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## **THE LATE MEDIEVAL VESSEL STOVE TILES IN THE TOPOGRAPHICAL CONTEXT OF KLAIPĖDA**

The article presents the late medieval vessel stove tiles of Klaipėda, which are located on the Baltic Sea shore of the current territory of Lithuania. This article analyses the technological and morphological qualities of vessel tiles. The author attempts to characterize and compare the types of tiles according to the materials used from three areas of Klaipėda: 1) the territory of the castle and the medieval town; 2) the town dump; 3) the relocated town in the early modern period. Furthermore, the article attempts to update both the topographical changes of the town and the historical context which may have influenced the renewal of daily household items, including tile stoves in the houses of the townspeople.

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### **Introduction**

The appearance of tiled stoves in Europe marks a decisive point in the development of heating systems. As a result of this innovation, living conditions changed not only in castles, monasteries and estates but also within the houses of townspeople. It was not without good reason that tile stoves began to be depicted on frescoes or calendar miniatures throughout the 13th and 14th centuries (Henkel 1999, Plate 1: A1–A4). Stove tiles, which were integrated into a clay cupola and reminiscent of the vessels used in daily life, allowed heat to be more effectively accumulated and radiated through living spaces. It was the effectiveness of tiled stoves and the simple method of production used for the stove tiles themselves that determined the popularity of this heating device. A basic knowledge of pottery-making was sufficient for the production of vessel stove tiles. It should therefore come as no surprise that the first tiled stoves, which were first built in the Alpine region in the 12th century (Hallenkamp-Lumpe 2006, 4), soon after spread into other regions. Klaipėda, whose history began in 1252 when the Teutonic Order founded a castle on the shore of the Baltic Sea close to Curonian Lagoon, was no exception. It is not easy, however, to answer the question of what form of heating system the first settlers of Klaipėda chose to install. The reconstruction of

the castle and fortification changed the topographical face of the town more than once. As a result, nearly all of the oldest cultural layers of the town were destroyed, while archaeological finds have lost their initial chronological context. The vortex of these events also affected the medieval vessel tiles of Klaipėda to which this article is dedicated.

Vessel stove tiles have so far been little researched, with previous investigators having acknowledged that the specific nature of these tiles requires a separate study (Genys 1984, 43). Although an evolutionary scheme which accounts for their development has been composed (Žulkus 2002, fig. 96), it has, however, remained undiscussed within the archaeological texts (Žulkus & Genys 1984; Genys 1989). Furthermore, the technological and morphological changes that the tiles experienced over the passage of time are yet to be detailed.

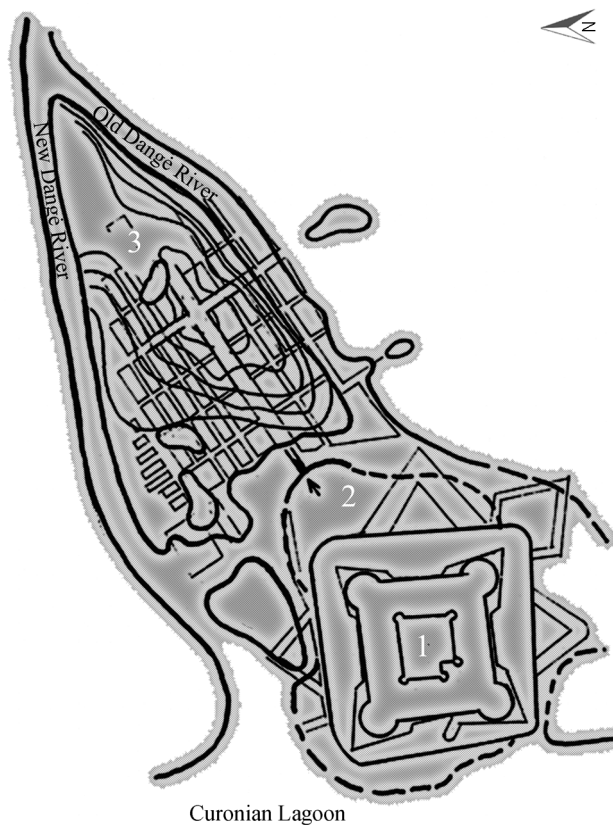
This article aims to establish when the first tiled stoves were built in Klaipėda and to identify what features reveal their development not only during the late Middle Ages but also during the early modern period. To achieve this aim, an analysis and comparison of the morphological and technological features is carried out. In order to ascertain the prevalence of the oldest vessel tiles, their find sites and archaeological context are discussed. Moreover, the article attempts to update the topographical changes experienced by the town and historical events which may have determined the renewal of household devices, including tiled stoves, in the houses of the townspeople.

