
Fortifications in their Natural and
Cultural Landscape:
From Organising Space to the
Creation of Power

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Fortifications in their Natural and Cultural Landscape: From Organising Space to the Creation of Power

Edited by
Timo Ibsen, Kristin Ilves, Birgit Maixner,
Sebastian Messal and Jens Schneeweiß

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dedicated to the memory of our friend and colleague



Romas Jarockis

30th April 1963 – 24th November 2020

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Foreword

In 2015 a group of archaeologists from the Baltic countries of Lithuania and Latvia as well as from Poland, Russia and Germany met in Warsaw on the initiative of the authors of this Foreword for a first meeting of the then planned ‘Baltic hillfort network’ and intensively discussed the most current issues of modern hillfort research, summarising the state of research. Unsurprisingly, the most urgent aspects were the same in all participating countries:

There is no clear definition of what the term ‘hillfort’ means, thus a precise terminology is lacking here. The surroundings of the enclosures are inadequately included in overall interpretations. Disturbances and remodelling of monuments over large periods of time are not always recognised and/or considered in research. Too few monuments are completely investigated. Above all, uncertain or completely missing dating of the enclosures remains a problem. Equally unsurprising was the statement that today’s political borders still hinder the study of cross-spatial phenomena and distribution patterns, with all the questions attached to them.

Cross-border exchange of information, maintenance of existing and formation of new networks, and overcoming political and linguistic barriers away from the agendas of state interests were further aspects that once again highlighted the need for closer cooperation in hillfort research on a larger scale.

The idea of the Baltic hillfort network ultimately culminated in the ‘Community on Fortification Research (COMFORT)’, founded in 2018 under the umbrella of the European Association of Archaeologists (EAA) by T. Ibsen and L. Linde, which since then has regularly appeared at the annual conferences of the EAA and is also institutionalised as a project at the Centre for Baltic and Scandinavian Archaeology (ZBSA) in Schleswig.

In March 2020, shortly before the Europe-wide Corona lockdown, COMFORT organised an international workshop on fortifications in their natural and cultural landscape, held at Gottorf Castle in Schleswig, northern Germany, as the seat of the Centre for Baltic and Scandinavian Archaeology.

Together with papers presented at a session at the annual conference of the EAA in 2020, 16 contributions from mainly northern and eastern European countries, but also from Senegal, were produced for the publication presented here, focusing on questions of how and why these fascinating monuments, which are undoubtedly extremely important for settlement dynamics, arose in certain landscapes, were further developed and maintained, were used to present power and legitimise rule, but in some cases were also abandoned and lost their function, which is mostly still unknown to us.

The editors regard this book – with the different research traditions and approaches visible in the articles, with their geographically widespread broad spectrum of fortifications and the different understandings of cultural and natural landscape – as an attempt to make visible and address the limits and open questions described at the beginning.

Today, shortly before printing this anthology on international hillfort research, this claim has acquired a sad new topicality with the war of Russia against Ukraine. May this book serve as a reminder of the importance of international exchange and knowledge transfer, and thus also as a continuation of understanding on at least a scientific level.

We dedicate this book to our Lithuanian colleague Romas Jarockis (30th April 1963 – 24th November 2020), who – in his extremely friendly and open manner – always tried to internationalise archaeological research and encourage cross border cooperation.

ACKNOWLEDGEMENTS

The preparation of the workshop ‘The setting of fortifications in their natural and cultural landscape’ on the 5th and 6th of March 2020, organised by the EAA ‘Community on Fortification Research (COMFORT)’ and the subsequent publication of 16 international contributions was funded by the Centre for Baltic and Scandinavian Archaeology Schleswig (ZBSA), the Excellence Cluster ROOTS of Kiel University (itself financed by Deutsche Forschungsgemeinschaft [DFG, German Research Foundation] under Germany’s Excellence Strategy – EXC-2150 – 390870439) and the Norwegian University of Science and Technology (NTNU), Department of Archaeology and Cultural History.

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Schleswig, September 2022

Claus von Carnap-Bornheim & Timo Ibsen

Introduction – ‘Fortifications in their Natural and Cultural Landscape: From Organising Space to the Creation of Power’

Timo Ibsen, Kristin Ilves, Birgit Maixner, Sebastian Messal and Jens Schneeweiß

GENERAL REMARKS

Among the numerous cultural monuments of our prehistory and history, fortifications are undoubtedly one of the most fascinating examples. They are a widespread, multi-faceted, and long-term cultural phenomenon, which emerged for the first time about 10,000 years ago and have existed ever since. Fortifications are called by many names, such as, but not limited to: castle, fort, fortress, rampart, citadel, bulwark, oppidum, and hillfort – all meaning fortified sites of various types. These sites were usually located in naturally protected settings, on islands, lowlands, hilltops, and promontories. Nevertheless, fortifications were also constructed in flat landscapes. According to their intended social, political, economic, military and/or religious functions, hillforts have been built at settlement centres, but also in the peripheries of populated areas, as well as along and at the crossroads of transit routes, both on water and land. Most hillforts usually have high and steep ramparts, protective walls of some sort, which were made using various constructions of timber and earth, stones, or even mud-bricks. In this way, often combined with ditches and moats, almost insurmountable sites were built that allowed for efficient defence, but also demonstrated power and authority. Today, fortifications continue to be important elements of natural and cultural landscapes, often constituting part of the respective identity reflected in folklore, poetry, prose, and arts.

In this book, we address the interdependencies between fortifications and their contemporary landscapes and investigate how the builders of hillforts might have through these constructions and the practices they contained constantly remodelled and changed cultural landscapes in terms of content and meaning. Two workshops form the background and motivation for this publication. In March 2020, the Community on Fortification Research (COMFORT) held a workshop ‘The setting of fortifications in the natural and cultural landscape’ in Schleswig; the discussions initiated there continued in August of the same year at the 26th European Association of Archaeologists (virtual) conference in the session ‘Just a demonstration of power? The setting of strongholds within their landscape’. The presentations at these events, and the subsequent discussions resulted in altogether 16 contributions by an international authorship. The contributions in this book focus on various aspects of fortifications in different parts of Afro-Eurasia, investigating how these monuments can be understood in their specific setting as an expression of interaction with changing landscapes and histories.

As demonstrated in this book, the role of fortifications in conjunction with the changing landscapes is of great diversity. Fortifications enacted as features for organising space and *creating* landscapes with specific intended functions, such as establishing sacred or ritual landscapes or acting as expressions of a new political power – these aspects are in the focus of the chapters in the first section of the book. Fortifications as means of *maintaining* an established spatial order and the visible control of space is what unites the contributions in the second section of the book, while the third

section focuses on fortifications as features of changing and reorganising space as a consequence of *transforming* political, cultural, or natural conditions.

FORTIFICATIONS AND THEIR LANDSCAPES

Landscapes are created by humans. Therefore, the shape and meaning of a landscape is always subjectively constructed and constantly developing. Landscapes are ‘materialisations of structures, powers and ideologies on various levels’ (DAVIDOVIC 2018, 60) and thus, constantly ‘remodelled’ products in terms of shape, meaning, and content. This in turn obviously affects the features within. The spatial distribution of the so-called social architecture in particular has a determining effect on modelling the perceived meaning of the landscape (MÜLLER 2018, 43). And in the past, fortifications constituted the most exemplary social architecture that facilitated this development.

It is a generally accepted understanding that military, economic, and religious centres of territories and landscapes were almost always fortified. This suggests that the location of these centres was carefully chosen to fulfil specific intended functions, which at the same time could also be diverse and interrelated. Based on the contributions in this book, four primary functions of fortifications can be suggested: 1) fortifications with political-administrative roles understood as central places, 2) fortifications with strategic-military functions aimed towards protecting and controlling borders, communication routes, as well as resources, 3) fortifications as refuges, and 4) as religious sites. Often, however, the fortifications were multi-functional. Furthermore, a specific function may also have changed over time.

The functions of fortifications were based on certain intentions of the commissioners and builders of these sites. Generally, these intentions were socially, politically, economically, militarily, or religiously motivated, and they usually related less to the fortified site itself than to its position in the surrounding landscape. In this context, different levels of perception are addressed. Fortifications are landmarks and can therefore to a certain extent be understood as symbolic features of a landscape. But they always demonstrate power and authority, regardless of the main intention of the owners. Fortifications are associated with rank, social stratification, and identities, indicating political, ideological, and military dominance.

An important factor for the function of the fortifications, however, is the topography of the surrounding landscape. Fortifications usually take advantage of natural protection features such as islands, hard-to-reach lowlands, hilltops, or promontories. Landscapes with high or undulating relief as well as in connection to water provide a greater variety of naturally defended spots suitable for fortification than flat terrain areas. Fortifications in landscapes without natural protective conditions therefore require a much greater effort for their construction and surveillance; the intentions and incentives of building fortifications in these areas thus seem to be much stronger indicating a perceived necessity for fortifications at a given time. These observations point to multi-layered and complex connections between the natural topography, the intended functions of a fortification or a system of fortifications, and the immanent symbolic meaning of the construction as a community work that creates identity. Through this entanglement between fortifications and their surroundings, culturally or socio-politically modelled landscapes emerge. This book provides some striking examples of deciphering such landscapes.

