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## Sandra Zirne\*, Mārtiņš Lūsēns\*\*, Armands Vijups\*\*\*

# Preventive Archaeology in Latvia: example investigations in the historical town centres on Kuldīga and Ventspils

#### Abstract

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This article deals with preventive archaeology issues in the Republic of Latvia. Legislative bacground provides presence of archaeologists in construction projects. During last decade in the Latvia the largest share of carried out archaeological fieldwork are archaeological supervisions. Despite of small scale rescue excavations and archaeological supervisions significant archaeological data has been collected on further investigations on historical development of ancient towns. As examples are presented the most interesting discoveries in the two towns located in the Western part of the Latvia – Kuldīga and Ventspils. Archaeological investigations of the town streets in Kuldīga, carried out by M. Lūsēns, supplemented the reconstruction and localization of old Kuldīga, mostly based on information found in written sources. Small-scale preventive archaeological projects that have taken place in the seaside town Ventspils has resulted in a study of A.Vijups on the impact of dune erosion processes on historical development of town.

Keywords: preventive archaeology, supervision, rescue excavations, historical development, dune erosion

#### INTRODUCTION

In 2014, ten years had passed since the European Convention on the Protection of Archaeological Heritage (Revised), adopted in Valletta (Malta), entered into force in the Republic of Latvia. Implementation of the Valletta Convention principles, involving issues of archaeological heritage in spatial planning, has influenced the character of archaeological research. The rise of preventive archaeology has been significant.

The term 'preventive archaeology' is not often used among Latvian archaeologists and other specialists, despite legislation ensuring the presence of specialists during construction projects in archaeologically important terrain and the fact that the most of the archaelogical fieldwork carried out in Latvia during the last decade were archaeological supervisions and rescue excavations. The risk of such a situation is that the scientific interests of archaeologists become subject to economic factors.

The development of preventive archaeology in Latvia is closely related to the internal geopolitical situation. From 2008 to 2010 the Latvian economy suffered one of the sharpest downturns. After the crisis, the more economically active regions are located in the central and western part of the country. The most important construction projects related to improvement of infrastructure, street reconstruction, buildings etc. are being carried out in major cities and towns of these regions. As a result, significant archaeological data has been collected for further studies on the historical development of ancient towns in Latvia. The newly discovered archaeological evidence has significantly complemented the information available in written sources.

<sup>\*</sup> Department Archaeology and History of State Inspection on Heritage Protection of Latvia, Pils Street 20, Riga, Latvia, LV-1050, e-mail: sandra.zirne@mantojums.lv

<sup>\*\*</sup> Ltd "ARCHEO", Gaismas iela 5-12, Ķekava, Ķekavas nov., LV-2123, e-mail: martins.lusens@gmail.com

<sup>\*\*\*</sup> Ventspils Museum, Jāņa Street 17, Ventspils, LV-3601, e-mail: armands.vijups@ventspils.lv



Fig. 1. The breakdown of listed cultural monuments in Latvia by categories (2015) (Drawn by Sandra Zirne)

# • THE LEGISLATIVE BACKGROUND AND STATUS OF ARCHAEOLOGISTS

The system of legislation and normative acts governing the preservation and protection of cultural heritage in the Republic of Latvia includes the Law on Protection of Cultural Monuments, passed in 1992 (last amendments, 2013) (Law, 1992) and more than 35 other laws and regulations concerning cultural heritage.

Public administration of cultural heritage preservation and use in Latvia is regulated by the Cabinet of Ministers and implemented by the State Inspection for Heritage Protection, responsible for the identification, examination and registration of cultural monuments, ensuring that research is conducted on cultural monuments. The State Inspection for Heritage Protection operates under the supervision of the Ministry of Culture.

There are 8833 cultural monuments registered in Latvia, 28% (2507) of which are archaeological monuments (Fig I). The archaeological monuments and principles for their protection and use are subject to the same legislative norms and laws as other types of cultural monuments.

Concerning preventive archaeology, the Law on Protection of Cultural Monuments states that it is prohibited to destroy cultural monuments. Immovable cultural monuments may be moved or modified only in exceptional cases, with the permission of the State Inspection for Heritage Protection (section 3); prior to commencement of building, land amelioration, road construction, extraction of mineral resources and other economic activity, the performer thereof shall ensure the assessment of cultural property in the area of its intended activity. Natural persons and legal persons, who as a result of economic activity discover archaeological or other objects of cultural and historical value, shall immediately notify the State Inspection for Heritage Protection thereof, and further activity shall be suspended (section 22). According to the Law, protection zones have been established around each cultural monument. The protection zone around cultural monuments for which no protection zones have been previously determined and around newly-discovered cultural monuments in rural populated areas shall be set at a distance of 500 metres, but in towns - at a distance of 100 metres. Any activity within the protection zone of cultural monuments, which affects the cultural and historical environment (for example, construction, artificial modification of terrain, forestry activity, retrieval of such previously unidentified objects from the ground or water which might have historical, scientific, artistic or other cultural value), shall be performed only with the permission of the State Inspection for Heritage Protection (section 23).