This analysis is based on artefacts kept in the Lithuania Minor History Museum in Klaipėda. A systematic analysis established that during the archaeological investigations carried out in Klaipėda Old Town and the territory of the castle in 1974–2008, a total of 2700 vessel tiles and their fragments were accumulated. Their chronology encompasses the period from the second half of the 14th century to the 18th century. According to their find context, the stove tiles can be divided into three groups. The first group includes stove tiles which were uncovered in undisturbed cultural layers which were unproblematic to date. They constitute 32% of all vessel tiles found in Klaipėda. Meanwhile the stove tiles from the town's dump, which according to archaeological data was piled in the first half of the 16th century, make up the second group (39%). A significant number of stove tiles with features characteristic of material from the late medieval period and the early modern period were found at this site. The third group (29%) is composed of stove tiles having an archaeological context that does not allow them to be precisely dated. From all the vessel tiles of the museum's collection that have been analysed, only the most characteristic finds were selected for this research (Žulkus 1976; 1978; 1980; 1999; Genys 1981; Sprainaitis 1985; 1986; 1990; 1992; 1994; 1995; 1996).

### **Klaipėda town and topographical changes**

The Teutonic Order chose a strategically good place for the building of Klaipėda castle: the shore of the Curonian Lagoon, at the mouth of the Dangė

River. This choice of location speaks of the Teutonic Order's aim to strengthen its positions in the Baltic Sea region. Due to the attacks of the Lithuanians and the Samogitians and several devastating fires during the 13th and 15th centuries, the castle underwent a series of reconstructions, including improvements made to its system of defensive fortifications. These factors stimulated not only the topographical changes in this place but also the life of the town that developed near the castle during the Middle Ages (Fig. 1: 2) (Žulkus 2002, 24). According to an initial plan, there was an intention to develop Klaipėda into a large city with a Kuršas diocesan centre and three churches, which were mentioned in historical sources. It is for this reason that Klaipėda was granted the Lübeck law (Karpavičienė 2008, 32 f.) in 1254. However, as changes in the geopolitical situation took place, the implementation of this ambitious project failed (Jähnig 1994, 22). There are two opposing opinions concerning the significance of Klaipėda within medieval trade relations. One of them considers Klaipėda an important trading venue during the 15th century. Another opinion meanwhile supports the



**Fig. 1.** The historical areas of Klaipėda. 1 Castle, 2 Medieval Town, 3 Relocated/New Town (after Žulkus 1994, fig. 3).

thesis that Klaipėda played a secondary role during the medieval period (Czaja 2013, 26). Having reviewed a number of archaeological texts, one gets the impression that their authors appear to support the opinion that Klaipėda was a small castle settlement during the medieval period (Jähnig 1994, 24; Žulkus 1994, 11). Even though an upsurge in trade took place in Klaipėda during the 16th century, important preconditions for the economic development of Klaipėda have been traced back to the 15th century. The dominant role in foreign trading fell not on the townspeople, however, but on the convent of the Order's castle (Czaja 2013, 30 f.).