CREATING – MAINTAINING – TRANSFORMING

This volume is structured in three sections – creating, maintaining, and transforming landscapes. The three-part structure follows the above-discussed emphasis of the main perspectives on fortifica-

tions. Fundamental to this is the respective relationship to space in general and landscape in particular, since the construction of fortifications can create, maintain, and/or transform landscapes at the local, but also at the regional and even supra-regional levels. However, the book should not be read with a sharp division between these three sections in mind as this is neither possible nor desirable; manifold overlaps of the subject areas are obvious.

In the first section, 'Creating Landscapes', attention is drawn to fortifications as means of constituting landscapes. This can be discussed, for example, emanating from a single fortification carefully situated and designed to utilise both the topography and geography, such as the early medieval temple fortress of Arkona on the island of Rügen in the southern Baltic Sea region, which is discussed in the paper opening the volume. In this contribution, Sebastian Messal emphasises the emergence of a sacred landscape with the fortification of Arkona as its centre and point of reference. But landscapes are also created by a multitude of fortifications. Olga A. Khomiakova interprets the hillforts of the Sambian-Natangian culture of the first millennium AD on the Sambian peninsula in what is today Russia as protective centres of economic units associated with the exploitation and trade of amber. From this point of view, the hillforts on the Sambian peninsula shape a landscape structured according to economic considerations. Socio-economic considerations may also have played a decisive role in the construction of fortifications in the west Siberian taiga, as Tanja Schreiber, Henny Piezonka, Natalia Chairkina, Ekaterina Dubovtseva and Lyubov Kosinskaya point out in their article. The Siberian fortifications discussed here are surprising for two reasons. Firstly, their builders were hunter-gatherers, seldom associated with fortifications in the research, and secondly, fortifications in the west Siberian taiga were built over a long period of time, starting very early – c. 6000 BC. In this particular case, access to resources formed the basis for the early organisation of space through fortifications, which should accordingly no longer be described as merely a natural landscape with traces of human activity, but as a landscape of social inequality. Whether the taiga fortifications also contributed to the long-lasting stability of hunter-gatherer societies, however, remains a question for future research. A correlation between the number of fortifications and political stability, in contrast, is observed by Sirio Canós-Donnay in the contribution focussing on a completely different region and continent for that matter – southern Senegal, Africa. This chapter sheds light on the constitutive function of *tàta* (mud-brick or rammed-earth fortresses) for the emergence of small-scale political landscapes. Vladimir Salač, Karin Göbel and Jörg Nowotny in their contribution then take a large-scale bird's-eye view on the recording of prehistoric and early medieval fortifications in Bohemia. In diachronic view it becomes clear how the construction of fortifications in certain epochs gave rise to veritable fortified landscapes that had a considerable impact on the varying perceptions of space.

The focus in the second section of the book, 'Maintaining Landscapes', is on the stabilising function of fortifications for the existing systems and landscapes. Despite the static impression of the concept of maintaining, this task includes continuous social, economic, and cultural developments that often lead to a densification of existing settlement areas and expansion into previously unsettled territories. This process, known as land expansion, led to the establishment and/or renewal of fortifications that took over the control and organisation of increasingly complex landscapes with their transport routes and resources. While the location and concrete function(s) of the fortifications, which were not always permanently or continuously occupied, could change, the landscapes as a whole remained intact. In the opening chapter of this section, Sergey Chaukin approaches the hillforts of the Iron Age Dyakovo culture in the Moskva river basin in Russia. Almost all known settlement sites in that region are fortified, although there are clear differences in the complexity of the fortifications, which seem to have played a key role in the long-lasting nature of the culture. Not as much as building a typology, in the contribution by Kristo Siig a whole bundle of methods is introduced to explore the function of Late Iron Age fortifications in Estonia. Focusing on the methodological aspects, with the help of GIS and various quantitative methods, the relationship of fortifications to settlements and

traffic routes is analysed. As a result, many hillforts are associated with the protection of either centres of power or marketplaces. Thus, they primarily served to maintain and control existing power and economic structures. In a methodologically related approach, using a GIS-based kernel density analysis, Timo Ibsen concludes that the location of hillforts on the Sambian peninsula in Russia was determined, among other things, by aspects of power manifestation and cultural identity. Certain sites in the natural landscape were used for control in a relatively constant way, while the cultural landscape around them was perpetually changing. Ibsen points out that such observations are only possible based on reliable dating, which is still lacking for most of the monuments in general. Contrary to this, however, Staraya Ladoga is well-dated. A natural watercraft landing site on the Volkhov river formed the starting point for the foundation of Staraya Ladoga, where also the fortress was later built – the site is discussed in the contribution by Natalia V. Grigoreva. From the early to the late Middle Ages, the local topography of the region was considerably modified for the expansion of the fortress, although the position of the fort in relation to the waterway and its control always remained of crucial importance. In the contribution by Birgit Maixner, also focusing on a maritime cultural landscape, the possible function of a hitherto undated hillfort on the coast of central Norway is discussed based on an interdisciplinary analysis of the surrounding cultural landscape. It is argued that this hillfort was part of the basic infrastructure of a local political and religious centre in the early Scandinavian Iron Age. In the final chapter of the second section, Håkon Reiersen analyses the relationship of several hillforts from Sunnhordland in western Norway to communication routes, central settlements, and weapon finds. In doing so, it is demonstrated that three of these hillforts formed a coherent defence network that effectively protected a migration-period settlement area from attacks from the seaside and the neighbouring valleys.

The third section of the book is titled ‘Transforming landscapes’. In this part, among other things, discontinuous developments of the local settlement patterns are argued to play a role in bringing about transformations of landscapes. Migrations, colonisations as well as conquests led to the presence of new actors who, on the one hand, wanted to reshape the landscape according to their ideas or ideologies and, on the other hand, wanted to secure and legitimise their new power by building fortifications. The connection between hillforts and political units on the Nordic Late Iron Age Åland Islands in today’s Finland is the starting point of Kristin Ilves’ contribution. All the Ålandic hillforts have been associated with a wave of immigration occurring during the period in question. Most of the hillforts on the islands can be understood as an expression of a reorganisation of space and are also connected to the development of the previously marginal Åland Islands into a region of prosperity during the period under scrutiny. In his contribution centering on the dynamic political and natural developments along the Elbe river in the early Middle Ages, Jens Schneeweiß points to the influence of local factors of position for the history of fortifications, which are closely connected to the control of routes. The central importance of route networks for understanding the function of fortifications is also emphasised by Thorsten Lemm, who is using the example of early medieval northern Albingian strongholds in northern Germany. These fortifications are argued to have been closely linked to the territorial ambitions of the respective rulers. Other examples, however, also demonstrate the construction of fortifications by the local populations as a means of demarcation from the new rulers and structures, constituting a demonstration of their own identity. This is emphasised in the study on Romano-British enclosures (‘Rounds’) in Cornwall by Catherine J. Friemann, Andy M. Jones and James Lewis. Another interesting approach is taken by Oliver Nakoinz and Anna K. Loy in their contribution that is closing the volume. Using several case studies, the specific topographical situation of connected hillforts and their role in the escalation and de-escalation of conflicts is explored. Basic theoretical considerations on these processes, their relation to the location of fortifications in the landscape, and the resulting archaeological implications lead beyond the notion of connected hillforts.

The 16 articles in this volume offer a very broad geographical and chronological spectrum in relation to the category of fortifications. Although the focus is on the three points of view summarised under the keywords of creating, maintaining, and transforming landscapes, the studies also touch upon some other and related aspects. The contributions also represent an expression of different research schools and traditions. This fact is reflected in the questions posed by the authors, methodological approaches used, and the argumentation driven. As editors, we see this book as a positive example of an ongoing dialogue between different ways of creating, maintaining, and transforming knowledge, which is both needed and welcomed in the study of fortifications as well as in the archaeological research in general.

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Sambian-Natangian hillforts in the 1st-millennium AD settlement system of the southeastern Baltic region

Olga A. Khomiakova

Keywords: Southeast Baltic region, Sambian-Natangian culture, settlement system, centre of power, landscape, hillfort, unfortified settlement, burial ground

Abstract: The main focus of this article are the issues related to the influence of the natural landscape on the formation of the 1st-millennium settlement system and social landscape in the southeastern Baltic region (Kaliningrad region). The features of the landscape location of fortified settlements (hillforts) are considered. These data are compared with information on the location of burial grounds (the most-studied type of monuments in the region), which indicate several concentrations that represent local groups of sites. Attention is paid to the following questions: What role did hillforts and other sites play in the social organisation of the cultural landscape and the settlement system? What might the structure of the individual settlement centres of the Sambian-Natangian culture have looked like?

The available data indicate that the main settlement centres on the Sambian peninsula are formed in the places of amber mining and dumping. Along the Pregolja river and the coast of the Vistula gulf, they are located in the most important places to control the river communications of the region. Archaeological sites are concentrated in micro-regions, at the centres of which are hillforts. Being dominant in the landscape, the hillforts might have formed a district around them with unfortified settlements and economic zones, which were located on the most suitable sites near the hillfort. But the burial grounds, for the location of which topography was important, are located on the peripheral areas of such micro-regions. Such settlement centres are likely to have formed clusters on the Sambian peninsula and more sparse, more loosely connected concentrations in peripheral and contact areas. Such a system was quite stable and could exist for a long time in the 1st millennium AD.