Special attention is paid to preservation of the Historical Centre of the Latvian capital - Riga. In 2003 the Law on Preservation and Protection of the Historic Centre of Riga (Law, 2003) was adopted. Among the authentic cultural and historical values existing in the historic centre of Riga and the protection zone thereof, the archaeological-cultural layer shall also be preserved and protected (section 5).

The criteria to qualify for permission to conduct archaeological research work in Latvia are defined by the Regulations of the Cabinet of Ministers (Regulations 2003). The main criteria are a higher education degree in human sciences and two years experience in archaeological fieldwork. Persons who intend to conduct archaeological fieldwork for the first time are permitted to do so only under the supervision of a curator – an experienced



Fig. 2. Division of archaeological field works in the Latvia in 2004-2013. Other- rescue excavations, research related excavations, prospections (Drawn by Sandra Zirne)

archaeologist who has the right to obtain a permit to conduct archaeological fieldwork. During the period 2004-2013, permits to conduct archaeological research in Latvia were issued for 44 archaeologists. This number could also be considered to be the number of professional specialists in the country. Most of them are graduates of the Faculty of History and Philosophy at the University of Latvia. Each year permits to conduct archaeological fieldwork are issued for no more than 30 archaeologists. This is not a wide range of professionals, but until now it has been enough to ensure that archaeological supervision and excavation work have been provided at all sites where it has been necessary, in compliance with the requirements of regulatory enactments.

As a result of decentralisation processes in archaeology that took place in Latvia after the restoration of national independence in 1991, there are several institutions in which professional archaeologists work – the Institute of Latvian History at the University of Latvia, the Faculty of History and Philosophy of the University of Latvia, as well as state and regional museums. Commercial archaeology in Latvia is characterised by individual work – there are only three commercial companies conducting rescue excavations and supervisions, as Latvian archaeologists prefer to work as individuals.

The work of archaeologists in Latvia between 2004 and 2013 has experienced its highs and lows. In the context of issued permits the lowest point of archaeological fieldwork was in 2004 (APL 2006, 128-133), but culminated in 2012 (APL 2014, 285-289). There is a clear tendency to increase fieldwork done in the form of archaeological supervision (Fig 2). This is mainly determined by the economic development of the country. The lack of funds for research-related excavations stimulated the involvement of archaeologists in construction projects. According to the legislation, such archaeological investigations are funded by developers.

In the period of 2004-2013 the largest number of construction and infrastructure reconstruction projects were realized in the major cities of Latvia. There are 76



Fig. 3. Cross-section of archaeological field works in historical centres of towns during 2004- 2013 (Drawn by Sandra Zirne)



towns and cities in Latvia. Various archaeological fieldwork was carried out in 30 historical town centers, mostly in Riga (Fig 3) (APL 2006, 128-132; APL 2008, 206-211; APL 2010, 234-241; APL 2012, 206-213), contributing to the development of urban archaeology in Latvia.

## Archaeological investigations in Kuldīga

Kuldīga is located in the western part of Latvia, on the banks of the River Venta, and its historical centre is in the ancient valley of the Venta.

Two decades of archaeological supervision and investigations have encompassed nearly the whole historical centre of Kuldīga. The cultural layer of the 13th-16th century was studied in the area of Vecpilsēta (Old Town) and Kalnamiests (Mountain Hamlet) (Fig 4). Archaeological supervision work took place in the part of the town built in the 17th-18th century, i.e. in Dzirnavu Street, Tirgus Street and Strautu Street. In some places studies were also performed in the part of the town which was formed in the 19th-20th centuries,

Fig. 4. The oldest inhabited parts of Kuldīga. Kalnamiests (Mountain Hamlet) (*red*) and Vecpilsēta (Old Town) (*blue*) (Drawn by Mārtiņš Lūsēns)

i.e. in Smilšu Street and Šaurā Street (Asaris, Lūsēns 2013, 146).

Archaeological investigations of the town streets have assisted in the localization and reconstruction of old Kuldīga, which was mostly based on information found in written sources. The research helped to determine the borders of the older parts of the town and to obtain new information about the layout of different sections of the town in medieval times.

Within the scope of this article we will discuss the most important discoveries of the oldest historical period (12th-14th century) in Kuldīga town.

