

From the Gothic period to the Renaissance. Glass in Moravia 1450 – circa 1560¹⁾

Od gotiky k renesanci. Sklo na Moravě 1450 – ca 1560

Von der Gotik zur Renaissance. Glas aus Mähren 1450 – ca. 1560

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Dieser Beitrag ist der Analyse von Glasprodukten aus der Zeitspanne von Spätgotik bis Frührenaissance gewidmet. Die Datierung einzelner Objekte konnte aufgrund von Münzfunden, dendrochronologischen Daten bzw. Schriftquellen präzisiert werden. Aufgrund einer ausführlichen Verarbeitung der Funde von 50 Befunden in Mähren konnte der allmähliche Übergang von den gotischen zu den Renaissance-Formen spezifiziert werden. Die Prosperität der mährischen Glasindustrie kommt etwa seit der Mitte des 15. Jahrhunderts durch die zunehmende Glasmenge und Variabilität der Formen zum Ausdruck, in der Fähigkeit Einflüsse aus Deutschland und Italien aufzunehmen und dem einheimischen Geschmack anzupassen.

I. Introduction

The material culture of the late Gothic and early Renaissance is among the least researched topics in the history of archaeology in the Czech lands. This is despite the fact that in excavations in historical town centres, this is a period that is very well represented in the evidence provided by building documentation as well as in the finds in cesspits that were deserted during the building boom taking place with the onset of the Renaissance and that form a primary source of finds, including glass.

Considerable attention is devoted, in most European countries, to glass production in this period. It was at that time that the process of glassmaking was “industrialized”, which converted glass from the category of a luxury good into an item of everyday consumption used among the wider strata of the urban population. A broader awareness of mediaeval glass, encompassing a considerable amount of late Gothic products, was initiated in the 1930s by Franz Rademacher with the publication “Die deutschen Gläser im Mittelalter” (Berlin 1933). He drew on archaeological materials, museum and church collections, period artwork, and written sources. He categorised and defined the essential types and shapes of German glass and thus laid the foundations for further work not just in Germany, but also in countries whose mediaeval history, and consequently also cultural and trade influences, was connected with Germany. In later periods, primarily large assemblages of glass from museum collections (*Saldern 1965; Mosel 1979; Rückert 1982; Dexel 1983; Haase 1988*), or from the collections of major collectors (*Baumgartner 1987; Henkes 1994*) were published. A significant proportion of these collections involved glass from the period between circa 1450 and 1550 and provides a good foundation for further evaluation. A new look at the spread of glasswork in urban households was put forth in the monographs on archaeological finds from entire towns, such as Lübeck (*Dumittrache 1990*), Schleswig (*Steppuhn 2002*) or Braunschweig (*Bruckschen 2004*).

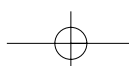
Note 1:

This text was prepared with a strong support from colleagues of Archaia Brno corporation, namely Petr Holub, David Merta, Marek Peška, Rudolf Procházka, and Antonín Zübek. The same support I received from colleagues from Brno City Museum - Dana Cejnková, Lea Charvátová, Irena Loskotová, and Anna Žáková.

Photodocumentation of Brno finds (with the exception of pictures 9 c, 19 c, 30, which are my own ones) was made out by Karel Šabata and Miloš Strnad from Brno City Museum.

I would like to thank all of them and I look forward to the next cooperation.

This work was financially supported by the Grant Agency of the Czech Republic, grant no. 404/07/0004.



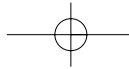
At the end of the 1980s, mediaeval glass from a large part of Europe was shown at two large exhibitions. The exhibitions included catalogues summarising the knowledge on the work to date. The exhibition "Phoenix aus Sand und Asche", installed in 1988 in Bonn and Basel, focused on glass from the German cultural sphere. Several examples from the Czech lands illustrate the contemporary state of knowledge in the Czech lands (*Baumgartner – Krueger 1988*). The exhibition, which took place the next year in Rouen, showcased the development of glassmaking in France (*Foy – Sennequier 1989*). Both these works contain material in evolutionary succession up to the middle of the 16th century and thus offer the possibility of comparison. French glassmaking, drawing on a classical tradition of lime glass and based on the natural cultural needs and customs of the population, took the path of small shapes, intended for the consumption of wine, up to the start of the Early Modern period. In German glassmaking, tall, beer-related shapes prevailed, working with a potash-lime glass.

