above-mentioned hillfort project. Several outstanding specialists were involved in the identifying of the wood remains from the fort of Pajulinn in Kuusalu, the cereals and their imprints on potsherds from Pajulinn and the Asva fortified settlement, the textile impressions and fingerprints on Asva pottery fragments; the university specialists of small animals and phytobiology studied the macrofossil floral remains and wool found from sheep or goat coprolites (see Jaanits, L. 1995, 40). The assistant conservator of the Museum of Zoology of the University of Tartu, Harald Habermann (1904–1986), identified the mollusc shell found from the Sope Late Neolithic burial site (Indreko 1935c, 212), and Professor Teodor Lippmaa (1892–1943), Director of the Botanical Gardens of the University of Tartu, identified the material of the Siivertsi net remains (Indreko 1932d, 52).

In the middle of the 1920s, the first attempt was made to amend the stagnating state of conservation practice for metal items. With the assistance of Professor Birger Nerman, E. Sörling, the conservator of the Swedish State Museum, was invited here in 1925 to teach conservation skills. Archaeology students as well as the workers of several museums were trained during the one-month course. However, the archaeologists' own forces were not enough when numerous excavations on hillforts were started in the 1930s (Lõugas 1988, 15).

At the end of the 1930s, the conservation of wood turned out to be a problem when the excavations of the Lõhavere hillfort revealed a well of horizontal logs and wooden items inside it. The work was undertaken by the conservators of the Estonian

National Museum following the example of the conservation method<sup>3</sup> used with the Oseberg ship in Norway. However, the work was interrupted by the war and the artefacts were destroyed (Peets & Visnap 1988, 138).

Although in the first quarter of the 20<sup>th</sup> century experimental archaeology was introduced in many parts of the world, including Finland, the comparable neighbouring country for archaeology (Pälsi 1916), Estonian attempts at it remained however at the blueprint stage. The plans were drawn up, though. In the 1920s, for example, an amateur archaeologist from Pärnu, Eduard Bliebernicht, privately invited Professor Tallgren to a fishing expedition with replicas of the Stone Age hooks found from the lower reaches of Pärnu River (correspondence published in Saluäär *et al.* 2002, 126). But the planned expedition never took place.

## 1945–1985: new methods and research directions

Scientific research lying latent during the war gained momentum again in the second half of the 1940s. An important methodological novelty was the introduction of phosphate analysis for localizing prehistoric sites. The method that had been developed by the Swedish scientist Oskar Arrhenius in the 1930s was presented to Estonian archaeologists by the geologist K. Orviku already in 1939 (see Orviku 1940). Since 1947 Leonida Velleste, trained as a pharmacist, started to make phosphate analyses in addition to her work as a conservator (Jaanits, L. 1991, 24), cooperating mainly with the archaeolo-

<sup>3</sup> At first, the wood was worked with formalin and only after that conservation was started with a 20%-ethanol solution. It was planned to raise the concentration of ethanol in the solution during the lengthy procedure until the content of 100% to finalize the stabilization of wood in paraffin (Peets & Visnap 1988, 138).

gist Lembit Jaanits. In 1947–1949 the method was applied in the case of the Iron Age settlement site of Mustivere, the Bronze Age fortified settlement of Asva, the Iron Age hillfort of Koila, the Stone Age settlement sites of Akali, Kullamägi, Tamula, Undva and Villa, the Maltsaare find-place of flint, around a few *tarand*-graves in north-eastern Estonia (Jäbara, Pada and Tõrma), on the shores of Pärnu River (from Tori to Kurgja) and at the settlement site of Lammasmägi and the fossilized shore formations of the prehistoric lake of Kunda (Velleste 1952; Lõugas 1988, 19; Jaanits, L. 1991, 29, 35). Test excavations were undertaken in the areas with higher phosphate concentration around the prehistoric lake of Kunda, as well as at Maltsaare and Mustivere (Jaanits, L. 1991, 23, 29). It seems, however, that the method did not quite satisfy archaeologists, since it was neglected for decades and reintroduced only in the 1980s (Lõugas 1988, 20).

The excavations carried out during the war at the settlement sites with a cultural layer partly covered by peat reinforced the need to continue with palynological research. Pollen analyses from the peat-sections from the Akali and Kääpa Stone Age settlement sites and several other find-places were made at the Institute of Geology of the Academy of Sciences of the Estonian SSR, the Cathedra of Geology of the Tartu State University and the Peat Institute of the Moscow State University; a part also at the pollen laboratory of the Institute of Geology of the Academy of Sciences of the USSR (Jaanits 1959b, 4, 22; 1961b, 251). A pollen diagram from Kunda was analysed by G. N. Lisitsyna (1958). While earlier results from palynology were mainly used to explain changes in the natural environment, especially plant cover and climate (Lõugas 1988, 20; Rõuk 1992a, 54), then in 1980s a new confluence with archaeology was added by recording the phenomena connected with cultivation in the pollen diagrams (Mäemets 1983; Rõuk & Tõnisson 1984; Pirrus & Rõuk 1985).

A more thorough anthropological research of human bones gathered in archaeological excavations started in the 1940s. The practice was taken

over by Karin Mark, a student of Juhan Aul, who soon became a non-staff worker of the Department of Archaeology of the Institute of History, and since 1952 a researcher (Jaanits, L. 1991, 24). Palaeoanthropology developed rapidly because of the activity of Mark. The main basis of the discipline was the various osteometrical differences on skulls. Mark analysed prehistoric (mostly Stone Age) as well as medieval and modern human bones (Mark 1962; 1965) and in 1953 herself conducted excavations at the burial ground of historic times founded on the hillfort of Varbola. Considering the general interest spheres of the period (Lang, this volume, a), physical anthropology became one of the most important fields of science for studying ethno-genesis<sup>4</sup> (Mark 1956; 1970a) – one of the three cornerstones next to linguistics and archaeology.

In time, the research extended to studying modern Estonians and even other Finno-Ugric peoples; within its framework various stomatological features were recorded and analysed (important publications: Vitov *et al.* 1959; Mark 1970b; 1972; 1975). At the end of the 1960s and the beginning of the 1970s, two more anthropologists were employed in the Department of Archaeology of the Institute of History: Galina Sarap who was mostly engaged in odontology, and Leiu Heapost who was active in the field of serology which further magnified the grasp and intensity of the research.<sup>5</sup> Expeditions for gathering material were organized in Estonia as well as other countries and several special studies were published. Thus, in the brochure that handled the developments of archaeology during the first half of the 1970s, the archaeologist Jüri Selirand (1977, 19)

<sup>4</sup> The questions of ethno-genesis have been important in Estonian archaeology since its beginning and every archaeologist starting with Grewingk has collided with the problematics to some extent. After World War II the Estonian treatments of ethno-genesis were inspired by the upsurge of analogical research in the Soviet archaeology (Klejn 1993, 23).

<sup>5</sup> Heapost has also identified the sex and age of the skeletons found during archaeological excavations (e.g. Kärevere cemetery, see Sokolovskij & Sokolovski 1986).

could complacently maintain: 'At this point one can not fail to mention that Estonia is anthropologically one of the best investigated republics in the Soviet Union'. Pathologies on skeletons from Estonian graves were studied more extensively within the framework of a research comprising the whole eastern Baltic region by the Latvian medical scientist Vilis Derums (1970).

In the post-war decades foreign help was sought to identify animal bones found at archaeological excavations because Lepiksaar, like many other Estonian scientists, was forced to emigrate. Animal bones found from the city of Tallinn and fish-bones from a few sites (e.g. Akali and Ridala) were then identified by the Russian and Latvian zoologists (Tsalkin 1952; 1962; Jaanits 1959b, 24, 100; Lõugas 1988, 18; Lõugas 1997, 24 ff). The study of osteological material was started again in the mid-1950s by Professor Kalju Paaver, a zoologist, later Director of the Institute of Zoology and Botany of the Academy of Sciences. His years of research included the analysis of the bone material of the settlement sites of Lammasmägi in Kunda, Joaorg in Narva, Kääpa, Riigiküla I–III, Akali, Valma and the hillforts of Asva, Ridala, Rõuge, Tartu and Peedu (and in addition many Latvian sites). His work was crowned by a thorough monograph on the development of the fauna in the eastern Baltic region during the Holocene (Paaver 1965). This treatment successfully united subfossilized bones gathered during the archaeological excavations and written sources with contemporary faunal research. Later Paaver engaged himself only episodically in palaeozoology, identifying animal bones of a few sites, e.g. the bones of numerous stone-cist graves of Jõelähtme (Kraut 1985), the bones from Kaali (Lõugas, V. 1996, 95) and animal bones from Pulli (Lõugas 1997, 66).

Bird bones were left practically completely unexamined or identified only superficially (Paaver 1965). An exception is the settlement site of Tamula where bird and animal bones and pendants made of them were studied in the 1950s by Loreida Pöder,

Research Fellow of the Institute of Biology of the Academy of Sciences (Jaanits 1954, 167).

During the post-war period the cooperation of archaeologists and geologists came to a standstill. Common activity was limited to consulting archaeologists and short-term fieldwork. Thus in the 1950s, L. Jaanits was assisted by K. Orviku on the subject of the geology and natural environment of the estuary of Emajõgi River (Jaanits 1959b, 4, 22). While researching the Padise hillfort in the first half of the 1960s, Osvald Saadre was consulted by the geologists regarding landforms and the ancient sea-shore (see Saadre 1970, 147 ff). The cooperation intensified in the second half of the 1960s and the need was expressed for significantly greater collaboration. The gap was filled by the natural geographer Aarend-Mihkel Rõuk (Fig. 77) who was employed on the staff of the Department of Archaeology of the Institute of History with the task of exploring the formation and development of prehistoric landscapes (Selirand 1977, 61). This brought about joint expeditions with the Institute of Geology of the Academy of Sciences,<sup>6</sup> but the publications of the time do not show direct benefit for archaeology for a long time. The fruits of years of work ripened mostly only in the second half of the 1980s.

One of the few thorough palaeogeographic researches was published ten years after the fieldwork of 1977–1978 on the Stone Age settlement site of Akali near the estuary of Emajõgi River in eastern Estonia (Moora *et al.* 1988). During the project, the scientists specified the initial soil profile by drilling, examined the peat deposition above, studied the botanical composition of a single drill-hole and made pollen analysis and took samples for radiocarbon dating. The data obtained were compared with the results of the archaeological excavations. What

is important is that the authors who published the results of the project emphasized the benefit of the complex study not only to archaeology but to quaternary geology as well.

The most extensive project in the field of palaeogeography during the 1980s was the expedition led by Tanel Moora (Fig. 77) to the area of Kunda and Varudi bogs in north-eastern Estonia, examining the geological development of the area (including the ancient water system) and the connection between the natural environment and the human settlement (Lõugas 1988, 17; Moora 1998). Interdisciplinary research was carried out around the hillfort of Lõhavere where the geological development of the area was studied and the traces of cultivation were looked for in the pollen diagram from the bog near the hillfort, and the results were compared with archaeological data (Rõuk & Tõnisson 1984). At this point one should also mention the survey in the surroundings of the Kaali crater in Saaremaa. It included an archaeological excavation directed by Vello Lõugas which took place in 1976–1979 (Lõugas, V. 1996). Although archaeologists cooperated with geologists-meteoritic scientists (Ago Aaloe and Reet Tiirmaa) and biologists (Liivia-Maria Laasimer; 1918–1988) and used several dating possibilities, the interdisciplinary synthesis in the complex project (Lõugas 1978, 64), initially meant to combine different sciences, nevertheless remained quite modest.

The need for cooperation of archaeologists and soil scientists that emerged in the 1960s realized in the 1970s–1980s when pedological research was carried out in the course of several archaeological excavations. These included the Iru fossil field remains and stone-cist graves, Sarapiku fossil field remains in Toolse, Muuksi stone graves, and Rebala fossil fields as well as the town of Tartu. The work was done mostly together with Loit Reintam, the later Academician and Professor at the Estonian Agricultural University in Tartu. The genesis of the soils as well as human impact on them were explained (Lõugas & Reintam 1988).

<sup>6</sup> Since 1973 systematic cooperation for the research of Vooremaa was started (Pirrus & Rõuk 1985, 391). Various research methods were applied, including the study of chitin shells of water fleas (*Cladocerae*) (Taur 1988) that reflect changes in the lakes (fluctuations in water-level, human impact, etc.).



**Fig. 77.** From the left: Ain Lavi, Aarend-Mihkel Rõuk and Tanel Moora (photo: AI).

In 1985, studies of chemical composition of cultural layers were started. During the archaeological excavation on A. Lätte St. (today Lossi St.) in Tartu, almost 20 soil samples were taken. The humidity and the content of organic material were determined; iron, easily soluble phosphorus and copper were identified (Ütt 1988).

The method of analysing charred grains that emerged already in the 1930s with the study of hillforts continued in the post-war archaeology, again in connection with the material from hillforts. In 1950s and 1960s, the species of the grains and grain traces on potsherds from Asva, Iru, Kuusalu and Otepää were identified by the Latvian botanist Alfred Rasiņš (1916–1995) who researched the history of archaeological cereals and cultivation in Latvia and the neighbouring countries (Rasiņš 1959;

Lõugas 1988, 18). In 1950s–1960s the macrofossilized floral remains from Estonian hillforts (Tartu, Rõuge, Soontagana) were identified by several scientists from Tartu (e.g. Tõnisson & Lepajõe 1978; see also Sillasoo 2005, 76). Archaeobotanical research at the end of the period discussed was conducted with the archaeological excavations in the town of Tartu. Almost 50 soil samples were gathered and analysed during the rescue excavations of 1981–1985, with the results interpreted by Maria Abakumova (1990).<sup>7</sup>

Other noteworthy work includes the occasional analysis of the chemical composition of prehistoric artefacts. Under the direction of Harri Moora metal

<sup>7</sup> The mosses from the samples were identified by Liivia-Maria Laasimer, mollusca by Helgi Kessel and Viivi Timm and fish bones by Tiit Paaver, Ervin Pihu and Neeme Õnneleid Mikkelsaar.

remains from the crucibles found from the Arniko barrow and the Rõuge hillfort were examined (analysed by E. Johannes from the Institute of Geology of the Academy of Sciences) and it was determined that they were used to cast tin pendants (Moora 1963). In the late 1960s V. Lõugas led a project of analysing the ceramic moulds and crucibles from the Bronze Age fortified settlement of Asva (analysed by Enn Pirrus from the Institute of Geology of the Academy of Sciences). It was ascertained that these contain significantly more copper and lead than natural clays (Lõugas 1966). Individual items of bronze jewellery from Roman Iron Age were also analysed in Moscow (Lõugas 1988, 14). On the request of V. Lõugas, Arvi Lauringson, Ain Lavi (Fig. 77) and Jüri Peets (Fig. 78), some chemical analyses of iron slag and iron ore were undertaken as well (Lõugas 1988, 14; Lavi & Peets 1985, 365).

At the end of the 1950s, prehistoric metallurgy was taken up by Docent of the Cathedra of Metals Technology of the Latvian Polytechnic Institute, Aleksis Anteins (1915–2002). While studying the Latvian Iron Age damascened spearheads, he sought comparison from the Estonian finds. He identified 50 damascened examples among the Estonian Late Iron Age spearheads; the microstructure was analysed in the case of nine and spectral analysis was carried out in the case of twelve specimens, while X-ray-photography was used in some cases. The research results were published in several specific articles and later in a monograph (Anteins 1973). As a result of these analyses (which belonged to the series ‘a negative result is a result as well’ and surely did not satisfy the initial hopes of the researcher), it was discovered that in the metal of the spearheads there are a few additives from other metals that could be associated with the differences in the chemical composition of the ores from a geographic region (Selirand 1977, 78; Lõugas 1988, 14).

Mineralogical-petrological analyses were made in some cases: the lithic materials of the stone crucibles found from south-eastern Estonia and of the stone

artefacts were identified by the specialists from the Institute of Geology (Lõugas 1988, 14, 17).

In 1957 the first and successful attempt was made to locate stone walls and gateways in them with electro- and magneto-metrical methods during the expedition of Otepää hillfort led by O. Saadre (Saadre 1958; Lõugas 1988, 20).

A new interdisciplinary cooperation was brought about by the application of the radiocarbon method for dating organic objects. The radiocarbon method was introduced in Estonia in 1959 when the Laboratory of Geobiochemistry was founded at the Institute of Zoology and Botany of Estonian SSR in Tartu (director Arvi Liiva). Several of the first tests came from archaeological sites (e.g. Liiva 1963; Jaanits & Liiva 1973; Ilves *et al.* 1974; Jaanits & Jaanits 1981). In addition to tree (charcoal), bone began to be dated as well. In 1971 the Laboratory of Radiocarbon Dating (first director Jaan-Mati Punning) was opened in Tallinn by the Institute of Geology of the Academy of Sciences (Lõugas 1988, 21).

