Structure, Chronology and
Interregional Relations: an Analysis
of the Archaeological Material
from Opstainis, Vilkyškiai Iron Age
Hill-Fort and Settlement

ROMAS JAROCKIS

STRUCTURE, CHRONOLOGY AND INTERREGIONAL RELATIONS: AN ANALYSIS OF THE ARCHAEOLOGICAL MATERIAL FROM OPSTAINIS, VILKYŠKIAI IRON AGE HILL-FORT AND SETTLEMENT

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Abstract

This article presents an analysis of the spatial structure and the chronological development of Opstainis, Vilkyškiai Iron-Age hill-fort settlement, on the basis of archaeological and geomagnetic survey data. It has been ascertained that the hill-fort and the settlement were inhabited throughout the first millennium AD. The currently available scientific research data from Opstainis, Vilkyškiai Iron-Age hill-fort and settlement (half-sunken building or pit houses, oval-shaped and pear-shaped flat-bottom household pits, and shards of handmade pottery decorated with cross-shaped imprint ornaments) serve as indications of contacts between the inhabitants of the lower reaches of the River Nemunas and the southwest Baltic Sea region in the second half of the first millennium AD.

Key words: Iron Age, hill-fort settlement complex, pit houses, settlement structure, pottery, lower reaches of the River Nemunas.

The problematics of research into Iron Age settlements in Lithuania

Ancient settlements serve as a major source of studies on the material culture of human communities of the past. Archaeological excavations of dwelling sites help to answer a wide range of questions related to the social structure, economy, everyday life and living conditions of ancient human communities.

The number of Iron Age settlements in Lithuania that have been thoroughly excavated is not high. For archaeologists, research into settlements is made more difficult by the fact that most settlements have been destroyed by ploughing. This problem is especially relevant in the case of 'open-type' settlements (Zabiela 2005, p.85). In hill-forts and adjacent ancient settlements, the cultural layers have been preserved in better condition. Most of these settlements began to appear next to hill-forts in the Ancient (Roman) Iron Age (Michelbertas 1986, pp.27, 237).

Iron Age hill-fort settlements are among the archaeological monuments in Lithuania that have been least excavated. According to data supplied by G. Zabiela, about 43% of the total number of Lithuania's hill-forts, that is, 350 hill-forts, have hill-foot settlements. Of this number, archaeological excavations have been carried out in 81. At first glance, the number of excavated archaeological monuments seems to be far from low; however, the excavated area is very small. It is

due to this that the specific character of archaeological monuments in this category remains undisclosed to the present day. The situation concerning the buildings of Iron Age settlements is not much better. Scientific data from archaeological excavations is currently available on only about 24 Iron Age structures (Zabiela 2005, pp.85, 87, 95, 101).

We have to agree with the opinion that, despite the small amount of scientific research data, field research methods constitute another problem pertaining to research into Lithuania's Iron Age settlements. If and when proper methods for the collection of scientific data and their processing are selected, we will be able to say quite a lot about the structure of a settlement and the spatial arrangement of objects on the basis of even small-scale excavations (Vengalis 2009, p.74).

In the archaeological literature of recent decades, attention has repeatedly been drawn to the dominance of material from archaeological excavations of burial monuments in Lithuania's Iron Age archaeology (Sidrys 1999, pp.212, 227; Zabiela 2005, p.85). This problem is reflected clearly in the latest archaeological synthesis *Geležies amžius. Lietuvos istorija, II* (A History of Lithuania. Iron Age, Vol. II). In view of the lack of archaeological excavation data from settlements, not only cultural-ethnic-social, but also technical-economic-production issues of individual epochs of the Iron Age are covered by using basic material from Iron Age burial grounds (LI 2007).

**Scalvian sites
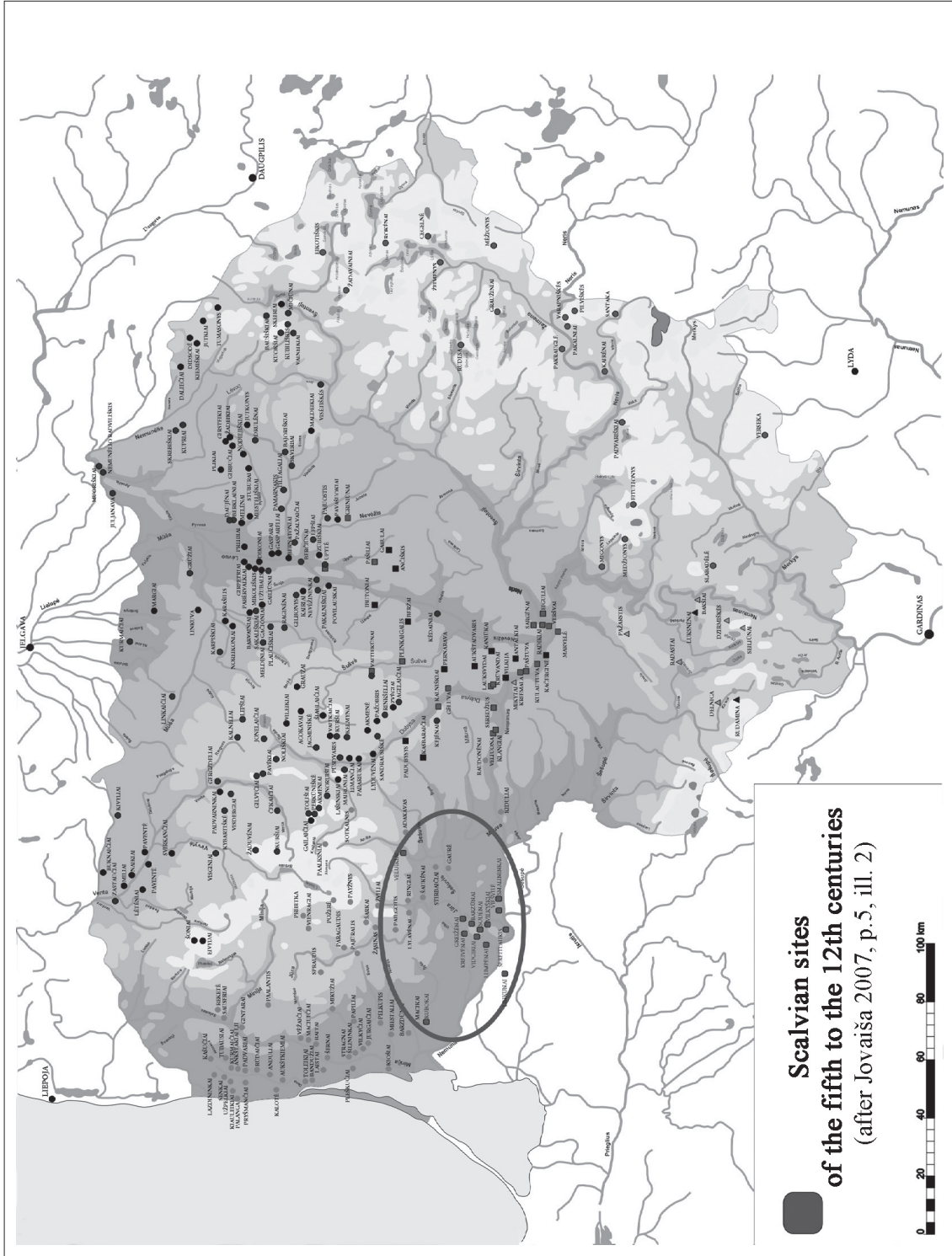of the fifth to the 12th centuries**
(after Jovaiša 2007, p.5, ill. 2)

Fig. 1. Scalvian sites of the fifth to the 12th centuries (after Jovaiša 2007, p.5, ill. 2).