Finds from countries closer to Moravia have been published on in detail in Hungary, but usually in a language not understandable for many. However, the large number of illustrations can be used (*Gyürky 1986; 1991; 2003; Mester 1997; 2003*). We can learn about material from Vienna and Lower Austria in the publications by *K. Tarcsay (1999; 2002; 2003)*, and about glassworks in Hall by *E. Egg (1962)*. Finds from Slovakia are recorded in a number of articles, which are cited throughout this text.

Archaeological finds of mediaeval glass in the Czech lands have been the subject of attention since the 1960s. After a thorough analysis of the large collections of glass from Pilsen (*Hejdová – Nechvátal 1967; Frýda 1979*), Kutná Hora (*Lehečková 1975*) and Cheb (*Šebesta 1979*) and of general information about finds of glass from Prague (*Olmerová 1977; Janská 1982*), a typological-chronological overview of Czech glass was elaborated, but only to the end of the 15th century (*Hejdová 1975; Hejdová – Frýda – Šebesta – Černá 1983; Frýda 1990*). The only finds from the time between 1500 and the middle of the 16th century which were published were from the castles in Radyně, in the district of Klatovy, and Toužim, in the district of Karlovy Vary (*Frýda 1979*), and later smaller collections from the castles in Rabí, Gutštejn and Klenová, all of which are in western Bohemia (*Frýda 2000*). Later material appears in work on mediaeval glass from Kutná Hora (*Lehečková 1975*), is mentioned in Most (*Černá 1997*), or is published as part of a feature with material from a longer period of time (Klatovy – *Vondráčková 1996; Tábor – Krajíc et al. 1998*). As in the case of the earlier period, no collective evaluation was carried out.

Up until recently, only representative examples from Brno in Moravia (*Himmelová 1990; Chamonikola ed. 1999a, 582-3*) and from Opava (*Král 1964; Chamonikola ed. 1999b, 223-5*) were published. From Olomouc, a smaller collection from one cesspit (*Drobný – Sedláčková 1997*) and individual pieces from several features in the historical town centre have been published (*Sedláčková ed. 1998*).

The exhibition "From the Gothic Period to the Renaissance 1400–1550", held in Brno, Olomouc, and Opava in 1999, presented the public with representative examples of blown glass dating from this period and originating in the cited towns as an integral part of their material culture (*Hlobil – Perůtka ed. 1999; 2002; Chamonikola ed. 1999a; 1999b*). Inspired by this exhibition, I gathered all available, thus usually published, evidence of archaeological finds of glass from Moravia, broken down into glass from the Gothic period (central and northern Moravia, *Sedláčková 2001*) and early Renaissance glass from the first half of the 16th century



(Sedláčková 2000). At that point, the situation appeared as it was earlier assumed to be: between the second half of the 15th century and the middle of the 16th century glassmaking waned, evidently as a result of the overall economic decline following the Hussite wars. This was observed in Moravia and Bohemia (Himmelová 1990, 442; Černá 2002, 108-109).

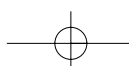
This finding seemed to be in complete contradiction to the boom in glass production that occurred at that time in Italy and in the majority of the lands in Central Europe, where glassmaking became an important industrial sector.

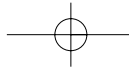
In subsequent years, when I was working intensively on analysing glass from Brno, Opava and the Moravian castles, the occurrence of glass found in Moravia between the middle of the 15th and the middle of the 16th century took on a considerably different appearance. In Brno, over 30 whole pieces with roughly seven hundred specimens of blown and window glass from that period were found, and finds from earlier excavations in Opava were subjected to a detailed analysis with corrected dating (Sedláčková 2004), and a relatively well-dated collection from the Cvilín Castle at Krnov was evaluated (Sedláčková 2004a). As part of work on research project run under J. Bláha entitled "Material Culture in the Late Gothic and Early Modern Periods in Olomouc in the Light of Archaeological Findings" (GA04/00/0492), I worked on three important Olomouc collections, two of which were deserted in 1540 and the third dated from a time before the first half of the 16th to the first decades of the 17th century (Sedláčková 2000a; 2000b; 2002). A portion of glass finds from Anabaptist sites in southern Moravia, rising here from 1526, were dated to the second quarter of the 16th century (Sedláčková 2001a; 2003).