The total number of analyses made from Estonian sites still remained modest during the period<sup>8</sup> and the possibilities offered were not fully exploited by the archaeologists. Perhaps the most important result, aside from the benefit obtained from the research on a few sites, was the dating of the Stone Age sites and creating a chronology based on them (Jaanits & Liiva 1973; Jaanits & Jaanits 1981). Many analyses from Latvian, Lithuanian and Karelian sites have been dated in the Tartu laboratory as well (Lõugas 1988, 21).

In addition to the radiocarbon method, attempts have been made to date Estonian archaeological sites with other methods. The dendrochronological method was first applied during the period discussed. Estonian researchers were probably encouraged by the success of dendrochronology in Russia,

<sup>8</sup> According to V. Lõugas (1988, 21), only a little more than a hundred dates from archaeological contexts were known from Estonia by the year 1988 (i.e. during 30 years).

especially in Novgorod. In the early 1970s, architect Kalvi Aluve went to Russia to learn about the dendrochronological method. Practical work started in 1973. After a few years a dendrochronological scale was created with the use of the western Estonian architectural monuments; the scale comprises a time span from AD 916 to 1970, but it was at first applied only to date architectural and not archaeological sites (Aluve 1978; 1980b).

In addition, the thermoluminescence method was used to date archaeological objects in the late 1960s and the mid-1980s (Lõugas 1988, 21). While the thermoluminescence analysis based on the analysis of feldspar found from the cultural layers of the Pada settlement site in north-eastern Estonia and Rõsna-Saare barrow in south-eastern Estonia gave a result that correlated with the archaeological date, in the case of the Stone Age settlement of Kõnnu in Saaremaa (Hütt *et al.* 1985) the result appeared significantly younger than the habitation traces<sup>9</sup>.

During the discussed period archaeological experiments began to interest Estonian scientists for the first time. In the late 1960s, T. Moora made experiments of slash-and-burn agriculture in Virumaa (Kriiska *et al.* 1991, 400). The results have unfortunately neither been published nor presented as hand-written documentation. The same must be said of analogical attempts in Vooremaa made by Moora in the early 1980s. However, another direction in experimental archaeology has been recorded in detail – iron-smelting experiments that became necessary and possible after studying iron-smelting sites in the late 1960s and finding bog iron ore for the first time (Lang, this volume, b). In 1978, the building engineer Arvi Lauringson (1935–1997) made the first attempt to smelt iron from the local ore in Estonia. The first efforts were completed in laboratory with a small clay oven model, later ones with a full size model. Unfortunately, the experi-

ments did not produce significant amounts of iron (Lauringson 1995, 16 ff, 76 ff).

### **1986–2005: the PACT-project of the Council of Europe and intensive cooperation of archaeologists and scientists**

In 1986 the Laboratory of Geoarchaeology and Ancient Technology (LGAT)<sup>10</sup> was founded at the Institute of History in Tallinn; its purpose was the research of prehistoric technology and changes in the natural environment caused by human activity during the prehistoric times and the Middle Ages. Another task of the LGAT was the conservation of archaeological finds. For the first time, a structural unit was created that united different scientists engaged in the research of the past. Two work-groups can be distinguished in the unit. Mainly physical anthropologists and palaeozoologists and -botanists have belonged to the work-group of geoarchaeology; analyses have concerned predominantly human and faunal remains from archaeological sites as well as micro and macro remains of plants from bog and lake sediments, seldom from cultural layers. The work-group of technology has comprised archaeologists, chemists, physicists and drawers, having prehistoric textiles, metallurgy, glass and ceramics as the focus of their studies. Various research methods have been applied, including archaeological experiments. The LGAT has cooperated with several other scientific institutions and organized common expeditions.

In 1988, the LGAT's first collection of scientific articles (LMEA, 1988) was published in which an attempt was made to present as varied a spectrum of

<sup>9</sup> The researchers (Hütt *et al.* 1985) themselves considered the dates in correlation with archaeological data.

<sup>10</sup> The manager of the laboratory until 1989 was A.-M. Rõuk, during 1989–1990 Valter Lang, 1990–2005 J. Peets and since 2005 Lembi Lõugas (as acting manager).



activity as possible. A brief summary of the history of applying scientific methods in Estonian archaeology was given as well (Lõugas 1988). The publication was planned as a serial publication; however, the second collection (Muinasaja teadus, 5) was issued only ten years later.<sup>11</sup> In the summary of the historical overview of scientific archaeology published in the first collection, V. Lõugas (1988, 22) drew the readers' attention to the research group PACT (*Physical, Chemical, Mathematical and Biological Techniques Applied to Archaeology*) that was created in 1976 (Miller 1999, 10). It acted under the auspices of the Council of Europe, coordinating the collaboration of archaeologists with researchers from natural and exact sciences, organizing work-shops, trainings and conferences<sup>12</sup> and periodically issuing thematic scientific collections. Estonian scientists, however, lacked the opportunity to participate in its work, and no PACT publication even reached Estonia (Lõugas 1988, 22).

Here the loosening of the Soviet regime and the following national independence at the end of the 1980s and the early 1990s quickly brought about a breakthrough that has affected Estonian archaeology until the present. Probably the initiatives of the period will be evident in the future as well. In 1990, the first geoarchaeological expedition took place to the Liinjärv Lake in Rõuge with geologists from Finland and Sweden also participating (Rõuk 1990, 6).<sup>13</sup> The contacts continued and

<sup>11</sup> In the second so-called lab-collection, the long break was explained by J. Peets with (1) changes in the Estonian political and social life, (2) economic difficulties, (3) leaving of the first manager of the Laboratory and the initiator of the collection published in 1988 for another job and (4) considerably increased opportunities to have research results printed in other publications (Peets 1998, 9).

<sup>12</sup> The first intensive follow-up training seminar took place in 1986 in Palinuro and Ravello, Italy (Hackens & Miller 1989).

<sup>13</sup> It was discovered in 1988 that the sediments of the lake can be year-stratified and consultation and expert opinion was asked from the geologists Matti Saarnisto (Finland) and Urve Miller (Sweden). The year-stratified sediments, especially important from the viewpoint of palaeo-ecology, appeared again in the sphere of scientists' interest in the

developed and in 1991, due to the initiative of Urve Miller, Associate Professor of Geology at Stockholm University, Estonian scientists were co-opted to the PACT project. Already the same year a round table gathered in Tallinn (Hans Adam II 1992, 7) with the presentations forming the basis for the first interdisciplinary collection of articles about Estonia to be published in the PACT series (PACT 37).

Joining with the work of the PACT project provided Estonian scientists with additional means for the fieldwork and aid for research trips, but especially the necessary motivation through the contacts and cooperation between different countries and people engaged in various sciences studying the past. The opportunity for international publication brought about by the thematic publications of PACT was very important as well. The articles of Estonian scientists were issued in several collections of these, and two volumes have been specifically compiled from Estonian material. Despite the fact that for many reasons the activity of this international work-group has come to a standstill in the beginning of the 21<sup>st</sup> century, PACT laid the groundwork that will nourish the cooperation of Estonian natural scientists and archaeologists for a long time.

During the discussed twenty years, the archaeological and scientific information has been connected in several studies by both archaeologists and natural scientists. Overviews that compile and present scientific data (e.g. Lang 1996; 2000a) are quite common in the case of regional treatments, whereas the inclusion of environment into interpretations is a much rarer practice (e.g. Lang 1996, 495). Both, writings with a broader generalizing part which concentrate on the records produced by different sciences (e.g. Rõuk 1992b; Kukk *et al.* 2000; Lõugas & Maldre 2000; Kriiska 2004b) and articles on particular questions (e.g. the problems

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beginning of the 2000s when these were discovered from Lake Tõugjärv in Rõuge. By now the studies of the layers of historical and prehistoric times have been completed, together with the assistance of the historian Kalev Koppel (Veski *et al.* 2005).

connected with Kaali; see Veski *et al.* 2004b) have been published.

However, the intensified interdisciplinary research, or more precisely the striving towards it, has brought about articles where the linking together of the materials of different sciences is mainly formal, not adding significant new knowledge in some topics included in the writing and/or not containing a noteworthy synthesis. Another problem appearing now and then in interdisciplinary publications is that natural scientists have sometimes unjustifiably combined the newest research results of their own field with obsolete archaeological data<sup>14</sup>, while archaeologists have supported their interpretations by scientific research that is too little, too old or originates from an unclear source.

Most fruitful have been studies where the interdisciplinary cooperation has taken place during the project as well as in the presentation of the results. Such projects have been completed, for example, on the Stone Age settlement sites of Kõpu in Hiiumaa (Moor & Lõugas 1995; Lõugas *et al.* 1996a), partly also in the Pärnu area (Raukas *et al.* 1999; Veski *et al.* 2004a) and elsewhere.

The period discussed saw a significant change in palynology and gradually the aim of explaining the history of flora was more and more accompanied by the trend of studying the indications of human impact in bog and lake sediments (Fig. 78). These questions were taken up in the second half of the 1980s,<sup>15</sup> with the research intensifying in the early 1990s (Moe *et al.* 1992; Saarse & Königsson 1992). Since then, pollen diagrams were studied in a considerably more thorough way, identifying a larger

<sup>14</sup> In their writings, natural scientists have from time to time used generalizing archaeological treatments which originated years ago and have become outdated as to the material as well as its interpretation.

<sup>15</sup> At this time the potential of the research on human impact was emphasized and the possibilities of its realization in palynology were demonstrated (through the counting of half as many pollen grains as before and determining the absolute amount of pollen in the sediment pool) (Pirrus & Rõuk 1988).



**Fig. 78.** Jüri Peets, Siim Veski and Dagfinn Moe taking palynological samples in Jõhvikasoo Mire, Saaremaa (photo: V. Lang).

number of pollen grains (Veski 1998, 4). When earlier the pollen of cereals was generally identified as a whole, now different species were being distinguished among them. Palynologists have obtained substantial results in the research on human activity and more specifically that of agriculture (e.g. Poska *et al.* 1999). The palynological study objects have often been chosen in regions where archaeological sites are known, thus creating good opportunities to correlate the data (e.g. Tondi Mire in the neighbourhood of the Iru hillfort, the settlement site and the stone graves – Lang & Kimmel 1996; Lake Maardu in the vicinity of numerous settlement sites and

fossil field remains – Veski & Lang 1996; Jõhvikasoo Mire in the neighbourhood of Tuu iron-smelting sites – Hansson *et al.* 1996; Lake Ala-Pika in the vicinity of the Iron Age settlement site – Kihno & Valk 1999).

There are three palynologists in Estonia who study the reflections of human impact and collaborate with archaeologists to a greater or lesser extent: while Kersti Kihno has mostly researched the interior Estonia, Anneli Poska and Siim Veski have mainly been interested in the coastal areas. Two palynological doctoral theses with interdisciplinary background have been completed during the observed period (Veski 1998; Poska 2001). Both have used much archaeological data as comparative material.

The records of pollen analyses have been exploited by several archaeologists in settlement and economic archaeological generalizations, dealing with the correlation of human impact demonstrated in pollen diagrams with the archaeological material (Lang 1996, 307 ff) and the transition to agriculture as well as changes in farming (Lang 1995c; Kriiska 2000b, 72 ff; 2003b; 2004b).

Pollen analysis has played an important role in palaeogeographic studies related to several individual sites or groups of sites. One key area has been the lower reaches of Pärnu River where the buried natural organic and cultural layers have, on the one hand, created excellent possibilities for this kind of research but, on the other hand, have triggered the need for it (Veski *et al.* 2004a). The fieldwork in Keava area should be mentioned among the more important interdisciplinary cooperation projects in which the natural environment and changes in it have been explored alongside the human traces (e.g. Lang & Konsa 2004).

Studies of diatoms – algae with silica-rich cells – should be mentioned among other methods related to palaeogeographic reconstructions. Diatoms react quickly to the changes in the bodies of water (and are also preserved for a long time), enabling the reconstruction of changes in the development of the

bodies of water.<sup>16</sup> They are mostly used to study the development of the corresponding bodies of water, including the problems of shore-displacement and land upheaval (e.g. Miller & Florin 1989). For example, this research method has been effectively applied in palaeogeographic reconstructions of the lower reaches of Pärnu River by the geologist Atko Heinsalu (Veski *et al.* 2004a).

Simpler palaeogeographic reconstructions, where archaeological and geological data are tied together and the water-level of the sea or lake during the habitation is calculated, have been completed for several Stone Age settlement areas – e.g. Riigiküla (Kriiska 1999), Ruhnu (Kriiska *et al.* 2001, 5), Kivisaare and Siimusaare (Kriiska 2004a, 164). Different research methods, including palaeogeographic reconstructions involving a more thorough geological fieldwork, were also employed in the Kunda area where most of the fieldwork was completed in the previously treated period, but the results were published in the 1990s (e.g. Karukäpp *et al.* 1996; Moora & Moora 1996; Åkerlund *et al.* 1996; Moora 1998).

Palaeozoology has ever since the 1990s broadened its scope, covering several different directions. Especially active has been the work-group of the LGAT of the Institute of History. The bone material or at least the fish bones collected during the excavation of many Stone Age, Bronze Age and Iron Age settlement sites<sup>17</sup> and hillforts (e.g. Saadjärve; Lõugas 1997, 75) as well as fossil field remains (e.g. Saha-Loo; Lang 1994b, 23) have been identified by Lembi Lõugas. Her more important research topics concern the development of prehistoric

<sup>16</sup> In order to distinguish between the different phases of the Baltic Sea the diatoms were first studied by the above mentioned P. W. Thomson. However, diatoms from curative sea mud were identified already in the mid-19<sup>th</sup> century (Kukk *et al.* 2000, 92).

<sup>17</sup> For example: Joaorg in Narva (Jaanits 1994, 20), Kunda (Lõugas, L. 1996), Kaseküla (Kriiska *et al.* 1998, 37 ff), Kõpu I, IV/V and VII/VIII (Moora & Lõugas 1995, 477), Ruhnu (Kriiska *et al.* 2001, 12), Riigiküla (Lõugas 1999), Asva (Lõugas 1994), Pedäjassaare (Aun 2001, 98) and Pähklmägi in Viljandi (Valk 2001d, 68; Lõugas 2003).

and medieval fishing in the Baltic (Lõugas 1997; 2001), the forming of the post-glacial seal population (Lõugas 1997; 1998; Storå & Lõugas 2005), the temporal changes of the Pleistocene (Lõugas *et al.* 2002) and utilization of primeval natural resources (Lõugas *et al.* 1996b).

Palaeozoologist Liina Maldre has been predominantly active in studying domestic animals. She has identified the animal bones collected during the excavations of several medieval towns, stone graves, fossil fields and settlement sites.<sup>18</sup> In addition to the determination of animal species, the analyses sometimes include identifying their sex, the age at kill, pathologies and heights (e.g. Maldre 1998). Maldre has also treated the problems of breeding (Peets & Maldre 1995). The determinations made by Maldre have been successfully combined with various other studies of archaeological finds and in cooperation with the archaeologists Heidi Luik and Ülle Tamla some investigations dealing with the bone and antler artefacts of Estonian Iron Age, medieval and modern times have been completed (Luik & Maldre 2003; 2005; Tamla & Maldre 2001).

The features of animal bones have to some extent been identified by Paul Saks and Eha Järv of the Estonian University of Life Sciences – e.g. those found from Viljandi (Valk 2001d, 68; Saks & Valk 2002) and Tartu (Saks 1993; 1994).

Physical anthropological research has actively continued during the last twenty years. In the 1990s the research of the work-group of the Institute of History, which was established in the late 1960s and the early 1970s, culminated in a monograph treating the physical anthropology of Estonians (Mark *et al.* 1994). During the period discussed, archaeologi-

<sup>18</sup> For example: the towns of Rakvere (Aus 1993), Pärnu (Maldre 1997a), Tartu (Maldre 1997b); the graves of Tuulingumäe in Tõnija (Mägi-Lõugas 1996), Piila (Mägi & Rudi 1999), Võhma X (Ots *et al.* 2003), Ehmja, Keskvere II, Kirbla, Lihula, Maidla I–II and Uugla I (Maldre 2003b), Uusküla II (Lang 1999e), Tõugu II (Maldre 2000b); the settlements of Lehmja-Pildiküla (Kriiska 1991), Ilumäe (Maldre 2000a) and Pedäjasaare (Aun 2001) and the fossil fields of Tõugu (Lang 2000a, 230).

cal material has also been analysed by anthropologists starting their scientific career – Raili Allmäe, Jonathan Kalman, Ken Kalling and Jana Limbo-Simovart; the skeletal materials found from a few archaeological excavations have also been investigated by L. Heapost and G. Sarap (e.g. Aus & Tamla 1989; Kriiska 1991).