Archaeological excavations in one of the oldest inhabited parts of the town – the former Kalnamiests (Fig 5) – have changed accepted ideas about when people first settled in Kuldīga. In 2008 two excavation areas in Kalna Street were archaeologically investigated. One of them was situated opposite the building at 12

Fig. 5. Aerophoto of the former Kalnamiests (Mountain Hamlet) (Photo by Juris Urtāns)



Kalna Street, while the second was at the highest point between the buildings at 7 and 9 Kalna Street. In both places, the remains of the buildings were found in the deepest sections of the cultural layer. At 12 Kalna Street, in the northern part of the excavation area, the location of some structure was marked by the remains of a dim, greyish clay-paved floor. A pit at the site of a four-corner post was located in the central part, while a 1.0 x 0.8 m spot of ash and coal appeared as a possible hearth on the northern side. It is assumed that this was a building of light structure-posts, perhaps an open lean-to (Lūsēns 2010, 149). The remains of a wooden log cabin were discovered in the excavation area opposite the buildings at 7 and 9 Kalna Street, in the lowest part of the cultural layer above the light, sandy subsoil unaffected by human activity (Fig 6). The location of this building was also marked by a greyish clay-paved floor. It extended outside the studied area to the west and east; therefore, the full size of the structure could not be accurately determined. In the paved floor near the eastern border of the area, an intensive layer of ashes and coal, containing burnt, approximately 10-cm granite stones was discovered. Clearly a hearth was located there, which was demolished later during building construction. An intensive coal admixture was found not only in the hearth, but also in the greyish soil layer on the southern side of the paved floor. Numerous chippings of non-glazed clay dishes made on a throw were found around the remains of the structure. Several dishes had their external surface decorated with zigzag or fingernail-imprint patterns. The samples of ceramics (Fig 8: 3-7) are similar to the remains of dishes which can be found in the 10th-14th century homes and burial places of Kurzeme.

Three samples of coal were collected in and around the building. They were analysed by radiocarbon dating in the laboratory of the Institute of Geology at Tallinn University of Technology (TTU Geoloogia Instituut). Calibrated dating of the collected specimens fits into the time interval between 1120 and 1220, with a probability of 68% (Asaris,Lūsēns 2013, fig.128). Hence, the oldest structural remains in the area of Kalna Street have been dated back to the second half of the 12th century and beginning of the 13th century, i.e. before German settlement in Kuldīga. It was a populated area, like the ancient Couronian town located 3 km away, next to the Couronian castle mound of Old Kuldīga (Lūsēns 2010, 150).

The credibility of the Kalna Street findings was reinforced by the results of further study investigations performed in Rumbas Street. In 2010, a part of a structure was discovered in the roadway opposite the building at 15 Rumbas Street, under the 17th century pavement surface (Fig 7). It was marked by a rather long dug-out at a depth of up to 50 cm in the subsoil, which extended outside the area of excavations in a south-westerly direction, and by a household pit in the western end. The form of the pit was conical, and its diameter reached 2.1 m in the upper part and 30 cm in the lower part. The dark, sandy cultural layer of the pit contained a considerable quantity of coal. In the lower section, several chippings of slightly burnt clay dishes were found along with coal. The chippings were very similar to the remains of dishes found in the lower layers of the investigated areas in Kalna Street. The iron buckle of a belt, the weight of a loom and part of the butt of a broken iron broad-blade axe (Fig 8:1) were also found in the pit. The results of



Fig. 7. Place of the subterranean building in Kalnamiests (Mountain Hamlet) (Rumbas Street) (Photo by Mārtiņš Lūsēns)

Fig. 6. Place of the structure in Kalna Street in the second half of the 12th century – begining of the 13th century (Photo by Mārtiņš Lūsēns)

Kalnamiests is a large, flat, sandy hillock; the small river Alekšupīte runs around its eastern side and the brook known as Pipevalks flows around the southern and western side. A high ground-water level was established in the soil layers north of the hillock investigated during the archaeological supervision work, particularly in the eastern part towards the river Venta. In olden times, these places were marshy and wet, and apparently the hillock was chosen for settlement by the earliest inhabitants as it was the highest and the driest place in the surrounding area. Investigations of the cultural layer



the dating of the collected coal specimen, with a credibility of 67,2%, determined that the lower layer of the pit-filling, and hence the structure, existed in the time period of the mid-12th century to the 1270's (Lūsēns 2012, 134). This dating is slightly later than that of the specimens collected in Kalna Street, but in general it confirms the hypothesis that Kalnamiests was inhabited at a very early period. The central part of the settlement, or the village where the buildings were first constructed was, apparently, initially located in the area of presentday Kalna Street, while on the periphery, in the area of present-day Rumbas Street, the structures appeared a bit later. Antiques and remains of ceramic dishes found in both the first and the second locations are typical of the material culture of local peoples, the Curonians or Courland Livonians (Vends).