Based on the material gathered, it was possible to formulate a general description of glass from this period and also to observe a gradual change in style. This is manifested first of all in the use of new decorative elements, in a change in the shapes of older types, and in the emergence of new shapes of vessels. This process peaked sometime around 1550, the finds from that time being almost exclusively a Renaissance style of glass. The number of features with glass from this period and the number of specimens of vessels found in them also overturns previous opinions about a decline of glassmaking, at least in Moravia.

I was also forced to reassess my earlier opinions about the origin of the glass. Today it is clear that a large portion of the glass that I previously regarded as imports from German glassworks came from domestic glassworks, apparently in northern Moravia. In Brno and Olomouc, especially at least two spheres of production can be observed in the different types of glass content. The smaller group is made up of products from Germany, Italy, evidently also Lower and Upper Hungary, and finally also Tyrol and Lower Austria. In many cases, it was possible to observe the effects of advanced European glassmaking on domestic glass.

The content of cesspits and wells that have been used secondarily for depositing waste is usually dated on the basis of an analysis of ceramics and stratigraphic relations, but this does not facilitate a more accurate dating. However, in some cases it is possible to base the dating of collections on unearthed coins, written reports, and more recently also on dendrochronological data. The types of glass from these collections dating from between circa 1450 and 1560 represent a very good example of the gradual transition of late Gothic production to pure Renaissance forms, and at the same time they offer a chronological classification of the other finds, and therefore this paper devotes primary attention to these collections.



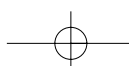


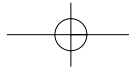
II. A list of features, their identification and dating, and basic literature

Processed finds from Brno, Olomouc, and Opava have been entered into a database entitled "SKLO" (MS ACCES 2000), which was created by M. Peška at the company Archaia Brno. Given the various methods used to inventory materials at different institutions and the varying quality of the resulting inventories, and with a view to the preparation of a publication on archaeological glass finds in Moravia, in this database I used the unified system of catalogue numbers, which are presented in this paper.

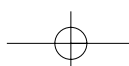
- Brno:

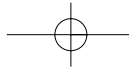