III

FOOTMARKS
OF THE
EVERYDAY
LIFE OF
SOCIETIES
IN EARLY
URBAN
SETTLEMENTS
AND CITIES

Structure, Chronology and
Interregional Relations: an Analysis
of the Archaeological Material
from Opstainis, Vilkyškiai Iron Age
Hill-Fort and Settlement

ROMAS
JAROCKIS

eastern settlement

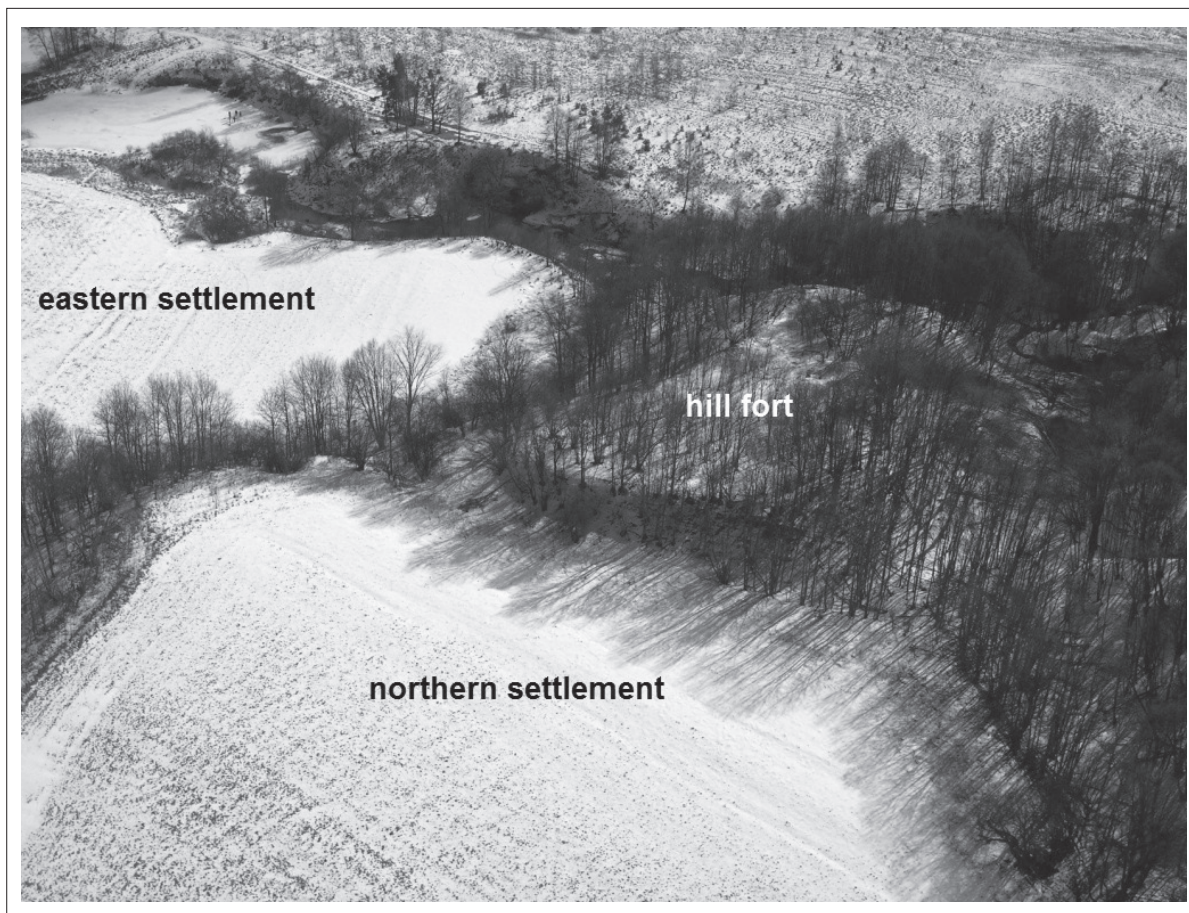hill fort

northern settlement

Fig. 2. An aerial view of Opstainis, Vilkyškiai hill-fort from the northwest on 1 March 2009 (photograph by G. Zabiela).

The lack of scientific archaeological data from Iron Age settlements and the aspiration to start using modern methods and techniques in settlement archaeology were the reasons why the Institute of Baltic Sea Region History and Archaeology of Klaipėda University began continuous small-scale archaeological excavations on the complex of Opstainis, Vilkyškiai Iron-Age hill-fort and settlement, for student training purposes in 2008; these excavations gradually turned into all-round international scientific research.
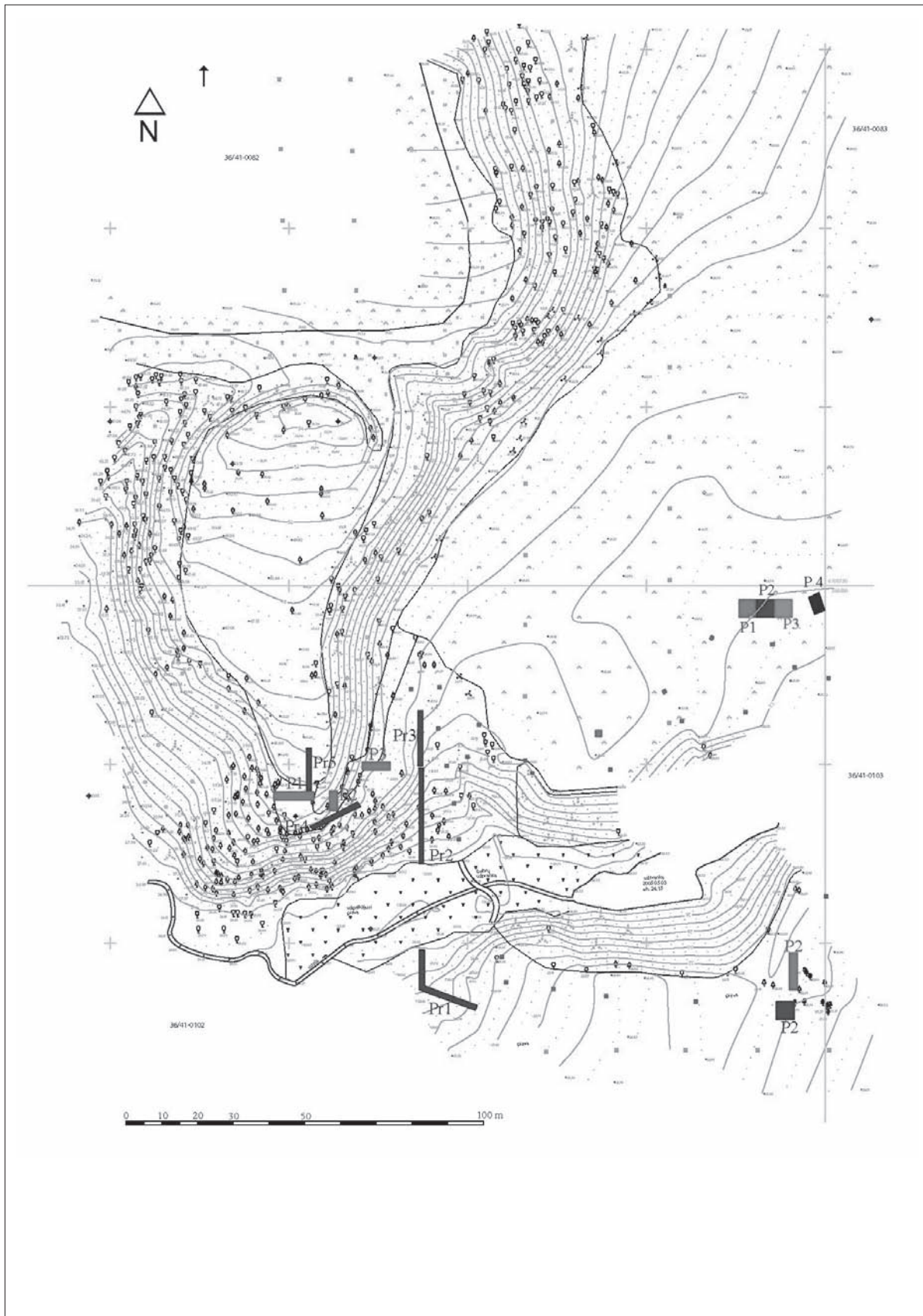
The purpose of this article is to analyse the spatial structure and the chronological development of the hill-fort settlement, and to summarise the data from the archaeological and geomagnetic surveys accumulated over the course of four years.

Excavation data from Opstainis, Vilkyškiai Iron Age hill-fort and settlement

The hill-fort is situated in west Lithuania, in the present-day Vilkyškiai ward of the district of Pagėgiai. It is attributed to the Iron Age ethnic and cultural area of the lower reaches of the River Nemunas and the Scalvians, which is defined on the basis of archaeological material from burial grounds (Jovaiša 2007, p.5, Plate 2; Tautavičius 1996, p.81ff) (Fig. 1). Since the middle of the 19th century, the hill-fort has been known by the name of Opstainis (Absteinen). For a long time during the postwar years, it was erroneously called Vilkyškiai hill-fort. At present, the name of the hill-fort listed in the Register of the Cultural Heritage contains both place-names; its official name is Opstainis, Vilkyškiai hill-fort with an ancient settlement.