Резюме: Рассматриваются вопросы влияния естественной ландшафтной ситуации на формирование системы расселения и социального ландшафта I тыс. в Юго-Восточной Прибалтике (Калининградская область). Особенности ландшафтного расположения укрепленных поселений (городищ) сравниваются с данными расположения наиболее изученного типа памятников в регионе – могильников. Последние имеют несколько концентраций локальных групп памятников. Вопросы, поднимаемые в статье, следующие: какую роль играли городища и другие памятники в социальной организации ландшафта и системе расселения; как могла выглядеть структура отдельных поселенческих центров самбийско-натангийской культуры.

Основные поселенческие центры, вероятно, формируются в наиболее важных регионах. На Самбийском полуострове – в местах добычи и броски янтаря, вдоль Преголи и побережья Вислинского залива – на участках, важных для контроля транспортных коммуникаций региона. Поселения и могильники образуют микрорегионы, центрами которых являлись городища. Находясь в качестве

доминанты в ландшафте, городища формируют вокруг себя округу с неукрепленными поселениями, хозяйственными зонами, расположенными на наиболее пригодных участках рядом с городищем. Могильники, для расположения которых была важна топография, находятся на периферийных участках таких микрорегионов. Такие локальные центры, вероятно, и составляют скопления памятников на Самбийском полуострове. Более разреженные, удаленные друг от друга концентрации располагаются на периферийных участках самбийско-натангийского культурного ареала. Такая система была довольно устойчивой и могла существовать на протяжении длительного времени в I тысячелетии н.э.

INTRODUCTION

The structure and relief of the micro-regions and the visibility and perception of the surrounding territory determine the organisation of space concerning the placement of burial grounds, cult objects and fortified and unfortified settlements (e.g. FRACHETTI 2006, 128–147; LLOBERA 2006, 148–149). The conditions for the location of archaeological sites form the cultural landscape and the settlement system as a whole, which reflects the level of social organisation of the society, the degree of economic impact on the environment, and the level of religious perception.

The start of the development of the 1st-millennium AD cultural landscape and settlement system in the southeastern Baltic region is associated with the Roman Iron Age. In the first centuries AD the modern territory of the Kaliningrad Region of the Russian Federation and the Baltic states Lithuania and Latvia, as well as the northern part of the territory of Poland, represented a single region known as the ‘West Baltic circle’ of cultures (in detail: BLIUJENĖ 2013, 78–80; КНОМІАКОВА 2016a, 74–76). During the period of Roman influence, the population of these territories was involved in the processes associated with a high level of exchange and trade, which resulted in an increment in the mobility of social groups and therefore the need to control the most important communication arteries and the organisation of the landscape.

Natural barriers, the possibility of building artificial defensive constructions, access to land and water routes, and an advantageous location at the crossroads of transport communications are features that characterise the main settlement centres of the eastern Baltic region during the first half of the 1st millennium (ZABIELA 1995, 54–69; LANG 2007, 49–83, 262–265; BLIUJENĖ 2013, 149–158).

The Sambian-Natangian culture (another name for the Dollkeim-Kovrovo culture; cf. NOWAKOWSKI 1996) occupied a special place in the West Baltic circle (Fig. 1). The geographical and natural conditions, such as access to the sea and the presence of the richest deposits of amber, determined the possibility of trade and cultural relations with the Roman Empire as well as central and northern Europe, plus a leading role in the amber trade. During the epoch of Roman influence, this area was one of the barbarians’ economic and cultural centres; it was a contact zone that played one of the leading roles in mediating the spread of all kinds of innovations in the Baltic region and eastern Europe.

Nevertheless, the study of the Sambian-Natangian settlement system has been based on data related to burial objects. Landscape position and spatial location, the main criteria for identifying groups of sites in the West Baltic circle and their place in the system of interregional contacts, are associated with the characteristics of burial grounds (OKULICZ 1981, 34–35; NOWAKOWSKI 1996, 48–54, 170; КУЛАКОВ 2003, 29–46, 47–60, 272–285 figs. 1–2). The burial ground is considered not only as the centre of a micro-region, but also as a key element of the social organisation of the landscape.

A number of questions arise: Are the data on the location and concentration of burial grounds sufficient to understand the organisation of the cultural landscape in the southeastern Baltic? What

archaeological sites are dominant in the landscape? What was the role of hillforts, unfortified settlements, or burial grounds in the social organisation of the landscape and the formation of the Sambian-Natangian culture settlement centres? Finally, what might the structure of such settlement centres have looked like?

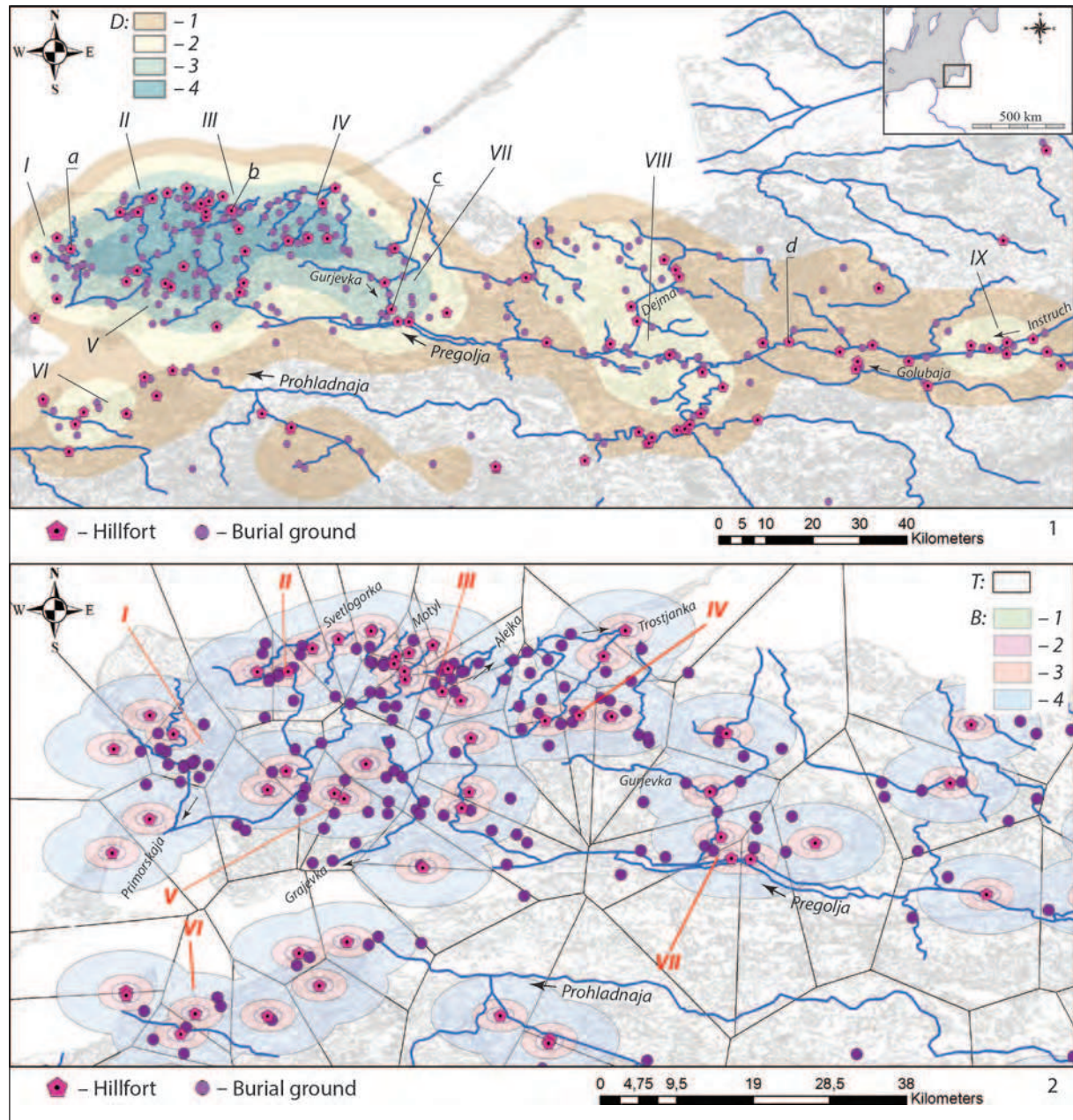


Fig. 1. I–IX: Local centres of the Sambian-Natangian culture of the 1st–5th centuries (based on SRTM data). 1: Local centres according to the analysis of the density of burial grounds (D = density of burial grounds [per 30 km]: 1: 0–1; 2: 1–2; 3: 2–3; 4: 3–5); 2: Local centres according to the analysis of Thyssen polygons and buffer zones of hillforts (T = Thyssen polygons, B = Buffer zones: 1: 500 m; 2: 1,000 m; 3: 2,000 m; 4: 5,000 m). Local centres – I: near the village of Jantarnyj (Primorskaja river); II: along the Svetlogorka river; III: interfluve of the Motyl, Zabava, and Alejka rivers; IV: interfluve of the Medvezhyya and Kurovka rivers; V: middle course of the Nelma river; VI: along the coast of the Vistula (Kaliningrad) lagoon; VII: lower course of the river Gurjevka; VIII–IX: Pregolja valley; a–d: Hillforts (discussed in this paper), a: Russkoe/Germanau; b: Kulikovo/Kringitten and Gerojskoe/Eisliethen; c: Zaozerje/Rodmannshöfen; d: Kudryavtsevo/Kuglacken (graphics O. A. Khomiakova).