- Če3-1-3: Česká Street no. 5, feature 3/85 (end of the 15th century), Městské muzeum Brno, not inventoried, *Himmelová 1990*, 442, fig. 2: 5; *Sedláčková 2006*, fig. 3: 7.
- D617-01-58: Dominikánská Street no. 3, feature 617/00, layer K 1211 (16th century), Městské muzeum Brno, inv. no. 203 428, *Merta – Zapletalová – Zůbek 2001*; *Sedláčková 2006*, fig. 10: 10.
- D638-01-24: Dominikánská Street no. 5, feature 638/00, upper layer K 1291 (1500-1550), Městské muzeum Brno, inv. no. 207 491/1, 2, 207 492/1-19, 207 493/1, 2, *Merta – Zapletalová – Zůbek 2001*; *Sedláčková 2006*, fig. 10: 9.
- D54-01-51: Dominikánská Street no. 15, feature 54/85 (1450-1500), Městské muzeum Brno, inv. no. 401 199-232, *Himmelová 1990*, 442, fig. 3: 1; *Sedláčková 2006*, fig. 10: 3.
- D12-001-094: Dominikánské Square no. 12, feature 9/90, layer 115-135 cm (1500-1550), Městské muzeum Brno, not inventoried, *Procházka – Himmelová 1995*; *Himmelová – Procházka 1995*; *Chamonikola ed. 1999a*, cat. no. 311; *Sedláčková 2000*, cat. no. II-4.1.1; *Sedláčková 2006*, fig. 12: 2.
- Ja1018-01-29: Jakubská Street no. 4, feature 1018/90 (1450-1550), Městské muzeum Brno, inv. no. UI 76/Sk-91, 78/Sk-923, 79/Sk-1, *Sedláčková 2006*, fig. 9: 13, 10: 4, 13.
- Jos7S3-1: Josefská Street no. 7, trench 3, section 3, layer 4a/89 (according to Z. Himmelová, 15th century), Městské muzeum Brno, not inventoried.
- Kob105-1: Koblížná Street no. 4, cesspit VS4/99 (16th century), Městské muzeum Brno, inv. no. 098/99-105-1, *Merta – Peška 1999*; *Sedláčková 2000*, cat. no. II-1.5.1.
- Kob150-1: Koblížná Street no. 4, layer K150/99 (circa 1500?), Městské muzeum Brno, inv. no. 098/59-150-1, *Merta – Peška 1999*; *Sedláčková 2000*, cat. no. II-1.3.1.
- Kob4-01-55: Koblížná Street no. 4, cesspit 154/99 (1400-1450), Městské muzeum Brno, inv. no. 098/59-0154/055, *Merta – Peška 1999*; *Sedláčková 2000*, cat. no. II-1.4.1; *Sedláčková 2006*, fig. 8: 10.
- Ko4-1,2: Kozí Street, lot 54, feature 4/87 (circa 1500), Městské muzeum Brno, not inventoried, *Himmelová 1990*, 442, 444, fig. 5: 4, 5; *Chamonikola ed. 1999a*, cat. no. 309, 310; *Sedláčková 2000*, cat. no. II-2.4.1; III-5.5.1.
- Stf-1: old stocks (1500-1550), Městské muzeum Brno, inv. no. 6529, *Sedláčková 2006*, fig. 11: 11.
- Me1-01-15: Mečová Street no. 2, feature 1/89 (circa 1550, dated by Z. Himmelová), Městské muzeum Brno, not inventoried.
- Me4-001-016: Mečová Street no. 2, feature 4/90, upper layer 1, 0-210 cm (circa 1550 and later), Městské muzeum Brno, not inventoried, *Procházka – Himmelová 1995*, 241; *Himmelová – Procházka 1995*.
- Me7-01-23: Mečová Street no. 2, feature 7/90 (to circa 1475), Městské muzeum Brno, inv. no. 423 691-423 710, *Černá ed. 1994*, cat. no. 74, 133; *Procházka – Himmelová 1995*, 239; *Himmelová – Procházka 1995*; *Chamonikola ed. 1999a*, cat. no. 306; *Sedláčková 2000*; *Sedláčková 2006*, fig. 8: 4, 5, 9: 6.