Essential changes in both the life of the castle and the town took place in the early 16th century. At that time major reconstructions of the castle and expansion of its defensive system were carried out. The implementation of these projects demanded more territory, including the town near the castle. The town, therefore, had to be relocated to a new place on the nearby island between the Old<sup>1</sup> and the New Dangė Rivers, in the territory of the present Old Town (Žulkus 1991, 43 f.) (Fig. 1: 3). The settlers were faced with the number of difficulties. The new town happened to be located in an area of low humidity. To add to this, the houses that were built here suffered from two fires in the first half of the 16th century: half of the town was burned down in 1520, while only six town plots survived the fire of 1540 (Zembrickis 2002, 64, 79, 97). The mention made of the town near the castle in a document of 1560 suggests (Žulkus 1991, 44) that not all of its dwellers were relocated to a new place. The fact that the number of dwellers of the relocated town increased gradually confirms this latter supposition. Around 1503 the relocated town had approximately 100 residents. It was recorded in the land tax register of 1540 that a total of 148 plots of land were distributed among 107 townspeople (Žulkus 2002, 45). The settlers of the town's island were also faced with psychological challenges. After the secularization of the Teutonic Order in 1525, Lutheranism was proclaimed a state religion in the Duchy of Prussia. In the same year, it was also introduced in Klaipėda.

The reviewed situation shows that the transition between the late medieval and early modern period coincided with essential topographical changes of Klaipėda town. At this time the inhabitants of the medieval town were resettled to a new location in the territory of the present old town. It is for this reason that the comparison of stove tiles from different historical areas of the town is especially important.

### **The vessel stove tiles from the oldest part of Klaipėda: the territory of the castle and the medieval town**

It is difficult to say whether heating with tiled stoves was introduced immediately after the Klaipėda castle was founded. The archaeological data regarding the material culture of Klaipėda from the second half of the 13th century

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<sup>1</sup> In present-day Didžioji Vandens Street.

is rather scarce. No tiles from this period have been found. However, during this period tiled stoves were already being built in the southern Baltic Sea region. The 13th century deep vessel tiles that have been found in the German Hanseatic towns, such as Rostock (Hoffmann 2007, 151) and Lübeck (Falk 2001, 64), bear witness to this fact. A different situation developed to the north of Klaipėda in former Livonia. In the present-day territory of Latvia, tiled stoves with vessel tiles appeared only in the second half of the 15th century (Ose 1996, 99). The oldest stove tiles found in the Finnish city of Turku have been dated to the mid-15th century on the basis of their find context, while the earliest stove tiles and tiled stoves from Tallinn in Estonia have been ascribed to the late 14th century (Majantie 2007a, 93 f.).<sup>2</sup>

Unfortunately, the preserved undisturbed cultural layers of the oldest historical part of Klaipėda which contain vessel tiles belong to a later period than the founding of the city. A cultural layer with vessel stove tile fragments dated to the second half of the 14th–15th century was uncovered during archaeological excavations of the oldest part of Klaipėda in 1975–1976 (Žulkus 1976; 1978). Later publications on this investigation, however, have corrected the stove tiles' chronology to the second half of the 15th – early 16th century (Žulkus 2002, 83 ff.). Stove tiles of a chronologically close period were also unearthed in a few more locations that were explored within the environs of the castle and the town next to it (Sprainaitis 1985; 1986; 1990), and it was these sites that presented some of the oldest stove tiles found in undisturbed cultural layers (Fig. 2). One can only regret that it is solely fragmentary stove tiles that have been found. Due to a lack of data, a reconstruction of stove tile shapes and size is impossible. Nevertheless,



**Fig. 2.** Fragments of vessel stove tiles dated from the second half of the 15th – early 16th century. Photo by Raimonda Nabažaitė.