R. Allmäe has analysed the human bones from burial places of prehistoric and historical times in villages as well as in towns.<sup>19</sup> K. Kalling has studied human bones from St. John's Church in Tartu (1995; 1997), the churchyard of St. John's Church in Viljandi and the Viimsi stone grave (1993). J. Kalman has analysed the human bones of several stone graves and other sites.<sup>20</sup> On the basis of the analysis of the traces of injuries on bones (especially on the skull), he made an attempt to reconstruct the killing of a 30–40-year old man (grave LI) in a military encounter who had been buried in the cemetery of Kaberla in northern Estonia in the 14<sup>th</sup>–15<sup>th</sup> century (Kalman 2000d). He also analysed a skeleton of an 8–9-year old child suffering from syphilis who had been buried in Kaberla cemetery in the late 17<sup>th</sup> century (Kalman 2000e). In his works, Kalman treated considerably more thoroughly than was done previously the post-mortem manipulation of bodies as well as the partial burials, and demonstrated the existence of both in the prehistoric burial customs in Estonia. J. Limbo-Simovart has studied the dental pathologies apparent with the individuals buried in the Late Iron Age cemetery of Pada on the basis of

<sup>19</sup> For example: Tõnija (Mägi-Lõugas 1996), Piila (Mägi & Rudi 1999), Võhma X (Ots *et al.* 2003), Ehmja, Keskvere II, Kirbla, Lihula, Maidla I–II and Uugla I–II (Allmäe 2003), Tääksi (Allmäe 1998), Pedäjasaare (Aun 2001) and St. Barbara cemetery, Võllamägi ('Gallows Hill') in Tallinn (Lavi 1995b), Kivisaare (Kriiska *et al.* 2004a) and Obinita (Aun 2000b).

<sup>20</sup> For example: stone graves of Rebala (Kalman 1999; Lang *et al.* 2001), Uusküla II (Lang & Kalman 2000), Tõugu II (Kalman 2000b) and Tandemägi in Võhma (Kalman 2000c); the burial ground of Tallinn St. Michael's Convent (Tamm *et al.* 1998).

hypoplasia, the enamel defects caused by metabolic stress (Limbo 2004).

Generally, palaeo-anthropology during the period discussed is characterized by the broadening of the questions directed at the materials. Especially important is the fact that anthropologists started to identify burnt human bones as well. That used to be an obstacle for interpreting the problems of the Iron Age. Usually the bones were examined to identify the age and sex of the buried individuals selected and the minimal number of individuals in the grave, to make craniometric and palaeodemographic analyses and to study the height of individuals.

During the late 1980s, systematic archaeobotanic research developed in Estonia. The samples were gathered and studied in the course of almost all excavations of medieval towns of the time (Sillasoo 2005, 77). The investigations were made by Ülle Sillasoo, who analysed a part of the material (e.g. Tartu, Pärnu and Rakvere; see Aus 1993; Sillasoo 1995; 1997) more thoroughly. The focus of her investigations was the reflections of the medieval diet in archaeobotanic material. This topic is treated in her MA thesis, completed in the Central European University (Sillasoo 1996), and in several smaller studies (Sillasoo 2001; 2002). Macrofossil plant remains from the Tartu medieval cultural layer have been identified by Mihkel Tammet (1988a), M. Abakumova (Abakumova & Sillasoo 1991) and Mari Uudelt (Tvauri 2001a). Additionally, the plant remains from soil samples gathered from the cultural layers of several settlement sites (e.g. Ala-Pika and Pulli) have been analysed by Sirje Hiie. In a few cases Hiie and Tammet identified the species of wood as well, e.g. in Pedäjasaare (Aun 2001) and Tuuu (Peets 1995, 467). Tammet (1988b) also analysed the eggs of parasites found from the medieval waste holes of Tartu.<sup>21</sup>

The work in the field of prehistoric and medieval metallurgy intensified in the mid-1980s, bringing

<sup>21</sup> These were the first known archaeoparasitological studies in the former Soviet Union (Tammet 1988b, 136).

about the application of several scientific methods for studying archaeological finds. Many different analyses have been made, mostly by or under the direction of the archaeologist Jüri Peets. Various studies with the help of metallographic, chemical and spectral analysis concerned the physical qualities, chemical composition and the idiosyncrasies of the microstructure of iron ore (Peets 1991; 2003a, 143 ff). Another important trend is related to the production technology of iron working tools and consumer goods, which required the metallographic examining of prehistoric artefacts like axes, various knives, etc. (Peets 2003a, 200 ff).

In Estonia, scientific methods have been repeatedly applied for studying ceramics. Various methods have been used to investigate the Neolithic pottery of the Narva area and the Iron Age and medieval pottery of the Otepää hillfort by or under the initiative of Aivar Kriiska. The medieval pottery of Tallinn was analysed by Toivo Aus (1992) and the pottery from several Estonian Neolithic settlement sites by Kriiska and Volli Kalm, Professor of Geology at the University of Tartu. The purpose was to define and extend the parameters of earthenware, by incorporating the chemical composition, firing temperature and environment of ceramics (Kriiska 1995d, 55). The central question was the temper used in the clay mass.<sup>22</sup> It was examined by visual observation at different levels, with lamellae made and analysed,<sup>23</sup> and with X-ray structural analysis employed (Kriiska & Rummi 1996; Kalm 1996; Kalm *et al.* 1997). The geologist Elvi Tavast identified shells added to the clay temper of the Stone Age pottery (Kriiska 1995d, 63) and the geologist Maire Sakson tried, though unsuccessfully, to identify dia-

<sup>22</sup> Among other things an attempt was made on the basis of the clay mixture to explain whether the vessels had been produced at, or in the vicinity of, the settlement or somewhere further (Kalm *et al.* 1997).

<sup>23</sup> The analyses were made by the geologist Tõnis Oja. In addition to the qualitative analysis of minerals the percentage of the main components (clay minerals, mineral grains and fissures) was determined by the multipoint-method.

toms from its chemical composition (Kriiska 1996a, 374). Porosity – as an important indicator of the clay temper, as well as the firing and use of the pottery – has been determined by absorption methods (Kriiska 1994; 1995d; Kriiska & Rummi 1996).

Ever since 1994 there has been cooperation between the archaeologist Ülle Tamla and Professor Urve Kallavus of the Centre for Materials Research of the Tallinn Technical University to determine the composition and manufacturing techniques of the alloys used to produce the silver ornaments of the Late Iron Age. Analyses of the structure and composition of several ornaments have been made – for example a silver ring from the Varbola hillfort (Tamla & Kallavus 1998a), the fragment of a silver vessel from Padiküla (Tamla & Kallavus 2003), a silver bracelet found from the Muhu hillfort (Tamla *et al.* 2004), and silver ornaments from the Lõhavere hillfort (Tamla *et al.* 2002). In these studies, optical metallography and scanning electron microscopy as well as wavelength dispersion-X-ray microanalyser to determine the composition have been applied (Tamla & Kallavus 2003). Good results have been gained to explain the production technology of silver ornaments as well (Tamla & Kallavus 1998b; Tamla *et al.* 2004)

In the 1990s and 2000s, more mineralogical-petrographical studies have been carried out than previously. The determinations have been made predominantly by Juho Kirs and Tiia Rodi (Suuroja). Rodi has identified the material of the stone artefacts collected at the excavations of several Stone Age settlement sites at Kõpu Peninsula in Hiiumaa (e.g. Kriiska 1996c), and generalized on the stone use during the Stone Age on the basis of the finds from the settlement sites of the Estonian northern coast (Suuroja 1996). Kirs has identified the material of stone axes and adzes gathered from the Stone Age settlements found in Pärnumaa in the late 1990s and the early 2000s (e.g. Kriiska & Saluäär 2000b, 19).

In exceptional cases, coprolite studies have been made in Estonia. L. Maldre (2003a) examined the

animal and fish bones from the coprolites of dogs found in 1939 from the Asva fortified settlement and M. Tammet analysed the coprolites of sheep found from the hillfort of Lõhavere (Mäesalu *et al.* 1991).

Among other work one should mention the analyses with X-ray diffractometry and X-ray fluorescence made on the mortar composition of a few excavated historical objects – for example, a fragment of the Pärnu town wall and the foundation of Viru-Nigula church (Aus & Tamla 1989; Tamla, Ü. 1992a). To some extent, there has been analysis of the soils from archaeological sites and their surroundings. For example, pedological research was carried out in the 1990s at Jalase (Heinsalu *et al.* 1994) and several northern Estonian (e.g. Kutsala and Tõugu) fossil field remains (Reintam & Lang 1999).

The methods and techniques applied during archaeological fieldwork have improved, but Estonian archaeologists have generally been quite conservative with respect to archaeological survey as well as excavation methods.

Since the late 1980s, phosphate analysis has been regularly (though not consistently) applied in studying archaeological sites, especially to determine the extent of a cultural layer and its intensity. The analyses have been mostly made by the chemists Toomas Mägi and Elna Haiba of the LGAT. The method has been employed while studying the sites of the Stone Age, Iron Age and historical times as well as the Iron Age hillforts.<sup>24</sup> Phosphate analyses have also been made in the course of localizing presumed harbour sites, for example in Viltina, Saaremaa (Mägi 2000). The chemical composition of the cultural layer in Rakvere was identified by T. Soosilla (Aus 1993, 9).

Georadar has been applied in a few cases. In 1995 the archaeologists Aldur Vunk and Rünno Vissak

<sup>24</sup> For example: the settlement sites of Riigiküla IV (Kriiska 1995e), Riigiküla V–XII, Ihaste, Kõpu IX and Kivisaare (Kriiska *et al.* 2003), Võhma I (Ots *et al.* 2003), Alapika (Valk 1996b), Lehmja (Haiba *et al.* 1988), Võllamägi ('Gallows Hill') in Tallinn (Lavi 2004, 143) and the hillfort of Lihulinn on the Saaremaa Island (Ligi *et al.* 1996).



**Fig. 79.** *Fragment of the medieval wreck in Pärnu (photo: A. Kriiska).*

initiated research with the 500 MHz georadar in Pärnu and Tartu. In Pärnu the purpose was to locate the areas where a medieval cultural layer is preserved and to determine how intensive and thick it is. In Tartu the method of ground probing radar was tested in areas where excavations were already completed or about to start (Vissak & Vunk 1996). A year later, the georadar was used in Viljandi where the radar surveys were combined with drilling (Valk 1997c).

While in previous periods the application of the dating methods was completed through close cooperation between the dating laboratory of Tartu and the archaeologists, then during the period discussed the sampling became the task of archaeologists and the relationship with the laboratories had usually become formal. This may be one reason why in Estonia the

calibration of radiocarbon results into solar calendar started relatively late. It was only in the late 1980s that Estonian archaeologists started to present the dates with dendrochronological improvements (e.g. Lavi 1989), which became routine ten years later. Among other efforts the periodization and chronology of Estonian prehistory is based on calibrated dates as well (Lang & Kriiska 2001). In addition to the Estonian dating laboratories, the radiocarbon analyses have been made in foreign laboratories as well.

In the 1990s, the method of accelerator mass spectrometry (AMS) dating was added, which until now has been used rather sporadically in determining the age of archaeological materials. Very small amounts of organics have been dated with this method, for example the burnt organics on pottery (Kriiska *et*

al. 2005), human and animal bones (Lõugas *et al.* 1996b; 2002; Åkerlund *et al.* 1996) and the remains of a wooden handle found in the shaft of a stone axe (Kriiska 1998b). AMS-dating has significantly helped to foster the study of fossil field remains (e.g. Lang 1996, 258). The only greater series of dates has been obtained from the animal bones found in the cultural layer of the Stone Age settlement site at Lammasmägi in Kunda (Åkerlund *et al.* 1996).

The dendrochronological dating method has been continuously employed in Estonia. In the period discussed the method has mainly been applied by Alar Läänelaid, botanist and Lecturer at the University of Tartu. He has dated the wood from several medieval and modern archaeological objects (e.g. the town of Pärnu and the trackway in Viraksaare Bog). Predominantly, however, dendrochronology has been used to date the buildings of historical times, especially the churches (e.g. Läänelaid & Tiirmaa 1995; Läänelaid & Alttoa 1997; Läänelaid 2001). I. Pärt has also dated dendrochronologically a few objects, mainly Estonian bog trackways (Lavi 1998).

As a result of long work, the first version of the shore-displacement chronology comprising the Estonian coastal area has been completed. This is based on 60 Stone Age settlement sites on the coast of the Estonian mainland and the western Estonian islands with their altitude information, deduced water level at the time of habitation (in the form of a simpler or a more complicated palaeogeographic reconstruction) and, in some cases, the known radiocarbon dates. By now, the interval of 5700–2700 years BC has been covered with representative data (Jussila & Kriiska 2004). A computer program has been developed to facilitate the dating.

The LGAT has stimulated the conservation of archaeological artefacts. While previously the conservators treated mostly iron, now they have started to also conserve wood, textile, leather and glass. Among more extensive work one should mention the conservation of the Maasilinn 16<sup>th</sup>-century shipwreck in 1987–1990 (Peets) and the Pärnu wreck (Fig. 79) from the 14<sup>th</sup> century in 1993–1996 (Peets

and Kriiska), with the method of applying low temperatures with normal pressure<sup>25</sup> (Mäss *et al.* 1998; see also Roio, this volume).

Archaeological excavations at iron-smelting sites and metallographic studies again led to iron-smelting experiments (Fig. 80). These took place in 1988–1990 under the direction of J. Peets in the Late Iron Age and medieval iron-smelting site in Tuiu, north-western Saaremaa (Kriiska *et al.* 1991; Lauringson 1995, 85 ff; Peets 2003a, 132 ff). Three aboveground or partly depressed furnaces were reconstructed, based on the remains of a 12<sup>th</sup>–13<sup>th</sup>-century furnace unearthed in Tuiu. In the course of the smelting process, the amounts of raw material used (wood, coal, ore) and the iron lumps obtained were measured, and the temperature in different parts of the furnace were recorded with the help of a special thermometer. Although iron was obtained in all (approximately twenty) experiments, the most effective ones were the tests with three-part processes carried out in the 1990s. At the end of one cycle, the liquid slag was removed and the furnace was refilled with charcoal and ore. In this way 2 kg of iron were obtained from 22 kg of iron ore. The main result of the iron-smelting experiments so far is demonstrating the usability of the furnaces (Kriiska *et al.* 1991, 404 ff) and explaining the potential technique used by Late Iron Age metallurgists to get greater amounts of iron. In addition to iron-smelting experiments, coal-charring attempts in charring pits and stacks have also been carried out (Peets 2003a, 40 ff).

Inspired by Peets, experiments with pottery and glass started in the late 1980s and the 1990s. In order to study archaeological ceramics, experiments were started by Kriiska at the field basecamp of the Lehmja archaeological expedition near Tallinn in 1989; later, experiments have been made elsewhere in Estonia. Since 1991, these have been conducted

<sup>25</sup> According to the method, the wood is at first soaked with polyethylene glycol and after that the water is sublimated in frozen state that ensures a minimal contraction and deformation of the wood during drying.





**Fig. 80.** Iron smelting experiment in Tuiu in 1990 (photo: A. Kriiska)

as summer practice (as part of the lecture course introducing Estonian archaeological and ethnographic pottery) for the students of ceramics at the Estonian Academy of Art (Fig. 81). While at first the purpose was to explain the qualities of clay as the raw material of ceramics in various production and firing techniques (Kriiska *et al.* 1991, 400), later the experiments have included also examination of the surface finish and decoration (Kriiska 2004a, 220 f). In the course of the experiments various aspects have been documented: the clay mixture (the relationship of clay and the temper, different tempering materials, etc.), the manufacture process (forming techniques, surface finish, etc.), decoration (devices, amount of time spent, etc.) and firing (hearth, firing temperature, different heating materials, etc.).