The fortification is built on the tip of a hill on the left bank of the Apsta rivulet. The slopes are steep, 17 to 20 metres high, and damaged by soil erosion on the west and the south side. The hilltop is trapezium-shaped, 84 metres long in a north-south direction, and 40 metres wide in the northern part and 18 metres wide in the southern part of the hilltop. At the northern edge of the plateau, there is an earth rampart 40 metres long and four metres high, the width of which at the base reaches 39 metres. It is believed that a slightly lower rampart surrounded the entire hilltop in earlier times.

Fig. 3. The general location plan of the 2005–2011 archaeological excavation plots of Opstainis, Vilkyškiai hill-fort (compiled by D. Balsas).

III

FOOTMARKS
OF THE
EVERYDAY
LIFE OF
SOCIETIES
IN EARLY
URBAN
SETTLEMENTS
AND CITIES

Structure, Chronology and
Interregional Relations: an Analysis
of the Archaeological Material
from Opstainis, Vilkyškiai Iron Age
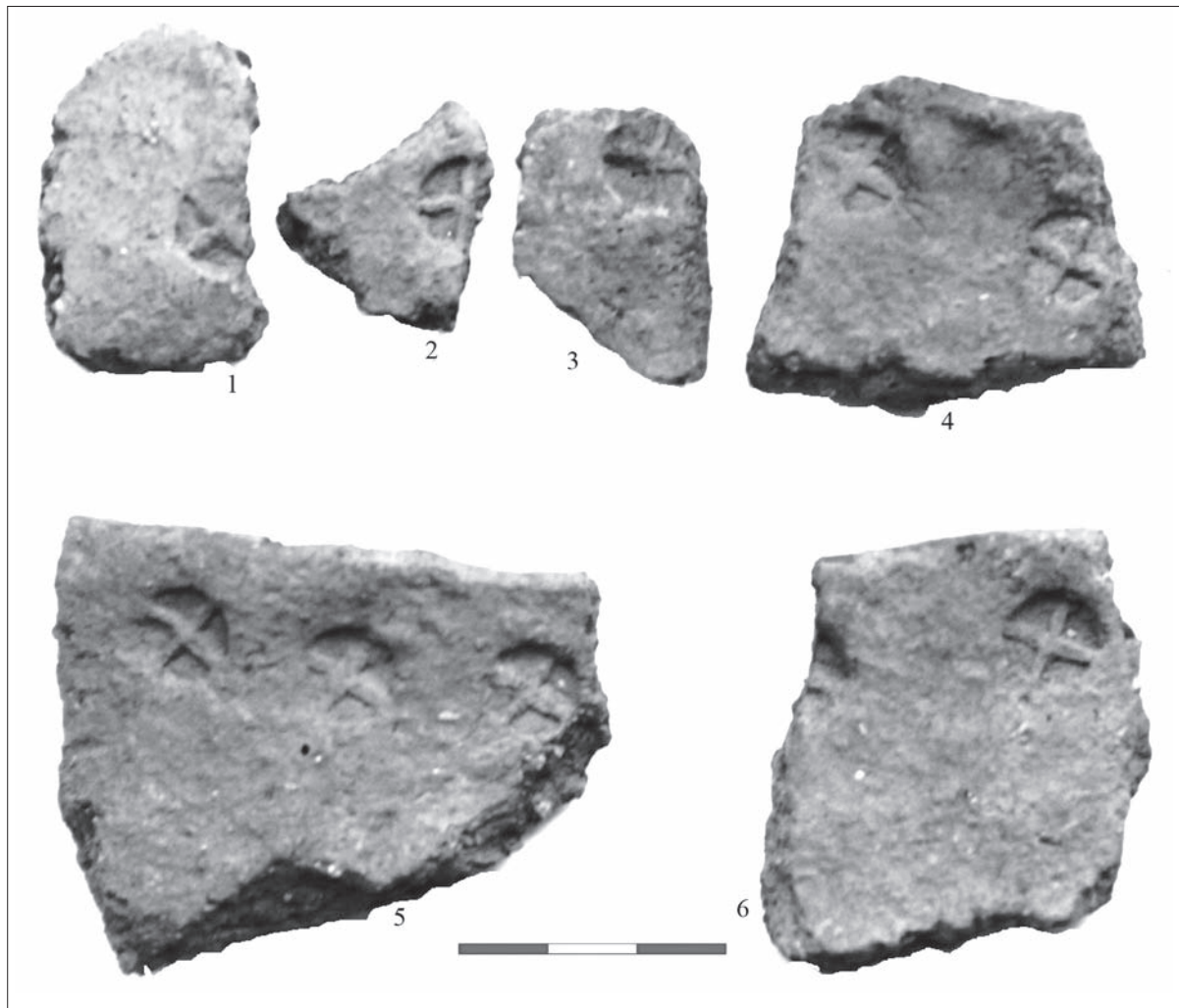Hill-Fort and Settlement

ROMAS
JAROCKIS

Fig. 4. Smooth-surfaced handmade pottery decorated with ornamentation of cross-shaped imprints inside a circle that was found on the top of Opstainis, Vilkyškiai hill-fort (photograph by R. Jarockis).

The remains of that rampart can be found in the east part only, whereas in the west part of the hilltop it must have slid down together with the eroded slope. A moat nine metres wide and one metre deep separates the hill-fort from the neighbouring hill located north of the hill-fort on the other side of the earth rampart. Further on, there used to be another rampart and a moat. Most likely, the entrance to the castle was situated at the eastern edge of the large rampart (Fig. 2).

Archaeologists excavated the hill-fort in 2008 and 2009. A total area of 76 square metres was excavated at the southern edge of the hill-top, on the southeast slope and at the foot of the hill, where stairs for visitors were installed (Fig. 3). The remains of a cultural layer containing abundant handmade pottery were uncovered in the areas excavated on the slopes. A 20 to 25-centimetre-thick grey-black cultural layer containing burnt stones was uncovered at a depth of 45 to 60 centimetres from the existing ground surface in one of

the trenches excavated in the southern part of the hilltop. In the southern part of the trench, a ditch up to 80 centimetres deep was recorded under the cultural layer. It can be assumed that during the early stage of the existence of the hill-fort, there was a moat in this place, which was then filled up as the hilltop was expanded, and the cultural layer mentioned formed above it. The archaeological finds found on the hilltop are: handmade pottery with a fine-grained, coarse and polished surface, shards of handmade pots decorated with ornamentation of cross-shaped imprints (Fig. 4), an iron rivet, an iron spur, a bronze horseshoe fibula with animal-shaped terminals, and other finds dated to the first millennium AD to the early second millennium (Zabiela, Jarockis 2009; Jarockis 2010).

The hill-fort settlement is situated in two places. One part of the settlement is situated at the foot of the hill-fort, in a field east and southeast of it; and the area of this part is approximately 2.5 hectares. The other
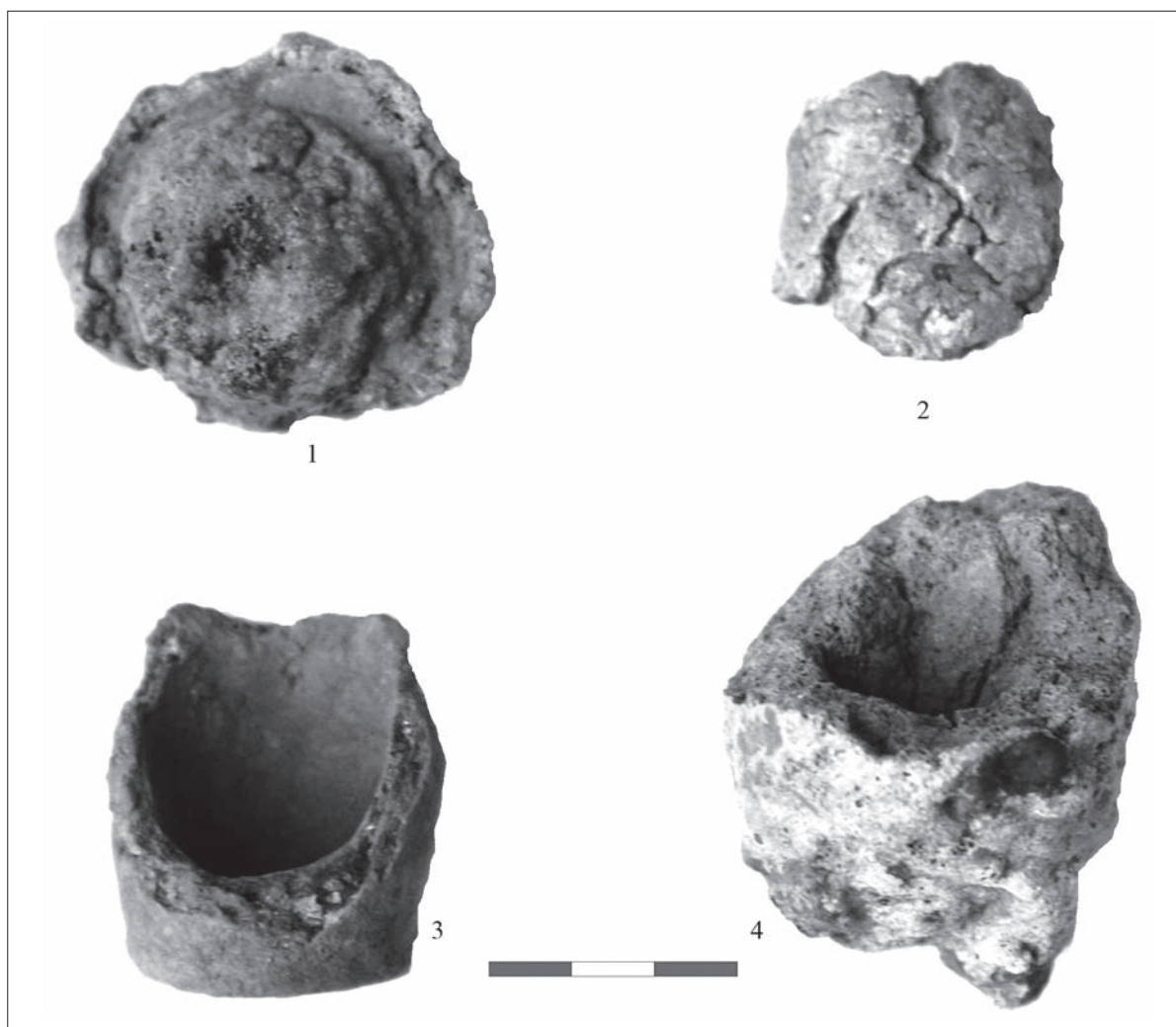
Fig. 5. The archaeological excavations of Opstainis, Vilkyškiai hill-fort settlement in 2009. Finds from area 2: 1 part of the mould of a bronze artefact; 2, 4 fragments of a crucible used for moulding bronze; 3 a miniature clay cup (photograph by R. Jarockis).