<sup>2</sup> The earliest pot-shaped stove tiles in Estonia are from around 1300, found in Tartu (see Vunk 1998). So far no other secure finds of early 14th century tiles have been found, thus it is plausible to assume that the gradual use of tiled stoves begins in late 14th century (editor's comment).

the preserved fragments of the stove tiles enable us to reach a few conclusions regarding the technology and the rims of the stove tiles from the second half of the 15th – early 16th century.

According to the archaeological data obtained, Klaipėda's ceramic tile stoves of the second half of the 15th century were mostly built from vessel tiles fired in an oxygen-free or mixed atmosphere. Such vessel tiles were also characterized by the coarse impurities within the clay. The fragmentary nature of the material does not allow us to ascertain whether the bases of the Klaipėda stove tiles were decorated. The decorating of tile bases with circles or imprints of rosettes was already an established practice in other European towns at that time (Majantie 2007b, 43). During the period under discussion, it was tiles with a quadrangular opening that were used in the construction of Klaipėda stoves. Judging from the side of the opening of a more intact example, its length could reach 15 cm. The tile rims, which were given considerable attention, would add to the decorativeness of a stove. Wide profiled rims with deep grooves are typical features of the vessel tiles of this period. According to the archaeological material from another Lithuanian city Kaunas, such rims were still popular in the tiles of the first half of the 16th century (Žalnierius & Balčiūnas 2010, 332, fig. 5), although this type of rim had already vanished in Klaipėda during the same period.

Analogous or very similar tile fragments were found within the chronologically later cultural layers which formed during the development of the fortification of the castle. In the course of these events the earlier cultural layers of the castle and town were destroyed, and the finds from these layers found their way into the areas where the construction works took place. The tile fragments (Fig. 3)



**Fig. 3.** Fragment of vessel stove tiles and different profiles. Found in the defensive ramparts of the early 17th century. Photo and drawing by Raimonda Nabažaitė.

characteristic of the second half of the 15th – early 16th century and recovered in the defensive ramparts of the early 17th century (Žulkus 1980) illustrate these processes. The rim grooves of these tiles were particularly deep and expressive. Even more diverse tile rims can be found in the destroyed cultural layers, including those with double grooves or waves (Žulkus 1999). The data is not sufficient to establish their exact date. However, judging from the tendency to profile rims, they could belong to the second half of the 15th century.

### **The oldest vessel tiles from the dump of the town**

In addition to the aforementioned sites, the site at the border of the town near the castle, explored in 1985–1986 and 1990, demands separate discussion (Sprainaitis 1985; 1986; 1990). It was at this site that a complex containing thousands of finds in ceramics and stove tiles was unearthed. The concentration of the finds and their condition allowed to believe that this may have been the location of a refuse dump. The defective ware of a local Klaipėda potter (such as tile matrices, half-finished or wasters) found their way to this dump as well. This dump also contained charred finds that may have been deposited there following the fire. In order to acquire a proper understanding of the value of this complex, it should be sufficient to mention that the vessel tiles collected from this dump make up 39% of all the vessel tiles and their fragments from various periods that have been recovered in Klaipėda. From the perspective of morphology and manufacturing technique, these vessel tiles differ from each other, although some of them have morphological features characteristic of the stove tiles of the second half of the 15th century. These features are seen in the stove tiles with expressive grooves on their rims (Fig. 4). One of the more fully preserved stove tiles suggests that they may have been 12 cm in height with  $13.5 \times 13.2$  cm openings and a base of 8.5 cm in diameter. The measurements presented show that the shape of a stove tile widened from its base to its opening. Their most decorative element, however, was their wide profiled rims. There is an opinion that the spread of flat tiles with wide profiled frames may have influenced the profiling of vessel tiles rims (Bertašius 2001, 38 f.). These tendencies have been observed in the niche stove tiles of Klaipėda which were manufactured prior to the Reformation. Their frames were also wide and profiled with deep grooves (Nabažaitė 2013, 125). The largest amount of these tiles was recovered from the already mentioned dump of the town alongside the vessel tiles.