made it possible to partially determine the area of former settlement. In Kalna Street, an intensely dark layer saturated with organic substances was found in a 160-m-long section in a north-south direction from the building at 2 Kalna Street to the building at 15 Kalna Street. The cultural layer closer to the borders of the settlement is 30-40 cm thick, whereas in the central part it reaches a thickness of up to 80 cm. The site of the settlement in the 13th century may have occupied a total area of approximately 160 × 135 m or 2.1 ha. Apparently, the density of habitation was uneven, and the number of inhabitants of that time cannot be estimated even approximately. Judging by the composition of the cultural layer and the remains of wooden buildings found in it, the central part of the settlement around the current Kalna Street was the most densely inhabited area. Conversely, in the eastern

Fig. 8. Artefacts of the second half of the 12th century - second half of the 13th century in Kalnamiests (Mountain Hamlet). (1.- fragment of the iron axe, 2.- horn tool, 3.-7. – fragments of ceramics (Photo by Mārtiņš Lūsēns)



part along Rumbas Street the structures were located in a scattered manner, rather far from each other, and a cultural layer of active economic activity was not found among them (Asaris, Lūsēns, 2013, 152).

Archaeological data certify that Kalnamiests was also inhabited after the Livonian Order constructed its fortifications on the bank of the Venta river, and construction of the German part of the town – Vecpilsēta – was begun next to it. Materials obtained in the excavations give no evidence of interrelations between the two parts of the future town, but it is known from written sources that "a hamlet in the mountain" was able to preserve its independence during the period of the Livonian Order state and even later. It was put under town jurisdiction only during the reign of the Duke of Courland and Semigallia Friedrich Kettler in 1599 (Henning 1809, 24).

## PREVENTIVE ARCHAEOLOGY AND ECOLOGICAL PROBLEMS IN A 17TH-CENTURY TOWN: THE CASE OF VENTSPILS

According to written sources, the problem of dune erosion and encroachment of sand dunes had been a permanent concern to coastal settlements on the Baltic Sea through the ages. This phenomenon is usually associated with the Curonian Spit and sand slowly burying fishing villages. But this ecological problem, to a lesser extent, has also had an impact on larger towns. Ventspils is one of the most interesting cases of this kind. Archaeological research and especially preventive archaeological surveys in recent years have shed particularly strong light on historical evidence that has largely been downplayed in written sources. However, in the case of Ventspils, the analysis of this process is not only part of the assessment of human impact on the environment, but also part of wider research into the early history of the town of Ventspils (14th – 16th century), our current knowledge on the location of the oldest part of the town and its protection as an archaeological site.

Ventspils – a town beginning in the Late Medieval period – situated in northwest Latvia, near the Baltic Sea on the banks of the Venta river. The oldest part of the town – until the 18th – 19th centuries – was located on the left bank of the river, and all research mentioned in the title report will be related to the small area of present-day Ventspils.

### WRITTEN SOURCES

A study of written evidence must start with a rather desperate document written by the inhabitants of Ventspils to the Duke of Courland and Semigallia. On 1 July 1625, Duke Friedrich Kettler received a letter from inhabitants claiming that "our houses and gardens are overwhelmed by sand, we will have to tear down our houses



Fig. 9. Plan of Ventspils city with invasive dunes in upper right part, around 1658/59 (Jakovļeva 2009, 276), original in Military Archives of Sweden, Stockholm

and move them elsewhere" (Vijups 2012b, 52). So, how close was their complaint to reality? Was this statement slightly exaggerated, driven by certain economic and political interests? Nonetheless, while avoiding the use of such strong statements, other written sources of the 17th century also refer to dune erosion as a notable problem (Vijups 2012b, 53).

The pressure from sand dunes was mentioned in earlier documents as well. The Ventspils Church record of visitation, dated 1609, also speaks of piles of sand and mentions that, after pulling down other houses, the house and plot of land of a certain Mr. Hulsbach had been overwhelmed by sand (Vijups 2012b, 53). The dry facts and lack of emotion in this statement are in accordance with sales agreements which stipulated specific conditions on sand drift as a rather usual and apparent occurrence. In 1654 the widow of Simon Pence sold Hermann Adolfi a house and building plot nearly buried in sand. Rudolph Bierbaw's widow made a similar deal in 1663, when she sold Hans Berner a house with a yard and garden that were covered in drifting sand. The last reference to the sand encroachment cases of the 17th century is dated 29 June 1693, when the Town Council ordered the creation of a shrub thicket, fencing the dune off to "avert the sand from harming the city and the Duke's fields" (Vijups 2012b, 53). One of the first cartographic materials, a Swedish-made map of the town and its surroundings, also indicates massive dunes along the town's SE side (Fig 9).