part of the settlement is situated on a neighbouring hill north and west of the hill-fort, and occupies an area of approximately three hectares. Since 2005, a total area of 358 square metres has been excavated in both parts of the settlement. The approximate area of the settlement and the thickness of the cultural layer, varying from tens of centimetres to 1.5 metres, were determined by means of archaeological survey.

The part of the settlement situated at the foot of the hill-fort is divided into three zones, according to the intensity of the cultural layer. In the part of the settlement closest to the foot of the hill-fort, which covers a strip of land approximately 30 metres wide, a non-intensive cultural layer, up to 45 centimetres thick and containing single shards of handmade pottery and pieces of burnt clay plaster, was found. It can be assumed that remote defensive fortifications might have been erected in this part of the settlement at some point in time,

that is, moats were dug out and earth ramparts were built at the foot of the hill-fort. Further to the south and southeast of the hill-fort is the central part of the settlement. It covers a strip of land approximately 50 metres wide, where an intensive cultural layer up to 1.2 metres thick and containing abundant handmade pottery, animal bones and burnt stones was found during excavations. This is the main part of the hill-foot settlement, inhabited throughout the existence of the hill-fort. Small moulding boxes and parts of crucibles, as well as combustion products formed during the melting process, that is, slag and cinders (Fig. 5), found in areas 2, 3 and 4 during archaeological excavations, indicate that bronze was melted and bronze artefacts were manufactured in this part of the settlement.

In the part of the lower settlement which is situated furthest east of the hill-fort and covers a strip of land approximately 100 metres wide, no continuous cul-

III

FOOTMARKS
OF THE
EVERYDAY
LIFE OF
SOCIETIES
IN EARLY
URBAN
SETTLEMENTS
AND CITIES

Structure, Chronology and
Interregional Relations: an Analysis
of the Archaeological Material
from Opstainis, Vilkyškiai Iron Age
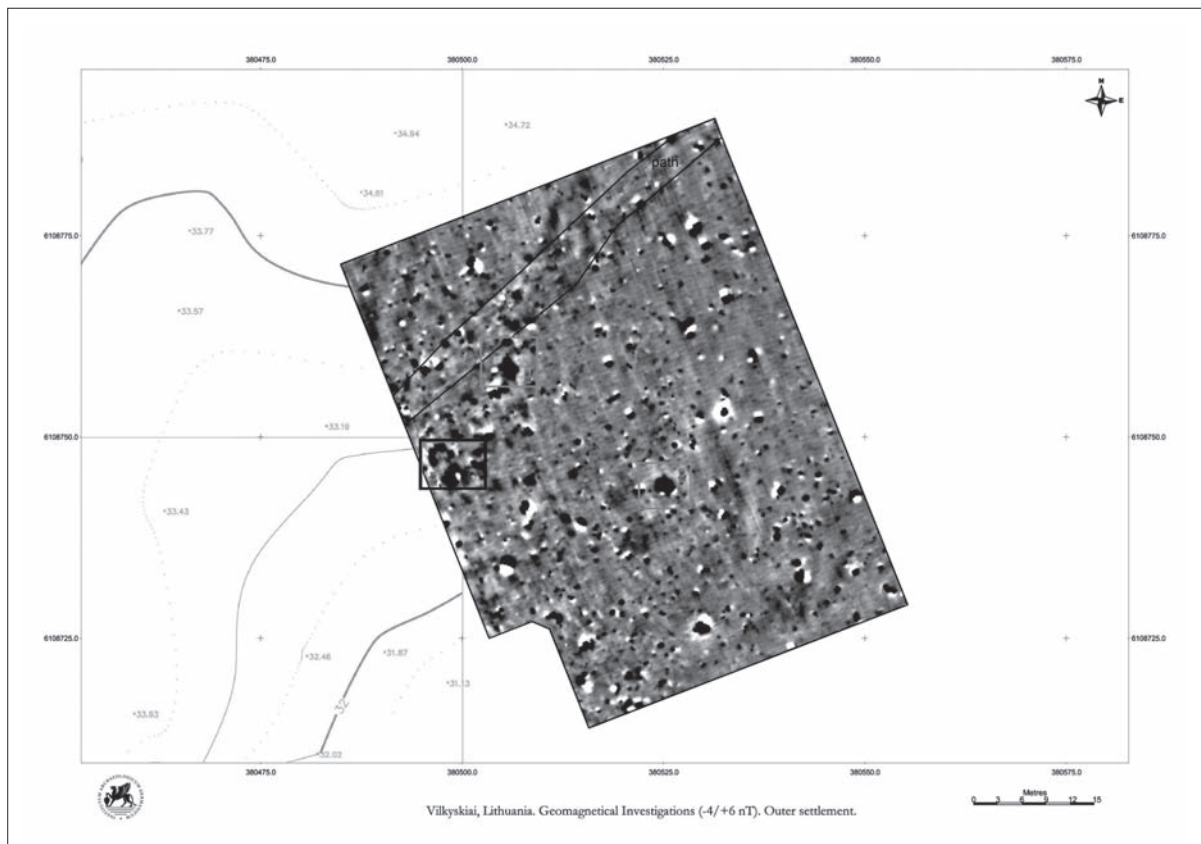Hill-Fort and Settlement

ROMAS
JAROCKIS

Fig. 6. The plan of the 2010–2011 geomagnetic survey of Opstainis, Vilkyškiai hill-fort settlement. The plot investigated in 2011 is marked in black rectangular (by S. Messal).

tural layer was found. Apparently, it was destroyed by ploughing, and only single pits or other structures in the ground might have been preserved in the subsoil. This is the peripheral part of the hill-foot settlement. The remains of an Iron Age settlement were also found in a trench excavated on the right bank of the Apsta rivulet in 2009, where a cultural layer up to 30 centimetres thick, containing handmade pottery, was recorded (Šimėnas 2006, p.401ff; Zabiela, Jarockis 2009; Jarockis 2010; 2011).

The buildings of the hill-foot settlement

A geomagnetic survey was carried out in the central part of the hill-foot settlement in the autumn of 2010; the survey was carried out by Dr S. Messal from the Romano-Germanic Commission (die Römisch-Germanische Kommission) based in Frankfurt-am-Main (Germany), who used a multichannel-magnetometer from Sensorik & Systemtechnologie GmbH (Sensys) for the purpose. The system consists of five fluxgate vertical gradiometer magnetometers (Förster probes,

Type FGM-650A) from Sensys; the channel spacing was 25 centimetres.