Analysis of the stove tiles shows that in Klaipėda tiled stoves were first used around the same time as in neighbouring Latvia. Vessel tiles evolved from deep vessel tiles and thus represent a more modern type of tile. The openings of vessel tiles were wider and the tiles themselves were much smaller in height. This suggests that the territory of present-day Latvia bypassed the deep vessel tile phase, instead directly adopting more efficient stove tiles. Prior to this time, according to I. Ose, heat storage hypocaust ovens prevailed in this area (Ose 2007, 127). What place do the deep vessel tiles recovered in Klaipėda hold in the



**Fig. 4.** Vessel stove tile and fragments from the town dump. Photo by Raimonda Nabažaitė.

evolutionary process of tiles? The previously discussed situation illustrates that the stove tiles recovered in those layers that are not problematic to date reach back only to the second half of the 15th century. The material from the dump that was piled at the border of the town, however, allows us to posit a much earlier period for the appearance of tile stoves and thus broadens the concept and chronology of the oldest tiles.

Individual pieces of impressively sized deep vessel tiles were found within the conglomeration of waste. A more fully preserved example of this type of tile shows that they were cylindrical in shape with a quadrangular opening, one side of which equalled 15 cm. According to the measurements taken, they may have been as high as 30 cm or even higher (Fig. 5). Their sides were right-angled and grew slightly wider towards the tile's opening. It does appear that their base was flat, and this opinion



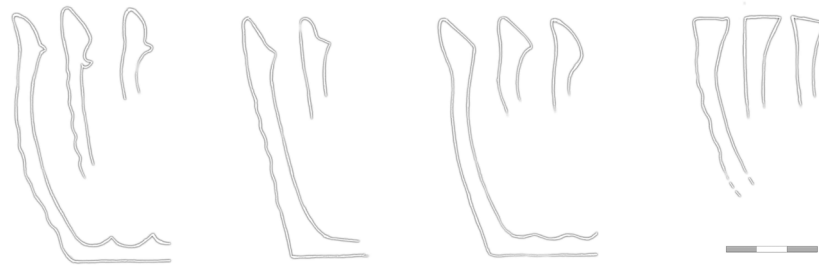
**Fig. 5.** A deep vessel stove tile from the second half of the 14th century. Found in the town dump. Photo and drawing by Raimonda Nabažaitė.



has been supported by Vladas Žulkus, an earlier researcher of the tiles (2002, fig. 96). In comparison to 15th century stove tiles, these tiles did not have an expressive profiled rim. Stove tiles of a similar size have been found in European countries throughout the 13th–14th centuries. The archaeological context, however, does not allow us to identify when they appeared in Klaipėda, and attempting to search for their analogues in other countries can also be a daunting task. Wheel-made tiles often took on local peculiarities as regards shape and appearance, making it difficult to find direct analogues in other regions. If we were to consider the height of the tile to be a distinctive feature, we would discover that tiles of a similar size from the German town of Lippstadt have been dated to the late 13th century, although the mouth and bases of the Lippstadt tiles were round, unlike those from Klaipėda (example after Peine 2001, 53, fig. 6: 2). Tiles resembling those unearthed in Klaipėda, however, have been found in the archaeological material of neighbouring Poland. Deep vessel stove tiles of a similar size, shape, quadrangular mouth and round base have been dated to the mid-14th century (Dąbrowska 1987, plate II: fig. 1, 4). V. Žulkus is also inclined to date deep vessel tiles to the mid-14th century (2002, 120). Another local archaeologist, Jonas Genys, has a similar opinion (1989, 23).

