### GLASS BOTTLES FROM THE 16TH CENTURY TO THE 19TH CENTURY IN THE OLD TOWN OF KLAIPĖDA: DATA FROM ARCHAEOLOGICAL EXCAVATIONS

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### Abstract

The article analyses material related to glass bottles excavated in Klaipėda (Memel) Old Town. Firstly, this is material from Žvejų St 4 and 6, and the area around Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets. Early glass bottles found in this area could even date from the 16th century, whereas the peak in the local consumption of beverages in bottles is related to the second half of the 18th century and the 19th century. Four major types of local glass bottles are distinguished in this work. Subtypes of extant or partly restored bottles are also introduced. Attempts are made throughout the entire research to answer the questions how much and in what way the bottles discovered in Klaipėda Old Town reflect general patterns of lifestyle in Western and Central Europe in the context of modern times.

Key words: Klaipėda, 16th to 19th centuries, antique bottles, beverage, Chateau Marcaux.

#### Introduction

Several decades of systematic archaeological excavations in the Old Town of Klaipėda have resulted in the collection of material-culture-related artefacts. However, the attention of researchers to all groups of finds throughout that period has not been equally distributed. So far, most scientific insights have been made while exploring materials related to domestic pottery and tiles, found abundantly in the cultural layers. In the meantime, groups of finds, including glass, appear mostly in research into Klaipėda material culture in publications of a general nature at best. On the other hand, the increased demand among researchers for a deeper analysis of the townspeople and their lifestyle, and the necessity to standardise the arrangement of the continuously growing museum collections of archaeological material presuppose the urgency for the exploration of other finds and their groups. This work analyses one of the largest groups of glass artefacts discovered, bottles, which make up about 45% of all the glass artefacts found in the Old Town of Klaipėda (Šimkutė 2009, p.8). So far, it is unclear how they should be dated, and where they belong to. No less interesting are questions related to their purpose. The history of glass bottles, and the modification of their shapes and separate parts, such as the neck and the base, are closely related to the history of beverages; whereas the latter is closely related to lifestyle, culture, social relations, trading prosperity and decline.

Glass bottles in Klaipėda Old Town are mostly found concentrically and as shards. Extant fragments of upper and under parts sometimes prevent the reconstruction of the shape, and very often it is necessary to rely on the experience of foreign researchers, on their collected and published material, as well as on the developed typology. The Klaipėda archaeologist Eugenijus Paleckis has discussed locally discovered glass artefacts in general terms (Paleckis 1992, pp.68-79). In several paragraphs dedicated to glass bottles, he makes a short introduction to the shape of locally discovered glass bottles from the 17th to the 19th centuries. He also attempts a preliminary dating of them. A similar situation, in terms of the extent of their investigation, also prevails in other regions of Lithuania.

The analysis and exploration of locally found glass bottles employs other sources: that is, archaeological reports of different kinds and the finds themselves. The material for this work consists of 442 pieces of glass bottles, and a relatively small number of intact or partly restored bottles from 13 different objects (Fig. 1), in which the number of bottles discovered and the pieces of them is very different. On the basis of quantitative and qualitative material, two hoards of pieces of glass bottle, discovered in the Old Town, can be distinguished. They are hoards from the 16th and 17th centuries, and the 18th and 19th centuries, discovered in the area around Tomo,1 Didžiojo Vandens, Vežėjų and Pasiuntiniu streets (the total number of pieces from upper and under parts amounts to 88). Another hoard comes from the 18th and 19th centuries (200 pieces of glass bottle), and was found in household cellars at Žvejų St 4 and 6. Hoards and single fragments found in

<sup>&</sup>lt;sup>1</sup> The present-day names of the streets are given this article.

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Fig. 1. Glass bottle hoards in the Old Town of Klaipėda/sites of hoards discovered in archaeological excavations: 1 Teatro square; 2 Sukilelių St 1, 3, 5, 7, 9; 3 Sukilelių St 11; 4 Žvejų St 4, 6; 5 Teatro St 7; 6 Kurpių St 4; 7 Jono (Kepėjų) Tiltų St 3/16/5; 8 Turgaus St 33-35; 9 St John's Church; 10 the area around Tomo, Vežėjų, Didžiojo Vandens and Pasiuntinių streets; 11 Tomo St 20 and 22 to Didžiojo Vandens St 21; 12 Didžiojo Vandens 23 to 25; 13 the area around Didžiojo Vandens St (drawing by I. Šimkutė).

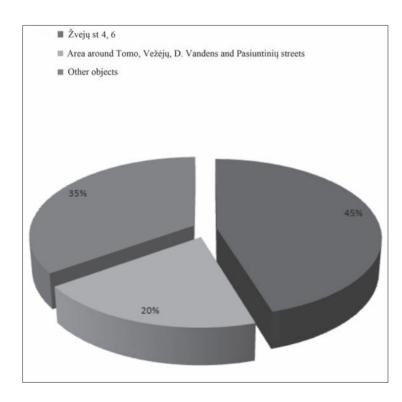




Fig. 2. A comparative distribution of glass bottles discovered in the Old Town of Klaipėda (diagram prepared by I. Šimkutė).

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Glass Bottles from the 16th Century to the 19th Century in the Century of Klaipéda: Data from SiMKUTÈ Archaeological Excavations other objects mostly reflect the general tendencies, and in this study they are used as supplementary material only (154 pieces) (Fig. 2).

This article attempts to evaluate the above collection on the basis of finds traced at Žvejų 4 and 6, as well as the areas around Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets, approaching them as two different cases. In the future, the analysis of these finds could be significant when looking for answers to questions related to the lifestyle of citizens. It also tries to integrate the gathered material into the general context of the common local and entire Baltic regional lifestyle.

### The historical background to bottles and beverages in Klaipeda Old Town

The town of Klaipeda was founded in 1252, when the Livonian Order built a castle called Memelburg. At the beginning, the town developed close to the castle, but in the 16th century the Old Town moved to an island in the waters of the River Dange. The geographical situation of Klaipeda (the town was very close to the Curonian Lagoon, which flows into the Baltic Sea) influenced the life of the townspeople and their material culture.