However, Town Council protocols and other administrative papers of the 18th century contain no references to dune erosion. This leads to a hypothesis that the problem of erosion became less significant and drifting of the sand had stopped due to reasons yet unknown. This was probably due to the foresting of coastal dunes, which stopped the movement of sand. One of the schematic maps of Ventspils and its surroundings from 1729 indicates an around 22,000 square-meter freshlyplanted forest near the town (Kvaskova 2003, fig.4). Although its size may be an exaggeration, such a forest may have actually existed because sand indeed ceased to be a problem for the town in the 18th century.

#### ARCHAEOLOGICAL EVIDENCE

Research on the size and impact of dune erosion was invigorated by preventive archaeological investigations conducted in the early years of the 21st century. Layers of windblown sand, which are currently linked to sand drift in Ventspils, were discovered during preventive archaeological research (archaeological supervision) of the late 1990s and early 2000s. For instance, archaeological excavations on Ostas Street revealed several patches of light-coloured sand (Ritums, Ciglis 2001). The thickness of the yellow-coloured sand layer and the rather impressive size of these patches is an indication of the ancient landscape that existed before the modern streets. These layers were traditionally associated with levelling the ground surface and filling in holes.

The role of light-coloured sand layers in the erosion process, and the extent to which the sand buried the old parts of the town, became the focus of archaeological investigations only some years ago. The first evidence of the extent of erosion was uncovered in 2006 during an archaeological supervision project on the corner of

Užavas and Pils Streets (the external boundary of the Ancient Town of Ventspils archaeological site). Here a layer, consisting of a 0.50-m thick modern and 18th-19th century layer with a more than 1.00m thick light-coloured sand layer underneath it, along the whole length of trench excavated for supervision, was stripped away (Vijups 2010, 190). Underneath the sand layer, a more ancient and distinctly darker cultural layer has been recognised. It contains rich evidence of ancient settlement: small fractions of coal, brick fragments, fish scales and bones, fractions of unglazed clay dishes and treated animal horn. Placement of the layer in the middle of a street is an indication of human activity before the existing street was constructed, activity that dates back to the early period in the development of Ventspils town. This discovery was the first hint of the ancient part of Ventspils, buried under a rather dense layer of sand.

The archaeological supervision project conducted in 2007 on 1 Annas Street (Vijups 2007), further into the new part of the town, provided further evidence of sand in a small strip untouched by excavations. A 0.3-0.4 m thick layer of untouched sand with a distinct, dark-grey stratum below it was unearthed beneath a stratum under 19th/20th century cobblestone. This layer was followed by another sand layer and then a dark stratum filled with numerous organic materials. The project allowed for the tracing of at least two pre-19th-century sand layers resulting from dune erosion and a darker stratum below

Fig. 10. Probing of subsoil-like sand layer (1.30-1.50m) and 14th-16th century cultural layer underneath them, Maiznieku Street, Ventspils, 2009 (Photo by Armands Vijups)

the bottom sand layer. An 18th century counter (token) was found in a dark-greyish inter-stratum. Therefore, the lower sand layer can actually be attributed to the period indicated by written sources – the 17th century, and the darker stratum underneath could be dated back to the period of the late Medieval Town of Ventspils.

The next step towards better understanding of the way in which the Medieval Town of Ventspils got buried under sand was made during an interdisciplinary project in 2008 (Vijups 2010, 190). This project involved the use of geological/archaeological probing (geological drilling to a depth of 3.5 - 4.0m) to find out where and what type of sand layers can be detected, and if strata dating back to the ancient times of the town can be found. The project resulted in identifying at least 5 sites where more ancient strata were found underneath the 18th - 20th century stratum and a thicker or thinner layer of sand. Probing also lead to another significant finding: in this part of the town, a stratum resulting from ancient settlement may be buried deeper than 2.00m, often separated from the top stratum by a layer of windblown sand dune.

New information on ancient sand drifting processes was also collected in the scope of an archaeological supervision project conducted during the construction of the Creative Youth Centre (7/9 and 11 Maiznieku Street) in the summer of 2009. A 0.7m layer of soil was scraped away during construction to reveal a layer belonging to the 18th-20th century. A yellow, subsoillike sand layer was found underneath it (Vijups 2010, 189-191). The findings of previous surveys led to a decision to organise an exploratory excavation deeper than





Fig. 11. Rescue excavations in Pils Street, Ventspils, 2013: a dark, dense and organic-rich cultural layer under the 18th-20th century cultural layer and light-colored layer of dunes erosion sand (Photo by Armands Vijups)

the planned excavation work by builders. Probing was done in the centre of the planned annex with use of an excavator. A distinctly dark stratum of decayed organic matter was exposed after scraping away a 1.30-1.50m thick layer of unconsolidated yellow sand (Fig 10). Probing allowed one to trace a relatively complex sedimentary system and to determine that the sand layer is at least 1.5m deep. It must be emphasized, however, that when erosion started (windblown sand began advancing), the dune must have been considerably higher and began compressing later due to different factors - like sand compaction, pressure generated by the 18th-20th century stratum, etc.