#### The tiled stoves of the new town: a new or an old tradition?

A further stage in the development of tiled stoves begins in the early 16th century. This period coincides with the town's relocation. Having carried out an analysis of the earliest cultural layers of the relocated town (Genys 1981; Sprainaitis 1992; 1994; 1995; 1996), it was successfully established that stove tiles from the first half of the 16th century were manufactured following modified production standards (Fig. 6). Nearly all the stove tiles from this period were fired in an oxidizing atmosphere. Owing to these technological changes, the stoves became lighter in colour. What is more, the morphological qualities of stove tiles altered. Rims decorated with a distinct groove, much loved in the tiles of the second half of the 15th century, now disappeared. Only two stove tile



**Fig. 6.** Profiles of vessel stove tiles dating from the early to the mid-16th century. Found in the relocated town. Drawing by Raimonda Nabažaitė.

fragments with rims indicating a medieval manufacturing tradition were found in the environs of the new location. Expressionless rims became a distinctive quality of vessel tiles dating from the early to the mid-16th century; they were either sloped inwards or had a horizontal top. One may observe that due to their smaller height, the bases of the tiles were decorated with a rosette and circles. This tendency, however, gained greatest popularity during the period between the second half of the 16th century and the first half of the 17th century. In the first half of the 16th century the majority of vessel stove tiles under discussion were not glazed, with only a few being covered in an olive green glaze. Moreover, it was only horizontal rim tiles that were glazed. Another distinguishing mark of these tiles was the rather well prepared clay mass from which they were made. The analysis of the vessel tiles' material indicates that the tiled stoves built by the new settlers appeared to be more modern, and more diverse and light in colour.

The renewal of the heating system in Klaipėda must have been determined by the changes that took place in the town in the early 16th century. Following the town's relocation, the new houses were installed with tiled stoves whose morphology and technology differed from the medieval tradition. The majority of vessel tiles from the medieval period were eliminated as waste and discarded in the town dump that was located between the medieval town and the new town. Comparative analysis has enabled us to reach the conclusion that the archaeological material of this place is characteristic of both the medieval period and early modern period. This time frame encompasses stove tiles dated to the second half of the 15th century and early 16th century, and all the tiles from the second half of the 14th century which, in their technological and morphological qualities, are related to the stove tiles from the areas of the Klaipėda castle and the town next to it but are not typical of the material culture of the relocated town. The forced renewal of the heating system may also have been conditioned by the previously mentioned great fires of 1520 and 1540. After these catastrophes the townspeople had to deal with the damage and disposal of destroyed household items. As a result of these events, stove remains from both the town near the castle and the relocated town on the island may have been thrown into the dump.

### **Conclusions**

The archaeological material of Klaipėda has not yet confirmed whether the Teutonic Order's founding of the castle in the mid-13th century was immediately followed by innovations in its heating system. According to the dating of archaic deep vessel tiles, the use of tiled stoves might have begun no later than the second half of the 14th century. The tiles of this period were tall (30 cm) and had quadrangular openings and expressionless rims.

The second half of the 15th century saw changes in tile development. During this period more modern tiled stoves were being built. The smaller height and widened openings of the vessel tiles provided them with a more pleasing

appearance. Their distinguishing feature was profiled rim. The fact that the majority of the recovered tiles were fired in an oxygen-free atmosphere reveals that the tiled stoves were quite dark in colour. Their usage in Klaipėda was encouraged by general tendencies in tile development in Europe.

The early 16th century saw changes in both the building of tiled stoves with vessel tiles and the life of the town. The reconstruction of the castle and the development of a defensive system determined the inhabitants' relocation from the territory near the castle to a new location, and archaeological material has revealed that medieval type vessel tiles were not used in the construction of the stoves of the settlers. With this new phase, which determined the renewal of the households of the townspeople, the usage of older types of stove tiles in Klaipėda ended. The possibility remains that the devastating town fires of 1520 and 1540 contributed to their disappearance. Given that the majority of the most archaic vessel tiles were found in the town dump, we may presume that they ended up there as a result of the aforementioned events.