In addition to the iron-smelting and pottery making experiments, attempts to produce glass were completed at the Tuiu iron-smelting site in 1990. T. Mägi was interested in the possibilities of local glass manufacture, usability of the local raw material and the possibility of tinting the glass body with coloured iron slags (Kriiska *et al.* 1991, 402; Mägi 1993). In the late 1990s archaeologist Silvia Laul, conservator Heige Peets and costume designer Melanie Kaarma succeeded in designing a reconstruction of a shirt-like coat on the basis of the textile finds from a 14<sup>th</sup>-century male burial (grave XXII) at the Siksälä cemetery in south-eastern Estonia: they identified the material, created the patterns and completed a woolly shirt-like coat (Kaarma *et al.* 2000). In the early 2000s, bone working attempts were started by



**Fig. 81.** Pottery making experiment in Kivisaare in 2003 (photo: A. Kriiska).

Jana Ratas and Heidi Luik, with the main thrust of the experiments being replication of archaeological bone artefacts. Suitable tools and working techniques were tried to produce the desired results, and the time spent to replicate an artefact was measured (Luik 2005, 73, 95 ff).

Other archaeological experiments have also been conducted in Estonia: a silver bracelet has been made while trying to investigate the working techniques, equipment and time spent on the process (Tamla *et al.* 2004); trebuchets have been built at the Lihula, Varbola and Otepää strongholds (Kraut 2001, 121); copies of painted glass beakers found from Tartu and various weapons (the chamber-cannon found from Tallinn, the Otepää gun, spearheads, etc.) have

been made; different stone knapping techniques have been tried, and stone axes and adzes as well as bronze artefacts (the sickle of Kivisaare, etc.) have been made. Some of the experiments have been completed in order to explain scientific problems and (weather wholly or partly), with exact documentation sometimes within the scope of teaching Stone Age technology at the University of Tartu. Most of the undertakings, however, have been demonstrations for an interested audience during various history festivals, thus being a part of popularization of (pre)history rather than scientific research.

## Summary

The application of scientific methods in Estonian archaeology started already during its development a century and a half ago. In the 19<sup>th</sup> century and the early 20<sup>th</sup> century, these undertakings still remained relatively sporadic and most of them never led to the interpretations of prehistory. The only exceptions were some projects of C. Grewingk. Being an archaeologist, a quaternary geologist, a mineralogist-petrographer as well as a palaeozoologist, his work sometimes led to syntheses, though false ones at times.

A breakthrough in the use of scientific methods in archaeology came in the 1920s in connection with the rapid developments resulting from the creation of the Chair of Archaeology at the University of Tartu. Scientific methods were mostly employed by archaeologists themselves or with the help of specialists in Stone Age studies. More important efforts are connected with the archaeologist R. Indreko who cooperated with several geologists (P. Thomson, K. Orviku) in the 1930s and especially while studying the Mesolithic settlement site of Lammasmägi in Kunda. In a few cases he had the support of physical anthropology (J. Aul), zoology (J. Lepiksaar) and other disciplines. The most significant undertaking was the application of pollen analysis in Estonia

since the mid-1920s. In addition to producing information about the natural environment, pollen analysis started to be employed directly to date archaeological material.

During the 40 post-war years, the trends in scientific research evolved gradually. Based on the human skeletal materials gathered in the course of archaeological excavation and within the scientific institutions engaged in archaeology, palaeo-anthropology gradually became a strong research field (K. Mark). A foundation was laid for palaeo-ecologic research (A.-M. Rõuk). This development, in turn, later ensured the birth of the Laboratory of Geoarchaeology and Ancient Technology at the Institute of History. However, mostly so to say old and tested methods were applied with the help of special scientists. From the point of view of dating, the most important means were through palynology and radiocarbon dating, which was introduced in Estonia in the late 1950s. While studying the subsistence mode and nutrition, help was obtained from the osteological investigations by zoologists (mostly by K. Paaver), and in studying ethno-genesis by anthropological analyses (K. Mark). The first attempts were made in experimental archaeology (T. Moora).

The use of scientific methods in archaeology, however, did not achieve any exceptional position in Estonia, nor was it declared special by any scientist, despite the contrary tendency present during the post-war archaeology, especially in the 1960s, in many places in the world (e.g. Johnson 2001, 31 f). Of course the effects of the Iron Curtain were so intense that the Anglo-American ideas never reached Estonian scientists. At least one cannot detect any visible trace of it in retrospect. However, rapid and in some sense significant rise in the use of scientific methods in archaeology took place in the late 1950s and the 1960s in the Soviet Union as well (Klejn 1993, 48).<sup>26</sup> The minimal effect (not to say

the lack) of this immediate influence on Estonian archaeology is surprising. A more probable explanation is the small number of archaeologists, due to the absence of archaeological training at the University of Tartu since 1950. The limited number of archaeologists in the research field of seemingly unlimited scope used (through the cooperation of scientists from different areas), however, most of the scientific methods known to archaeology at the time. This led to a situation that fostered the belief in the 'almightiness' of scientific methods in archaeology, but also led to a disappointment in it for the future. And even this process that in some ways was manifested in the late 1980s and the early 1990s was not especially dramatic, but rather constructive and self-searching.

The use of scientific methods in Estonian archaeology until the late 1980s has been characterized well by V. Lõugas (1988, 22) in the introductory overview of the application of the scientific methods in archaeology published in the first collection of the LGAT:

While trying to give a general evaluation to the connections of Estonian archaeology with natural sciences, to start with, one should refer to the very old traditions of the cooperation and the readiness of archaeologists to take up new methods. On the other hand these ties have to be characterized as accidental and modest. The main reason for the latter is probably the scarcity of material possibilities, shortage of archaeologists and the sudden increase in the rescue excavations since the 1970s.

The scientific archaeology of the last twenty years is characterized by several tendencies but the important key words are 'lab' and 'PACT'. Beyond doubt one should agree with V. Lang that 'never before has the interdisciplinarity in Estonian archaeology been applied in such an extensive and systematic manner as since the establishing of the Laboratory

<sup>26</sup> Very different scientific methods were tried for application, numerous publications and corresponding collections were issued (Klejn 1993, 48), and in 1977 even a commit-

tee was created in Moscow for organizing the application of scientific methods in archaeology (Lõugas 1988, 22).

of Geoarchaeology and Ancient Technology and the joining with the international scientific program of the Council of Europe, PACT' (Lang 2000c, 77).

Probably the most influential science for archaeology (and *vice versa* – obtaining additional information and certainty from archaeological material into its interpretations) has been palynology (K. Kihno, A. Poska, S. Veski). The reflections of human impact on the natural environment have by now been sought for in pollen diagrams made from the samples taken from more than 30 different parts of Estonia (Poska & Saarse 1997; Poska *et al.* 2004). The most important results of palynology in archaeology are connected with the problems of the formation and the intensity of habitation and cultivation.

During the last twenty years, palaeozoologic research has evolved considerably (L. Lõugas, L. Maldre). Among the bone finds of subfossil land mammals (without domestic animals) there are by now 26 species identified, among marine mammals – 5 species, birds – 18 species, amphibians – 2 species and fish – 23 species (Kukk *et al.* 2000, 93). Here the bilateral relationship is important as well. On one hand, palaeozoologic analysis gives a significant additional opportunity for the interpretation of archaeological material, but at the same time, these very animal bones found during the excavation are the main sources for research of the past fauna. From this perspective, the most relevant have been the studies on the development of post-glacial sea fauna and animal husbandry.

Archaeological material is the main basis for another science – palaeo-anthropology (R. Allmäe, L. Heapost, K. Kalling, J. Kalman, J. Limbo-Simovart). The most significant results of the 1990s and the early 2000s are connected with the beginning of the research of burnt human bones. This has brought the large bone material of stone graves into scientific focus.

Ups and downs characterize the archaeobotanic research (Ü. Sillasoo) developed in the late 1980s. This relates mostly to medieval town archaeology, especially the questions of nutrition and food trade.

The application of scientific methods has been quite natural for the archaeologists engaged in prehistoric technologies (J. Peets, A. Kriiska, Ü. Tamla). The studies have dealt with the physical qualities as well as the peculiarities of (chemical) composition and structure of iron, silver and ceramics by using metallographic, chemical, mineralogical and spectral analyses.

During the last twenty years other methods have been employed and several research trends have been tested, for example, analyses of rocks and minerals, coprolites, medieval mortars and soils of the fossil fields. Generally, these have been marginal attempts and with no special influence on archaeology.

To some extent, the methods and techniques applied in archaeological fieldwork have improved. In the mid-1980s phosphate analysis came to be used again (E. Haiba, T. Mägi), and in the mid-1990s the possibilities of using georadar in Estonian town archaeology (R. Vissak, A. Vunk) was tried.

Although many ideas were present earlier, experimental archaeology was born in Estonia in the 1960s. Its prime was in the late 1980s and the early 1990s, when the experiments made (iron-smelting by J. Peets, pottery production by A. Kriiska and glass manufacturing by T. Mägi) were successful and well documented. Even an idea of establishing a centre for experimental archaeology was raised (Lauringson 1991, 20) but, unfortunately, it was never realized. Several materials (bone, bronze, different rocks, etc.) and processes (wrought ornamentation, *cire perdue* cast, etc.) have been tested subsequently, but the problem has often been the poor documentation of experiments and their very rare publication.



# Settlement and Landscape Archaeology in Estonia

VALTER LANG

## Introduction

This article explores the branch of archaeology that studies prehistoric settlement. This branch involves, on the one hand, questions of the essence of settlement units, settlement centres, settlement districts, settlement patterns, settlement hierarchy, etc. over time; on the other hand, it explores the relationship between human settlement and the natural environment with its different landscape regions, and the use of the landscape in social and economic behaviour, i.e. – in general terms – the mutual relations between man and nature. The branches of archaeology that study such questions have been referred to in different ways in different countries; the terms ‘settlement archaeology’ and ‘landscape archaeology’ are used primarily. One apparent difference between these two is the fact that the former focuses on the settlement as such, whereas the latter emphasizes the relationship between man and the landscape. Today there is almost no substantial difference between these two directions, however; it mostly depends on local research traditions and not so much on the theoretical background or the circle of study objects (compare corresponding directions in Germany and Great Britain, for instance). This is easily understandable, because neither prehistoric nor even modern human settlement can be studied separately from the surrounding landscapes that have influenced it and that have also been influenced by man through his social and economic strategies. In Estonia, this branch of archaeology has

been called settlement archaeology during the last ten years or so, whereas the understanding of it is similar to that developed in Scandinavia (in Sweden in particular), which combines both German and British traditions.

## The beginning of research into prehistoric settlement

Although conscious research into settlement and landscape archaeology did not begin in Estonia before the 1990s, prehistoric settlement and its development through the millennia has been an important subject of study ever since the beginning of professional archaeology. One cannot speak of settlement analyses in the works of the archaeologists of the late 19<sup>th</sup> century (Constantin Grewingk and Richard Hausmann) – the number of prehistoric sites known in those times was too small for such studies or, in other words, there was no thorough and reliable database of archaeological sites. The development of this database was begun at the end of the 19<sup>th</sup> century by Jaan Jung and his correspondents, who carried out the first Estonia-wide inventory. The work was continued in the 1920s by Professor Aarne Michaël Tallgren and students of archaeology (the second Estonia-wide inventory). All information collected earlier was critically checked, and new data was added during this work.

It was only now that scientific analyses of prehistoric settlement became possible.

The possibilities of the new database were first used by Tallgren himself in his thorough examination of Estonian prehistory (Tallgren 1922c; 1925). Distribution maps of sites and finds were composed for all prehistoric periods and then used for the analysis of changes in settlement. Tallgren did not only examine Estonia-wide developments, but also settlement history and its connections with the natural environment in some smaller key areas. In accordance with the positivist methodology characteristic of those years, the distribution of settlement was directly equated with the spread of sites and finds; no settlement was presumed in areas where the sites and finds of corresponding periods were missing.<sup>1</sup> The location of settlement was considered to have been directly dependent on the subsistence of communities (the economic determinacy of settlement) and, hence, on the existence of the geographical conditions for corresponding economic activities (geographical determinacy). In order to study settlement, one had to know the main subsistence of that period; the latter, in turn, became apparent from the spread of sites and the character of material culture. As the distribution of settlement was assumed to have been dependent on the existence of certain geographical conditions, one had to be well versed in palaeogeography, i.e. the changes in the natural environment over time (see more Lang 2000a, 21 ff).

It was on this basis that the standpoints of the development and spread of settlement in different prehistoric periods were formed. The same basis was also used by all other researchers investigating settlement; thus the work of Tallgren could be taken as the beginning of research into prehistoric settlement in Estonia. One of Tallgren's main conclusions was that while the (foraging) settlement of the Stone

Age had been concentrated near larger bodies of water, by the Roman Iron Age it had left those areas and moved to regions with soil suitable for agriculture. The latter conclusion was, of course, based on the location of monumental stone graves in the areas of modern fields or close to them. This conclusion meant that the Roman Iron Age people of Estonia subsisted mainly on agriculture and stock breeding. The distribution maps of settlement composed by Tallgren have later been improved considerably, as new finds came to light; nevertheless, this main conclusion together with the general methodology of research remained unchanged for several decades (e.g. Moora 1932; 1938a; EA I, 1935; EA I, 1955).

During the following decades, the provision of an overview of settlement and its dynamics became a more or less obligatory part of all archaeological studies, unless they were dedicated to other narrower topics (e.g. typology of artefacts). Special studies of settlement remained few in number; one can only mention a treatment of Richard Indreko (1934) on the decisive role of nature and landscapes in the establishment of Stone Age settlement and, particularly, in the transition to farming subsistence, and the analysis of Tanel Moora (1966) about the differences in the development of settlement in different landscape districts of central Estonia. The latter work shares the same methodology with earlier studies in determining inhabited sites; yet it goes much further in the understanding of settlement, economy, landscape (incl. soil) conditions and human impact on the natural environment (see below). Both treatments share the approach of the economic and geographical determinacy of prehistoric settlement.

Until the 1990s, our investigations of settlement archaeology were characterized by an essentially similar positivist approach. One cannot deny, however, that in the framework of this methodology, new and better understandings of the rules and chronology of the distribution of prehistoric settlement gradually developed. In collaboration with several branches of the natural sciences – geology,

<sup>1</sup> Reference to the deficiency of archaeological investigations of corresponding areas or periods was another way to explain the absence of sites.

soil science, botany, palaeo-ecology, physical geography, etc. – the suitability and possibilities of different landscape regions for different subsistence strategies were established. Thus, for instance, the researchers became convinced that some millennia ago, thin soils on limestone bedrock in northern and western Estonia<sup>2</sup> that are unsuitable for modern agriculture were the best areas for primitive stock breeding and tillage, as those soils were thin but rich in humus and fertile and lacking in dense forest cover. As the stone-cist graves of the Late Bronze and Pre-Roman Iron Ages were concentrated in precisely such *loo*-areas, Vello Lõugas (1970a) was able to draw the conclusion that farming subsistence had already become dominant several centuries earlier than had hitherto been assumed. It was well expected, therefore, that the earliest fossil fields were also later found in *loo*-areas.<sup>3</sup>

## The concept of landscape and archaeology

In Estonian geography, the concept of landscape was first developed and systematically used by Johannes Gabriel Granö (1882–1956), who was invited from Finland by the University of Tartu to hold the first professorship in geography (Peil *et al.* 2005). For him landscape was a part of the earth's surface, a regional unit the elements of which were surface forms, waters, vegetation and human settlement

<sup>2</sup> In Estonian, such a landscape is called *loo* or *loopealne* and it has much in common with *alvar*-type areas in Sweden (particularly on the islands of Gotland and Öland).

<sup>3</sup> As Lõugas dated the majority of stone-cist graves and fossil fields from the late Pre-Roman Iron Age, the transition to farming subsistence was also considered to have taken place at this period of time. Later research demonstrated still much older dates of both stone-cist graves and fields; therefore, nowadays this transition to predominantly farming subsistence can be dated – on the basis of these sites – almost one thousand years earlier (see Lang 1995a).

(Granö 1922). On the basis of these four elements, he distinguished seven larger landscape regions, while two or three elements were decisive for the separation of a total of 22 distinct landscapes. The principal scheme for the classification of Estonian landscapes remains the same today, although many researchers have made improvements (prior to World War II: e.g. Tammekann 1933; Pärna 1940). Even the names provided by Granö for distinct landscapes have often been preserved until today: e.g. Soomaa ('Land of Bogs'), Lahemaa ('Land of Bays'), Vooremaa ('Land of Drumlins'), Palumaa ('Heathy Woodland'), etc. (Kurs 2001, 10 f). Granö distinguished two dimensions in man's environment: an immediate environment or milieu (the area in which one moves) and a distant environment or landscape. The latter begins from one to two hundred metres from the observer and extends to the range of sight, i.e. the horizon; it might be either an open or a closed landscape and consists of both natural and artificial (e.g. human settlements) substances (Granö 1924).