A 1.30-1.50m thick layer of yellow sand was discovered under the 18th-19th century stratum at the probing (exploratory excavation) site. Several (3-4) thin (0.10-0.15cm), alternating grey and yellow sand inter-layers were found, and right underneath them, all the way to the subsoil, was a distinctly dark stratum dense with split wood, bone, brick fragments, gravel, potsherd, and coal. Unfortunately, the investigation failed to discover evidence of the precise age of the intensive, dark stratum.

In the summer of 2010, after the previous year's preventive investigation results, a small-scale excavation was organised at the same site (12m south of the 2009 probing site). Its aim was to collect more, primarily chronological-type information about the ancient stratum buried underneath the windblown, light-coloured sand layer. Despite the very restricted, small size of the excavation field ( $4 \times 7m$ ) and other inconveniences (walls of the ditch required reinforcement because of loose, sliding sand), the investigation confirmed the underlying assumptions. Three distinctive strata were uncovered during excavation work (Vijups 2012, 59):

1) The dating of the bottom section of the top stratum (0.70m), above the sand layer, was made based on late 17th-century Livonia – Riga shillings of Swedish monarchs and 1 Öre-coin minted in 1716 by Karl XII of Sweden. These coins apparently date back to the 18th century, when people began to repopulate the area.

2) A 1.50-1.80m thick light-coloured layer of sand separates the top stratum from the late medieval – early modern layer.

3) A late 16th-century coin (a shilling minted by King Johannes III of Sweden in Revala), found in the top section of the ancient stratum, marks the eventual end of the rapid growth of settlement, but a 14th – 15th century coin – an örtug minted in Visby, implies clearly that the layer belongs to the Livonian period and the first centuries after the founding of Ventspils town.

Radiocarbon dating (C14) confirmed the accuracy of such a chronological frame (Vijups 2012b, 88, 92). This means that the active encroachment of sand took place in the 17th century, which generally corresponds to written sources. It must be pointed out that a 0.60-0.80m thick stratum of medieval – early modern Ventspils at a rather small excavation field contained evidence of high building density and a rather rich variety of artefacts (tin plate, parts of musical instruments, fragments of glass-pane, etc.).

In summer 2013, a small-scale rescue excavation was carried out at 21 Pils Street, located in the archaeological protection zone of the old town (Vijups 2014, 235-238). A dark, dense and organically-rich cultural layer was discovered at a depth of about 1.2 m, under the 18th-20th century cultural layer (0.70 m), and an around 0.50 m thick light-coloured layer of sand formed in the course of dune erosion in the 17th century (Fig 11). Judging by the finds, the layer of dune sand began to form intensively in this area no earlier than the end of first half of the 17th century – much later than at other researched sites. The excavated area may hypothetically be regarded as a marginal part of old Ventspils (14th-16th century) and was damp and low-lying. This is confirmed by the multiple surfaces of boards, which could have been placed there in order to facilitate movement across a wet area.

## Locating the Ancient Town of Ventspils and Sand Erosion

Unlike fragmented data from written sources, the investigations conducted in 2009 and 2013 provide a clearer understanding of the extent of sand erosion. These investigations also helped to estimate the impact of sand erosion on the life of the town. The problem of windblown sand in Ventspils in the 17th century is closely linked to the efforts of historians to locate the ancient part of the town. The boundaries of the protected archaeological site of old Ventspils were last revised in 1986 and were based on previous archaeological investigations, along with written evidence regarding the location of the earliest part of the town (Asaris 1987). Zoning was largely determined by available knowledge on the location of the ancient section of the town. This knowledge was based mostly on analysis of written evidence and theoretical constructions. Their authors - German researcher Bernhard Schmidt (1872-1947), historian Jānis Juškēvičs (1886-1961) and architect Rita Zandberga (1929-1993) – believed without doubt that the Late Medieval Town of Ventspils bordered on the Venta River and spread to or at least near to the Castle of the Livonian Order (Štrumfa 2008, 259-261).