Using traces of the material culture in old Klaipėda, we can discover many links between this town and other countries of the Baltic region, and the cultures of towns around Western Europe. Therefore, the material artefacts in the Klaipėda archaeological environment provoke numerous discussions about their origin: sometimes it is complicated to compare and distinguish artefacts typical of local manufacturers and those brought in from elsewhere. This is why it is necessary firstly to understand the historical context of these artefacts, and the circumstances under which they appeared in Klaipėda. The subject of this research, the origin of Klaipėda glass bottles, has not been discussed in principle. Usually, research literature about the origin and manufacture of glassware maintains that 'materials about glaziers in Klaipėda is small' (and presumably the manufacture of glass in Klaipėda too) (Tatoris 1994, p.39), and that 'most glass artefacts were imported' (Paleckis 1992, p.68). So it is necessary firstly to evaluate these propositions prior to an analysis of specific bottles.

Single hints emerge in research material; however, they evoke different ideas of the above issues. For example, Gerhard Willoweit collected information about the craftsmen of Klaipėda, and examined data from the revenue registry of 1540. He found the name Glaßer, which is 'glassmaker' in English. Of course, this name did not necessarily correspond to the profession of a

person bearing this name (Willoweit 1969, p.246). The story by Johannes Sembritzki about a young man who managed to escape from a press gang at the beginning of the 18th century is interesting. In a 1719 report by the magistrate, it is said that 'one 19-year-old glazier's apprentice, the only support of his 61-year-old father, was publicly arrested in Kulių vartų Street [...] later he escaped to Mintauja' (Zembrickis 2002, p.182). Speaking about assumptions for the realisation of this craft in Klaipėda, it is necessary to mention again the above G. Willoweit, who wrote about the growing industrialisation in the 19th century and its side-effects on Klaipėda, where the guild of glaziers was also shrinking (Willoweit 1969, p.252). Besides, J. Tatoris wrote about nine glaziers living in Klaipėda in 1862, and eight in 1900 (Tatoris 1992, p.39). In the first half of the 19th century, a glazier was living at Sukilėlių St 19 (Tatoris, 1992, pp.140-141). So what were these glaziers or related persons doing in Klaipėda at that time? According to J. Tatoris, glaziers working there in the second half of the 19th century and the beginning of the 20th century were able to polish, cut and etch glass (Tatoris 1992, p.39). This is more related to the processing than the manufacture of glass. Nevertheless, issues related to glassware of local origin still remain open, as we still lack archaeological data about the manufacture of glass in Klaipėda.

At the moment, one glass manufactory (in the Švėkšna area in the Šilutė district), one of the closest to Klaipėda, is better known. Archaeological explorations have been carried out on a hillock called Stiklyne in Lithuanian, or 'glassy hillock'. So it is no surprise that a manufactory was operating on that hillock in the 17th century. Apart from other glass artefacts, it also manufactured bottles made of thin glass. Scholars maintain that from this place, on the frontier between the Grand Duchy of Lithuania and East Prussia, glass artefacts could also get to Klaipėda (Strazdas, Žulkus 1987, p.92). According to E. Paleckis, similar glass artefacts are rather rare in archaeological material from Klaipėda (Paleckis 1992, p.68). On the other hand, nobody has yet thoroughly explored and compared glass artefacts from Klaipėda and those from the above manufactory.

We have more information about the foreign origin of glassware. The role of Klaipėda as a seaport only increased in the second decade of the 16th century. However, it experienced relevant changes in the second half of the 17th century (Groth 2001, p.5). At that time, the bottle trade started growing.<sup>2</sup> Bottles were

<sup>&</sup>lt;sup>2</sup> Glass bottles were widespread. This is supported by fragments of similar-shaped glass bottles from different countries, and the interesting construction of the word 'bottle' itself. Probably, in most countries, a 'bottle' was an imported item, so the word itself was commonly used

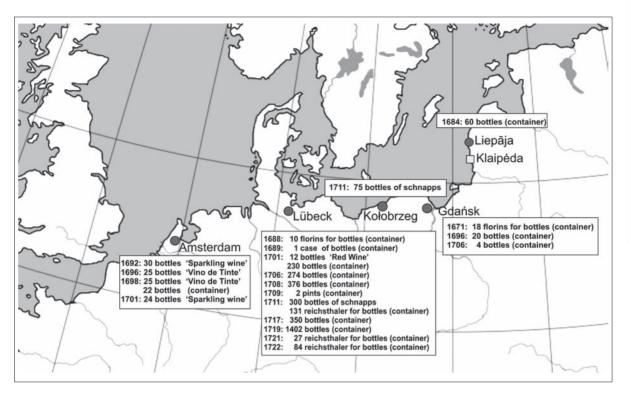


Fig. 3. The import of glass bottles to Klaipėda between 1664 and 1722 (after Groth 2002, with the author's additions).

transported by traders (Jones 1986, p.17). Klaipėda port's 1664 to 1722 customs records provide plenty of information about various goods, especially tobacco and drinks (Groth 1995). They record traders from different countries calling at the port of Klaipėda, and merchandise with which the place was supplied in modern times. Summarising the imports of the above period, A. Groth noted that the imported items were items of luxury rather than for daily consumption. He also noticed that salt was the main imported item. In addition, this was colonial merchandise, among which beverages and tobacco prevailed (Groth 2001, p.5; Glorius 1996, p.55). Beverages (firstly wines of all kinds) came in large quantities. It was discovered that in the above period, at least 15 sorts of wine came to Klaipėda from 32 different ports. They were 'French wine', 'Spanish wine', 'Rhine wine', 'Alicante wine', 'Römer wine', 'sparkling wine', 'red wine', 'muscat wines', 'Petercyment wine', 'vermouth', 'Gabener wine', 'Vino de Tinte', 'Canary Islands wine', and so on (Groth 1995). It should be noted that some sorts of wine were delivered in bottles: 'red wine' (12 bottles from Lübeck), 'sparkling wine' (54 bottles), and 'vino de tinte rosa' (50 bottles from Amsterdam). The book notes that schnapps was also delivered in bottles. It came from Lübeck and Kołobrzeg (375 bottles) (Kolberg) (Fig. 3). O. Jones notes that bottled liquors were shipped or sold in chests, hampers, casks and cases of various sizes (Jones 1986, p.19). It is clear that bottled beverages came to Klaipėda in large quantities, because wines were mentioned in the book in the context of these measures. Meanwhile, the import of beer was insignificant, as local sorts satisfied the demands of Klaipėda and the local market (Groth 2001, p.11ff).