WHAT DATA ON THE SETTLEMENT SYSTEM CAN BE OBTAINED BY ANALYSING THE LOCATION OF BURIAL GROUNDS?

According to the location of the burial grounds, there are four to five large concentrations of Sambian-Natangian culture sites (Fig. 1.1). As has been already noted, these occupy the base of the Sambian upland (KULAKOV 2003, 117–118). These groups of sites were formed around the 1st–2nd centuries AD. Around the 3rd–4th centuries AD, with the growth of these concentrations, the sites spread far into the peninsula, up to the watershed areas of the Sambian upland (KHOMIAKOVA 2016b, figs. 2–3). The burial grounds are less represented only on the low-lying, poorly drained ancient alluvial plain in the south of the peninsula, which is connected to the estuarine part of the ancient Pregolja valley.

The three largest groups of sites are located on the western and northern coasts of the Kaliningrad peninsula (Sambia¹; see Fig. 1.1: I–III). These are associated with the places with amber outcrops in ‘blue earth’ and where amber was deposited on the shore. The average distance between burials within these clusters does not exceed 3 km, and the density is 6–9 sites per 30 km². The first group of sites is located near the modern Jantarnyj along the Primorskaja river (Fig. 1.1: I). The second concentration is situated in the area of present-day Svetlogorsk and Pionerskij (Fig. 1.1: II) and between the Motyl and Zabava rivers (Fig. 1.1: III). Within this group, there are two clusters of burial grounds (Fig. 1.1: II–III). The concentration of burial grounds is located at the interfluvium of the Medvezhya and Kurovka rivers. Here, on the right bank of the Trostyanka river and near its mouth (Fig. 1.1: IV) a duct, which cut across the base of the Curonian Spit in ancient times, was located (KULAKOV 2012, 38–39).

Concentrations of burial grounds are also located in the middle reaches of the Nelma and Graevka rivers (Fig. 1.1: V), where they flow into the Vistula/Kaliningrad lagoon, as well as along the Guryevka river (Fig. 1.1: VII). Another concentration of burial grounds is located along the coast of the Vistula lagoon (Fig. 1.1: VI). The greatest concentrations of sites are located here at the river crossings: in the lower reaches of the Pregolja river near the Oktyabrskij/Liep, at the mouth of the Prohladnaja river, and also at the base of the Balga peninsula.

In the eastern part of Sambia and in the territory of the historical region of Nadrovia (modern Chernjahovskij and part of the Poleskij district), small concentrations of burial grounds are located along the Pregolja river. Dense clusters of sites are located in the middle reaches of the Pregolja in the area of Gvardejsk/Tapiou (Fig. 1.1: VIII) and in the lower reaches of the Golubaja/Auxine (Fig. 1.1: d), in the middle reaches of the Deima river and around its main tributaries (Fig. 1.1: IX).

Here, however, the possibilities of analysing burial grounds for the study of the settlement system have already been exhausted.

WHAT SITES OCCUPIED THE DOMINANT POSITION IN THE CULTURAL LANDSCAPE?

Concentrations of burial grounds indicate where the settlement centres might have been, but do not explain what their structure might have looked like. In the system of Christaller’s central habitats (CHRISTALLER 1996; NAKOINZ 2010, 251–265), the type of sites that could take the role of centres of power are considered to be fortified settlements on high ground (hillforts). A hillfort represented a constant in the landscape and a permanent habitat (WEBLEY 2008, 21–44; RENFREW/BAHN 2012, 173–176).

1 Modelling of archaeological data was realised by using the ‘Spatial Analyst module’ of ArcView 10.6.1. To obtain a model that would reflect the site distribution density, a value of 30 km was taken, which is the approximate diameter of the Sambian peninsula.

In the central part of the former East Prussia, there are about 120 verified hillforts (KHOMIAKOVA et al. 2019a, 29–30). According to the archives and literature, they number up to 500 (HOLLACK 1908; CROME 1940). A significant number of hillforts are located near the indicated groups of burial grounds. About 40 % are located on the Kaliningrad peninsula and 30 % in the Pregolja river valley (KHOMIAKOVA et al. 2019a, fig. 1).

Undoubtedly, the information available today about the structure and, most importantly, the dating of the hillforts is insufficient. Nevertheless, according to available data, during the Roman Period hillforts played a significant role in the settlement system in the territory of southern Scandinavia and the eastern Baltic region, where they used the natural features of the landscape, i.e. hills, capes, and river bends (LANG 2007, 44–47; CHRISTENSEN 2011, 93, 98; VENGALIS 2016, 178–180). Analyses of the data, using natural-scientific dating methods, show that some of the hillforts on the Kaliningrad peninsula have been used since the Bronze Age (VON CARNAP-BORNHEIM et al. 2016, 54–55; IBSEN et al. 2017, 827–829; IBSEN 2018, 259). Probably, this type of site was included in the cultural landscape of the Sambian-Natangian tribes at the beginning of the 1st millennium AD. Archaeological material dated to the Roman Iron Age and the Migration Period (IBSEN et al. 2017, 827–829; IBSEN 2018, 259) was found at a number of hillforts.

WHAT WAS THE ROLE OF HILLFORTS, BURIAL GROUNDS AND UNFORTIFIED SETTLEMENTS IN THE SOCIAL ORGANISATION OF THE LANDSCAPE AND THE FORMATION OF SETTLEMENT CENTRES?

The most indicative data on the role and location of different types of sites in the settlement system can be obtained by modelling their *resource zones*. Considering the hillforts as dominant elements of the cultural landscape, one can imagine their 5-km *buffer zones*, divided into the immediate surroundings (500–1,000 m) and the periphery (2,000–5,000 m). A distance of within 3–5 km from an object is considered to be the maximum accessible, since it is located within approximately one hour walking distance on rough terrain. It is energy-consuming and impractical to locate objects outside such a zone (KOROBOV 2017, 34–35).

An analysis of the nearest neighbourhood shows that hillforts form groups on the territory of the Kaliningrad peninsula, just like burial grounds (Fig. 1.2). There is at least one hillfort with finds from the Roman and Migration Periods within each of the groups. The same idea is expressed by Ibsen, based on his own research (cf. IBSEN, this volume).

The location of hillforts is close to the places where burial grounds are concentrated (Figs. 2; 5.2), but they occupy different places in the landscape on territories with a different geological soil structure. On the western and southwestern coast of the Kaliningrad peninsula, near Jantarnyj (Figs. 1.2: I; 2), and in the middle reaches of the Nelma river, hillforts are located on the valley side at the base of the Sambian Plateau along the mouth of the ancient Pregolja valley. In the central part of the peninsula, they are located on the end moraine ridge of the Big Mountains/Alk (Fig. 1.2: V).

In the northern part of the peninsula, hillforts are also located on an elevation of the Sambian plateau at 20 m or more above sea level and on capes in the lower reaches of the Svetlogorka (Fig. 1.2: II), Motyl, Zabava, and Alejka rivers (Fig. 1.2: III). Here, in addition to outcrops of amber-bearing ‘blue earth’, there is a natural harbour near the Kupalny and Gvardejskij capes, which could have been used in ancient times for coastal trade (KULAKOV 2003, 121–122).

The location of hillforts in the middle and lower reaches of the Pregolja is connected with a chain of moraine ridges, which terminate at the Sambian plateau (Fig. 1.2: VII). Hillforts near the coast of the Vistula lagoon are located on a steep rise of the valley bank, at promontories in estuaries, or the estuarine valleys of small rivers (Fig. 1.2: VI).