A different theory on the location of the old town of Ventspils came about around the same time or a little later - in the 1990s. It suggested that at least some part of the ancient settlement can be found south-east of the Castle of the Livonian Order, farther from the Venta River's left bank. Ingrida Štrumfa, the historian of Ventspils Museum, was one of the first to suggest that Livonian-period urban development stretched well beyond the area marked by the above scholars and that settled territories eastward of the Castle may have appeared in the 17th century. Unfortunately, there were no archaeological traces supporting this hypothesis before the 21st century and the controversial hypothesis was published only in local newspapers (Štrumfa 1999, Štrumfa 2008, 266-267). At the same time, relocation of the town centre to another site (today's Market Square) was well documented in written sources of the early 17th century. So, what were the reasons for relocating the town centre and focusing urban development more to the north-east – around today's Market Square? Why was this the preferred location for not only the market square and the houses of rich citizens, but also for the new church and new cemetery? So far the change has been attributed to economic reasons; the assumption is that the centre was relocated closer to the river to promote the town's commercial development. However, archaeological evidence of the past several years suggests another, more likely scenario: the town was relocated 500m farther north-east because of great ecological problems - the sand advancing on the oldest part (14th-16th) of the town. The ancient (pre-medieval) dune discovered in the scope of the interdisciplinary research of 2008 probably explains why the distance of relocation was so short. This dune was probably considered a shelter from sand blown by the south-westerly wind. Nevertheless, findings of the archaeological supervision in 2009 (Vijups 2010b, 186-187) indicate that some small quantities of windblown sand occasionally landed on the Market Square as well. When erosion subsided at the beginning of the 18th century, the town started moving back to its ancient location. New buildings and part of a new street network began to evolve on top of a 1.00-2.00m thick layer of sand blown by wind off the dunes in the 17th century.

Archaeological investigations – mostly small-scale preventive archaeological projects that have taken place in Ventspils over recent years - have produced interesting evidence:

1) the main part of the old town (14th-16th century) was located south-east of the Castle of the Livonian Order. At this stage of research we can consider that the ancient settlement originated no later than the 14th century.

2) The ancient section of the town was gradually abandoned and the centre was relocated to its present site on Market Square in the early part or first half of the 17th century. Dune erosion and sand advancing on the ancient part of the town played a major role in this process.

3) It has been found that due to the dominant winds, sand aggravated predominantly on the south-western side of the ancient town, and settlement moved towards the north-east. Some small quantities of sand also occasionally reached the new town centre around Market Square. 4) The encroachment of sand on the town lasted throughout the 17th century. The cutting of trees for heating and construction, along with the resulting soil erosion, apparently led to ecological problems. The Master of the Livonian Order Hermann von Bruggeney's decree of 1542, allowing the citizens of Ventspils to cut firewood and logs for building in the nearby forests (Vijups 2012b, 91), is an indirect indication of the

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increased risk of extinction of more vulnerable coastal vegetation and the causes of erosion.

5) The absence of written or archaeological evidence about dune erosion after the turn of the 18th century indicates that the sand stopped advancing in the 18th century. Archaeological evidence found over recent years leads one to believe that re-settlement took place over the first couple of decades of the 18th century.

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#### Summary

#### Sandra Zirne, Mārtiņš Lūsēns, Armands Vijups

Archeologia ratownicza na Łotwie na przykładzie badań w centrach dwóch miast historycznych Kuldygi i Windawy

W 2004 r. w Republice Łotewskiej weszła w życie Europejska Konwencja o ochronie dziedzictwa archeologicznego. Wdrożenie zasad Konwencji z La Valetta wpłynęło na rozwój archeologii ratowniczej na Łotwie.

Przepisy prawne nakazują udział archeologa w projektach budowlanych prowadzonych na terenach ważnych z punktu widzenia archeologii. System prawny regulujący ochronę dziedzictwa kulturowego w Republice Łotewskiej tworzą: Ustawa o ochronie zabytków kultury i ponad 35 innych ustaw i regulacji dotyczących dziedzictwa kulturowego. Publiczne zarządzanie ochroną i użytkowaniem dziedzictwa kulturowego Łotwy regulowane jest przez Gabinet Ministrów, wdrażane zaś przez Państwową Inspekcję ds. Ochrony Dziedzictwa Kulturowego, działającą pod nadzorem Ministra Kultury.

Na Łotwie są 8833 zabytki wpisane do rejestru. Zabytki archeologiczne podlegają tym samym normom prawnym co inne typy zabytków.

Kryteria wymagane do otrzymania pozwolenia na prowadzenie badań archeologicznych na Łotwie określają rozporządzenia Gabinetu Ministrów. W latach 2004 – 2013 pozwolenia wydano 44 archeologom. Cechą charakterystyczną archeologii komercyjnej na Łotwie jest praca indywidualna – istnieją tylko trzy firmy prowadzące archeologiczne badania ratownicze oraz nadzory; łotewscy archeolodzy wolą działać niezależnie.

W latach 2004 – 2013 najwięcej projektów związanych z remontami infrastruktury oraz budowlanych zrealizowano w głównych miastach Łotwy. Na Łotwie jest 76 miast różnej wielkości. Różne prace archeologiczne prowadzono w 30 historycznych centrach miast, większość z nich w Rydze. Przyczyniło się to do rozwoju archeologii miejskiej.