Throughout the entire period between 1664 and 1723, cases are mentioned when full bottles and even empty<sup>3</sup> bottles were delivered to Klaipėda. It should be noted that glass bottles, probably used as containers, were delivered to Klaipėda from Gdańsk (Danzig) for the first time in 1671. They could have served as decanters or flasks in which the landlords of pubs and taverns offered wine to their visitors. The trade in glass bottles increased sharply in the first half of the 18th century, and it is related to the appearance of cylinder-shaped bottles, which were more compact and handy both for transport and keeping in wine cellars (Dumbrell 1992, p.21).

Historical sources help us to judge the rather wide spectrum of tastes of the local citizenry. Various rich wines, beers, schnapps and other beverages reached Klaipėda port in large quantities and on a regular basis.

in a wider area: in Russian Бутыпка, in English bottle, in French bouteille, in Italian bottiglia, in Spanish la botella, in Latvian pudele, in German die Flasche, while northern Germans use Buddel.

<sup>&</sup>lt;sup>b</sup> Presumably, glass bottles also came to Klaipėda as containers. The revenue book of Klaipėda defines them as *butelki*, and their quantities are measured in chests, florins, hampers, Reichstallers and pieces.

However, glass bottle-related artefacts from Klaipėda point to the fact that the beverage and the process of its consumption were equally important, so the above artefact should be treated as part of the 'table culture'.

### Glass bottles in the Old Town of Klaipėda: archaeological evidence

Usually, glass bottles in Klaipėda Old Town are traced concentrically, mostly in places for waste collection: in household pits or drainage barrels, no longer used for that purpose, or in 'scrap-heaps', which formed after filling in damp areas. Very often, single pieces of glass bottles emerge from cultural layers. These 'hoards' of bottles are undoubtedly related to the culture of pubs, taverns, cantinas and restaurants. The first taverns in Klaipėda appeared in the times of the Teutonic Order. However, it is not known how many existed then (Žulkus 2002, p.78). Early taverns were on the main routes connecting Klaipėda with Königsberg and Libau (Liepāja). The German landlords of these taverns had to keep a close watch on travellers, and inform the authorities of their plans and aims. Innkeeping, together with fishing and trading, was one of the main local occupations in the late 15th century and early 16th century. J. Tatoris notes that cantinas already existed in the Old Town at the end of the 17th century (Tatoris 1994, p.242). A huge number of them appeared in the town and its suburbs in the late 18th century and the 19th century. In the 1830s, there were 185 taverns, pubs and inns in Klaipėda and its suburbs (Tatoris 1994, p.244).

It looks as if the earliest glass artefacts (including fragments of glass bottles and glass dishes) discovered in the Old Town were found in the area around Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets. The area was researched for several years, and this resulted in 316 items of different glass artefacts being discovered. A total of 32% of them were pieces of glass bottles (Šimkutė 2009, p.23). Early glass finds are recorded at the bulked layer from the second half of the 17th century (Žulkus 1990, p.16). However, on the basis of analogies of excavated bottles and other glass dishes from German towns (Braumgastner, Kruegen 1988, p.432ff; Dumitrache 1990, p.52), other glass bottles from this 'scrap-heap' could also be dated to the 16th century. The total number of fragments is 47. These are thin-glassed, transparent, greenish, square or globular. Rectangular bottoms of a quadrangle shape, and necks with very wide bores, should be attributed to the 16th and 17th centuries. Other glass items are glasses, small bottles, pipes, various glass dishes and pieces of glazing (Žulkus 1990, p.85ff). According to Vladas Žulkus, a tavern could have existed in this area around 1550 (Žulkus 2002, p.79). A large number of medicine-related bottles was discovered there, which means that in the 16th and 17th centuries there could have been a chemist's shop somewhere around this place. Fragments of bottles typical of the 18th and 19th centuries were discovered in the above area (in household pits and drainage barrels) (Žulkus 1990, p.8).

The area around Žveju 4 and 6 is another important area with a huge number of glass bottles and fragments from the 18th and 19th centuries. It was explored in 2006. In a 1.5-metre household pit, 200 pieces of glass bottle were found. The collection of glass bottles discovered in this pit is the largest collection of objects from the Old Town. Globular-shaped and cylindershaped glass bottles of various greenish shades were discovered. It was also full of fictile, pottery and china fragments, pieces of glass mugs and goblets, fragments of kaolin pipes, and a wooden dice. Presumably, the household pit, used in the late 18th century and early 19th century, was part of a tavern or inn (Jarockis 2007, p.333). Fragments of globular-shaped and cylinder-shaped bottles from this pit enable us to attribute it to an earlier period, the middle or even the first half of the 18th century.

Glass bottles of different shapes and modifications were also discovered in wide areas of the Old Town, in the historic part between the new and the old branches of the River Dange. These were another 154 fragments from 11 surviving objects (Fig. 4).

Altogether, 38 fragments of different glass artefacts, including 28 glass bottles, were discovered in Teatro Square. All the pieces of bottles were discovered in cultural layers from the 17th, 18th and 19th centuries. These layers were used for filling in the former island and the water around it (Žulkus 1976, p.36). J. Tatoris notes that in the same area (the intersection of Teatro and Žveju streets) there were a couple of taverns (Tatoris 1992, p.72). Archaeological surveillance and fixation at Sukilėlių St 1, 3, 5, 7 and 9 resulted in the discovery of 17 fragments of glass artefact, including 13 glass bottles. Pieces of bottles are treated as stray finds. The exploration of this area showed that the complex was built on the line of the 18th to 19th-century bulked layer (Paleckis 1980, p.26). In the meantime, 46 fragments of different purposes, including 35 fragments of bottles, were discovered in bulked layers from different periods (Sukilelių St 11). All this was supplemented with eight fragments from subsequent excavations of bulked layers from the 18th and 19th centuries (Paleckis 1984, p.9). Six fragments of glass bottle were discovered during exploratory archaeological research at Teatro St 7. Later finds from the 17th century were discovered in an oak drainage barrel, lying at a depth of 1.7 metres (Sprainaitis 1986,