In 2011, one of the magnetic anomalies was selected as a site for archaeological excavations (area 4), based on the assumption that it was the former location of household pits or buildings (Fig. 6). This assumption turned out to be true, because two buildings of the half-sunken buildings and a well were found during the archaeological excavations.

The places where the buildings had once been situated showed up against the background of the cultural layer by the abundance of charred material and pieces of burnt clay plaster at a depth of 0.4 to 0.5 metres from the existing ground surface. The eastern corner of semi-pit house 1 was recorded in the western corner of the excavated area. In the southwest and northwest sections of the walls of the excavated area, one can see clearly the outlines of a steep-sloped and flat-bottomed pit. Its width in the southwest section of the wall of the excavated area reaches 1.6 metres, whereas its depth in the subsoil reaches approximately one metre. In the northwest section of the wall of this area, the width of the pit within the section limits reaches 1.9 metres,

whereas its depth reaches 1.2 metres. The pit of the in-ground building is filled with a mixed grey-black and brown cultural layer containing intermediate layers of burnt clay plaster pieces and charred material (Plate VIII.1). In the explored part of the building, two upper grindstones of a grinder (hand milling stone) were found. Semi-pit house 2 is situated in the southern part of the excavated area, at a distance of about four metres southeast of the first building. Here, the outlines of a stepped and flat-bottomed pit dug in the subsoil were recorded in the section of the southeast wall. The width of the semi-pit house at its upper part is up to 1.5 metres, and 0.8 metres at its lower part. The depth of the house pit in the southern corner of area 4 reaches one metre (Plate VIII.2). It is intended to explore both buildings further.

The presumption that these are the sites of buildings is supported by the concentration of pieces of burnt clay plaster at these sites. During the 2011 archaeological excavations in area 4, the size of which is 15 square metres, a total of 270 pieces of burnt clay plaster, the total weight of which is nine kilograms and 814 grams, were found and registered. During the excavation of an area of approximately two square metres at the site of building 1, a total of five kilograms and 493 grams of pieces of clay plaster were found. During the excavation of the site of building 2, only the northwest edge was explored. The weight of pieces of clay plaster recovered here is two kilograms and 531 grams. As an analysis of the pieces of clay plaster has shown, part of the clay plaster is the remains of plaster that covered the inner plastered walls, their corners and the ceiling. The plaster was applied to flat surfaces, to wall gaps, the corners of the walls of the buildings, and the seams between the walls and the ceiling. Some pieces of clay plaster were also found; these pieces indicate that inside the building there were also some wattle walls made of tree branches, which were then plastered. This assumption is based on the fact that small holes in the plaster were found in places where there had once been tree branches (Strandberg 2002, p.215ff).

Half-sunken buildings dated to the Roman period were found during archaeological excavations at Sokiškis and Reškutėnai hill-forts in northeast Lithuania (Grigalavičienė 1984, p.23; Girininkas 2001; Banytė-Rowell 2007, p.152). No data is available yet on buildings of this type found in Iron Age settlements in Lithuania. In our search for analogies, we should turn our attention to areas which were inhabited during the Iron Age by West Slavic and Teutonic (Germanic) tribes, and where this type of house was widespread. Peter Šalkovsky, a Slovak archaeologist, has carried

out a detailed analysis of archaeological data on 1,275 buildings from 387 settlements dated to the sixth to the tenth century AD. It was found that in the area populated by Slavs, half-sunken square-shaped buildings prevailed. Post-structured buildings are found in Slavic settlements, but only rarely. Buildings with wattle walls are found, but also only rarely. The author associates the emergence of such buildings with the Teutonic (Germanic) influence on West Slavic tribes (Šalkovsky 2001, p.183).

In the locality of Gross Strömkendorf, situated in the federal state of Mecklenburg-Western Pomerania (northern Germany), the sites of 94 half-sunken buildings were explored during archaeological excavations in a settlement dated to the eighth to the tenth centuries AD, which is identified as the Slavic trade centre Emporium Reric mentioned in Frankish annals. The size of the buildings determined during the excavations was from four to 14 square metres; 60% of the total number of buildings were rectangular, and 40% square in shape. Half of the buildings (50%) were built according to the 'Scandinavian' method of construction, that is, the supporting beam of the roof ridge of the building was supported by two poles arranged at the ends of the building. Approximately 40% of the buildings were built according to the 'Saxon' method, that is, posts were arranged along the entire perimeter of the building. The remaining 10% of the buildings were built in the manner typical of Slavs (Tummuscheit 2011, pp.13-118).

At Opstainis, Vilkyškiai settlement, there were some buildings of a polework-type construction too. In the course of the analysis of data obtained during the geomagnetic survey in 2011, a building of polework-type (post-framed) construction approximately 20 metres in length and five to six metres in width was located in the northern part of the lower settlement (Fig. 7). The remains of buildings of the cribwork-type (log house) construction of a similar size, dating from the third to the fourth century AD, were found during archaeological excavations in the ancient settlement of Bakšiai in southern Lithuania (Puodžiūnas 1994; Steponaitis 1996; Banytė-Rowell 2007, p.152).

The household pits

A total of approximately ten household pits were found in the hill-foot settlement of Opstainis, Vilkyškiai hill-fort. In most cases, they are oval-shaped and flat-bottomed ones. Two household pits of a regular shape were found in area 3 in 2010. Pit 1 is pear-shaped, which is rather rare. The opening of the 1.5-metre-deep
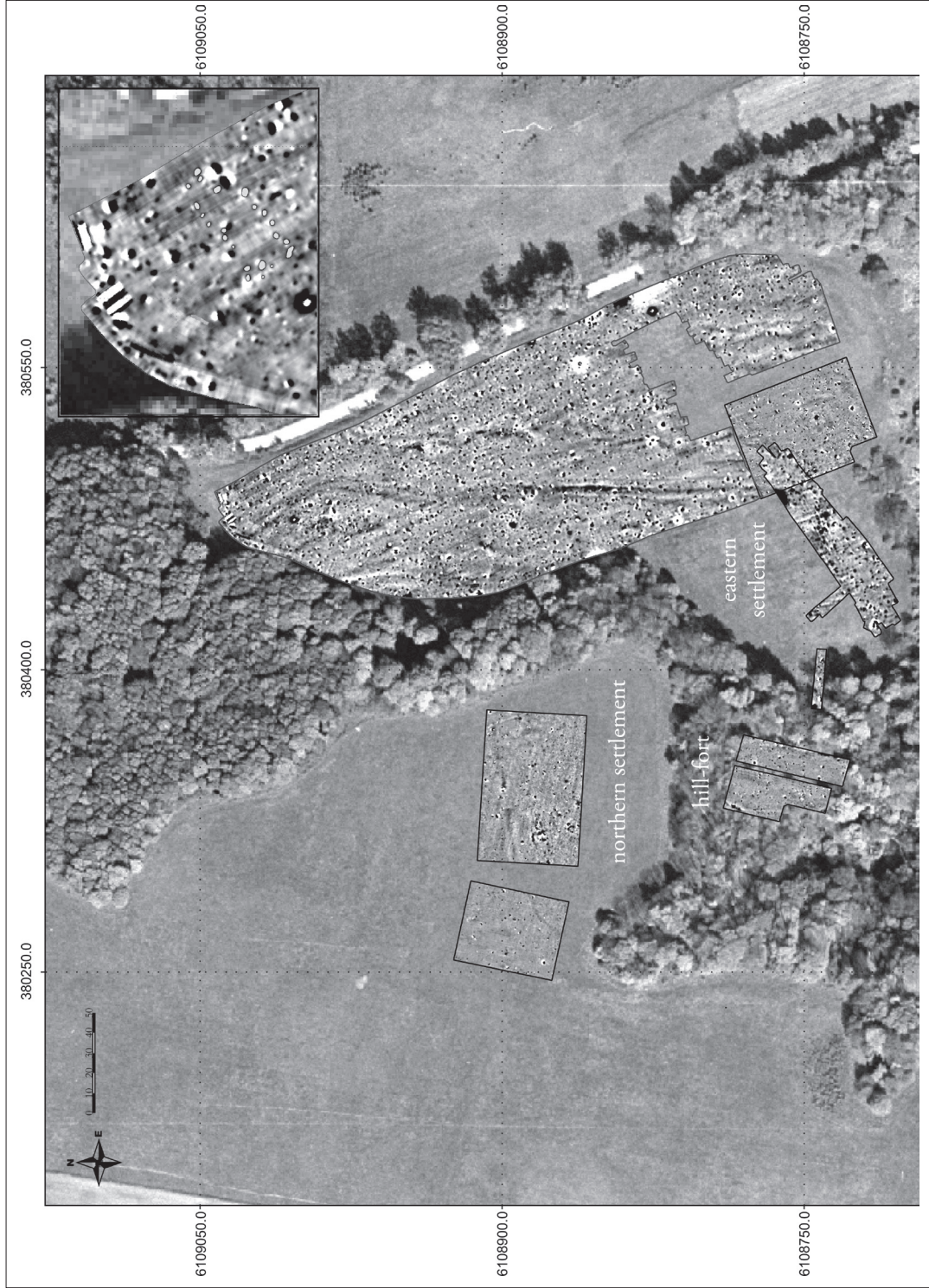
144