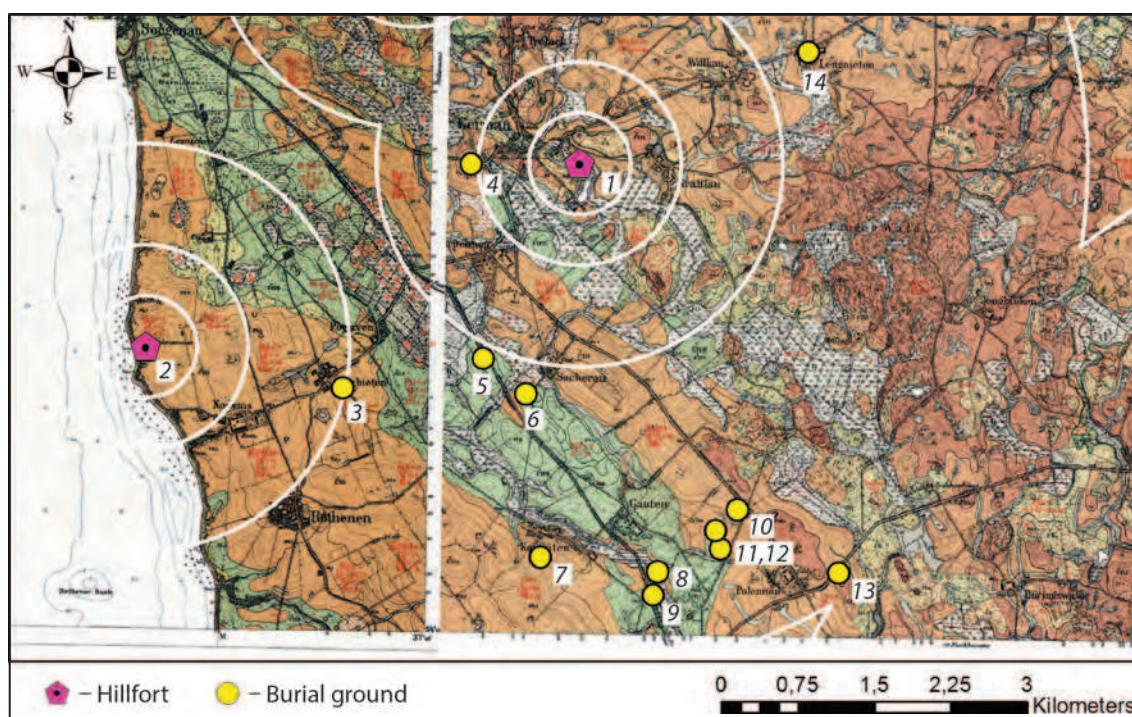


Fig. 2. Location of sites within 5-km buffer zones of hillforts near the village of Jantarnyj (Primorskaja river, see Fig. 1.2: I). 1: Russkoe/Germau; 2: Okunevo/Nodems; 3: Grebieten; 4: Povarovka/Kirpehnen-Galgenberge; 5: Povarovka/Kirpehnen; 6: Sacherau-Ellerhaus; 7: Corjieten; 8–9: Gauten; 10–12: Putilovo/Gauten; 13: Polehnen; 14: Lengniethen (graphics O. A. Khomiakova, based on geological map).

These concentrations of sites are associated with the routes leading to the mouth of the Vistula – the ‘gateway’ of the ‘Amber Road’ to the Roman Empire. They are rarer than the clusters of sites on the Kaliningrad peninsula.

In the eastern part of the Sambian-Natangian area, hillforts are located along the Pregolja and the Deima rivers and their most significant tributaries on the most elevated areas of the end moraine hills that turn into the Instruch ridge. In ancient times, the central part of the Kaliningrad region (historical Nadrovia) was covered with impenetrable forests. Convenient places for habitation can be found near the confluences with tributaries and river crossings. An analysis of the visibility zones shows that the entire valley of the Pregolja river can be seen from the hillforts (KHOMIAKOVA et al. 2019a, 95–96 fig. 13).

The groups of burial grounds on the Kaliningrad peninsula are predominantly located on small non-flooded hills and in river valleys, at heights well below the hillforts (Fig. 2). In the Pregolja river valley, the burial grounds are situated on the terraces of the valley side along the channel on small dune hillocks and along its tributaries.

Modelling of 5-km buffer zones does not show a direct relationship between the locations of hillforts and burial grounds. Burial places are located within the zones of influence of the fortified settlements, but most of them are situated on the periphery, at a distance of 2.5–5 km (Fig. 1.2; see *Buffer zones*). A proximity of burial grounds to hillforts was probably not important.

Obviously, the burial grounds cannot be the constituent elements of the settlement centres. When choosing a location for their position, the topographic situation was probably important: they occupied lands that were unsuitable for farming, e.g. sandy hills or dune hillocks (Figs. 2; 5.2). The placement of burial sites was also influenced by belief systems or non-material factors. It is noted that, in the south-eastern Baltic region, they were located in direct line of sight from any waterbody or waterway (JASKANIS 1977, 38–39, 42). In the Baltic cultures, sacred meaning was attached to water as an element through which the dead could enter the other world (see BLIUJENĖ 2013, 198–199, also for further references).

The connection between hillforts and burial grounds, however, can be traced in the superposition of the *Thyssen polygons* (Fig. 1.2; see *Thyssen polygons*). The modelling of weighted polygons for the Sambian-Natangian culture is impossible due to the ambiguity of the hierarchy of objects, but the position of the flat grave burial grounds demonstrates a certain system. They are equally spaced over the entire analysed surface, but are located within the areas that are closest to the hillforts of the first half of the 1st millennium. As a result of prospections at the following hillforts, finds (mainly ceramics) and a cultural layer that can be dated to the given time, were discovered. Another factor that makes it possible to attribute hillforts to this time is also their topography, the absence of serious defensive constructions and their location on the capes (for details see GUREVICH 1949; KULAKOV 2005, 25, 40, 47, 49, 54, 56).

The closest hillfort to any of the burial grounds of the concentration near Jantarnyj is the Russkoe 1/Germau hillfort (Fig. 1.2: I). In the northern part of the peninsula, such hillforts are Grachevka/Craam and Bogatloe/Pokirben as well as Kulikovo/Kringitten and Gerojskoe/Eisliethen (Fig. 1.2: II–III). In the eastern part of northern Sambia, the largest number of burial grounds is located within the polygons of the Rodniki/Jouglacken, Vetrovo/Ekritten, and Morshanskoe/Schreitlacken hillforts (Fig. 1.2: IV).

The hillforts on the Alk Ridge, such as Kumachevo/Galtgarben, Logvino/Medenau, and Kotelnikovo/Wargen are close to the burial grounds on the middle reaches of the Nelma and Graevka rivers (Fig. 1.2: V). In the lower reaches of the Guryevka river, the burial grounds are located within the Zaozerje/Rodmannshöfen hillfort zone (Fig. 1.2: VII). On the coast of the Vistula lagoon, the burial grounds are near the hillforts of Moskovskoe/Partheinen and Pervomayskoe/Warnikam (Fig. 1.2: VI).

In the Pregolja valley, at the centre of the Thyssen polygons, there are hillforts in the middle reaches of the Pregolja river (Gvardejsk/Koddien, Znamensk/Wehlau, Kudryavtsevo/Kuglacken, Bochagi/Schloßberg-Vorwerk zu Norkitten) and in the area of the confluence of the Instruch and Angrappa rivers (Krasnaya Gorka/Nettinen, Chernjahovsk/Insterburg, Timofeyevka/Tammowischken [for details see KHOMIAKOVA 2018; KHOMIAKOVA et al. 2019a]).

The location of the Roman period unfortified settlements in relation to hillforts is more complicated. The settlements are studied mainly in the course of modern rescue excavations. Their choice is random from the point of view of a systematic study of the settlement system. It is not yet clear whether the obtained data, including the topography and planigraphy of monuments, will be available and useful for scientific research. The proportion of these settlements from the total number of recorded sites is only 39 % (KHOMIAKOVA 2016b, 72–74).

The available information, however, shows the interdependent position of settlements and hillforts. Most of the settlements are located in the immediate vicinity of hillforts at a distance of up to 2,000 m (i.e. a 20-minute walk), and they probably formed a single complex. In some cases, unfortified settlements were separated from the hillforts by small streams on low floodplain areas that could be used for various activities (Figs. 3.1; 4.1; 5.1–2).

THE POSSIBLE STRUCTURE OF THE SAMBIAN-NATANGIAN SETTLEMENT CENTRES

Let us now consider the models of settlement centres, using the examples of the most studied micro-regions that have monuments of all the indicated types from the first half of the 1st millennium: the lower reaches of the Pregolja near the Chistji Prud lake or the Guryevka river, respectively (KHOMIAKOVA 2013; see Fig. 3), the middle reaches of the Pregolja near Talpaki (KHOMIAKOVA et al. 2019b, 11; see Fig. 4), and the north of Sambia near Romanovo (KHOMIAKOVA 2016c, catalog of objects; see Fig. 5).

In the area of Chistji Prud lake, formed by the Guryevka river, there is the Zaozerje/Rodmannshöfen (also called Pillenberg) hillfort (Fig. 3.1–3), which might have been in use in the Roman Period. The list of finds published by HOLLACK (1908, 132–133) mentions 2nd–3rd-century objects found near the hillfort: two iron spears, an axe, and an eye fibula (*Augenfibel*) of the Prussian series (Fig. 3.4, 7–8). GUREVICH (1960, 43 fig. 70.2), who excavated a test pit on the hillfort in 1949, recorded a cultural layer of about 0.5–0.6 m with fragments of hand-made ceramics, including rim parts of vessels decorated with finger pinches and black-polished sherds (Fig. 3.5–6,9). The presence of a layer with fragments of polished ceramics was also noted by KULAKOV (1985, 10).

The hillfort has dimensions of 200 x 150 m and is located on a cape at the confluence of an unnamed stream with Chistji Prud lake or the Guryevka river, respectively. The hillfort is surrounded by water on the west, south, and southeast (Fig. 3.2). On the northern side, the hillfort is fenced with three ramparts. The outer ramparts, up to 2 m high, are separated by a ditch about 2.5–3 m wide and 2 m deep; the inner rampart is up to 5–6 m high. The site of the hillfort has a height of about 15 m from the base, rising above the surrounding area (Fig. 3.3).