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### Raimonda Nabažaitė

## HILISKESKAEGSED AHJUPOTID KLAIPĒDA TOPOGRAAFILISES KONTEKSTIS

### Resümee

On analūūsitud Klaipēda (joon 1) arheoloogilistel kaevamistel leitud ahjupotte, nende tehnoloogilisi ja morfoloogilisi omadusi ning arheoloogilist konteksti. Artikli eesmärk on ka tuvastada, millised tunnused osutavad nende arengule kesk-ja uusajal. Lisaks on pūütud vaadelda linnas asetleidnud topograafilisi muutusi, mida võib kajastada linnaelanike majapidamiste (sealhulgas kahhelahjude) uuen-damine. Analūūs toetub Klaipēda Väike-Leedu ajaloomuuseumi kogudes säilita-tavatele esemetele.

On keeruline hinnata, kas Klaipēdas hakati kahhelahje kasutama vahetult pärast linnuse asutamist: 13. sajandi teise poolega dateeritava esemelise kultuuri osas on seni suhteliselt vähe alusandmeid, muuhulgas puuduvad leidude hulgas selle perioodi ahjupotid. Tuginedes algeliste, sūgavate ahjupottide dateeringu-tele, hakati linnas kahhelahje kasutama hiljemalt 14. sajandi teisel poolel. Selle perioodi ahjupotid olid sūgavad (30 cm), nelinurkse suudmeala ja ilmetu serva-kujuga (joon 5).

15. sajandi teisel poolel toimusid ahjupottide arengus muutused ja hakati val-mistama paremaid ahjupotte (joon 2–4). Ahjupottide väiksem sūgavus ja avaram suudmeala tagasid nauditavama väljanāgemise. Nende iseloomulikuks tunnuseks oli profileeritud serv. Kuna enamik kaevamistel kogutud ahjupotte on põletatud hapnikuvaeses keskkonnas, võib jāreldada, et pūstitatud ahjud olid ūsna tumedates toonides. Ahjude kasutus Klaipēdas vastab kahlite ūldarengule mujal Euroopas.

16. sajandi algul toimusid muutused nii ahjupottidega kahhelahjude ehitami-ses kui ka linnaelus. Klaipēda linnuse ūmberehitus ja kaitsevōondi areng tingisid linna teisaldamise uude kohta. Arheoloogilised leiud osutavad, et ūmberasanud linnaelanikud ei kasutanud uutes ahjudes hiliskeskajale omaseid ahjupotte –

linnaehituse uue faasi ajal lõppes vana tüüpi ahjupottide kasutamine Klaipėdas. Samuti muutus valmistamistehnoloogia: hapnikuvaeses keskkonnas põletatud toodete asemel hakati tarvitama hapnikurikas keskkonnas põletatud ahjupotte. Tänu sellele muutus majapidamises kasutatud kahhelahjude värv heledamaks. Lisaks oli selle perioodi (s.o 16. sajandi esimesel poolel) ahjupottidele omane ilmetu servakuju: serv oli kas sissepoole kaldu või tasase pealispinnaga (joon 6). Samuti võib märgata, et tänu väiksemale sügavusele hakati ahjupottide põhju kaunistama rosettide ja ringidega.

Klaipėda küttesüsteemide uuendamist mõjutasid 16. sajandi algul linnas toimunud muutused: linna ümberpaiknemise tulemusena rajati uued majad kahhelahjudega, milles kasutatud ahjupottide morfoloogia ja tehnoloogia erines keskaja traditsioonist. Enamik keskaegseid ahjupotte sattus pärast ahjude lammutamist linna prügimäele linnuse lähedal asunud keskaegse Klaipėda ja varauusaegse Klaipėda vahelisel alal. Võrdlev analüüs osutab, et sinna ladestunud leiud on iseloomulikud nii keskajale kui ka varauusajale. Teadaolevalt sai linn 1520. ja 1540. aastal tulekahjus kannatada, mistõttu võib oletada, et need katastroofid aitasid kaasa vanemat tüüpi ahjude kadumisele.