Fig. 7. The plan of the 2011 geomagnetic survey of Opstainis, Vilkyškiai hill-fort settlement (the location of a polework construction is zoomed in) (compiled by S. Messal).
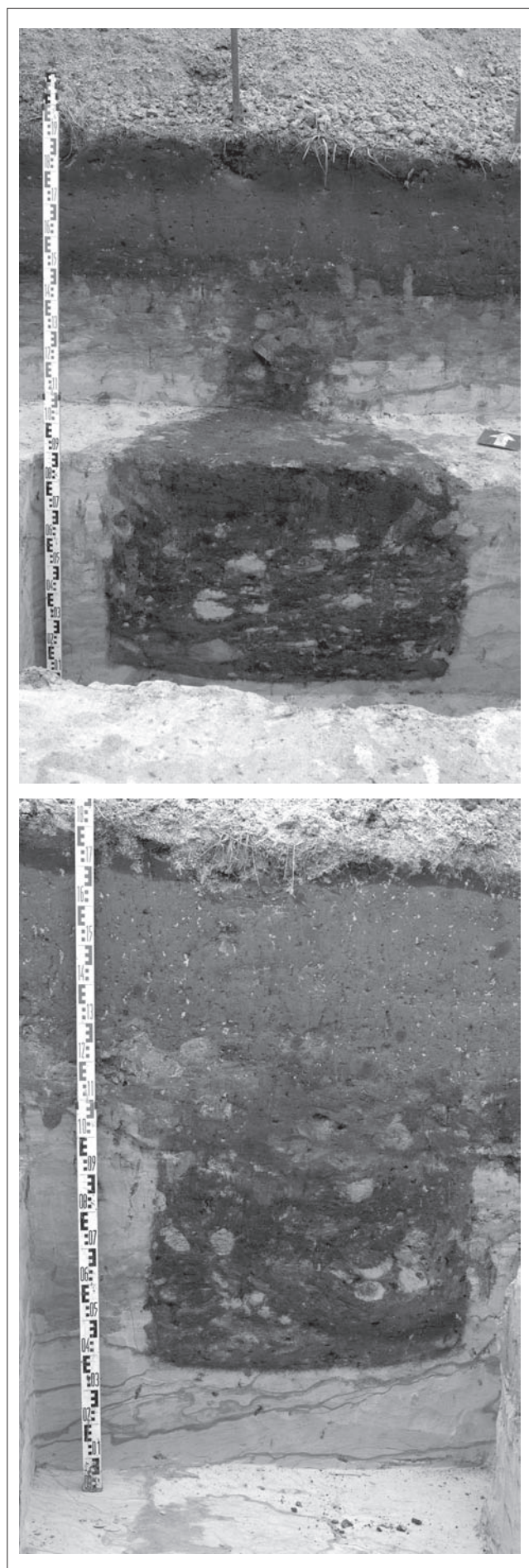
Fig. 8.1-2. The 2010 archaeological excavations of Opstainis, Vilkyškiai hill-fort settlement, area 3, the sections of pits 1 and 2 (photograph by R. Jarockis).

pit is a mere 0.3 to 0.35 metres in diameter, whereas the diameter of the flat bottom is 1.3 metres. Pit 2 is a flat-bottomed one too. Its diameter is 0.9 metres, and its depth is one metre (Fig. 8.1, 2). It is believed that flat-bottomed pits, quite a large number of which were also found in the neighbouring Šereitlaukis Iron Age open-type settlement, are a typical relic of the Iron Age material culture of the West Balts. It is also believed that they were intended for the storage of food (Zabiela, Jarockis 2009, p.91).

In our search for analogies, we should turn our attention once again to material from the previously mentioned settlement of Gross Strömkendorf. In the publication of the archaeological material from this settlement, an analysis is given of 450 pits. Most of the pits (51%) are oval-shaped. Circular pits make up 27% of the total number. The rest of the pits are irregularly shaped. The dimensions of the oval-shaped pits vary, and are 0.5 to two by 0.4 to 1.6 metres. They differ in the shape of their walls and bottoms; 35% of these structures dug in the subsoil are flat-bottomed pits. The diameter of the circular pits varies from 0.5 to 1.7 metres, and the average depth varies from 0.5 to 1.2 metres. Most of the pits are regular in shape. An analysis of the purpose of the pits leads us to the assumption that they might have been used as waste and rubbish pits, storage for food products and traded or bartered goods, and also used as an entrance to a semi-pit house. It was also noted that the household pits and the buildings next to them were arranged almost in chess-board order (Tummuscheit 2011, pp.119-131).

The well

A well 1.5 metres deep was found between the two semi-pit houses described above.

III

FOOTMARKS OF THE EVERYDAY LIFE OF SOCIETIES IN EARLY URBAN SETTLEMENTS AND CITIES

Structure, Chronology and
Interregional Relations: an Analysis
of the Archaeological Material
from Opstainis, Vilkyškiai Iron Age
Hill-Fort and Settlement

ROMAS
JAROCKIS

The outlines of the 1.4-by-1.2-metre oval-shaped pit came to light at a depth of 0.5 to 0.55 metres from the existing ground surface. A section was made in order to decide the structure of the pit and its purpose; the section revealed that the upper part of the pit, up to a depth of 0.7 metres from its top, was filled with a cultural layer containing intermediate layers of charred material and pieces of burnt clay plaster. The archaeological finds found in this (upper) part of the pit were: six fragments of a clay crucible, an iron knife, a small clay scoop for melting bronze, two spindles made of grey argil, a miniature smooth-surfaced cup, and shards of coarse-surfaced and smoothed-surfaced pots. Contrary to the upper part of the pit, the lower one, 0.8 to 1.45 metres in width, was filled with a brown-grey sandy layer containing yellowish sand. No archaeological finds were found in the lower part of the pit. The flat bottom of the pit was reached at a depth of 2.05 metres from the existing ground surface (Plate VIII.3). Ground water began oozing at this depth.

Judging by the specific funnel shape of the pit and its contents, the pit was a former well. This was ascertained on the basis of analogies with the settlement of Gross Strömkendorf: 72 wells were found at that settlement during archaeological excavations, of which only 42 had wooden cribwork or framework constructions. The remaining 30 wells had no wooden constructions at all. In the course of research, it was found that one of the wells had been used for 25 to 30 years (Tummuscheit 2011, pp.100-118).

Stratigraphy, statistics of the pottery and chronology

The archaeological pottery found in Opstainis, Vilkyškiai hill-fort and its settlement still needs detailed research. However, it is already possible to give a short review of its main types and discuss its distribution in the stratigraphy of the settlement's cultural layer. The archaeological pottery found in area 2 of the hill-foot settlement excavated in 2009 was selected for detailed research. In contrast with other areas, no household pits or excavated spots of any other kind were recorded in this area, and the naturally formed cultural layer containing archaeological finds was not disturbed.

The thickness of the settlement's cultural layer in area 2 is on average 110 to 120 centimetres. The cultural layer consists of three parts. The upper part is a ploughed cultural layer. Its thickness reaches 50 to 60 centimetres. The middle part is a grey-black cultural layer undisturbed by ploughing, the thickness of which reaches up to 40 centimetres. It starts at a depth of 0.5

to 0.6 metres, and ends at a depth of 0.8 to 0.9 metres from the existing ground surface. The lower part of the cultural layer, a grey-brown layer, is 25 to 30 centimetres thick. It starts at a depth of 0.8 to 0.9 metres, and ends at the subsoil, that is, sand, at a depth of 1.1 to 1.2 metres from the existing ground surface (Fig. 9).

All the items of archaeological pottery found in area 2 (364 items were registered) were statistically analysed in terms of the depth at which they were found (Fig. 10).

The first layer (depth zero to 0.4 metres) corresponds with the layer destroyed by ploughing. The pottery found in this layer is mostly handmade with a smooth surface. It is mostly S and I-shaped pots with medium-size admixtures, burnt in an oxidising environment. The coarse-surfaced pots also found in this layer are similarly shaped. These pots are of two types: pots with the traditional coarse surface, and pots with 'fish scale' imitation (Fig. 11).