W ciągu dwóch dekad nadzorami i badaniami archeologicznymi objęto prawie całe historyczne centrum Kuldygi (łot. Kuldīga). Badania archeologiczne uzupełniły wiedzę o wyglądzie i położeniu starej Kuldygi, bazującą wcześniej głównie na informacjach pochodzących ze źródeł pisanych. Badania umożliwiły określenie granic starszej części miasta, uzyskano także nowe informacje na temat rozplanowania różnych części miasta w średniowieczu.

Badania archeologiczne najstarszej części miasta, Kalnamiests (pol. Górska Wioska), zmieniły ustalone poglądy na temat daty zasiedlenia Kuldygi. W 2008 r. przebadano dwa obszary leżące przy Kalna iela (ulica Górska). Na obydwu, w najgłębiej położonych nawarstwieniach kulturowych, odnaleziono pozostałości budynków. Znalezione tam fragmenty ceramiki podobne są do fragmentów naczyń znajdowanych w X – XIV-wiecznych budynkach mieszkalnych i pochówkach z terenu Kurlandii. Trzy próbki węgla poddano analizom Vijups A.2014. Arheoloģiskie glābšanas izrakumi Ventspilī 2013.gadā, *Arheologu pētījumi Latvijā 2012.-2013.gadā*. Rīga: Nordik, 235-240.

radiowęglowym. Daty kalibrowane, z największym prawdopodobieństwem 68%, mieszczą się w przedziale 1120 – 1220. W związku z tym najstarsze relikty konstrukcji w rejonie Kalna iela datowane są na 2. poł. XII – pocz. XIII w., tj. okres sprzed niemieckiej konsolidacji Kuldygi. Był to teren zaludniony, podobnie jak kurońskie miasto, położone 3 km dalej, obok kurońskiego wzgórza zamkowego w Starej Kuldydze. Rezultaty dalszych badań archeologicznych potwierdziły hipotezę o bardzo wczesnym zasiedleniu Kalnamiests. Fragmenty ceramiki i inne zabytki znalezione w obydwu tych miejscach są typowe dla kultury materialnej lokalnych plemion, Kurów lub kurońskich Liwów (Vendów). Dane archeologiczne potwierdzają, że Kalnamiests zamieszkiwano także po wzniesieniu fortyfikacji na brzegu rzeki Windawy, a budowę niemieckiej części miasta, Vecpilsēta (pol. Stare Miasto), rozpoczęto obok niego. Materiały pozyskane w trakcie badań nie dostarczyły dowodów na wzajemne relacje dwóch części przyszłego miasta, ze źródeł pisanych wiadomo jednak, że "mała wioska w górach" (Kalnamiests) wiedziała jak zachować niezależność w państwie Zakonu Kawalerów Mieczowych i później. Włączono ją pod jurysdykcję miejską tylko za panowania księcia Kurlandii i Semigalii, Fryderyka Kettlera w 1599 roku.

Windawa (łot. Ventspils), miasto o późnośredniowiecznej metryce, położone jest w pn. - zach. części Łotwy, nad Bałtykiem, u ujścia rzeki Windawy. Najstarsza część miasta (sprzed XVIII – XIX w.) leży na lewym brzegu rzeki, zatem wszystkie badania problemów ekologicznych XVII-wiecznego miasta dotyczą niewielkiej części dzisiejszej Windawy. Badania wielkości i wpływu erozji wydm, ożywione dzięki wynikom archeologicznych badań ratowniczych, dostarczyły interesujących informacji na temat lokalizacji głównej części starego miasta (XIV – XVI w.) położonej na pd. – zach. od zamku Kawalerów Mieczowych. Stara część miasta została stopniowo porzucona, a na początku pierwszej połowy XVII wieku centrum przeniesiono na obecne miejsce, Tirgus laukums (pol. Plac Targowy). Erozja wydm i nawiewanie piasku na starszą część miasta odegrało w tym procesie główną rolę. Ustalono, że w związku z dominującymi kierunkami wiatrów, piasek zagrażał głównie południowo - zachodniej części miasta, a osadnictwo przesuwało się w kierunku północno - wschodnim. Nawiewanie piasku na miasto trwało przez cały XVII wiek. Wyrąb drzew na opał i w celach budowlanych, połączony z wynikającą z wycinki erozją, wywołał najwyraźniej problemy ekologiczne. Dekret mistrza Zakonu Liwońskiego, Hermanna von Bruggeney z roku 1542, zezwalający obywatelom Windawy na pozyskiwanie drewna opałowego i bali drewnianych poza miastem, w pobliskim lesie, wskazuje pośrednio na zwiększone ryzyko wyniszczenia roślinności nadmorskiej i przyczyny erozji. Brak źródeł pisanych lub archeologicznych świadczących o erozji wydm po końcu XVIII w. świadczy o tym, że piasek przestał się przesuwać w XVIII wieku.