The four unfortified settlements of Zaozerje 1–4, which date to the first centuries of the 1st millennium (Fig. 3.1), are located to the south of the hillfort, on the first and second terraces above the floodplain of lake Chistji Prud, in the immediate vicinity and at a distance of not more than 1.5–2 km. The distance between the settlements is 500–800 m. In the area of the Thyssen polygon of the hillfort, there are burial grounds: Bolshoe Isakovo/Lauth, occupying the upper part of the slope of the moraine upland and Zaozerje/Lapsau, located at the top of the hill (Fig. 3.1). Among the finds from the burial grounds, there is a large number of ‘high status’ items and weapons. Burial sites are located on both banks of lake Chistji Prud at a distance of 300–500 m from the water. On the periphery of the buffer zone of the hillfort, there are the burial grounds of Avangardnoe/Dossiten, Kumachevo/Tropitten, Oktyabrsky/Liep, and Poddubnoe/Neidtkeim-Fürstenwalde.

The hillfort of Kudryavtsevo is located east of the confluence of the Glubokaja/Nehne and the Pregolja, on the northern, right bank of the Pregolja river (Fig. 4.1–3). It dates back to between the 1st and the beginning of the 2nd millennium AD. The hillfort has been known since the 18th century as *Schlossberg bei Kuglacken* (archival material: SMB-PK MVF, PM-IXh 00164a; cf. HOLLACK 1908, 80; KULAKOV 1974, 7 fig. 2.29–33). The ceramic material we collected during our exploration in 2018 corresponds with the Sambian-Natangian and early medieval Prussian cultures (Fig. 4.4–7).

The hillfort is located 0.5 km north of the Pregolja, on a cape at the confluence of the Podlesnaja river and a nameless stream. The total size of the hillfort is 125 x 90 m. The height from the base in the southern part is 16 m. On the northern side, a rampart of 1–2 m height and a ditch can be traced. The upper platform has a nearly rectangular form of 87 x 48 m (Fig. 4.2–3).

Unfortified settlements are located in the immediate area of the hillfort at a distance of not more than 500 m (Fig. 4.1); ceramics similar to those from the site of the hillfort were found (Fig. 4.9–10). The settlements occupy the terraces above the floodplain of small tributaries of the Pregolja. The distance between the settlements is not more than 400 m.

The Kudryavtsevo 2 settlement is located to the north, close to the site Kudryavtsevo 1 on the top of the moraine ridge, formed by the Podlesnaja river and an unnamed stream. The settlement, with dimensions of 113 x 134 m, stretches from north to south; in the west and east it is limited by the slopes of the moraine ridge. Another settlement, Kudryavtsevo 3, is located on the opposite bank of the creek on the ledge of the valley side.

The Jakovlevo/Ilischken burial ground is located 2.4 km north of the hillfort on the left bank of the Podlesnaja, at a distance of no more than 200 m from the watercourse. The site is located on the slope of a sandy hill. A number of unique finds, including Roman imports of the 1st–2nd century AD, originate from the burial ground (Fig. 4.11).

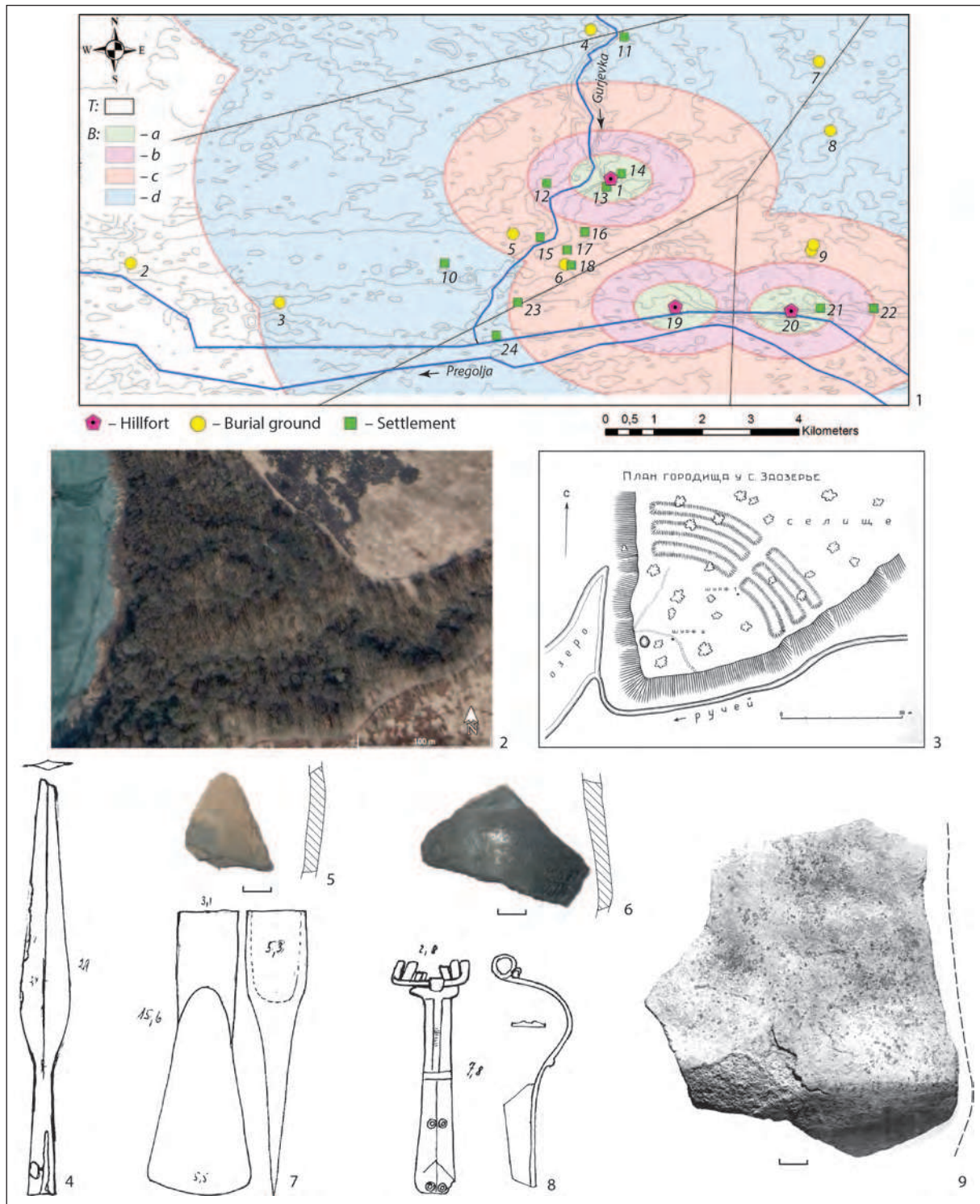


Fig. 3. 1: Model of the local centre at the lake Chistji Prud of the Guryevka river (T = Thyssen polygons, B = Buffer zones: a: 500 m; b: 1,000 m; c: 2,000 m; d: 5,000 m); 1: Zaozerje/Rodmannshöfen; 2: Kupferberg; 3: Liep; 4: Tropitten; 5: Bolshoe Isakovo/Lauth; 6: Lapsau; 7: Dossiten; 8: Neidtkeim-Fürstenwalde; 9: Rodniki 1/Käpphen bei Preußisch Arnau; 10: Bolshoe Isakovo 1; 11: Kumachevo; 12: Bolshoe Isakovo; 13: Zaozerje 2; 14: Zaozerje 1; 15: Bolshoe Isakovo 2; 16: Zaozerje 3; 17: Zaozerje 4; 18: Zaozerje 5; 19: Pribrezhnoje/Palmburg; 20: Marjino/Arnau; 21: Rodniki; 22: Solnechnoje 23; Pribrezhnoje 1; 24: Pribrezhnoje 2; 2-9: Zaozerje/Rodmannshöfen hillfort, layout and find material – 2: Satellite image; 3: Schematic plan of the hillfort; 4: Spearhead; 5-6; 9: Polished hand-made ceramics; 7: Axe; 8: Eye fibula/Augenfibel. 4; 7 iron; 8 bronze; 5-6; 9 ceramic (1 based on SRTM data; 2 based on Google Earth; 3 after GUREVICH 1949; 4; 7-8 after JANKUHN ARCHIVE, no scale; 5-6 after KOIHM, photos O. A. Khomiakova; 9 after GUREVICH 1949; all graphics O. A. Khomiakova).