The second layer (depth 0.4 to 0.7 metres) includes the lower part of the destroyed cultural layer, and the larger part of the undisturbed grey-black cultural layer. The majority of the archaeological finds found in the second layer are shards of handmade smooth-surfaced and coarse-surfaced pottery. Single shards of polished pottery were also found there.

The third layer (depth 0.7 to 1.1 metres) includes the lower part of the undisturbed grey-black cultural layer, and the entire grey-brown cultural layer that formed on top of the subsoil. The majority of the archaeological finds found in the third layer are shards of handmade polished and fine-grained surface pottery. Pottery of this type is found in area 2 at a depth of no less than 0.8 to one metre from the existing ground surface.

Although the development of handmade pottery during the Iron Age is an area of scientific research that has not yet been extensively studied, and there is a lack of classification and thorough studies of chronology (Vengalis 2008, p.42ff), the general features of the development of pottery of this archaeological period in Lithuania are more or less clear, and not subject to wider discussion.

The general assumption is that fine-grained surface pottery first emerged and spread rapidly in the southwest and western part of present-day Lithuania in the second half of the first millennium BC (LAB 1961, p.224). The handmade fine-grained surface pottery found in the lower cultural layers of Opstainis, Vilkyškiai hill-fort and its settlement can be dated to the period between the late first millennium BC and the very beginning of the first millennium AD (Vengalis 2007, p.106ff). Some shards of fine-grained surface

Fig. 9. The archaeological excavations of Opstainis, Vilkyškiai hill-fort settlement in 2009: a detail of the section of the south wall of area 2 (photograph by R. Jarockis).

pottery found in Opstainis, Vilkyškiai hill-fort and its settlement have a polished inner part. Therefore, it can be related to polished pottery, as a similar technique was applied to make the inner surface of the vessels smooth.

As far as polished-surface handmade pottery is concerned, it is believed that the pottery spread in the east Baltic Sea region from the area of River Vistula culture or Zarubincy culture as tableware (Tautavičius 1996, p.267ff). Pottery of this type is found in quite large numbers in archaeological monuments on the Sambian Peninsula dating from the Roman Period. It is abundantly decorated with broken and criss-cross lines, and vertical incisions (Gurevich 1960, pp.328-452).

It is generally recognised that handmade coarse-surfaced pottery is a continuation of fine-grained surface pottery. Pottery with a very coarse surface appeared in west Lithuania at about the turn of the millennium. The characteristic shape of the vessels attributed to early coarse-surfaced pottery is the K shape, and of later types the I shape (Vengalis 2007, pp.106-118). According to the data available, in east Lithuania coarse-surfaced pottery began to disappear in the eighth century AD, and was replaced by handmade smooth-surfaced pottery (Vengalis 2008, p.63ff).

Potsherds or even sound pots are often found in the burial monuments of the Scalvians. In the Vidgiriai burial site, in grave 31, dated to the period from the late fifth century to the early sixth century AD, a cup with fingernail-pinched ornamentation was found (Šimėnas 2006, p.72, Fig. 52). Pottery items of this type are found in large numbers during excavations of Opstainis, Vilkyškiai hill-fort and its settlement. In area 2 excavated at the settlement, such pottery items were found in the largest numbers at a depth of 0.4 to 0.7 metres from the existing ground surface, along

III

FOOTMARKS
OF THE
EVERYDAY
LIFE OF
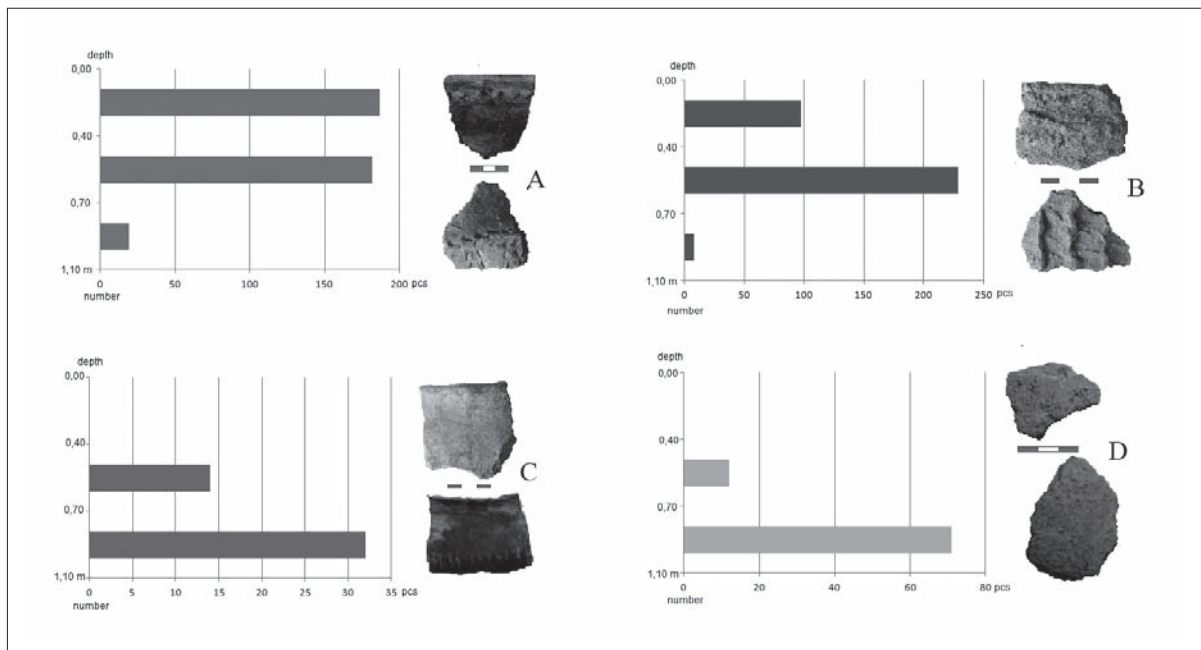SOCIETIES
IN EARLY
URBAN
SETTLEMENTS
AND CITIES

147

Fig. 10. The archaeological excavations of Opstainis, Vilkyškiai hill-fort settlement in 2009: graphic of stratigraphic analysis of archaeological pottery from area 2 (compiled by R. Jarockis).
Types of handmade pottery: A smooth surface; B coarse surface; C polished surface; D fine-grained surface.

with handmade coarse-surfaced, smooth-surfaced and polished-surfaced pottery.

In Opstainis, Vilkyškiai hill-fort, shards of handmade pots with cross-shaped imprints were found. Such pottery has been found in Palanga in Lithuania, in one of the Iron Age settlements. In the opinion of V. Žulkus, this pottery originates from the southwest Baltic Sea region, and serves as evidence of the contact between the local population and West Slavs and Teutons (Žulkus 1997, p.242, Fig. 99.3). Such items of pottery decorated with cross-shaped *Kreutzstampel* imprints and dated to the ninth or tenth centuries AD are found in quite large numbers in the federal state of Mecklenburg-Western Pomerania (northern Germany) (Schuldt, 1981, p.28ff, Fig. 10 K, L, M). A lot of pottery with various cross-shaped imprints is found in the area inhabited by Teutonic (Germanic) tribes in the eighth to the tenth centuries west of the River Elbe, next to the coast of the North Sea and the Jutland Peninsula (Schuldt 1981, p.28ff, Fig. 10 K, L, M).

Researchers into archaeological pottery agree that the first examples of partially wheel-thrown pottery decorated with characteristic ornamentation of waves and horizontal lines emerged in about the year 1000 AD (Vengalis 2008, p.63ff). It probably came to east Lithuania from the areas inhabited by East Slavs, and to west Lithuania from the area inhabited by West Slavs on the southern shore of the Baltic Sea (Žulkus 1997, p.244ff). Not a single shard of wheel-thrown or partially wheel-thrown pottery has been found yet during

the archaeological excavations at Opstainis, Vilkyškiai hill-fort and its settlement. It is probable that Opstainis, Vilkyškiai hill-fort and its settlement were abandoned around the year 1000 AD. During the archaeological excavations in 2009, a horseshoe fibula with animal-shaped terminals was found on the top of the hill-fort. This type of bronze brooch began spreading exactly at the turn of the tenth and the 11th centuries (LAA, 1978, p.48).

Conclusions

On analysing the data from archaeological excavations and geomagnetic surveys of Opstainis, Vilkyškiai Iron-Age hill-fort and settlement complex gathered during four years of excavations, the following conclusions can be made:

In the central part of the hill-fort foot settlement, there was a place where bronze was melted and processed. This is proven by metal melting and processing products and waste (slabs, cinders, scrap bronze for melting, and fragments of small moulding boxes) found during the archaeological excavations. The area was built up rather densely; there were wells in the settlement next to the buildings; and the oval-shaped flat-bottomed pits probably served as food storage places.