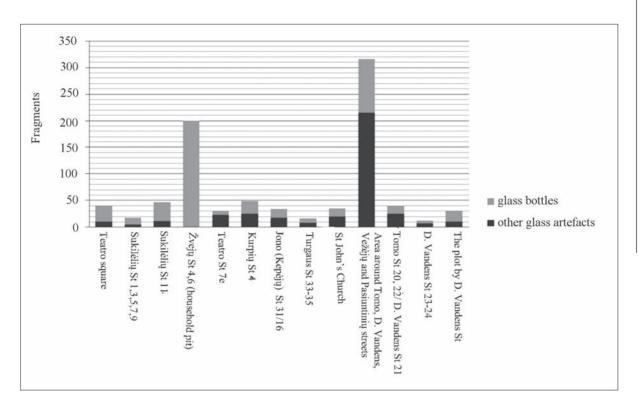


Fig. 4. The comparative distribution of glass bottles discovered in different sites in the Old Town (diagram prepared by I. Šimkutė).

pp.4-11). An archaeological report recorded 48 fragments of glass artefact, including 23 glass bottles. The total number of glass artefacts is included in the table of the above report, whereas pieces of bottles are generally described in the list of finds discovered in different areas. In that case, pieces of glass bottle have no area or inventory number. Most fragments in this object were discovered in the period prior to the fire of 1854, so they are dated to the late 18th century or the mid-19th century. Two fragments of rectangular bottle, on the basis of tiles dated to the 17th and 18th centuries (Žulkus 1974, p.19), are also exceptional. The research carried out at Jono (Kepėjų) and Tiltų St 3/16/5 showed that construction in this area was exceptionally intense (Bračiulienė 2000, p.16ff). The total number of glass fragments there was 33, including 16 pieces of glass bottle. The discovered items have been dated to no later than 1854 (Bračiulienė 1999, p.5). The exploration of Turgaus St 33 and 35 resulted in 16 items of glass artefact, including eight pieces of glass bottle. The rest were from windowpanes. The source notes that there was likely to be a social building standing endways on Turgaus St since the late 17th century (Žulkus 1981, p.4). After research around the former St John's Church, 34 pieces of glass artefact were found. The remaining bottles have been dated to the 18th and 19th centuries (Sprainaitis 1995, pp.8-9). Most different glass artefacts discovered at Tomo St 20 and 22, and Didžiojo Vandens St 21, were excavated from a household pit. Forty fragments of glass artefact were discovered in this site, and 15 of them were from glass bottles. The household pit has been dated to the 18th and 19th centuries, whereas other fragments have been dated to the 17th to 19th centuries (subject to the circumstances of the find) (Sprainaitis 1988, p.4). Only a few glass artefacts were found at Didžiojo Vandens St 23-24, and six out of 12 belonged to glass bottles. They were all discovered on the surface layer. In the area around Didžiojo Vandens St, 19 fragments out of 29 different glass items belonged to glass bottles. Some of them were discovered in sandy loam with rubble (Bračiulienė 1999, pp.3ff).

### Mouth-blown bottles as artefacts

The main properties of glass that predetermine its spread and long-term use are its clarity and its chemical resistance, which protects it from the atmosphere and the impact of many chemical agents (Strazdas 1998, p.7). A glass bottle is a piece with a more or less narrow neck and a body of a different shape (Dumitrache 1990, p.18). As an archaeological find, it is very rarely found intact. Very often, only single pieces (the upper and lower parts) are discovered, whereas the central part (the thinnest part) is usually found as slivers. The following are treated as belonging to the upper part: the finish, which usually consists of a bore, a lip and a collar, a neck and a shoulder. The lower part consists of





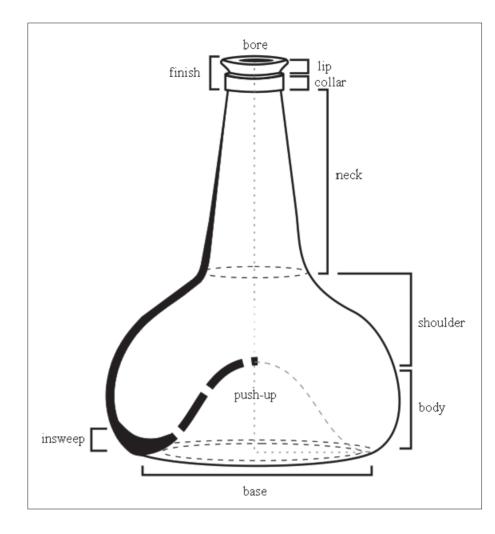


Fig. 5. Fragments and parts of glass bottles (drawing by Donata Jansonaite).

the following: the base, in-sweep and push-up (Fig. 5). Stopped with corks, the bottles made airtight, inert and sturdy containers for wine, porter, ale, cider, distilled liquors, and other products, as well as for transport and presentation (Jones 1986, p.9). However, they had to go through many technological stages before becoming durable and popular with consumers.

'Forest glass' type utensils, including bottles and fragments, are more frequent in early cultural layers. These are mostly thin-glassed, clear, bright (usually greenish) glass bottles, manufactured until the first half of the 17th century. In the 1640s a new type of furnace, heated by coal instead of wood, was invented. Its use in glass manufacturing created favourable conditions for the manufacture of 'bottle glass' or 'green glass'. These bottles were thick, the stronger and dark glass (usually greenish) met the demands of vintners for transportation and maturation in glass bottles (Dumbrell 1992, p.13ff). 'Green glass' bottles, most frequently discovered in the Old Town of Klaipėda, were continuously being modified and perfected until the second half of the 19th century. In order to encompass the variety in bottles, whose shape and parts were continuously changing, it is necessary to differentiate between them and divide them into types. On the basis of the available material, its context and survival, researchers exploring glass bottles employed different methods for their classification (Dumitrache 1990, p.9ff; Kubalska 1987, p.113; Paleckis 1992, p.68ff). However, glass bottles are usually attributed to different types in accordance with their original shape and peculiarities in the manufacture of their specific parts. This work uses the grouping system employed by the German researcher R. Glatz. On the basis of the shape, she distributes glass bottles into four subgroups; this is bottle with globular body, bottle with globular body and glued elements, cylindershaped bottles and multi-angular bottles. (Glatz 1991, p.45). Each subgroup has its own characteristic types of bottles, which are identified only in the event of an intact bottle, or one which could be partially restored and reconstructed. When identifying types, it is also important to explore specific elements (necks and bases). The researcher distributes, describes and dates