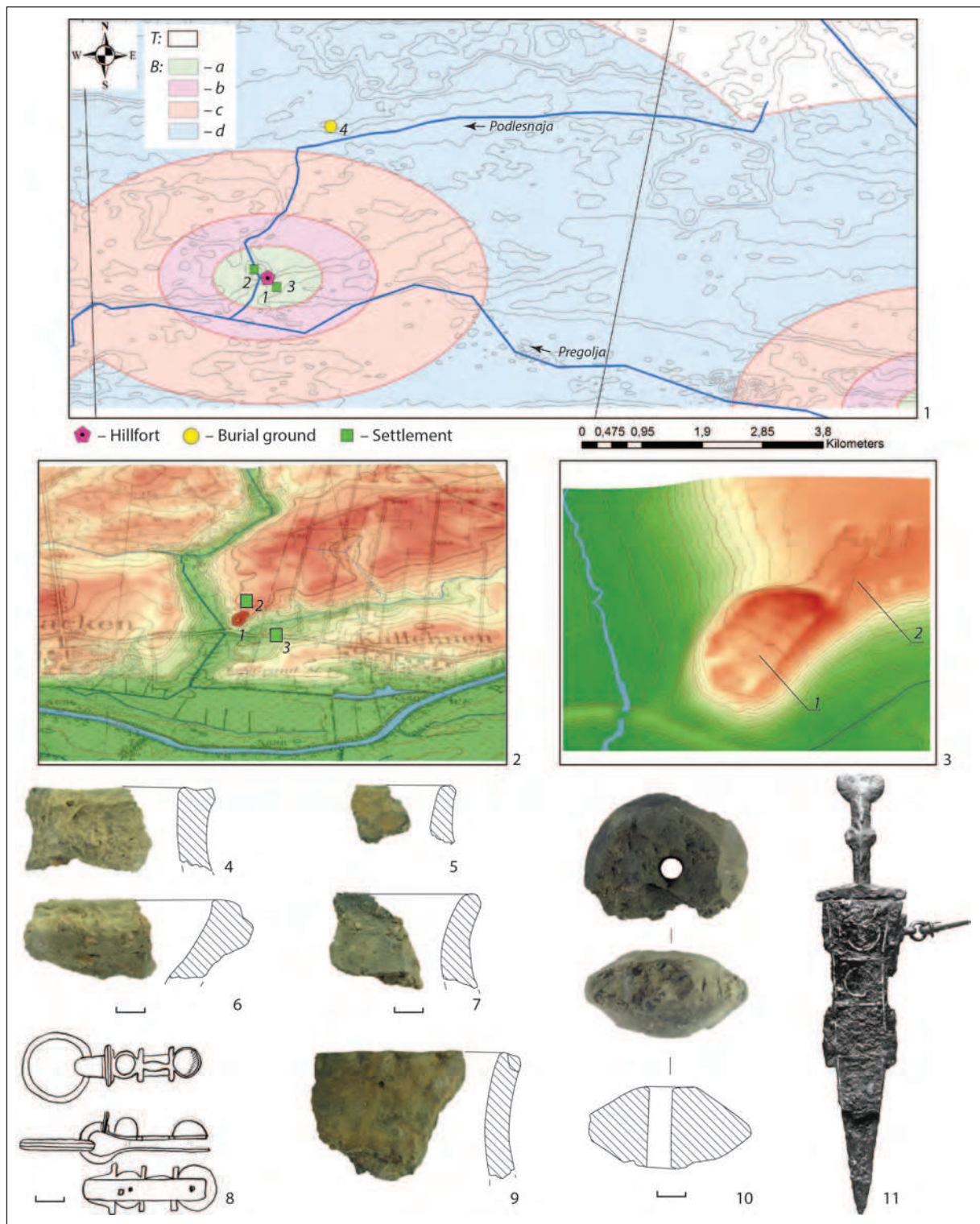


Fig. 4. 1: Model of the local centre near Kudryavtsevo/Kuglacken village, based on SRTM data (T = Thyssen polygons, B = Buffer zones: a: 500 m; b: 1,000 m; c: 2,000 m; d: 5,000 m) with sites 1: Kudryavtsevo/Kuglacken; 2: Kudryavtsevo 2; 3: Kudryavtsevo 3; 4: Jakovlevo/Ilischken; 2: Model of the micro-region of the Kudryavtsevo/Kuglacken hillfort, based on Messtischblatt; 3: Model of the micro-region of the Kudryavtsevo/Kuglacken hillfort, based on tacheometric survey; 4–7: Finds of hand-made ceramics from the plateau of the hillfort; 8: Horse bridle detail; 9: Hand-made ceramics from Kudryavtsevo 2 settlement; 10: Spindle whorl; 11: Roman pugio dagger from Jakovlevo/Ilischken burial ground close to the hillfort. 4–7; 9–10 ceramic, 8 bronze; 11 iron (2–3 prepared by I. Skhodnov; 4–7; 9–10 after KHOMIAKOVA 2018; 8–11 after JANKUHN ARCHIVE; all graphics O. A. Khomiakova).

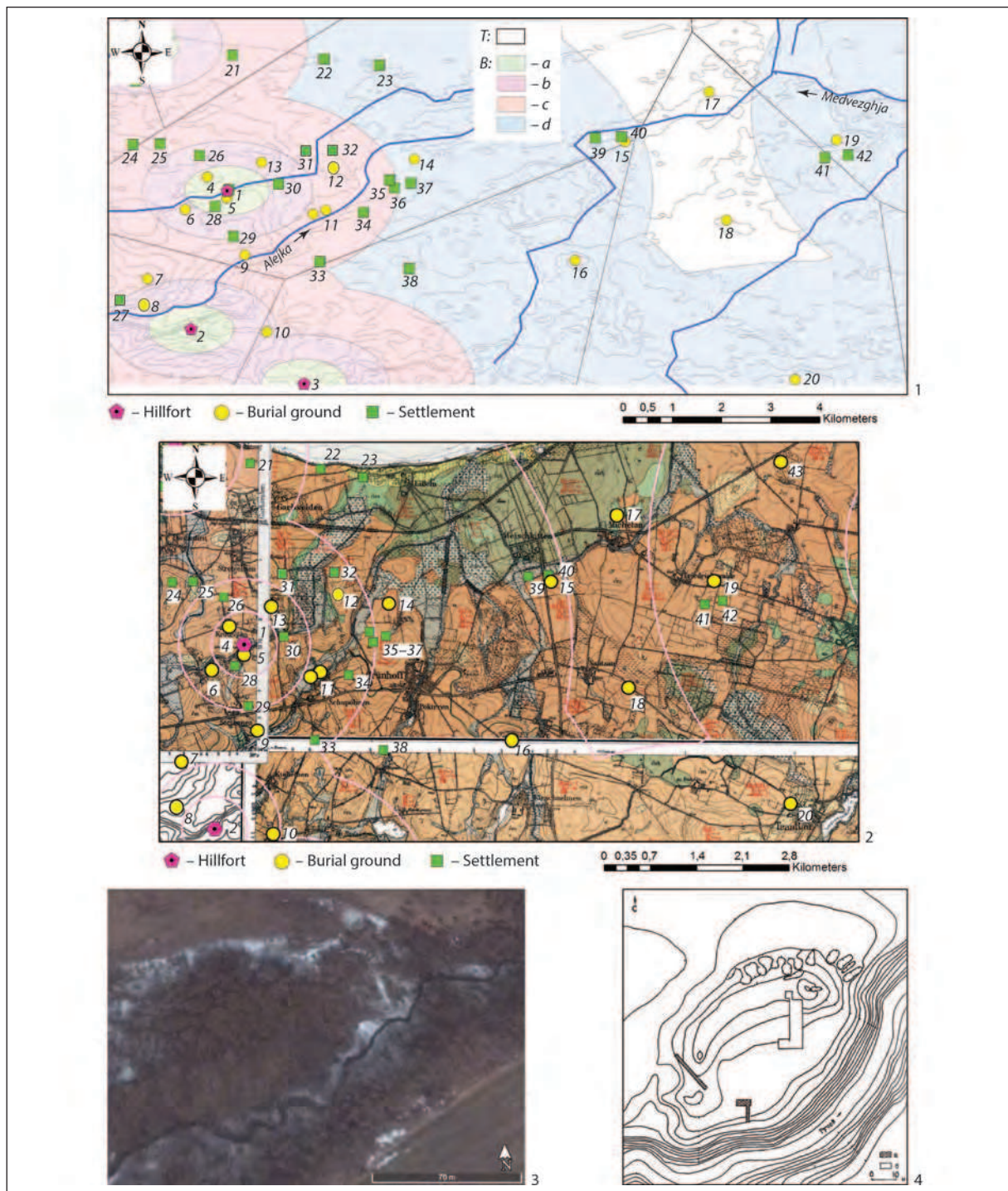


Fig. 5. 1: Model of the local centre in the northern part of the Kaliningrad peninsula, near the Alejka river (T = Thysen polygons, B = Buffer zones: a : 500 m, b : 1,000 m, c : 2,000 m, d : 5,000 m; based on SRTM data); 2: Location of sites near the village of Romanovo within 5-km buffer zones of hillforts (based on geological map combined with SRTM data), with sites 1: Kulikovo/Kringitten; 2: Gerojskoe/Eisliethen; 3: Jouglacken; 4: Kulikovo 1; 5: Kulikovo 2/Sorthenen 2; 6: Sorthenen 1 and 3; 7: Alejka 3; 8: Alejka 7; 9: Shumnoje; 10: Eisliethen I–II; 11: Shumnoje 2–3; 12: Roschino 1; 13: Kulikovo 2/Strobjehnen; 14: Shumnoje 1; 15: Kovrovo/Nautzau; 16: Kovrovo/Dollkeim; 17: Michelau; 18: Nautzau-Kadigsberg; 19: Kamenka; 20: Transau; 21: Kulikovo 3; 22: Kulikovo 4; 23: Beregovoje; 24: Kulikovo 8a; 25: Kulikovo 8; 26: Kulikovo 5; 27: Alejka 1; 28: Kulikovo 6; 29: Kulikovo 1; 30: Kulikovo 2; 31: Kulikovo 9; 32: Kulikovo 10; 33: Shumnoje 5; 34: Shumnoje 1; 35–37: Shumnoje 2–4; 38: Roschino; 39: Kovrovo 4; 40: Kovrovo 2; 41: Kovrovo 3; 42: Kovrovo 2; 43: Wargenau/Kunterstrauch; 3: Kulikovo/Kringitten hillfort, satellite image (based on Google Earth); 4: Kulikovo/Kringitten hillfort, schematic plan (after SMIRNOVA 1992, fig. 1; all graphics O. A. Khomiakova).