Two buildings of a half-sunken building were found in the settlement by geomagnetic survey. This was the first time that buildings of such a construction were discov-
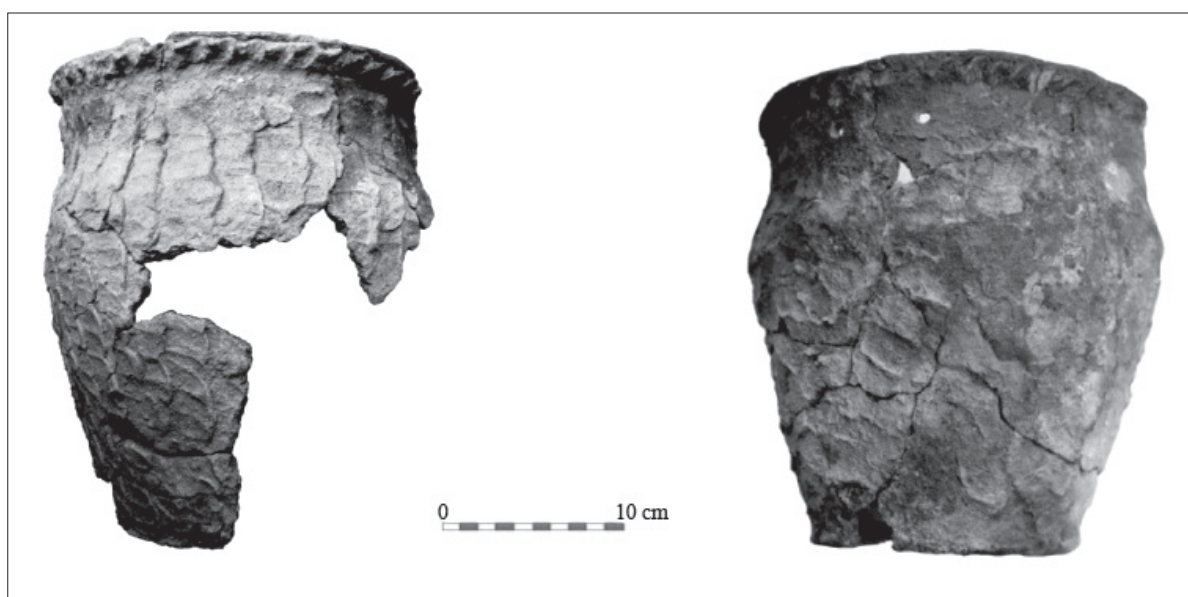
Fig. 11. The 2011 archaeological excavations of Opstainis, Vilkyškiai hill-fort settlement, area 4: handmade coarse-surfaced pots (the site of the survey carried out in 2011 is marked in black quadrat; for this see Fig. 6) (compiled by S. Messal, photographs by R. Jarockis and D. Balsas).

ered in Iron Age settlements in Lithuania. Before that, it had been assumed that during the Iron Age the local population built exclusively overground buildings of a polework (post-framed house) or cribwork-type (log house) construction. During the geophysical survey, a building of a polework-type construction approximately 20 metres long and five metres wide was discovered in the northern part of the settlement at the foot of the hill-fort; this building also has no equivalents in Lithuania's Iron Age archaeological material.

On an analysis of the distribution of archaeological pottery in the stratigraphic strata of the cultural layer of the settlement, it was found that the settlement and the hill-fort had existed throughout the first millennium AD. All the main types of Iron Age household pottery were found in the cultural layer, with the exception of partially wheel-thrown and early wheel-thrown pottery. This allows us to make the hypothesis that the hill-fort and its settlement were abandoned by their inhabitants around the year 1000 AD.

The currently available data from scientific archaeological studies on buildings with half-sunken buildings and a polework construction, household pits of regular shapes, and pottery decorated with cross-shaped imprint ornamentation, allows us to make a hypothesis concerning contacts between the population of the lower reaches of the River Nemunas and the southwest Baltic Sea region in the second half of the first millennium AD.

Abbreviations

ATL – *Archeologiniai tyrinėjimai Lietuvoje*, Vilnius, since 1967
LA – *Lietuvos archeologija*, Vilnius, since 1979
LAA, 1978 – *Lietuvos TSR archeologijos atlasas*, III. Vilnius: Mokslas
LI, 2007 – *Geležies amžius. Lietuvos istorija*, II. Vilnius: Versus Aureus

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III

FOOTMARKS OF THE EVERYDAY LIFE OF SOCIETIES IN EARLY URBAN SETTLEMENTS AND CITIES

Structure, Chronology and Interregional Relations: an Analysis of the Archaeological Material from Opstainis, Vilkyškiai Hill-Fort and Settlement

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STRUKTŪRA, CHRONOLOGIJA IR TARPREGIONINIAI RYŠIAI OPSTAINIO, VILKYŠKIŲ GELEŽIES AMŽIAUS PILIAKALNIO IR GYVENVIETĖS NEMUNO ŽEMUPYJE, ARCHEOLOGINĖS MEDŽIAGOS KONTEKSTINĖ ANALIZĖ

ROMAS JAROCKIS

Santrauka

Archeologinės medžiagos iš Lietuvos geležies amžiaus gyvenviečių trūkumas ir siekis gyvenviečių archeologijoje pradėti taikyti šiuolaikinius metodus ir technologijas lėmė, kad Klaipėdos universiteto Baltijos regiono istorijos ir archeologijos institutas Opstainio, Vilkyškių geležies amžiaus piliakalnio ir gyvenvietės, komplekse studentų mokymo tikslais 2008 m. pradėjo tęstinius nedidelės apimties archeologinius tyrimus, kurie pamažu išaugo į tarptautinius kompleksinius mokslinius tyrimus (1–12 pav.; VIII: 1–3 iliustr.). Šio straipsnio tikslas – išanalizuoti piliakalnio gyvenvietės erdvinę struktūrą ir chronologinę raidą, apibendrinant šiandien turimą archeologinių ir geomagnetinių tyrimų medžiagą. Opstainio piliakalnis tyrinėtas 2008 ir 2009 m. Piliakalnio aikštelės pietiniame pakraštyje, pietrytiniame šlaite ir papėdėje, lankytojams statomų laiptų vietoje, ištirtas bendras 76 m² plotas, taip pat Tyrinėta piliakalnio papėdėje į rytus ir pietryčius nuo piliakalnio esančioje gyvenvietėje, kuri užima maždaug 2,5 ha plotą. Kita gyvenvietės dalis yra į šiaurę ir vakarus nuo piliakalnio gretimoje aukštumoje ir užima maždaug 3 ha plotą. Nuo 2005 m. abiejose gyvenvietės dalyse ištirtas bendras 358 m² plotas.

Išanalizavus archeologinės keramikos pasiskirstymą gyvenvietės kultūrinio sluoksnio stratigrafijoje nustatyta, kad egzistavę ištisą geležies amžių apie 1000 m. po Kr. piliakalnis ir gyvenvietė gyventojų buvo apleisti. Piliakalnio papėdės gyvenvietės centrinėje dalyje buvo amatų ar gamybos vieta. Tai liudija archeologinių

tyrimų metu rasti metalų lydymo ir apdirbimo produktai ir atliekos (kritės, gargažės, bronzos laužas lydymui ir liejimo formelių fragmentai). Teritorija buvo gana tankiai užstatyta, gyvenvietėje greta pastatų buvo vandens šuliniai, ovalo formos plokščiadugnėse duobėse greičiausiai buvo laikomos maisto atsargos. Piliakalnio papėdės gyvenvietės šiaurinėje dalyje geofizikiniais tyrimais aptiktas maždaug 20 m ilgio ir 5 m pločio stulpinės konstrukcijos pastatas. Šiuo žvalgymo metodu gyvenvietės centrinėje dalyje buvo du pusiau žeminės tipo pastatai. Šioje vietoje 2011 m. pradėti archeologiniai tyrimai bus tęsiami ir ateinančiais metais. Šiandien iš Opstainio, Vilkyškių geležies amžiaus piliakalnio ir gyvenvietės, turimi mokslinių tyrimų duomenys (pusiau žeminės tipo pastatai, ovalo ir „kriaušės" formos plokščiadugnės ūkinės duobės, kryžiaus formos įspaudais ornamentuotų lipdytų puodų šukės) liudija Nemuno žemupio ir pietvakarių Baltijos jūros regiono gyventojų kontaktus I tūkst. po Kr. antrojoje pusėje.

III

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