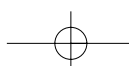
- Me17-01-51: Mečová Street no. 2, feature 17/90, layer 240-360cm (1450-1550), Městské muzeum Brno, inv. no. 249 271-311, *Procházka – Himmelová 1995*, 241; *Himmelová – Procházka 1995*; *Sedláčková 2000*, cat. no. II-4.2.1, 6.1.1; *Sedláčková 2006*, fig. 10: 11.
- Me546-1-5: Mečová Street no. 4, feature 546/00 (circa 1400-1500), Městské muzeum Brno, inv. no. 201 414, 201 415, 201 416/1-3, *Merta – Zapletalová – Zůbek 2001*.
- Me592-1-8: Mečová Street no. 4, feature 592/00 (circa 1500-1600), Městské muzeum Brno, inv. no. 206 042/1-2, 202 198/1-3, 205 352/1-3, *Merta – Zapletalová – Zůbek 2001*; *Merta – Peška – Zůbek 2003*; *Jordánková – Loskotová – Merta 2004*, 586.
- MK5-01-37: Minoritská Street no. 1 (Minorite monastery), feature 5/88-90 (16th century), Městské muzeum Brno, inv. no. 435 176-184 and not inventoried, *Procházka 1993*, fig. 4.
- NS115-01-12: Náměstí svobody (Freedom Square) no. 1, feature 115/05 (1500-1550), Městské muzeum Brno, inv. no. 30/05-115/-340, 369, 370, 372-374, *Polánka – Sedláčková – Zůbek 2006*.
- NS133-01-17: Náměstí svobody no. 1, feature 133/05 (1450-1500), Městské muzeum Brno, inv. no. 30/05-133/95-106, *Polánka – Sedláčková – Zůbek 2006*.
- NS521-01-20: Náměstí svobody no. 9, feature 521/04 (1455 - circa 1480/90), Městské muzeum Brno, inv. no. 69/04-150/90, 95-103, 69/04-161/114, *Holub – Sedláčková 2005*; *Sedláčková 2006*, fig. 10: 1, 2.
- DPL504-01-24: Náměstí svobody no. 17, feature 504/00 (16th century), Městské muzeum Brno, inv. no. 191/00-162/252-258, 350/65, 66, *Peška – Zapletalová 2001*; *Merta – Peška – Sedláčková 2002*, 362-363, cat. no. I-3-27, figs. 6 and 7.
- DPL510-1,2: Náměstí svobody no. 17, feature 510/00 (16th century), Městské muzeum Brno, inv. no. 191/00-118/12, 13, *Peška – Zapletalová 2001*; *Merta – Peška – Sedláčková 2002*, 363, cat. no. I-28,29, fig. 7.
- DPL531-001-103: Náměstí svobody no. 17, feature 531/00, layers K158 and 267 (16th century), Městské muzeum Brno, inv. no. 191/00-158/276-1-33, 267/242-244, *Peška – Zapletalová 2001*; *Merta – Peška – Sedláčková 2002*, 362; *Sedláčková 2006*, figs. 11: 8, 9, 12: 1, 4.
- Or10-01-40: Orlí Street no. 10, cesspit X (circa 1450-1500), Městské muzeum Brno, inv. no. 327 401-327 421.
- Pa502-1-5: Panenská Street, lot 501/1, feature 502/99 (1450-1500), Městské muzeum Brno, inv. no. 99/004-141/1, 162/26-27, 163, *Merta 1999a*; *Merta – Peška – Sedláčková 2002*, 368, cat. no. II-35-39, fig. 11; *Sedláčková 2006*, fig. 12: 10, 11.
- Pa503-1-3: Panenská Street, lot 501/1, feature 503/99 (1500-1550), Městské muzeum Brno, inv. no. 99/004-133/1-3, *Merta 1999a*; *Merta – Peška – Sedláčková 2002*, 368-369, cat. no. II-40-42, fig. 11.
- Pet1-001-095: Petrov no. 2, feature 1/94, layers K 113 and 231 (1500 – circa 1560) = Pet1-001-034; layer K 232 (circa 1450-1500) = Pet1-035-095, Městské muzeum Brno, inv. no. 18/94-113/97-120, 231/334, 335, 339-342, 232/105-128, 137, 138, *Procházka 1996*; *Sedláčková 2006*, fig. 8: 9, 11: 1, 2, 3, 7, 11a.
- Ra513-1-5: Rašín Street no. 6, feature 513/97 (1500-1550), Městské muzeum Brno, inv. no. 30/97-136/19-1-5, *Sedláčková 2006*, fig. 11: 10.
- Stb2-1-3: Starobrněnská Street no. 2, feature X, layer 435 (circa 1500-1550), Městské muzeum Brno, not inventoried, *Merta 1999a*.
- Stb5-01-22: Starobrněnská Street no. 5, cesspit X (1450-1500), Městské muzeum Brno, inv. no. 323 379-463, *Cejnková 1986*; *Sedláčková 2006*, fig. 10: 5.
- Zt6-1: Zelný trh Square no. 9, feature 6/87 (circa 1500), Městské muzeum Brno, not inventoried, *Himmelová 1990*, 442, fig. 3: 5; *Chamonikola ed. 1999a*, cat. no. 308; *Černá ed. 1994*, cat. no. 77; *Sedláčková 2000*, cat. no. II-1.1.1; *Drahotová et al. 2005*, chap. 2, colour suppl. 5; *Sedláčková 2006*, fig. 11: 5.
- ZtX-1-3: Zelný trh Square no. 9, feature X/88, collections from disturbed cesspits (circa 1500-1550), Městské muzeum Brno, not inventoried, *Sedláčková 2000*, cat. no. IV-1.11.1.