Today it is difficult to understand why the influences of landscape science (or so-called pure geography) elaborated by Granö did not reach the archaeology of those days; the more so because, for instance, the students of archaeology carrying out the second Estonia-wide inventory of antiquities often worked together with students of geography (see Kurs 2001, 8). Also, as stated by Granö, the research had to be developed in an interdisciplinary manner: geography studying the landscapes (the distant environment), sociology exploring the (mental) milieu and history (incl. archaeology) analysing the changes in both of them over time. As much as the word 'landscape' was used in Estonian archaeology (e.g. Indreko 1934), it carried the general meaning of the physical environment. The relationship between man and environment was handled on the level of whether the latter enabled/favoured either foraging or farming subsistence, or whether it enabled human habitation at all.

The situation began to change in the 1960s. One important step in a new direction was made by



Harri and Aliise Moora in their joint article about historical-cultural districts in the eastern Baltic region (Moora & Moora 1960). From a methodological point of view, this study proceeded from the approach of Soviet ethnography to handle the ethnographic substance of enormously large regions on the basis of historically established cultural districts. The above-mentioned authors considered the eastern Baltic region to be one such district; they also added local particularities of the physical geographical environment and archaeological evidence to the analysis. Three major landscape regions were distinguished: (1) the coastal zone – characterized by the sea, young and unfertile coastal soils and a mild maritime climate; (2) the central zone – large moraine areas with relatively fertile soils; and (3) the eastern zone – small agricultural areas scattered between numerous bogs, lakes and hillocks; a wealth of forests. In the following, the establishment and development of settlement, subsistence, culture and social organization from the Neolithic to the present day was analysed in each of these landscape regions. As a matter of fact, the relationship between human settlement and landscapes is often in the background in this treatment; principal attention was paid to the grouping of material culture and the explaining of ethnic relations. However, an important step was taken towards the closer connection of archaeological (and ethnographical) evidence with landscape regions.

Next, it is worth mentioning that the physical-geographical investigation of Estonian landscapes was also very advanced in those years. In order to define the types and regions of landscapes, an attempt was made to combine the particularities of surface relief more closely with the areas of soils and vegetation (Lillema 1958; Varep 1964; Laasimer 1965). Although the primacy of culture and the human actor in the landscape was reduced in Soviet-Estonian landscape research (Peil *et al.* 2005), the actual results of this work made it possible to connect landscape regions much more closely with the particularities in the distribution of human settlement, both in

historical and prehistoric times. The best example of this approach is the paper by T. Moora (1966), mentioned above, in which he analysed the development of settlement and agriculture separately in each of four landscape regions of central Estonia. This study could be regarded as a forerunner of modern settlement archaeology in Estonia, yet no further steps were taken in those times. The latter is clearly visible in the collection of articles dedicated to the history, present and future of Estonian agricultural landscapes (Aasalo 1980): in the archaeological overview – which followed the detailed description of landscape regions – there is a good analysis of the history of agriculture, but its relations with different landscapes have been left in the background.<sup>4</sup> The human geography aspect of cultural landscapes was rather modest in Estonian archaeology at that time.

### The establishment of modern settlement archaeology

In the early 1970s, the third Estonia-wide inventory of archaeological sites was initiated, but this time it was performed (and still is) by professional archaeologists. This work has yielded a remarkable amount of new information about hitherto unknown sites, and it has fundamentally influenced the further development of settlement archaeology in Estonia.

Since the early 1980s, the investigation of Estonian prehistory in certain periods was gradually replaced by different approaches. One of these was the settlement archaeological research of small areas in a long-term perspective, through several prehistoric

<sup>4</sup> However, one has to remember here some other works, where the particularities of prehistoric settlement were explained by differences in landscape; nevertheless, those studies were mostly concentrated on the colonization and use of *loo*-areas in northern and western Estonia during the Bronze and Early Iron Ages (see Lõugas 1970a; Moora 1972).

periods. It is important to mention three projects in connection with this (see more Lang, this volume, b). The first of these was concentrated on the investigation of the Pada River valley in north-eastern Estonia, the results of which have still not been published (see, however, Tamla 1996). The second work was aimed at the investigation of farming settlement on the lower reaches of the Pirita River (north-western Estonia) from the Bronze Age to the end of prehistory (Lang 1987a; 1996). The third project, which was only initiated in the early 1990s, was connected with the investigation of the establishment and history of farming settlement in the area of Vihasoo and Palmse in northern Estonia (Lang 2000a; 2003). Investigations of this kind – i.e. thorough studies of small geographic areas with the purpose of achieving better knowledge of general trends and developments – have continued until the present (e.g. Mägi 1999b; 2001; Rõuge 2001; Kiristaja 2003; Aun 2003b).

Another direction that became essential for settlement archaeological research in the 1990s was the collaboration of archaeologists with natural scientists, particularly palaeo-ecologists, within the network of international project PACT (see more Konsa, this volume; Kriiska and Lõugas, this volume). Pollen diagrams that were composed and analysed for the areas that were of interest from an archaeological point of view provided important new information about the establishment of settlement, the development of farming and the dynamics of human impact on the environment. It was realized, for instance, that people have also lived and influenced their environment in areas where no corresponding archaeological sites were reported. Remarkable joint archaeological and palaeo-ecological investigations were organized in the surroundings of the lakes of Maardu, Kahala, Ala-Pika and Hinojärvi, but also on the island of Saaremaa and at several other locations. The results are published in three PACT-volumes (Nos. 37, 51 and 57) and in many other publications.

It is important to note, however, that in the beginning, i.e. in the 1980s, settlement archaeological investigations of small areas did not exceed the boundaries of the earlier methodology. As before, prehistoric settlement was handled in a general and abstract manner, in close and direct correspondence with the spread of sites. What were the settlement units like behind these sites, or what were the social, economic and other relationships between the settlement units and how were they established and developed, what relations existed between the settlement patterns of different periods and stages in the development of the cultural landscape, the nature of the social structure and territorial behaviour of communities – no one could present questions like these. As a matter of fact, some of these questions had already been answered by ‘official archaeology’. For instance, it ‘was known’ that people lived in a patriarchal clan society and usually in extended patriarchal families in the Bronze and Early Iron Ages, and thereafter those extended families split into nuclear families followed by the formation of territorial communities (see e.g. EA I, 1955, 38, 44 ff; Lõugas 1980, 61; Jaanits *et al.* 1982, 159 ff, 200 ff).

One can speak of modern settlement archaeology in Estonia from the time it was determined on the basis of concrete calculations that those communities that buried in stone graves of the Bronze and Early Iron Ages were not larger than simple nuclear families; that even those families did not bury all members into such graves, and that the majority of families did not erect such monumental grave buildings at all (Lang 1987a; 1995a; Lang & Ligi 1991). These were conclusions that were obtained from the archaeological evidence and not from the Marxist theory of socio-economic formations prevalent at the time. From then the path was open to reconsider all settlement-archaeological material, incl. the relationship between farm and village, and in particular the process of formation of villages – the more so because the collapse of the Soviet empire also put an end to ideological control over science

and opened the country's borders to contacts with the outside world.

From the theoretical point of view, the definition of the discipline carrying out the following settlement-archaeological research became important. This definition took into account two main directions that characterized similar studies in the early 1990s in both Scandinavia (*bebyggelsearkeologi*, i.e. settlement archaeology) and Britain (landscape archaeology). Accordingly, settlement archaeology is a study of the establishment and development of human settlement (usually) in a long-term perspective and in its whole versatility, including, among other things: the dimensions, variability and geographic distribution of settlement units, the choice of settlement areas, the mutual influences between man and environment, the creation and re-creation of the cultural landscape, the land colonization and land-use systems, the social structure, proprietorship rights and territoriality of society – and all of these in their mutual relations and interaction (Lang 1996, 604). In this approach, the concept of landscape was considered to be highly important; on the one hand there was an aspect of physical geography (the development of settlement was related to landscape regions with different physical environments) and on the other hand it also involved a human-geographical meaning (the formation of the cultural landscape and its relations with social processes).

The first practical work in the field of modern settlement archaeology was concentrated on the coastal zones of northern Estonia, where three different landscape regions met. The research was carried out according to the principles of models: detailed studies were only done in small key areas, the results of which were then tested against the data of much larger regions (Lang 1996; 2000a). Much attention was paid to the creation of the cultural landscape, its different layers and their mutual relations; in addition to economic determinacy, social, symbolical and religious aspects were also emphasized in the formation and steady re-creation of the cultural landscape (see also Lang 1999a). In

studying the spread of settlement, it became obvious that it had once been much broader than the distribution of archaeological sites (particularly monumental stone graves) can demonstrate today (Lang 1996, 346 ff; 2000a, 22 f). A substantial amount of new information about the use of agricultural space and proprietorship rights was collected through the discovery and investigation of fossil land use systems (Lang 1994a-b; 1995b-c). Recent years have also added a phenomenological approach to the study of northern Estonian landscapes, which seeks to improve the understanding of how prehistoric people understood the surrounding landscapes and how they related themselves to the places and sites nearby, incl. such important landscape elements as rivers (Vedru 2002; 2004).

Contemporarily to these works in northern Estonia, remarkably new results were also achieved in the study of the earliest settlement in western Estonia and on the islands. One should mention, first, the long-lasting research of Aivar Kriiska into the Stone Age settlement on the western coast and islands. As a result of this work, he has succeeded in establishing both the process of the first colonization of this area and the character of, and changes in, the Stone Age settlement patterns, particularly in the transition from foraging to farming subsistence (Kriiska 2001c; 2002b; 2003a-b). His attempt to reconstruct the seashore movements over time, which helps to date the seashore sites with poor find assemblages (Jussila & Kriiska 2004), is highly important. About the final stages of prehistory, there are studies about settlement centres and settlement districts on the island of Saaremaa carried out by Marika Mägi; she has convincingly demonstrated the existence of continuity in power structures on the local level by the transition from prehistoric times to the historical era (Mägi 1999b; 2001; 2002b). The mutual relations between medieval rural and urban settlement in western Estonia have been analysed by Anton Pärn (1999; 2004d). There are also new trends in our settlement archaeology connected with western Estonia and the

islands – i.e. the investigation of the maritime landscape (Ilves 2002; 2004) and prehistoric harbours as important components of the coastal settlement pattern (Mägi 2004a).

In the early 2000s, a new settlement-archaeological project was initiated for the study of prehistoric southern Harju district (the southern part of northern Estonia). One task of this was to explore the Viking Age and Late Iron Age settlement and administrative centre at Keava in its relationship both with other settlement districts around it and in the surrounding physical environment (Lang & Konsa 2004). The other task combined archaeology with history: the comparison of the archaeological evidence with written sources from both the 13<sup>th</sup> and 14<sup>th</sup>–16<sup>th</sup> centuries presented an opportunity to study the settlement hierarchy, power relations and territorial formations of late prehistoric and medieval times. Those territorial formations were groups of prehistoric settlement units (both single farms and villages) the size and geographical location of which was comparable with those of the medieval taxation units called *vakused* in Estonian; the concentration of such groupings around prehistoric hillforts referred to the existence and mechanism of operation of former hillfort districts as, perhaps, the main administrative units of those times (Lang 2002).

Settlement-archaeological research is also advancing elsewhere in interior Estonia. Recent years have witnessed systematic fieldwork in south-western Estonia with the aim of establishing the process of the Mesolithic colonization and settlement pattern (Kriiska *et al.* 2004a-b). A new analysis of stray finds (mostly late stone axes) of the Late Neolithic and Bronze Age has provided complementary data on the important settlement shift by the transition from foraging to farming subsistence in southern Estonia; it was once again confirmed that the upland areas were already colonized during this first *landnam* and not as late as in the Early Iron Age, as was once presumed (Johanson 2005). The research into medieval rural cemeteries has also provided

remarkable results for the study of the location and structure of the contemporary rural settlement pattern and its relationships with contemporary urban and manorial settlements in southern Estonia (e.g. Valk 2001a). Now the first integral overview of the formation and development of a settlement through all prehistoric periods in the southernmost uplands of Estonia, the Karula Heights, is also available (Konsa 2005). In the study of prehistoric and historical settlement history in southern Estonia, good collaboration with folklorists (concerning the connections between archaeological sites and oral tradition), ethnologists, historians and human geographers is in progress (e.g. Rõuge 2001; Palang *et al.* 2004; 2005; Setumaa, 1–3).

## Summary

Scientific research into prehistoric settlement in Estonia began in the 1920s, when a representative database of sites was composed; for that time there was also enough knowledge to adequately date prehistoric finds and sites. The establishment of the distribution of settlement was based on the description of the spread of known sites, and such work gradually became a routine part of archaeological research. The landscape-archaeological aspect was already added to this analysis in the 1960s; nevertheless, it was not elaborated in detail at that time. However, up to the 1980s a great deal of knowledge was collected about the particularities in the distribution of settlement in different periods, as well as the mutual relations and influences between man and environment in different landscape regions.

Modern settlement archaeology began to take shape in the 1990s. It was initiated by settlement-archaeological and palaeo-ecological studies supplemented with the main elements of landscape archaeology in several areas of northern Estonia. The approach which then was elaborated thus combined both the settlement archaeology that had been estab-

lished earlier, and landscape archaeology, which had been introduced recently, and it used available instruments, the results of palaeo-ecology and both physical and human geography. The landscape-archaeological accents of this approach have even been strengthened in recent years, particularly by the introduction of the

research into maritime landscapes, the phenomenological approach and the strengthening of human-geographical aspects. The last decade can even be regarded as the period of a certain boom in modern settlement archaeology in Estonia, and at least for the time being there is no sign that it will end.

# Investigation of Underwater Heritage in Estonia

MAILI ROIO

## Introduction

The area of the Estonian mainland territory is 43,698 km<sup>2</sup>, 889 km<sup>2</sup> of which consists of inland water bodies. Besides these, 1529 km<sup>2</sup> of the total area of the Peipsi, Lämmijärv and Pihkva (Pskov) lakes as well as inland sea and territorial sea with an area of 24,950 km<sup>2</sup> also belong to Estonia. Thus the total area of the Estonian territory is 70,177 km<sup>2</sup>, and the total length of the Estonian coastline is 3780 km (Veskimets 2004, 9 f).<sup>1</sup>

The traces of interaction between man and a body of water – sea, lake and river – are clearly expressed already by the Mesolithic coastal and insular settlements, in the finds suggesting fishing and seal hunting, settlements on lake shores and river banks, as well as in the remains of boats of later periods, bridge sites and harbour constructions. But all this is just a small part of the actual interaction and the heritage preserved to date, a part of which is under water today, and the other part is on land. The area of Estonian waters mentioned above is impressive, offering a wide working field and an inexhaustible reservoir to archaeologists. However, underwater archaeological work has been sadly neglected. Hitherto the main role of underwater-archaeological investigations has been the illustrating of historical writings. Review articles about the expeditions,

written mainly by the archaeologist Jüri Selirand (e.g. 1985; 1994a) and the enthusiast of underwater-archaeological work from the Maritime Museum Vello Mäss (e.g. 1991; 1994a; 2003) have been published in several symposia.

Three subjects have hitherto become the main samples of Estonian underwater heritage (Fig. 82):

- (1) the lake settlement of Valgjärv in Koorküla – the site which has attracted the keenest attention and which has been investigated over a period of 47 years already. In the Valgjärv Lake, evidence of human habitation from three periods has been discovered – Neolithic, Pre-Roman Iron Age and the Pre-Viking/Viking Age;
- (2) the wreck from Maasilinn – the first and only historic ship in Estonia raised solely for scientific purpose, and at the same time also one of the oldest ship finds with carvel planking;
- (3) the cog of Pärnu – hitherto the only presumable cog, discovered on the eastern shore of the Baltic Sea and, dating from the 13<sup>th</sup>–14<sup>th</sup> centuries, one of the oldest ship finds in Estonia.

The present article discusses the formative years of scientific research of the underwater heritage, with main reference to clubs, institutions and individuals. However, the reviews of fieldwork are presented proceeding from the above-mentioned subjects. Within the framework of the article, main data and questions as well as the conservation activities with the wrecks are presented. The problems of the interpretation of the monuments and the wider

<sup>1</sup> These numbers belong to the period before the concluding of a border treaty between Estonia and Russia, and therefore they may change.