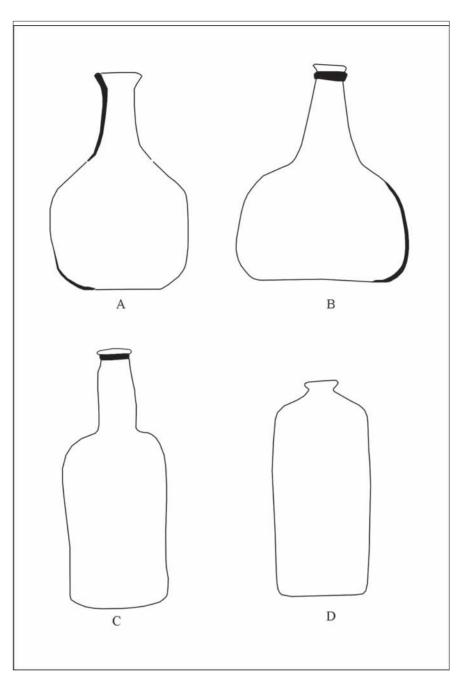


Fig. 6. Types of glass bottles from Klaipėda: pale green glass bottle with a globular or ovoid body (A); dark green glass globular-shaped bottle (B); dark green glass cylinder-shaped bottle (C); quadrilateral-shaped bottles (D). The typology of glass bottles by I. Šimkutė, according to M. Dumitrache 1990.

Glass Bottles from the 16th Century to the 19th Century in the INDRÉ Old Town of Klaipėda: Data from ŠIMKUTĖ Archaeological Excavations necks, whereas bases are introduced only in the catalogue (Glatz 1991, p.45).

A similar distribution system, particularly suitable for the fragmentary analysis of material, could also be applied to the research into glass bottles from the Old Town of Klaipėda. On the basis of their extant original or suppositional shape, it is possible to distinguish four types: pale green glass bottle with a globular or ovoid body (A); dark green glass globular-shaped bottle (B); dark green glass cylinder-shaped bottle (C); and quadrilateral-shaped bottle (D) (Fig. 6). Short descriptions of extant glass bottles, fragments of necks and bases from the Old Town of Klaipėda are given below.

The main types of glass bottles

### Pale green glass bottles with a globular or ovoid body (A)

Fully intact bottles with a globular or ovoid body (*Ballonflaschen or Flaschen mit Wandung stark gebaucht*) were not found in the Old Town of Klaipėda. However, on the basis of neck and base fragments and the study of the German archaeologist M. Dumitrache (1990), it is possible to partially reconstruct the shape of the above bottles from Klaipėda. Bottles with a globular or ovoid body, evocative of a bubble or a pear, are attributed to this type.

The neck of these bottles is usually cone-shaped. The finish has no collar under the lips. The lip itself is usually slightly bent outwards (trumpet-mouth) (Fig. 7.1), the angle could even reach 90° (a wide-prescription finish) (Fig. 7.2), or it can be absolutely straight (blowover) (Fig. 7.3). The base is circular, the push-up with an open pontil scar is globular (dome-shaped) (Fig. 7.4), conical (Fig.7.5), or almost smooth (Fig. 7.6). Pieces of discovered bottles are pale or bright greenish, and the glass itself is coated with a thin layer of patina. It is clear, with occasional gassy impurities, very often forming specific bubbles.

All pieces of this type were traced in layers from the 17th century around present-day Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets. However, on the basis of other glass fragments in this area, and in accordance with dated cases of German authors (Braumgastner, Kruegen 1988, p.432ff; Dumitrache 1990, p.52), with fragments of globular or ovoid body bottles found in this 'scrap-heap', they could also be dated to the 16th century (Dumitrache, 1990, p.52). In other German regions, these bottles are also dated to the 16th century and the late 17th century (Glatz 1991, p.46). Presumably, these artefacts arrived from northern Germany, a trading partner of Klaipėda in those times. Most probably, the above bottles served as wine decanters, since their glass was thin and very fragile, the top of the neck was not strengthened with a collar sustaining the cork. The above bottles in a smaller size, particularly those with a wide prescription finish, were likely to be designed for beverages.

## Dark green glass globular-shaped bottles (B)

The bodies of this type of bottles are spherical (Plate VI.1), hemispherical (Plate VI.1.2), or vice-like hemispherical (Plate VI.1.3). The most frequent in the Old Town of Klaipėda are dark green glass globular-shaped bottles with different-size conical necks. The finish usually consists of two parts, the collar is glued manually. Bottles with a very wide collar, almost covering the entire lip, or a narrow collar glued under the lip, should also be mentioned. The base of the above bottles is circular and flat or oval. The push-up has several different shapes: trapezium or bell-shaped, rounded cone and dome-shaped. Usually there is an open pontil scar on the bottom of the push-up. On the basis of analogies, intact or partly restored spherical bottles from the hoards of the Old Town (Fig. 8.1) are dated to the first half of the 18th century, and originate from the Netherlands (Dumbrell 1992, pp.128, 136, Plate 48; Poser 1997, p.86, Tafel 25; Dexel 1955, p.233, Fig. 280). They probably arrived in Klaipėda from Amsterdam, Gdańsk or Lübeck. Almost intact spherical bottles were discovered in litter bins at Žvejų St 4 and 6, and the area around Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets. Archaeologists date both hoards to the late 18th century or early 19th century. A hemispherical onion bottle (Plate VI.1.2) was also discovered in an archaeological habitat of the late 18th and 19th century. It was found in the area around Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets. It is thought to have been manufactured in a Prussian factory. A seal with an eagle and the inscription 'BAB-RIOM' was glued around its shoulders. Vice-like hemispherical (flattened oval body) bottles are also attributed to this type of bottle (Plate VI.1.3). They are easily recognised from a fragment of the lower part. The base and the body are oval both in horizontal and vertical positions. A very low, dome-shaped globular base is typical of these bottles. All bottles of this type were found in the Old Town archaeological context of the age from the second half of the 17th century to the first half of the 19th century.