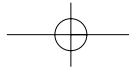


**Note 2:**

Layer K 166 was identified additionally as a part of the fill of the cesspit no. 501/00 in Dominikánská Street no. 7 (D07501-17). There is the original, wrong indication left in this text.

- VŠ166-1: Velký špalíček, layer K 166 (1450-1500), Městské muzeum Brno, inv. no. 200 705.²⁾
- VŠ3107-01-10: Velký špalíček, layer K 3107 (circa 1550-1600), Městské muzeum Brno, inv. no. 208 142-148, *Merta – Zapletalová – Zůbek 2001; Sedláčková 2006*, fig. 12: 14.
- Olomouc (all the finds are deposited in National Institute of the Care of Monuments, Olomouc):
 - OI DN7-1-5: Dolní Náměstí (Lower Square) no. 7, cesspit 1/96, layer 210-285 cm (15th century), *Sedláčková 2001*, cat. no. 3.3.1-4.
 - OI DN20-01-16: Dolní Náměstí no. 20, cesspit 12/96 (circa 1490-1560/70), *Drobný – Sedláčková 1997; Drobný – Sedláčková 1997a; Sedláčková ed. 1998*, cat. no. 04.1-1-4; *Sedláčková 2000*, cat. no. II-1.8.1-2, II-8.1.1, III-1.1.1, III-2.2.1, III-3.3.1, III-7.1.1, IV-1.3.1 8; *Sedláčková 2001*, cat. no. 3.4.1; *Sedláčková 2006*, fig. 11: 17-19.
 - OI Hr1-1: Hrnčířská Street no. 42, feature 1/93 (end of the 15th century), *Sedláčková 2000*, cat. no. II-9.2.1; *Sedláčková 2006*, fig. 11: 15.
 - OI Hr7-001-504: Hrnčířská Street no. 42, feature 7/93 (before the middle of the 16th – start of the 17th century), *Sedláčková ed. 1998*, cat. no. 07.2,3; *Bláha 1999*, cat. no. 581; *Sedláčková 2000*, cat. no. II-2.3.1, III-4.4.1, IV-1.5.1-15; *Sedláčková 2000b; Drahotová et al. 2005*, chap. 3, colour suppl. 16; *Sedláčková 2006*, fig. 11: 20, 12: 8.
 - OI Pa124-01-20: Pavelčák Street no. 22, feature 124/95 (layers 3-7 before the middle of the 15th century, layers 9-15 from the second half of the 15th century, upper fill, first half of the 16th century), *Bláha 1999*, cat. no. 577, 578; *Sedláčková 2000*, cat. no. IV-1.8.1-3; *Drahotová et al. 2005*, chap. 2, colour suppl. 3; *Sedláčková 2006*, fig. 9: 7-11.
 - OI Pa55-01-13: Pavelčák Street no. 22, feature 55/95 (circa 1500-1550), *Sedláčková ed. 1998*, cat. no. 15.1-1; *Sedláčková 2000*, cat. no. III-6.1.1, IV-1.6.1-13.
 - OI Pa79-01-19: Pavelčák Street no. 22, feature 79/95 (circa 1500-1550), *Bláha 1999*, cat. no. 582; *Sedláčková 2000*, cat. no. IV-1.7.1-19; *Sedláčková 2006*, fig. 12: 7.
 - OI Rie-1-6: Riegr Street no. 11, cesspit 151/77 (end of the 15th – start of the 16th century), *Sedláčková ed. 1998*, cat. no. 18.1-1; *Bláha 1999*, cat. no. 580; *Sedláčková 2000*, cat. no. I-1.1.1, II-10.1.1; *Sedláčková 2001*, cat. no. 3.11.1-4; *Sedláčková 2006*, fig. 11aa.
 - OI PrI-001-104: 8. května Street, cesspit I/73 (circa 1490-1540), *Bláha 1998*, 151, fig. 8: 6; *Sedláčková ed. 1998*, cat. no. 13.1-1; *Bláha 1999*, cat. no. 579; *Sedláčková 2000*, cat. no. II-1.9.1, II-2.1.1, II-8.2.1, IV-1.1.1-4; *Sedláčková 2001*, cat. no. 3.12.1-3; *Sedláčková 2002; Drahotová et al. 2005*, chap. 3, colour suppl. 17; *Sedláčková 2006*, figs. 11: 6, 12: 9, 12.
 - OI PrV-1: 8. května Street, cesspit V/73 (Renaissance cesspit with an earlier material mixed in), *Sedláčková ed. 1998*, cat. no. 13.2-1; *Bláha 1999*, cat. no. 583; *Sedláčková 2000*, cat. no. IV-1.1.1-2; *Drahotová et al. 2005*, chap. 3, colour suppl. 18; *Sedláčková 2006*, fig. 12: 6.
 - OI ŽN2-001-300: Žerotín Square no. 2, feature 2/82, (end of the 15th century–circa 1540), *Sedláčková ed. 1998*, cat. no. 19.1-1; *Sedláčková 2001*, cat. no. II-7.1.1; *Sedláčková 2000*, cat. no. II-2.2.1, II-9.1.1, IV-1.9.1-2; *Sedláčková 2000a; Sedláčková 2006*, fig. 11: 16.
- Opava:
 - Op ČS-1: Horní Náměstí (Upper Square) – Česká spořitelna, cesspit 1/93 (end of the 16th century–first decades of the 17th century), Národní památkový ústav Ostrava, Opava office, *Sedláčková 2000*, 174, fig. 5: 2.
 - Op Ko3-1-3: Kolářská Street, feature 3/60 (1450-1500), Uměleckoprůmyslové museum Praha, inv. no. 77 394, Slezské zemské muzeum Opava, inv. no. U 720, 721 S, *Baumgartner – Krueger 1988*, cat. no. 371; *Chamonikola ed. 1999b*, cat. no. 109-111; *Sedláčková 2004*, 224-226, fig. 2, 3; *Sedláčková 2006*, fig. 10: 6, 7.