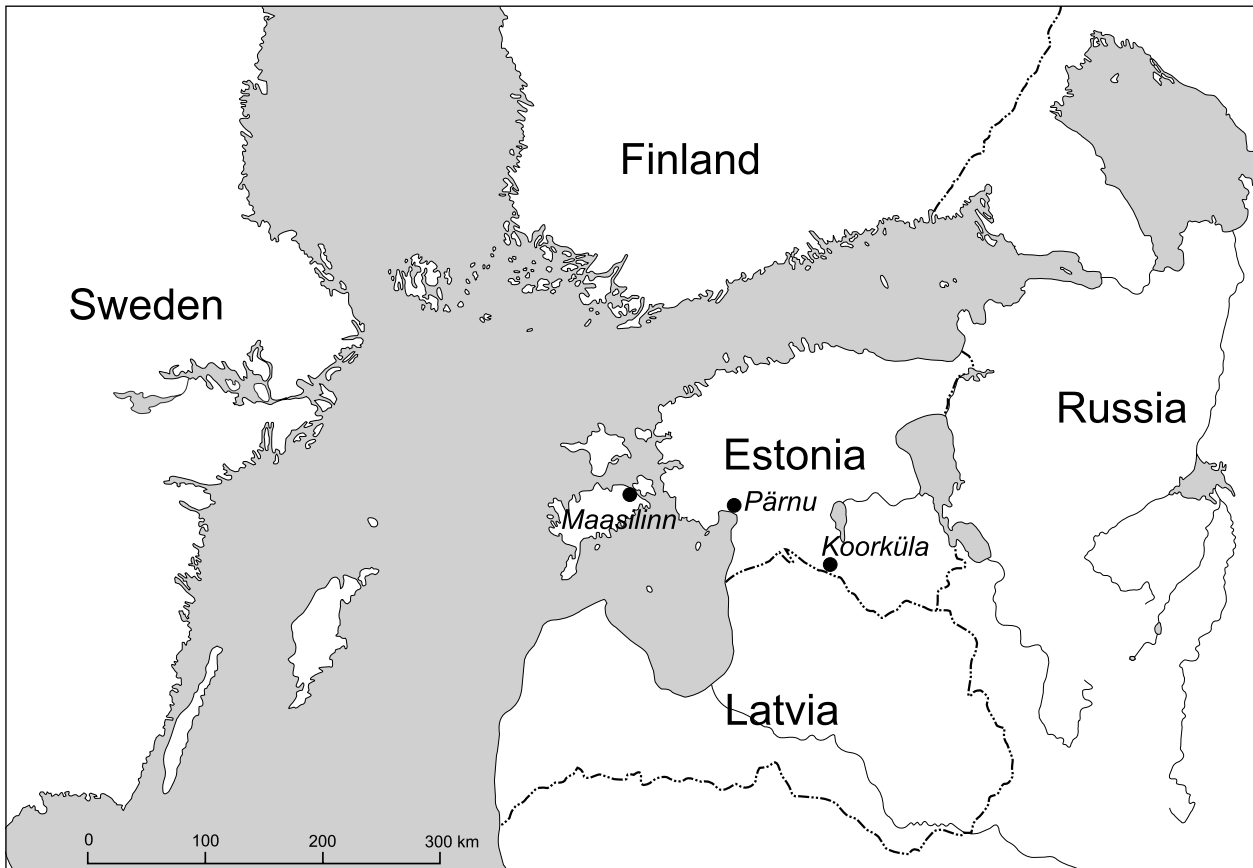


Fig. 82. Location of the sites mentioned in the text.

historic background are almost completely omitted, since the respective exhaustive investigations have already been carried out by several specialists. The problems of the pile dwellings of Valgjärv in Koorküla have been analysed by the archaeologists Selirand (e.g. 1985; 1986b; 1994a) and Maili Roio (2003; 2005). The settlement has become a subject for analysis and exploration also for several researchers beyond Estonia (e.g. Rönnby & Kenas 1988; Rönnby 1995). Since the 1999 mapping, trial excavations and archaeological workshops for the students of Helsinki University (under the guidance of Kalle Virtanen) have taken place on the lake of Valgjärv. Information about the investigation results on ship wrecks can be found in the

articles of Vello Mäss (e.g. 1990a; 1992; 1994a) and both ship finds have inspired several historians in their research. For example Bruno Pao (1983; 1986; 1997a-b) and Juhan Kreem (1998; 2002) have written about the castle, the bailiwick, the harbour and its hinterland as well as ships and shipping routes of that time. The wreck of Maasilinn as an important component of maritime cultural landscape has been discussed by the archaeologist Kristin Ilves (2002). The location of the cog of Pärnu – the town and the harbour of Pärnu – as well as Hanseatic trade have been exhaustively treated in the book *Merelinn Pärnu*, written by Jüri Kivimäe, Aivar Kriiska, Inna Pölsam and Aldur Vunk (Kivimäe *et al.* 1998).

## General framework of research

The first fieldwork to investigate an underwater site took place in Valgjärv Lake in Koorküla, southern Estonia, under the leadership of the archaeologist J. Selirand in 1958 (Fig. 83). There the only hitherto known construction remains of a pile dwelling in Estonia were discovered. Although the first investigations of the type appeared promising, they did not lead to systematic underwater-archaeological investigations in Estonian waters. The provisional mapping of the pile dwellings in Valgjärv Lake was followed by some brief survey trips, but thorough excavations of the settlement site by underwater-archaeological methods were not considered expedient by Selirand (1994a, 178).

In 1978, a research group was formed at the Maritime Museum, consisting of enthusiasts interested in navigation history. By and by it developed into the divers' club Viikar<sup>2</sup> and the department of underwater archaeology of the Maritime Museum. This department, with the naval captain V. Mäss at its head, was established in the Maritime Museum in 1988 with the aim of collecting systematically information about navigation in Estonian coastal waters throughout the times (Selirand 1994a, 186).<sup>3</sup> The first underwater-archaeological maritime expedition took place on Neckmansgrund in 1978. It was conducted under the leadership of Bruno Pao, the researcher of the Maritime Museum; the archaeological consultant of the expedition was Vello Lõugas from the Institute of History. The aim of the expedition was to explore the research conditions in that section of the sea and to discover the sites of one-time shipwrecks, and on that basis specify the course for future work (Selirand 1994a, 179). The

work done was of a prospecting nature, providing experience for organizing future expeditions of the type. The organization of the first maritime expedition in Estonia during the Soviet occupation, under the keen attention of the security agencies, was really an unprecedented event. It showed the possibility of carrying out such investigations in Estonian waters. The most remarkable result of the co-operation of the Maritime Museum and the Viikar club was the discovery of the so-called Maasilinn ship on Saaremaa in 1985. This wreck, dating from the 16<sup>th</sup> century, was raised and conserved a couple of years later.

A constant task of the Maritime Museum is to collect information about shipwrecks and ship remains buried in overgrown coves and lakes, gravelly beach ridges, mires and fens. Thus the studies are concentrated on different aspects of the maritime cultural landscape (see Mäss 1991, 320). The main sources are reports from coastal fishermen and amateur divers, as well as materials from other archives, folklore and studies of military history. In 1996 the Maritime Museum had information about nearly 250 wrecks (Mäss 1997, 138); today the number is approaching 1000. The annual fieldwork is aimed at locating and recording of the wrecks mentioned in archival documents (see Mäss 2003). Reports requiring verification and identification exceed the possibilities to inspect them. The archival material collected in the museum is, first and foremost, a substantial resource for researchers.

Today the synonym for Estonian maritime archaeology is Vello Mäss, the initiator and publisher of the investigations of the Maritime Museum, whose main field of research is seafaring in Estonia, primarily the investigation of local boats from prehistoric times to the present (Mäss 1994a). His special attention is concentrated on the phenomena of medieval Frisian shipbuilding technologies in the boats of Estonian inland waters and ship iconography (Mäss 2000; 2005).

<sup>2</sup> The divers' club Viikar was established at the Maritime Museum in 1980 in order to study the navigation history of the Baltic Sea. By 1994 the activities of the club had come to an end.

<sup>3</sup> The museum closed the department of underwater archaeology in 1993.





**Fig. 83.** *The expedition of 1958 on Valgjärv Lake in Koorküla. Activity on a raft (photo: AI).*

## **Investigation results of the three main objects**

### **The lake settlement of Valgjärv in Koorküla**

In the course of the fieldwork on the lake of Valgjärv, organized by J. Selirand, remains of pile dwellings, obviously destroyed by fire, were discovered on an area of 737 sq. m (Fig. 84). From the western shore of the lake two parallel rows of piles were discovered leading to the north-western corner of the building remains. These post rows have been interpreted as bridge remains (see Selirand 1985).

Since 1958 various researchers have collected material, little by little, from the lake of Valgjärv, thus enabling us to recognize three settlement phases:

(1) The Neolithic. A total of 27 fragments of late combed ware has been found from Lake Valgjärv (Fig. 85: 1). These came to light from the western corner of the building remains. Closest analogies to the late combed pottery of Valgjärv can be found among the respective material from Tamula (south-eastern Estonia). The Late Combed Ware Culture in Estonia is dated to about 3650–2000/1900 BC (Lang & Kriiska 2001, 92). By its ornamentation and composition the pottery from Valgjärv belongs rather to the end of the period (A. Kriiska, pers. comm., 2004). Today a radiocarbon date from about 4000

BC, recovered from the presumable find spot of the potsherds, is known from Valgjärv (K. Virtanen, pers. comm., 2005).

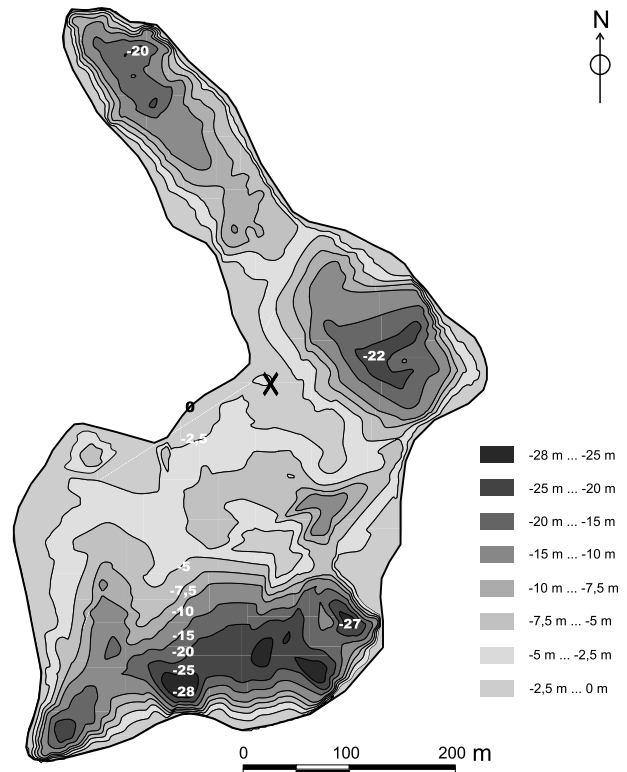
Neolithic pile dwellings nearest to Estonia are known from Lithuania<sup>4</sup> and north-western Russia<sup>5</sup>. In north-western Russia a lake, once chosen for living, has remained in use for a long period, and the construction stages of pile dwellings are directly connected with the changes in the water level of the lake. The Neolithic construction stages in Valgjärv Lake in Koorküla cannot be identified at the present state of investigations. For the time being the difference in the dates of the late combed ware and the piles is about 1000 years, which may suggest several Neolithic settlement stages.

(2) The Pre-Roman Iron Age. 40 m northeast of the building remains investigated by J. Selirand two samples were taken from an unmapped pile group for <sup>14</sup>C analyses, which suggest the period 4<sup>th</sup>–2<sup>nd</sup> centuries BC (see Roio 2003, tab., nos. 5–6). Up to now there are no artefact finds to confirm the date.

(3) Second half of the 1<sup>st</sup> millennium AD. Four <sup>14</sup>C dates have been obtained from the building remains of the lake settlement, covering the period of 6<sup>th</sup>–9<sup>th</sup>(10<sup>th</sup>) centuries (see Roio 2003, tab., nos. 1–4).

<sup>4</sup> In Lithuania two Neolithic lake settlements have been discovered, one from Lake Kretuonas, the other from Lake Žemaitiskė. These were presumably used only seasonally. Besides these, two settlements, belonging to the Late Bronze Age and Pre-Roman Iron Age (1300–430 BC) have been discovered on Lake Luokesai. The investigation/discovery of lake settlements is a relatively late phenomenon in Lithuania (since 2000) and exhaustive investigations are still to be carried out (G. Motuzaitė's correspondence to the author, 2004).

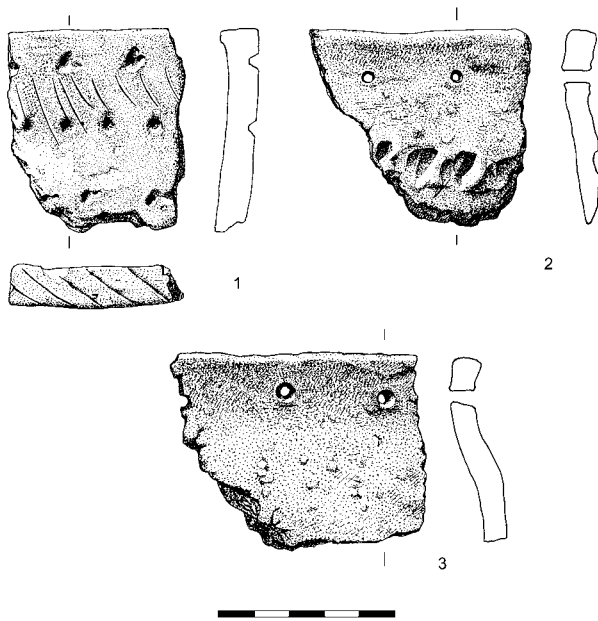
<sup>5</sup> The research history of the pile dwellings of north-western Russia extends back to 1938, when Aleksandr Bryusov discovered pile dwellings in the Vologda oblast, on a long and narrow cape formed at the confluence of the Modlona and Perechnaya rivers (Bryusov 1951, 10, fig. 1a). During the underwater-archaeological fieldwork in 1962–1983 two pile dwelling settlements (Usvyaty IV, Naumovo) were discovered in the southern part of the Pskov oblast, and four (Dyazditz, Serteya I–II, Dubokraj I) in the western part of the Smolensk oblast (see Miklyaev 1984; Dolukhanov 1992, 95, fig. 11.2). Of these, only Usvyaty IV and Naumovo settlements have been more thoroughly investigated.



**Fig. 84.** Map of relative depths of Valgjärv Lake, compiled in 1989 on the basis of the map of echo soundings; × remains of pile dwellings (drawing: M. Konsa).

Selirand has established the time of habitation of the lake settlement to the 6<sup>th</sup>–7<sup>th</sup> centuries (e.g. Selirand 1994a, 178). The pile dwelling has been discussed in archaeological literature in this context. The hand-moulded pottery of this settlement phase constitutes the most numerous group of finds from the pile dwelling of Lake Valgjärv of Koorküla, with a total of more than 300 fragments (see Fig. 85: 2–3). Similar pottery has been found from many southern Estonian hillforts and settlements, where it has been dated to the last quarter of the 1<sup>st</sup> millennium (Aun 1992, 43).

The pile dwellings and settlement of Valgjärv from the 1<sup>st</sup> millennium AD have been compared mainly with the contemporaneous pile dwellings in Latvia. There a total of ten lake settlements are known. Judging by their pottery, they belong to the second



**Fig. 85.** Pottery from Valgjärv Lake. 1 late combed ware, 2 pinch-impressed pottery, 3 pottery of the Røuge type (AI 5332: 21, 33; 6632: 31) (drawing: K. Siitan).

half of the 1<sup>st</sup> millennium. <sup>14</sup>C analyses have been made for two of these sites. According to these, the Ušuru lake settlement was used in the 8<sup>th</sup> century and Āraiši in the 9<sup>th</sup>–10<sup>th</sup> centuries (LSV, 2001, 312 ff). The finds from this period from Valgjärv indicate a settlement used all year round, possessing similar features with the Āraiši settlement. As with the Neolithic settlement, the construction phases of the Valgjärv settlement of the second half of the 1<sup>st</sup> millennium AD also need to be clarified.

### The ship of Maasilinn

The ship of Maasilinn was discovered in 1985 at a depth of 3 m at the bottom of the Väike Väin Strait, in a cove near the Maasilinn castle. The expedition raising the wreck worked on Saaremaa in summer 1987. The ship was built of maple, 16 m long and 5.5 m wide, and it was dated to the 16<sup>th</sup> century. It might be a local cargo boat, *uisk* in Estonian – in manu-

script sources the term *schute* (Germ.) has been used (see Pao 1997a, 32).