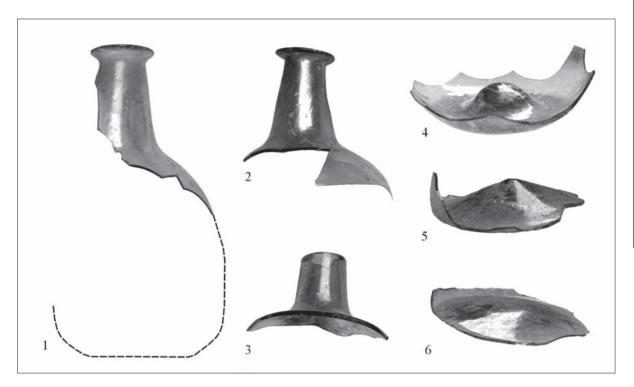


Fig. 7. The 16th-century type of pale green glass bottle with a globular or ovoid body (A): 1 lip Ø 3.5 cm; 2 lip Ø 3.6 cm; 3 lip Ø 3 cm; 4 base Ø 7.7 cm; 5 base Ø 10 cm; 6 base Ø 10.6 cm (photograph by I. Šimkutė).

# Dark green glass cylinder-shaped bottles (C)

Cylinder-shaped bottles are the most frequently discovered glass bottles in Klaipėda, and they have to be reviewed more broadly. The cylinder shape appeared in the history of bottles no earlier than the second quarter of the 18th century (Dumbrell 1983, p.100; Jones 1986, p.73). At that time, the use of a special wooden or metal mould for the manufacture of bottles started. It was used in the formation of a cylinder-shaped body. This technical solution could not be applied to any other previous manufacture of globular-shaped bottles (Jones 1986, p.84). The cylinder shape was more convenient for the storage of glass bottles in wine cellars for a long period of time, laying them one on top of the other, whereas bottles with globular bodies required specially designed racks. Manufacturers of glass bottles were continuously searching for a one 'look' bottle formula (Jones 1986, p.73), trying to reduce the asymmetry of the bottle itself and employing new technical opportunities (a dip mould, a three-piece mould, the finish-forming tool and base-forming moulds). All of this accelerated the qualitative and quantitative increase in production (Jones 1986, p. 73, 131). However, O. Jones, who researched English wine and beer bottles, noticed that 'there was more than one "ideal" style' (Jones 1986, p.73). Different nuances, distinguishing one bottle from another, one neck or one base

from another, or one element from corresponding elements of other bottles, characterise the hoard of glass bottles from the Old Town of Klaipėda. Although in very fragmentary local material, cylinder-shaped bottles are easily recognisable, by the cylindrical, bulging or tapered neck, or the two-piece finish, consisting of a lip and a collar. The bases are different in their width, but always cylinder-shaped, the in-sweep is rounded, bulging or abrupt, and the push-up has a sand pontil mark. Early subtypes are also equipped with a open pontil scar. Cylinder-shaped bottles make up around 74% of all bottles examined. Subject to quality, the quantity of material available and the aim, researchers into these bottles, or those discussing them more widely, attempt to develop an application of different rules and regulations related to grouping the above bottles. For example, on the basis of the characteristic shape of all sealed bottles, R. Dumbrell divided 'antique wine bottles' into groups. One of them was entitled 'cylinder-shaped bottles', and he divided it into eight further segments. He characterised single bottles in accordance with intervals in different periods. Later O. Jones, after an analysis of the dimensions of sealed bottles and the calculation of their capacities, noticed a tendency in the alteration of cylinder-shaped bottles, which led to their division into four types: 'Beer-Style Quarts', 'Wine-Style Quarts', 'Undersized Beer-Style Quarts' and 'Imperial Wine-Style Quarts' (Jones 1986, p.73ff). Below is a characterisation of pieces (exam-

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Fig. 8. The type of dark green glass cylinder-shaped bottle (C) from the 18th and 19th centuries: 1 H 23 cm, lip  $\emptyset$  3.1 cm; 2 lip  $\emptyset$  3.7 cm; 3 H 23.6 cm, lip  $\emptyset$  3.5 cm; 4 lip  $\emptyset$  3.9 cm, base 9.8 cm (photograph by I. Šimkutė).

ples of necks and bases) discovered in the Old Town of Klaipėda. Presumably, cylinder-shaped bottles arrived in Klaipėda mostly from England and France. They are found in almost all explored sites from the mid-18th century to the late 19th century.

Different bottles of this subtype are often discovered in the Old Town. A flared cylinder-shaped subtype of bottle should be mentioned (Fig. 8.1). On the basis of analogies and the patterns of the finish, these bottles are dated to the last decade of the 18th century (Jones 1986, p.59, Fig. 35). This bottle was discovered in an archaeological habitat from the late 18th century and early 19th century. Cylinder-shaped bottles with an elongated neck and body (Fig. 8.2), as well as cylindershaped bottles with a short neck, also belong to this type (Fig. 8.3). The finish of cylinder-shaped bottles, like that of a dark green glass globular-shaped bottle, consists of two parts; however, they were not manufactured manually. A special device is employed for the purpose. Therefore, a distinction should be made between three types of finishes.

1) The string rim is placed very close to the lip. The lip itself is slightly thicker than the original surface of the neck. The collar is usually sloping downwards, flat-topped and V-shaped, flattened and up-tooled to the flattened side. Such a finish is usually dated to the second half of the 18th century or the first decade of

the 19th century (Jones 1986, p.54). Fragments of the upper part with such finishes were discovered in the areas around Tomo St, Turgaus St, Didžiojo Vandens, Vežėjų, Pasiuntinių streets and Žvejų St 4 and 6.

2) The lip dominates the finish. The lips of these finishes are usually down-tooled or flattened. These are the most frequent finishes in fragments from the Old Town. In accordance with foreign researchers, bottles with this type of finish are dated to the 1780s to the mid-19th century (Jones 1986, p.61ff). They were discovered during archaeological excavations in Turgaus St, Sukilėlių St 11, and the area around Tomo, Didžiojo Vandens, Vežėjų, Pasiuntinių streets and Žvejų St 4 and 6.