- OpKo1A-1,2: Kolářská Street, feature 1A/63 (1500-1550), Slezské zemské muzeum Opava, inv. no. U 723, 724 S, *Král 1964*; *Chamonikola ed. 1999b*, cat. no. 115, 116; *Sedláčková 2000*, cat. no. II-3.1.1, 2.2.1; *Sedláčková 2004*, 229, fig. 8B; *Sedláčková 2006*, fig. 12: 3, 5.
- OpKo3A-1-7: Kolářská Street, feature 3/63 (1450-1500), Slezské zemské muzeum Opava, class. no. 63/51-55, *Sedláčková 2004*, 230, fig. 4B.
- OpKo12-001-114: Kolářská Street, feature 12/63 (circa 1490-1560), Slezské zemské muzeum Opava, class. no. 63/82-92, *Sedláčková 2004*, 237-240, fig. 8A, 9.
- OpMa-1-6: Masařská Street no. 6, feature 5/94 (circa 1450-1500), Národní památkový ústav Ostrava, Opava office, *Teryngerová 1995*; *Sedláčková 2001*, cat. no. 4.1.1-6; *Drahotová et al. 2005*, chap. 2, colour suppl. 12.

- Other localities:

- Cvi001-137: Cvilín Castle at Krnov, district of Bruntál, Slezské zemské muzeum Opava, class. no. 124/54, *Sedláčková 2004a*; *Sedláčková 2006*, fig. 11: 4, 12: 15, 16.
- Me-1,2: Melice – castle, Vyškov District (before 1423), Muzeum Vyškov, inv. no. H 12 090-093, H 12 509, H 12 511-530, H 12 532, *Himmelová 1997*, 220, fig. 2: 1, 2; *Sedláčková 2006*, fig. 7: 2, 3.
- Pou-01: Pouzdřany, Anabaptist courtyard, *Sedláčková 2003*; *Sedláčková 2006*, fig. 11: 12.
- Pro-1: Prostějov, trench dig at the Augustinian monastery in 1975 (circa 1450-1500), Muzeum Prostějov, *Prudká 1982*; *Sedláčková 2001*, cat. no. 5.5.1; *Drahotová et al. 2005*, Chap. 2, colour suppl., fig. 7; *Sedláčková 2006*, fig. 10: 8.
- Str-001-0025: Strachotín, Břeclav District, Anabaptist estate, Muzeum Mikulov, *Sedláčková 2000*, cat. no. II-4.3.1-3, II-5.1,2, II-9.4.1; *Sedláčková 2001a*; *Sedláčková 2006*, fig. 11: 13, 14.

III. Description of an assemblage dated by coins³, dendrochronologically and by written sources

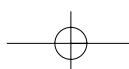
Brno, Mečová Street no. 2, feature 7/90 – before the last third of the 15th century (Me7-01-23)

This is a cesspit on a rectangular layout, built with a mortared stone screen wall and on an irregular ground plan of 180 x 66 x 168 x 70 cm. It had a preserved depth of 294 cm and an original depth of circa 400 cm. Three layers were distinguished in the fill. The upper layer with construction debris to a depth of 90 cm contained fragments of glass (Me7-01-06) and window discs with a sealed rim (Me7-19-22). In the next layer to a depth of 175 cm - at the 90-110 cm level - a pocket of dark grey clay with glass finds was unearthed (Me7-07-09 and 023 – a green glass coral/bead) along with 28 coins: three hellers of the Margrave Jošt (1375-1391), 18 square coins of the Margrave Jošt (1400), a Hungarian coin of Zikmund (the period to 1426), a pfennig of Hans Leuchtenberg and his successors (1407-1443), a coin with a lion on it (Bohemia or Kłodsko, circa 1450), a pfennig of Ulrich of Flochberg (Oetingen 1423-1477), a pfennig of Albrecht V (Vienna, after 1416), a pfennig of the Emperor Friedrich V (New Town – Vienna, 1457-1460), and the last two fragments are unidentifiable. In the same layer, beneath the pocket, there were fragments (Me7-10-16) and beakers with drawn drops; it can therefore be assumed that it is older, just like the layer of crumbling mortar over the base, with the nape of the jug (Me7-17-18).