The explorer of the Maasilinn ship V. Mäss (1990a; 1994b) has observed four constructional peculiarities of the wreck, apparently suggesting the work of local shipbuilders:

- (1) the ship's keel has no contact with the frames over its entire length;
- (2) the ship's double outer planking: thin clinker covered by thick and strong carvel laid flush;
- (3) the complex connection of stem to keel. The ship's stem is secured to the keel by a skilful appliance of the natural curvature of a branch of the timber of which the keel was made;
- (4) the manner in which the planking has been fastened to the frames by means of treenails. The planking has been secured to the frames by treenails passing through the overlapping edges of the planks at the step of the frame.

Petrified lime clods, found between the frames of the preserved bottom part of the ship, also provide vital information about the wreck. They were the basis for the assumption that the ship was used to transport building materials for the construction of the Maasi castle of the Teutonic Order (see Pao 1997a). It is more likely, however, that lime was exported from Saaremaa. This is also confirmed by written sources: the bailiff of Maasi complained to the Grand Master of the Teutonic Order in Prussia in 1518 that, owing to extensive construction activities and poor circumstances he was not able to send lime. Nevertheless the bailiff of Maasi ordered a remarkable quantity of roof tiles from Tallinn in 1550 (Kreem 2002, 24). Near the ruins of the castle the remains of a harbour (Fig. 86), contemporaneous with the castle and the wreck, can still be observed. Relying upon the results of a brief survey it was assumed that the harbour of Maasilinn was originally built on thick piles and later complemented with cribworks (Pao 1997a, 32).

Today the Maasilinn ship still lies under its so-called temporary shelter on the Illiklaid islet,



**Fig. 86.** Harbour remains in Maasilinn in 2005 (photo: M. Roio).

Saaremaa, waiting for an appropriate roof and exposition (Fig. 87). The conservation plan suggested by the conservator of the Institute of History Jüri Peets (see Mäss *et al.* 1998, 336) may be considered a successful one: the wreck was saturated with polyethylene glycol (PEG) solution for about a year, then it was frozen and moisture was extracted by the method of ice sublimation. The conservation process continued from 1987 until January 1990, when most of the moisture appeared to have been extracted. In March 2005 an expert examination established that the conserved timber had preserved its former size and shape; traces of mould were not observed. As a result of a biological process dregs of powdery sulphur had sporadically appeared on the timber, probably originating in mud of organic composition (J. Peets and J. Märss, pers. comm., 2005). More precise results

will be obtained when the timber samples from the conserved wreck will be analysed.

### The cog of Pärnu

In May 1990 a wreck of an unknown ship (Fig. 88) was discovered at a depth of 1–1.5 m near the left bank of the Pärnu River, in the course of dredging the part of the river near the freshly completed pier of the yachting club. In the same year the site was inspected by the researchers of the department of underwater archaeology of the Maritime Museum together with the divers of the Viikar club. The salvage of the wreck started in summer 1991: under the leadership of the archaeologist Tõnu Sepp the members of the divers' club Süvala from Saaremaa raised the ship remains of oak and placed them in a special



**Fig. 87.** Detached details of the Maasilinn ship in their present location on Illiklaid islet in 2005 (photo: M. Roio).

conservation container, constructed for this particular occasion. A section of the ship's side from the fore- or afterpart, 7.90 m long and 3.75 m wide, was preserved. The radiocarbon analyses of the timber samples dated it to the end of the 13<sup>th</sup> and the 14<sup>th</sup> century. The larger part of the sunken ship is presumably still at the bottom of the sea or concealed beneath the constructions of the pier (Mäss *et al.* 1998, 333 f).

Five technical features of the traditional constructional criteria of a cog<sup>6</sup> could be observed at the board fragment of the Pärnu ship (Mäss 1992, 297):

- (1) the planking is in the clinker system;
- (2) the edges are fastened by twice-bent iron nails;
- (3) the plank seams were caulked with moss (*Sphagnum sp.*);
- (4) the plank seams were covered with wooden laths, secured to the planks by iron clamps;
- (5) scarfs have been used for connecting the ship's hull planks longitudinally.

The construction of the Pärnu ship has some noteworthy similarities with the Kollerup cog that was found on the north-western coast of Denmark in 1978. The very special iron nails with four pins at the lower sides of their heads are quite similar (Mäss 2000, 56).

Since the whole complex of construction-technological features characteristic of only a ship of the cog type cannot be observed for the Pärnu ship, it cannot be precluded that the remains belong to some other type of a medieval cargo ship, which cannot be identified as yet (Mäss 1992, 297).

To preserve the wreck, it was saturated in a 20%-solution of PEG for 18 months, followed by freezing and continuous ice sublimation. The process continued at intervals for nearly two years. Unfortunately the freezers broke down and finances for conservation work ran out. Nevertheless the conservation was resumed in 1994 under the leadership of J. Peets. First the mould prevention was carried out, using pills emitting phosphine. After that the ship remains were additionally disinfected with a 10%-formalin solution. The sublimation process was terminated in 1995 (Mäss *et al.* 1998).

Around the board fragment of Pärnu a model of a cog (see <http://www.pernau.ee>) was constructed at the order of the Maritime Museum of Helsinki, and from May 2000 until the end of April 2001 the model of the ship was exhibited in Finland. In Estonia the ship will most likely be displayed in the new Granary Building of the Pärnu Museum, which will soon be completed. According to the preliminary design, the cog will be suspended from the ceiling in the foyer at the ground floor.

<sup>6</sup> A medieval ship must, as a rule, have twelve special construction-technological features to be classified as a cog (Mäss *et al.* 1998, 335).



**Fig. 88.** The cog in a shed in a suburb of Pärnu in 2005 (photo: P. Pärigmaa).

## Summary

Underwater heritage is an integral part of the Estonian cultural tradition. All of the three objects discussed here are rather significant, and important in the Estonian archaeological landscape. The investigations connected with these antiquities are still topical and the complex of questions has rather increased in time and space. The main problems are due to the absence of a central scientific institution engaged in underwater archaeology, to unite the researchers in the field in Estonia. The exploration of underwater heritage requires an interdisciplinary approach and close co-operation of specialists in various fields.

Concerning the Valgjärv Lake in Koorküla, we must admit that the settlement stages within the

different periods are still questionable. To address these uncertainties, extensive excavations would be necessary; investigations about the geological past of the lake would also provide additional information.

Hitherto the conservation work of the Maasilinn ship and the cog of Pärnu, organized by J. Peets, can be regarded to be a success. The excavated wrecks are still in excellent condition and it is hoped that the necessary conditions for their preservation will be available also in the future. The problems of exposition are still to be solved: exhibition models of our two famed wrecks have been made of wood and metal (see Mäss *et al.* 1998, figs. 2–3). Presumably a space will be found for the cog in the new building of the Pärnu Museum once it will be completed. The exhibition would be a worthy final goal, justifying their raising.

The investigation of underwater heritage in Estonia today is more vigorous and rich in opportunities than it was a half a century ago. The general development of archaeological theory and methodology both have a share in it. Underwater-archaeological work has become more technical, but also easier for an archaeologist in many cases. How and to what extent the potential and the resources will be exploited in Estonia can be summarized after another half a century.

# Archaeology, Oral Tradition and Traditional Culture

HEIKI VALK

## Introduction

In comparison with Scandinavia or western European countries, combining archaeology with folkloric data (see Gazin-Schwartz & Holtorf 1999) is especially intriguing in Estonia, since various expressions of oral culture had a longer duration here. Due to the fact that many traditions originating in the pre-literate society survived in the Estonian countryside up to the 19<sup>th</sup> and early 20<sup>th</sup> centuries, the time span between the period researched by archaeological methods and the formation of ethnographic and folkloric collections is rather short here. As archaeological data about the native popular culture extend up to the 18<sup>th</sup> century and folklore collecting started extensively in the 1880s already, the temporal distance does not exceed 150 years, i.e. five generations. Considering that folklore was collected mostly from elderly informants who got their knowledge in childhood, the distance is even shorter: we can speak of merely one century. Written records from the late 18<sup>th</sup> century as well as early and mid-19<sup>th</sup> century (e.g. Scherwinzky 1788; Luce 1827; Wiedemann 1876; see also Laugaste 1963) form a good bridge for connecting archaeology and folklore. Contacts with the period of oral culture are the closest in conservative southern Estonia, especially the Orthodox Setumaa region in the south-easternmost corner of the country – this district lived mentally in the Middle Ages up to the early 1920s. However, also in other peripheral rural areas of Estonia, folklore collecting can even now

give new data of the old, traditional character. The Estonian folklore material is rich also in quantity. The immense folklore collections, mostly in the Estonian Literary Museum in Tartu, are estimated to be the largest in the world *per capita*.

For using oral data as a tool for interpretation of the archaeological record, the main question is their temporal validity: how far back do they extend? This uncertainty has led to discussion in Estonian archaeology (Lang 1999a, d; Valk 1999d). On the one hand, the possibilities of getting a foothold from folklore for interpreting the archaeological record of pre-Christian times have been considered as almost non-existing (Lang 1999d, 172). However, as many popular ideas, e.g. several agrarian calendar traditions, ideas about the holy Thursday, popular concepts of the soul and autumn's souls-visiting time, offering practices at natural places, ideas of non-Christian deities and nature spirits are surely of pre-Christian origin, it is not possible to give here either a definitive or a totally negative answer.

It is evident that most of the Estonian folkloric data of traditional character originate in the world of oral culture with its roots unquestionably extending back to the archaeological past. Comparing folklore collections with written data shows that Estonian popular religion at a lower level has not changed much since the early modern times. The beliefs reflected in the folklore collections can be found also in the chronicles of the 16<sup>th</sup> and 17<sup>th</sup> centuries (Metssalu 2004) and in the written record of that time (Boecler & Kreutzwald 1854). It seems that



at least since the 17<sup>th</sup> century, i.e. during the period covered by the written record, in many contexts the general processes of change in oral culture were not significant internal alterations but a gradual decrease both in general quantity as well as in details. Thus, several folkloric data might reach back at least to post-medieval and medieval times, offering a foothold for the interpretation of the archaeological record from those periods, but in some cases also a much bigger temporal stretch cannot be excluded.

## History of research and current trends

Archaeological interest towards oral tradition has survived considerable changes over the course of time. In the formation period of archaeology in the late 19<sup>th</sup> and early 20<sup>th</sup> century there were no definite boundaries between different disciplines yet and, together with data about the archaeological sites, related oral tradition was also recorded. The material collected during the first inventory of archaeological sites (e.g. Jung 1898; 1910), i.e. in the period of living tradition, gives a most profound survey about the meaning of the sites in the world of oral culture.

The making of archaeology into an independent discipline – in Estonia it occurred in 1920, with the establishment of the Chair of Archaeology at the University of Tartu – caused, however, a clear ‘labor division’ between the humanities. In light of the new ideas introduced from the Nordic countries (Lang, this volume, a; Burström 1999, 43 f), archaeology started to deal since then merely with the physical side of sites and oral data about them were no longer of interest and were ‘delivered’ to folklore studies.

Since the 1920s archaeology’s relations with ethnography and folklore studies had a different character. On the one hand, since that time up to the 1960s we can speak of a close cooperation between

archaeology and ethnography, due to the personality of Harri Moora, the leading archaeologist of Estonia (Viies 1970). Ethnographic data were used to reconstruct the material aspects of the archaeological past (Moora 1926b) and their distribution maps were compared with archaeological ones to study the temporal dimensions of regional cultural peculiarities (Moora, A. 1956; Moora & Moora 1960). Moora also wrote the introduction to the large book on Estonian national costumes (1957b), participated in editing a book on Estonian ethnography (Abriss, 1964) and used ethnographic data to draw conclusions about prehistoric land cultivation, cattle-breeding and hunting (Moora 1968; 1971). In this co-operation not a small role belonged to the marriage of H. Moora with the ethnographer Aliise Moora. It should be noted that not only in these joint works, but also in the whole theoretical and methodological development of Estonian post-war ethnography the role of H. Moora must not be underestimated. In 1955 he also presented the idea of composing a comparative culture-historical atlas of the Baltic countries – a large work the results of which were presented only after his death.

On the other hand, the folklore record remained almost disregarded by the archaeologists and also folkloric data about the sites were of no interest for archaeology. Due to such an approach, in the Estonian archaeological parish inventories composed in the 1920s, folkloric data about the sites are almost absent. Although Moora used also some folkloric material in his treatment about the Estonian’s culture at the end of prehistory (Moora 1926b), co-operation with folklore studies and use of the folklore material became almost non-existent later on. Probably, the reasons here were not only Moora’s dedication to the study of material aspects of culture and his personal authority in Estonian archaeology but also the general attitudes of that time, which regarded archaeology and folklore studies as sciences with their own, clearly defined source material. During the next half-century folkloric data were used only for discussing the burial customs of

the Roman Iron Age *tarand*-graves (Vassar 1943). The low interest continued also after the emigration of the folklorist Oskar Loorits in 1944: in contrast to attitudes towards ethnographic sources, archaeological research did not involve folkloric data and, in case of need, collaboration was sought from outside. In this context, an article requested from folklorist Herbert Tampere (1909–1975) about the distribution of some folkloric phenomena (Tampere 1956) for the book on the ethnic history of the Estonians must be noted.

Thus, since the 1920s, oral tradition about the archaeological sites became merely *the object of folklore research* which resulted in a long article about the offering-places of south-western Estonia (Loorits 1935) and in a general treatment on Estonian offering stones (Viidalepp 1940). The monumental survey on Estonian popular religion, published in exile (Loorits 1949; 1951; 1957) expresses an interdisciplinary approach: on the basis of archaeological data attempts were made to distinguish different temporal layers of oral tradition. Several folkloric data on archaeological sites were published in the first books of the series *Monumenta Estoniae Antiqua*: in the volumes concerning Estonian tradition about the giants (HVM, I–III) and about the plague (Hiimäe 1997). During the last decade special attention has been paid to the Estonian *hiis*-sites – natural places related to the concept of sacredness (Remmel 1998). The main innovation of the period in folklore studies is, however, a new theoretical approach: since the 1990s the place-related lore has been distinguished by Mari-Ann Remmel (1966) as a specific group of traditions (Remmel 1997; 2002; 2006a; Remmel & Valk 2006). Thus, also the oral tradition related to archaeological sites has to be regarded in this general context, within the broader theoretical frameworks.

In spite of neglecting the oral tradition in archaeological research since the 1920s, oral data has continuously been used for *the identification of archaeological sites* in the landscape. The overwhelming majority of Estonian hillforts, medieval

village cemeteries and chapel sites, as well as a large part of Iron Age cemeteries have been found thanks to toponyms and/or oral tradition. The knowledge about the location of natural offering sites and healing places – groves, trees, stones and springs – is based exclusively on oral data. Also presently the folkloric archives can provide much new data about sites which have not been registered as archaeological sites yet.

After the death of Harri Moora, among the new generation of researchers, Vello Lõugas was the first to note the meaning of oral tradition for archaeology and since the 1970s various folkloric data on archaeological sites are reflected in his fieldwork materials. The general attitudes, however, persisted. The attempts to combine archaeological research with folklore sources, e.g. Toomas Tamla's diploma work on sacred springs (see Valk, this volume, a) found no support for further development and the printed output had to remain limited to a short article (Tamla 1985).

The 1980s and especially the 1990s have shown archaeology's increasing interest towards folkloric data. Folklore has been used as a tool for *interpreting the burial customs*, first and foremost of the Christian period. The traditional funerary rites together with popular interpretations survived in Estonia up to the 20<sup>th</sup> century. The continuity of old features is the strongest in peripheral regions of south-eastern Estonia – in historical Võrumaa (Torp-Kõivupuu 2003) and especially in the traditions of the Orthodox Setu culture (Manninen 1924; Richter 1979; 1982; Arpo 1996; Valk 2006d) – but also in other contexts (e.g. Lang, M. 2004). These data have been used in archaeological interpretations of the burial customs of the Christian period (Valk 2001a, 80 ff).

Archaeology has paid new attention to ethnographic and folkloric data also from other aspects. Much valuable information can be gained, e.g. about the *semantics of the costume, ornaments and ornamentations*. Ethnographic data from Setumaa give evidence about the meaning of ornaments, also

as indicators of age-based social status (Piho 1997; 2001) and this approach has been used for interpreting the archaeological record from the southern Estonian village cemeteries (Valk 2001a, 79 ff), as well as from Siksälä cemetery (Laul & Valk 2006). In the analysis of sieve-shaped pendants (Valk 2004c) the meaning of the sieve as a magical tool and the semantics of the cross-mark and the lattice ornament have been considered.