3) Well-formed finishes are undoubtedly shaped by employing a special device, and are dated to the 1820s to 1860s (Jones 1986, p.69). Fragments of this type were discovered in the area around Tomo, Didžiojo Vandens, Vežėjų and Pasiuntinių streets.

Necks of cylinder-shaped bottles can be bulging. The finishes of such necks are usually very large. The lip is very thick; however, it almost equals the collar. The collar itself is wide and flattened. The collars of most discovered fragments are provided with inscriptions, like 'Zirke <sup>3</sup>/<sub>4</sub> Mo' and 'M 3/4 Q'. Bottles with such necks are found in archaeological sites from the 19th century. Foreign researchers date them to the end of



Fig. 9. The 18th or 19th-century seal from a wine bottle with the inscription 'Chateau Marcaux' (photograph by I. Šimkutė).

the 19th century (Dumbrell 1983, p.149). Elongated, thin necks with a flattened collar at the top of the neck are typical of cylinder-shaped bottles. The lips of such necks are usually tapered, whereas the collar is thin and flattened. Necks of this shape are typical of cylinder-shaped bottles with thin-glassed bodies. The neck is elongated, and it is hard to say where the neck ends and where the sloping shoulders start. Such bottles are also called champagne bottles in research literature. They originate from the late 18th century and the early 19th century. A green glass neck (probably of a thin cylinder-shaped bottle) was found at Tomo St 20-22. The shoulders were sealed with the inscription 'Chateau Marcaux' (Fig. 9) and decorated with a bunch of grapes and two leaves. This piece is likely to be related to the old French vineyard Château Margaux.

Bottles with a wide base are often decorated with prominently printed letters and dots. On the basis of analogies, it is possible to reconstruct the rest of these bottles. Such a cylinder-shaped bottle is easily inclined to a cone-shaped appearance (Laggin 2002, p.51ff, Fig. 9.2). Similar bottles from Lübeck are dated to the late 18th century and early 19th century (Dumitrache 1990, p.68).

### Quadrilateral-shaped bottles (D)

Quadrilateral bottles (*Vierkantflaschen, kantige Bouteillen, Kantinenflaschen*) are defined in research literature as utensils for the storage and transportation of something (brandy, Dutch gin, or other spirits) (Hannig 2009, pp.105-241). It also notes that quadrilateral (large size) bottles were employed as intermediate utensils for filling decanters with wine to be stored in pipes down in the cellar. Prior to the appearance of collars (before the 17th century), these bottles used to be stopped with material, and later with cork (Henkes 1994, p.241).

Quadrilateral bottles are easily recognisable: an elongated bottle with a body of four upright and slightly rounded sides, a short neck, very often with a wide bore. The base is slightly globular, or there is none whatsoever. The push-up can be with an extant open pontil scar. These bottles are usually greenish. On the basis of fragments of upper and lower parts discovered in the Old Town of Klaipėda, it is possible to distinguish several subtypes of these bottles. To one of them could belong quadrilateral-shaped bottles with a thread (Plate VI.2.1). Bottles of this subtype differ from other ones by their finish (lead or tin) (Lüdecke 2002, p.50),



Glass Bottles from the 16th Century to the 19th Century in the CNDRÉ Old Town of Klaipėda: Data from ŠIMKUTĖ Archaeological Excavations by their technique and by their shape. Two pieces of an upper part with thread heads were discovered in the 17th-century bulked layer of the area around Tomo, Didžiojo Vandens, Pasiuntiniu and Vežėju streets. Round shoulders and a short but relatively wide neck are typical of these bottles. German archaeologists date bottles of this type differently. M. Dumitrache dates them to the 16th and 17th centuries (Dumitrache 1990, p.55), Robert H. McNulty and Poser to the 17th century (Poser 1997, p.41). A. Falk spins out the period up to the second half of the 18th century (Falk 1987, p.53). These bottles were most widespread in the Netherlands (Lüdecke 2002, p.50). They were used for the storage of wine, although they could also be used for pouring distilled beverages with little lees into a bottle of a small bore (Lüdecke 2002, p.50).

Fragments of upper parts with very wide bores (which are typical among quadrilateral-shaped bottles) were found in the same area. Usually, a wide bore immediately conjoins with the shoulders. The colour of these bottles varies from bright greenish to yellowish-greenish. Fragments of these bottles were discovered in the bulked stratum of the 18th century. However, these bottles were also used in the 19th century (Dumitrache 1990, p.43).

A square-shaped base is typical of the lower part of these bottles. It is very thin, and the push-up is with an open pontil scar. This subtype is dated to the beginning of the 17th century. Other researchers date it to the 16th and 17th centuries (Dumitrache 1990, p.55), whereas bottles with a rectangular base were in use until the 18th century (Dumitrache 1990, p.43). Some square or rectangular-shaped bottles have contoured sides. It is possible to distinguish quadrilateral upwardly flaring bottles (one was found intact in Klaipéda), defined by some foreign researchers as 'Dutch gin bottles'. The shoulders of these bottles were sealed with an image of the Star of David (Plate VI.2.2).

Most quadrilateral bottles from the Old Town were discovered in the area around Tomo, Didžiojo Vandens, Pasiuntinių and Vežėjų streets, a smaller number of them at Sukilėlių St 1, 3, 5, 7 and 9, Kurpių St 4, Jono (Kepėjų) Tiltų St 3/16/5 and around St John's Church. Several fragments were traced around Teatro Square, at Teatro Square 7, Tomo St 20 and 22, Didžiojo Vandens St 21, and the area around Didžiojo Vandens St.

# The development of glass bottles in Klaipėda

The first glass bottles in the Old Town of Klaipėda dated from the 16th century. Until this century neither in an archaeological nor in a historical context can we trace any information about these hollow utensils. Pale green glass with a globular or ovoid bottle (A) are attributed to glass bottles of the 16th century, whereas quadrilateral bottles with a thread finish and a square base (D) are attributed to the 16th and 17th centuries. These bottles are thin and fragile. Fragments of them are not frequent in the Old Town, and they are concentrated mainly in the area around Tomo, Didžiojo Vandens, Pasiuntinių and Vežėjų streets; whereas quadrilateral bottles were found at Jono (Kepėjų) Tiltų St 3/16/5 and in the area around St John's Church. It is presumed that bottles with a globular or ovoid body are designed for wine, whereas bottles with a thread finish were also meant for spirits. They could have arrived in Klaipėda from parts of northern Germany. From this area, which was very influential in those days, bottles with wide bores and square bases (D) could also have been imported. They were probably employed in taverns as utensils for bringing wine or other beverages up from the cellar.