The model of this micro-region is quite revealing. The hillfort occupies a dominant position in the landscape, towering above the country, on the valley side (Fig. 4.2). Analysis of the hillfort's visibility zone shows that a large section of the river valley at the confluence with the Glubokaja/Nehne can be seen from the site. The landscape situation in central Nadrovia, covered in ancient times with impenetrable forests (KHOMIAKOVA et al. 2019a, 94–96, fig. 15), probably dictated the conditions for the location of populated zones. Unlike in Sambia, these were compact and located in the most favourable areas in terms of economic activity conditions. A burial ground is located in the peripheral zone of the hillfort (Fig. 4.1). It is situated a certain distance away in the forest and is connected to the populated area by a waterway.

Another micro-region, where a number of settlement and burial objects were investigated in the 2000s (KHOMIAKOVA 2016c, 18–25), is located in the north of Sambia, near the village of Romanovo (Fig. 5.1). Unfortified settlements of the first half of the 1st millennium occupy the areas most suitable for economic activities: wide depressions of gentle moraine hills, terraces of small rivers and streams, and areas near low floodplains (Fig. 5.2). All of them are located in the immediate vicinity of known hillforts in the micro-region (not further than 500–1,000 m) and at a distance of 400–800 m from each other. At higher points of the relief, there are late 1st and early 2nd millennium settlements (KRENKE et al. 2013, 147–157, 159 fig. 2). Pollen studies of deposits on the slopes of the settlements of Zolnoe 1, Alejka 1–2, Gerojskoe and Kulikovo 8a indicate traces of agricultural activity that have been dated to the first half/middle of the 1st millennium and are associated with slash-and-burn agriculture and the drainage of swampy soils. The landscape during this period is characterised as 'semi-open': the river valleys were covered with forests, mainly consisting of black alder, but also including a considerable amount of oak and linden, growing in clearings and on abandoned lands (KRENKE et al. 2013, 157; SPIRIDONOVA et al. 2013, 219–220).

The centre of the micro-region can be connected with one of the hillforts. Located on a cape, formed by a tributary of the river Alejka, Gerojskoe/Eisliethen hillfort (Fig. 5.1–2) rises above the surrounding area. It is separated from the neighbouring field by an earthen rampart and a moat. The site of the hillfort has dimensions of 50 x 35 m and a height of about 20 m (KHOKHLOV et al. 2020, 7). According to radiocarbon dating, the site was used throughout the 1st millennium, including the Roman Period (IBSEN et al. 2017, 828). Kulikovo/Kringitten hillfort measures 32 x 22 m and has a height of 7 m. It occupies the left high bank of the Alejka tributary. On its northwestern side, the hillfort is reinforced with a horseshoe-shaped rampart, which is 2 m high (Fig. 5.3–4).

Burial grounds are located on sandy hills in the valley and along the Alejka river and its unnamed tributary at a distance of up to 200 m from the watercourse (Fig. 5.2), mainly in the peripheral zone of the Gerojskoe/Eisliethen hillfort. The only exceptions are the 'richest' burial grounds of Alejka 3, Alejka 7, and Eisliethen I–II, located at a distance of no more than 1 km from the site (Fig. 5.1).

CONCLUSIONS

Despite the fact that the discussed fortified settlements/hillforts in the central part of 1st millennium AD former East Prussia were mostly relatively small and had a simple structure of ramparts, ditches, and wooden palisade (Figs. 3.2–3; 4.3; 5.3–4), just like their counterparts in southern Scandinavia and the east Baltic region (CHRISTENSEN 2011, 93, 98; LANG 2007, 44–47; VENGALIS 2016, 178–180), they occupied dominant positions in the landscape at locations that were advantageous for both trade and the control of communications areas, such as promontories and river bends (Figs. 2; 3.2; 5.2).

In the settlement system of the Sambian-Natangian culture, which shows clusters of unfortified settlements and burial grounds, the hillforts probably served the purpose of organising space (Fig. 1.2). Hillforts could be used for a protective purpose in times of danger, as craft centres and as places of gathering, exchange, and cult.

In the formation of the settlement centres, probably the most important aspect was the organisation of resource zones and the position of the settlements relative to the hillforts (see Figs. 3–5). In the first half of the 1st millennium, the local tribes showed no signs of an intensive land use system. Settlements are located in the vicinity of the hillforts in areas most suitable for living and economic activities (Figs. 3.1; 4.1–3; 5.2). Extensive farming, fishing, the need to graze cattle, and access to waterways likely determined the presence of several settlements in the vicinity of a hillfort (Figs. 3.1; 4.2; 5.1). These might, *inter alia*, have had an unstable location and have moved from place to place within a radius of 400–800 m. According to available data, the Sambian-Natangian tribes used half-dugouts and houses of frame-and-pillar construction with open fireplaces (KULAKOV 2003, 117; KHOMIAKOVA 2016d; KHOMIAKOVA et al. 2019b, 10–11). If necessary, settlements with such structures could easily change their location, e.g. depending on changes in living conditions.

The position of a burial ground in the landscape is more connected with belief factors. It was the topographic situation (location near waterbody or waterway, see above) that was important for their placement. The proximity to the hillfort is not decisive (Fig. 2; 5.2). Most of the burial sites are located in the peripheral areas of the buffer zones of hillforts. However, burial objects are grouped within the boundaries of their Thyssen polygons (Fig. 1.2). Burial grounds from which the distance to the hillfort was the closest might be associated with this provisory settlement centre of a community.

The clusters of Sambian-Natangian culture sites of the first centuries AD are probably related to local centres with the attributes of central habitats (e.g. NAKOINZ 2010, 252). The available materials indicate that the cultural layer of hillforts and settlements does not, as a rule, contain objects of ‘prestige culture’. At a number of hillforts, and in their neighbourhoods, there are only isolated findings of ‘high social status’ and elite imports. This situation is not unique to European barbarian cultures. For example, the model of the settlement system, where there are no traces of inequality, and the formation of elites in settlements, is known from Scandinavian materials. However, such finds are present at burial grounds (WICKHAM 2005, 495–514). The location of burials of people with higher social status is used to localise the centres of power among the central European barbarians of the Migration Period (STEUER 2009, 203).

Burials of the so-called ‘local elites’ were found within the largest concentrations of Sambian-Natangian cultural sites (Fig. 1.1–2: I–VII). In the Early Roman Period, there are female burials with openwork belts in the *opus interrasile* style (KHOMIAKOVA 2016e, 43 fig. 4) and male burials with objects of an equestrian culture, together with horses with bridles in the Celtic-Roman style (WILBERS-ROST 1994, 198–212 map 1). The distance between such sites on the Kaliningrad peninsula does not exceed 5 km. On the coast of the Vistula lagoon, they were also found at a small distance from each other (5–10 km). Along the Pregolja and Deima rivers, such burials are already known at greater distances of up to 15–20 km from each other. A similar pattern of density and distribution in the same places is demonstrated by the ‘rich’ burials of the Migration Period (KAZANSKI et al. 2018, 33, 40–41 fig. 38.1–10).

Reflecting the level of development of the social structure of the Sambian-Natangian tribes which, in the first centuries AD, was characterised by forms of ‘primitive chiefdoms’ along with the institution of ‘rich families’, this settlement system might thus represent the concentration of several large local centres on the Kaliningrad peninsula and smaller ones located within a radius of 20–30 km (Fig. 1.2). Similar principles of the formation of centres of settlement in the Roman Iron Age and the Migration Period can be traced among the peoples of northern Europe (MYHRE 1987, 185; ROBERTS 1996, fig. 7.1).

Probably, such groups of sites, formed at the time of the Sambian-Natangian culture in the 1st to 5th centuries AD, then developed into the settlement centres of the Prussian culture in the Early Middle Ages (KULAKOV 2003, 118–123 fig. 37). Hillforts, located in key positions and convenient places for habitation, exchange, or the control of communications, might have played the role of centres in such societies or communities.

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Olga Alekseevna Khomiakova
 Institute of Archaeology
 Russian Academy of Sciences
 Moscow
 Russia
 olga.homiakova@gmail.com