Folkloric data can be used also to discover *the meaning of archaeological sites* in the context of oral culture. Attention has been paid to the village cemeteries of the 13<sup>th</sup>–18<sup>th</sup> centuries (Valk 1995c-d; 2001a, 37 ff) as well as to the cup-marked stones (Tvauri 1997) and there exist brief surveys on the Estonian offering stones – a new, contemporary general treatment (Tvauri 1999) and an article on the respective healing practices (Ränk 1992). The village chapels and related popular rites of Setumaa have been regarded as cultural parallels to the Estonian village chapels of the Catholic period (Valk 2003a): the Orthodox Setu practices have significant similarities with the rites mentioned in the sources of the 17<sup>th</sup> century. Oral tradition related to the ruins of Risti Chapel in Vanamõisa, an archaeologically excavated offering site from the 15<sup>th</sup>–18<sup>th</sup> centuries, has been studied from the perspective of temporal changes (Västriik 2002).

Place-related oral tradition on archaeological sites was studied more extensively in the research project *Archaeological sites and oral tradition in Estonia and Finland* (University of Tartu and Estonian Folklore Archives, 1999–2001), with the outcome developed forthcoming. In this book, on the basis of selected research areas from Läänemaa in western Estonia (Mandel & Valk 2006) and from south-eastern Estonia (Valk 2006a), surveys on the oral tradition related to archaeological sites were provided. Data from these areas formed also the basis for general conclusions about the correlations between different types of sites, their dates and related folkloric motifs (Valk 2006b). It appears that the occurrence of motifs is not totally fortuitous: sites from differ-

ent periods, as well as of different areas and character, have their specific reflection in folklore. The correlation between the time of deserting the sites, on the one hand, and the character of the related oral tradition, on the other hand, give a possibility for observing the temporal dimensions of the place-related tradition. The book includes also treatments about the churches and natural bodies of water (Remmel 2006b-c) which offer a deeper insight into the perception of the landscape features in the world of traditional oral culture. A special article concerns Estonian legends about hidden treasures and their relations with archaeological sites (Kalda 2006). In general, the place-related oral tradition shows great regional differences of popular mentalities which have evidently a big temporal dimension, extending back to remote prehistory: the maritime West differs from the continental East, the Lutheran areas from the Orthodox, and there are also differences between Estonia and Finland (Remmel & Valk 2006).

In the Estonian countryside, especially in peripheral regions, oral tradition still retains the knowledge about the importance of archaeological sites. During the last decade, contradictory processes in attitudes towards the sites have emerged. On the one hand, ties with the past are getting weaker in the countryside with the change of generations. The bearers of the tradition can be found mostly among the older people, born before World War II. On the other hand – time has shown an increasing public interest towards sites with place-related oral tradition. The recent regional treatments of sites and related stories (Rõuge, 2001; Remmel 2004) have found a warm welcome among both rural and urban populations, corresponding to the social demand.

The last years have also shown increasing resistance against economic pressure to archaeological sites with a sacred meaning. Plans to make a skiing center at the holy hill of Paluküla (Harjumaa) and to cut down trees from the Iron Age barrows beside the cemetery of Obinitsa (Setumaa), as well as the destruction of trees with cross-marks cut in the



**Fig. 89.** *Hiiemägi in Paluküla – a future skiing centre?* (photo: H. Valk).

bark to commemorate the dead – a local tradition of Võrumaa – have raised a broad wave of protest and a vivid discussion among the public (Fig. 89). The sacred sites have not lost their social meaning yet – although in a somewhat other context and content than centuries ago. The social demand has led to plans to launch a state program for the identification, study and protection of sacred natural places, the main aspects of which should include heritage protection, popular education and research. In order to proceed with this program, the basic problems and purposes should be defined from the perspectives of both archaeology and folklore (Remmel 2006d; Valk 2006e). It is evident that new investiga-

tions and interpretations are needed, in addition to the earlier ones (Koski 1967; Anttonen 1992; 1996), regarding sacred sites and their meaning. In this context a hypothesis about local energetic anomalies as a reason for choosing sacred places can be noted (Valk 2006g).

For understanding the traditional way of life and the world of oral culture, the importance of personal contact with their living remnants should especially be stressed. Although there is no chance for such contacts in the modern urbanized environment, possibilities are still not limited yet with the traditional cultures of the tropical or subarctic areas: the mentality of the old agrarian society is still surviving among

the older generation in the peripheral rural areas of Estonia, especially Setumaa (e.g. Valk & Västrik 1996). The possibilities for ethnoarchaeological studies have also broader perspectives. The Finno-Ugric ethnic groups within the territory of Russia, as well as the hunting, fishing and nomadic reindeer breeding societies of northern Eurasia still provide an opportunity to encounter ‘living archaeology’.

### Summary

While Estonian archaeology has a close cooperation with the natural sciences (see Kriiska & Lõugas, this volume), the potential for developing interdisciplinary cooperation with folklore studies and ethnology is to large extent unused yet: different aspects of the past can become visible by using different methods and approaches. Due to a shorter time distance, the possibilities are especially broad for medieval and post-medieval archaeology. Although work with folklore material from an archaeological perspective

needs a great deal of source criticism and awareness of its folkloric context, comparing the archaeological record with data from traditional rural contexts makes archaeology more human and reduces the mental distance between the researcher and his research object. It helps to see behind the material remains also the human being – not as an abstract construction, but as a living person. The past can never be reconstructed as it was and folklore cannot be regarded as an universal key for interpreting the archaeological record: the bigger the temporal distance, the bigger is also the chance for a blunder. However, oral tradition provides an important tool for understanding the mentality of the past and of the pre-literate society. Many phenomena of the past, as well as their meanings, cannot be perceived merely through theoretical constructions: the only possible approach may be through their survivals in the later living culture of the same regional context, based on the continuity of traditions. Thus, for interpreting the archaeological record, folkloric and ethnographic/ethnological data are a source that should not be overlooked or underestimated.

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# Abbreviations

## Institutions

- AI – Tallinna Ülikooli ajalooinstituudi arheoloogilised kogud ja arhiiv / Archaeological collections and archives of the Institute of History of the Tallinn University.
- AM – Eesti Ajaloomuuseum / Estonian History Museum. Tallinn.
- EKM – Eesti Kirjandusmuuseum / Estonian Literary Museum. Tartu.
- ERM – Eesti Rahva Muuseum / Estonian National Museum. Tartu.
- MKA – Riigi Muinsuskaitseamet / National Heritage Board. Tallinn.
- TÜAÕ – Tartu Ülikooli arheoloogia õppetooli arheoloogilised kogud ja arhiiv / Archaeological collections and archives of the Chair of Archaeology of the University of Tartu.
- TÜR – Tartu Ülikooli Raamatukogu / Library of the University of Tartu.
- ÕES – Õpetatud Eesti Selts / Learned Estonian Society. Tartu.

## Publications

- AEWB – Archaeology East and West of the Baltic. Papers from the Second Estonian-Swedish Archaeological Symposium Sigtuna, May 1991. Ed. by I. Jansson. Stockholm, 1995.
- AVE – Arheoloogilised välitööd Eestis. Archaeological Fieldwork in Estonia. Ed. by Ü. Tamla. Tallinn, 1997–.
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- CMC – Culture and Material Culture. Papers from the First Theoretical Seminar of the Baltic Archaeologists (BASE) held at the University of Tartu, Estonia, October 17<sup>th</sup>–19<sup>th</sup>, 2003. *Interarchaeologia*, 1. Tartu; Riga; Vilnius, 2005.
- EAA/EJA – Eesti Arheoloogia Ajakiri. Journal of Estonian Archaeology, 1–7. Tallinn, 1997–2003; Estonian Journal of Archaeology. Eesti Arheoloogiaajakiri, 8–. Tallinn, 2004–.
- EREA – Eesti rahva etnilisest ajaloost. Artiklite kogumik. Ed. by H. Moora. Tallinn, 1956.
- ERK – Eesti Rahvuslaste Klubid.



- ERM Ar. – Eesti Rahva Muuseumi Aastaraamat, I–XV. Tartu, 1925–1947. Etnograafiamuuseumi Aastaraamat, XVI–XXXVII. Tallinn, 1959–1989. Eesti Rahva Muuseumi Aastaraamat, XXXVIII–. Tallinn, 1990; Tartu, 1992–.
- ESA – Eurasia Septentrionalis Antiqua, I–XII. Helsinki, 1926–1938.
- FU Studies – Finno-Ugric Studies in Archaeology, Anthropology and Ethnography. Estonian Papers Presented at the Sixth International Finno-Ugric Congress (Syktyvkar, 24–30 July, 1985). Tallinn, 1990.
- HVM – Hiiu- ja vägilasmuistendid. *Monumenta Estoniae Antiquae*, I. (I = Laugaste, E. & Normann, E. Muistendid Kalevipojast. Tallinn, 1959; II = Laugaste, E., Liiv, E. & Normann, E. Muistendid Suurest Töllust ja teistest. Tallinn, 1963; III = Laugaste, E. & Liiv, E. Muistendid Vanapaganast. Tallinn, 1970.)
- KVHAA Handl. – Kungl. Vitterhets Historie och Antikvitets Akademiens Handlingar. Stockholm, 1789–.
- LMEA – Loodusteaduslikud meetodid Eesti arheoloogias. Artiklite kogumik. Scientific Methods in Estonian Archaeology. Symposium. Ed. by A.-M. Rõuk & J. Selirand. Tallinn, 1988.
- MAL – Muistsed asulad ja linnused. Arheoloogiline kogumik, I. Ed. by H. Moora & L. Jaanits. Tallinn, 1955.
- MEL – Muistse Eesti linnused. 1936.–1938. a uurimiste tulemused. Ed. by H. Moora. Tartu, 1939.
- MKA – Muistsed kalmed ja aarded. Arheoloogiline kogumik, II. Ed. by H. Moora. Tallinn, 1962.
- MTB, I – The Medieval Town in the Baltic: Hanseatic History and Archaeology, I. Proceedings of the first & second seminar, Tartu, Estonia 6<sup>th</sup>–7<sup>th</sup> June and 26<sup>th</sup>–27<sup>th</sup> June 1998. Ed. by R. Vissak & A. Mäesalu. Tartu, 1999.
- MTB, II – The Medieval Town in the Baltic: Hanseatic History and Archaeology, II. Proceedings of the third and fourth seminar, Tartu, Estonia 12<sup>th</sup>–13<sup>th</sup> June 1999 and 8<sup>th</sup>–10<sup>th</sup> June 2000. Tartu, 2002.
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- Muinasaja teadus, 2 – Vadjapärased kalmed Eestis 9.–16. sajandil. Ed. by V. Lang. Tallinn, 1993.
- Muinasaja teadus, 3 – Eesti arheoloogia historioograafilisi, teoreetilisi ja kultuuriajaloolisi aspekte. Ed. by V. Lang. Tallinn, 1995.
- Muinasaja teadus, 5 – Loodus, inimene ja tehnoloogia. Interdistsiplinaarseid uurimusi arheoloogias. Nature, Man and Technology. Interdisciplinary Studies in Archaeology. Ed. by J. Peets & V. Lang. Tallinn, 1998.
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- Muinasaja teadus, 13 – Arheoloogiga Lääne-meremaades. Uurimusi Jüri Seliranna auks. Travelling with an Archaeologist through the Baltic Countries. Studies in Honour of Jüri Selirand. Ed. by V. Lang & Ü. Tamla. Tallinn; Tartu, 2003
- Muinasaja teadus, 14 – Linnusest ja linnast. Uurimusi Vilma Trummali auks. About Hillfort and Town. Studies in Honour of Vilma Trummal. Ed. by A. Haak, E. Russow and A. Tvauri. Tartu; Tallinn, 2004.
- PACT, 24 – Geology and Palaeoecology for Archaeologists. Palinuro I. Ed. by T. Hackens and U. Miller. Ravello, 1989.
- PACT, 37 – Estonia: Nature, Man and Cultural Heritage. Proceedings of a Round Table held at Tallinn, at the Estonian Academy of Sciences, April 1991. Ed. by T. Hackens, V. Lang & U. Miller. Rixensart, 1992.
- PACT, 50 – Landscape and Life. Studies in honour of Urve Miller. Ed. by A. M. Robertsson, T. Hackens,

ABBREVIATIONS

- S. Hicks, J. Risberg & A. Åkerlund. Rixensart, 1996.
- PACT, 51 – Coastal Estonia. Recent Advances in Environmental and Cultural History. Ed. by T. Hackens, S. Hicks, V. Lang, U. Miller & L. Saarse. Rixensart, 1996.
- PACT, 57 – Environmental and Cultural History of the Eastern Baltic Region. Ed. by U. Miller, T. Hackens, V. Lang, A. Raukas & S. Hicks. Rixensart, 1999.
- PVF – Pronksiajast varase feodalismi. Uurimusi Baltimaade ja naaberalade arheoloogiast. Ed. by H. Moora & J. Selirand. Tallinn, 1966.
- SAHM – Studia archaeologica in memoriam Harri Moora. Ed. by M. Schmiedehelm, L. Jaanits & J. Selirand. Tallinn, 1970.
- Sb. GEG – Sitzungsberichte der Gelehrten Estnischen Gesellschaft, 1861–1923; Õpetatud Eesti Seltsi Aastaraamat, 1924–1938; 1988–. Dorpat (Tartu), 1861–1940; 1995–.
- Sb. Pernau – Sitzungsberichte der Altertumforschenden Gesellschaft zu Pernau. Pernau (Pärnu), 1898–1938.
- Setumaa, 1 – Setumaa kogumik, 1. Uurimusi Setumaa arheoloogiast, numismaatikast, etnoloogiast ja ajaloost. Setumaa Symposium, 1. Research into archaeology, numismatics, ethnology and history of Setumaa. Ed. by M. Aun & Ü. Tamla. Tallinn, 2003.
- Setumaa, 2 – Setumaa kogumik, 2. Uurimusi Setumaa arheoloogiast, rahvakultuurist, rahvaluu-lest, ajaloost ja geograafiast. Setumaa Symposium, 2. Research into archaeology, ethnology, folklore, history and geography of Setumaa. Ed. by M. Aun & A. Jürgenson. Tallinn, 2004.
- Setumaa, 3 – Setumaa kogumik, 3. Uurimusi Setumaa loodusest, ajaloost ja folkloristikast. Setumaa Symposium, 3. Research into nature, history and folklore of Setumaa. Ed. by M. Aun & Ü. Tamla. Tallinn, 2005.
- SLMSA – Slaavi-läänemeresooe suhete ajaloost. Artiklite kogumik. Ed. by H. Moora and L. Jaanits. Tallinn, 1965.
- SMYA – Suomen Muinaismuistoyhdistyksen Aikakauskirja, I–. Helsinki, 1874–.
- Stilus – Stilus. Eesti Arheoloogiaseltsi Teated. Reports of the Estonian Archaeological Society, 1–7. Tallinn, 1992–1997.
- TATÜ – Eesti NSV Teaduste Akadeemia Toimetised, 1952–1955; Ühiskonnateaduste seeria, 1956–1966; Ühiskonnateadused, 1967–1989; Eesti Teaduste Akadeemia Toimetised. Ühiskonnateadused, 1990–1991 / Proceedings of the Estonian Academy of Sciences. Social Sciences; Humanitaar- ja sotsiaalteadused / Humanities and Social Sciences, 1992–1996. Tallinn.
- TRÜ Toim. – Tartu Riikliku Ülikooli Toimetised. Tartu, 1954–1992; Tartu Ülikooli Toimetised. Tartu, 1992–1995.
- TÜAKT – Tartu Ülikooli Arheoloogia Kabineti Toimetised, 1–. Tartu, 1923–.
- TÜAKT, 8 – Tartu arheoloogiast ja vanemast ehitusloost. Zur Archäologie und älteren Baugeschichte Tartus. Ed. by H. Valk. Tartu, 1995.
- TÜAKT, 9 – Arheoloogilisi uurimusi, 1. Archaeological Investigations, 1. Ed. by H. Valk. Tartu, 1997.
- TÜAKT, 10 – Muistis, koht ja pärimus. Ed. by H. Valk. Tartu. (In print.)
- Verh. GEG – Verhandlungen der Gelehrten Estnischen Gesellschaft, I–XXIII; Õpetatud Eesti Seltsi Toimetised, XXIV–XXXIV. Dorpat (Tartu), 1840–1943.
- ÕES Ar. – See Sb. GEG.
- ÕES Toim. – See Verh. GEG.
- НАПСТ – Новое в археологии Прибалтики и соседних территорий. Таллин, 1985.



# Index of Personal Names

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