At the end of the 17th century, the 'dark green glass' bottles appeared in Klaipėda. Their manufacture in Europe continued until the very end of the 19th century. A rich colour spectrum and a variety of forms and shapes are typical of these bottles. The appearance of early 'green glass' bottles in Klaipėda at the end of the 17th century is also justified by historic materials. In accordance with the revenue book of Klaipėda port, the bottles, coming in 1692 from Amsterdam together with wine, could be manufactured from 'dark green glass', glass collar and cork, that is, dark green glass globular-shaped bottles (B), which became widespread at the beginning of the 18th century. These bottles are globular, hemispherical or vice-like hemispherical with a conical neck and a finish of a different shape. Globular-shaped bottles were widespread across Europe; however, they are mostly recognised as Dutch bottles, and are discovered even from the second half of the 18th century.

Cylinder-shaped bottles (C) appeared in Klaipėda no later than the middle of the 18th century. They were likely to arrive from Britain and France. This is the richest type of glass bottle discovered in the Old Town of Klaipėda. These bottles differ from previous ones by their vertical shape. Cylinder-shaped bottles were wine containers (sometimes even beer containers). Bottles of this shape are traced in Klaipėda up to the end of the 19th century.

### Conclusions

An analysis of glass bottles discovered in the Old Town of Klaipėda revealed that the townspeople could hardly have been involved in the manufacture of these utensils, which were designed for the transportation and maturation of beverages. However, the favourable geographical position of Klaipėda, which was on the border with Prussia, provided the local population with opportunities for understanding better the 'table culture' of Western Europe. Throughout the entire period examined, townspeople were putting on the tables of their dining-rooms glass bottles brought from Lübeck, Amsterdam, Gdańsk and Kołobrzeg. Later, they started using glass bottles shipped from Britain and France. The analysis of these bottles is based on stratigraphy and typology methods, and its results reflect the general tendencies in the manufacture and trade related to these artefacts in the Baltic Sea region and all of Western Europe.

The first glass utensils in Klaipėda, serving visually as a bottle and used as a decanter, are dated to the 16th and 17th centuries. Their origin is German. Almost all the fragments discovered (necks of bottles with a globular body [A], wide bores of quadrilateral bottles, rectangular and square bases [D]) have analogies with the archaeological context of Lübeck. In the late 17th century and early 18th century, globular-shaped bottles (B) received much recognition in Europe. Presumably, they make up most of the bottles recorded in the revenue books of Klaipėda in the period 1664 to 1722. They come from Amsterdam, Lübeck or Dańzig. Cylinder-shaped bottles (C) make up the largest part of all glass bottles discovered in the Old Town of Klaipėda. They appeared in the second half of the 17th century, and survived until the very end of the 19th century. This chronological framework also includes cylindershaped bottles, which are mostly dated to the late 18th century and mid-19th century. It is believed that these bottles came to Klaipėda mainly from Britain and France.

Glass bottles and the continuous growth of their use is undoubtedly related to technological and cultural changes in the lives of local people. Beverages kept in barrels used to be available to the majority of the local population, whereas by the middle of the 18th century beverages in glass bottles were undoubtedly treated as a luxury. The emergence of exceptionally high demand for glass bottles led to mechanised methods for their manufacture. Due to the constant development of glass manufacturing machines, bottles have remained in widespread use in daily life in modern times.

### Abbreviations

- AHUK Acta Historica Universitatis Klaipedensis (Klaipėda, since 1993).
- LSAK Lübecker Schriften zur Archäologie und Kulturgeschichte.

MLIM - History Museum of Lithuania Minor.

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### XVI–XIX A. KLAIPĖDOS SENAMIESTYJE RASTI BUTELIAI ARCHEOLOGINIŲ TYRINĖJIMŲ DUOMENIMIS

### INDRĖ ŠIMKUTĖ

### Santrauka

Straipsnyje analizuojama Klaipėdos senamiesčio teritorijoje archeologinių tyrinėjimų metu surinkta stiklinių butelių medžiaga – visų pirma, Žvejų g. 4, 6 ir sklypo tarp Tomo, Didžiosios Vandens, Vežėjų, Pasiuntinių gatvių atvejai (1-9 pav., VI iliustr.). Šiame darbe išskiriami keturi stiklinių butelių Klaipėdoje tipai: buteliai išgaubtu korpusu (A), pūstasieniai buteliai (B), cilindriniai buteliai (C), ketursieniai buteliai (D). Klaipėdos senamiestyje surinktų stiklinių butelių raidos modelis, paremtas stratigrafiniu ir tipologiniu metodais, rodo bendrasias buteliu gamybos ir prekybos Europoje tendencijas šiais atžvilgiais: 1. Pirmieji stikliniai buteliai Klaipėdos senamiestyje atsiranda XVI a.; 2. Žalios spalvos stiklo buteliai Klaipėdos senamiesčio archeologinėje aplinkoje išnyra XVII a. antrojoje pusėje ir iki XVIII a. vidurio naudojami labiau prabangai; 3. XVIII a. antrosios pusės - XIX a. pirmosios pusės laikotarpiu gerokai išauga šių dirbinių paklausa.

Stiklo buteliai ir jų naudojimo masto nuolatinis augimas neabėjotinai yra susijęs ne tik su technologiniais, bet ir su klaipėdiečių kultūrinio gyvenimo pokyčiais. Statinėse laikomi svaigieji gėrimai anksčiau buvo prieinami didžiajai daliai Klaipėdos miestiečių, tuo tarpu stikliniuose buteliuose laikomi gėrimai iki XVIII a. vidurio neabėjotinai buvo prabangos prekė. Atsiradus itin dideliam stiklo butelių poreikiui, XIX a. pabaigoje buteliai buvo pradėti gaminti mechanizuotu būdu; tokiu pačiu būdu, nuolat tobulėjant stiklo gaminimo mašinoms, buteliai gaminami iki šiol ir yra plačiai naudojami kasdieniniame gyvenime.