Finds of fragments of silver metal and tools, like a hammer and crucibles, indicate that the cesspit was used at a time when a mint was operating on the lot, dated to 1411 (*Procházka – Himmelová 1995*, 239, figs. 4, 6: 3; *Himmelová – Procházka 1995*).

Note 3:

I would like to thank Rudolf Procházka for providing a list of coins identified by J. Šmerda from the Moravské zemské muzeum.



Brno, Minoritská Street no. 1, Minorite monastery, feature 5/89 – circa the middle of the 16th century (MK5-01-37)

The pit served as a dump for the monastery kitchen (*Procházka 1993, fig. 4*). In the layer 20 cm above the bottom, a Polish denar bearing the symbol of the town of Wschow from 1550-1562 was found. Blown glass finds, among which only an unearthened kuttrolf has a late Gothic shape, corresponds to this dating (MK5-22). This site provided the only evidence thus far of distillery instruments in Brno – the fragments of two thick-walled pipes (Mk5-08, 10, 14, 32, 33). However, window plates with traces of painting may be of mediaeval origin (MK5-13, 30), and discs with a sealed edge were found here (MK5-18, 27), as were ones with a folded rim (MK5-03, 12, 35) and even material chipped off of discs were found (MK5-34).

Brno, Náměstí svobody no. 9, cesspit 521/04 – the pit originated after 1455, and fell into decline circa 1480/90 (NS521-01-20)

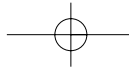
This timbered cesspit was located on a lot on the eastern side of one of the main squares in Brno. The well-preserved frame structure provided dendrochronological data, which made it possible to date the construction of the cesspit to the period around 1455. In the cesspit fill (K 150, 161 a 162), there were finds of ceramics from the 15th century, wooden products, and a collection of blown glass. It is estimated that the cesspit was in use for a period of 30 to 50 years; its desertion would therefore lie in the last quarter of the 15th century. A find of six wooden shoemaking lasts permits the assumption that a shoemaking craft was carried out on the lot (*Holub – Sedláčková 2005, 7*).

A smaller assemblage of glass, in terms of number, found in layers K 150 and 161 comprised six to seven vessels and fragments of two window discs (NS521-01-20, discs 12 and 20). Fragments of some small vessels were also obtained from both layers.

Petrov 2, cesspit 1/94, layer K 232 – late 15th century, layers K 113 and K 231 – beginning of the second half of the 16th century (Pet1-001-095)

In connection with a survey of the underground area and stability of building nos. 2 and 8 on Petrova Street, a mediaeval cesspit was unearthened, which had been covered with building masonry dating from 1777. The cylindrical feature with a diameter of 1.9–2.1 metres and a depth of 3 metres was walled with a stone screen wall. The fill could be divided into three horizons: the bottom layer K 233 dated from the first half of the 15th century (a depth of 210-300 cm, Pet1-096-340), layer K 232 dated from the late 15th century (a depth of 150-210 cm, Pet1-035-095). The youngest horizons, K 113 and 231, (a depth of 0-150 cm, Pet1-001-034) contained coins: a white coin of Ludwig Jagello was found in layer K 113 (Czech lands, 1516-1526), a zweier of the Archbishop Ernst of Bavaria was found in layer K 231 (Salzburg, 1540-1554), along with a white coin of Ferdinand I (Kutná Hora, 1540s) and three false groschen loosely copying the groschen of Vladislav Jagello (1471-1516 – *Procházka 1996, 2*).

The cesspit also contained the largest assemblage of blown glass in Brno. Most of the finds came from the layers dating from the 15th century. In the layers with the dated coins there were only 34 specimens of blown and window glass, but other specimens were found in the lower layers. The contents of the cesspit had been considerably mixed together, evidently as a result of repeated cleaning, which is evident from the sharp temporal divides between the individual horizons and the relatedness of fragments between vessels from different layers (e. g. the upper part of a beaker with a slanted moulding in layer K 231 and the lower part in layer K 232 – Pet1-028 and 038), or even finds of later-dated glass in an older layer.

*Olomouc, Dolní Náměstí no. 46/20, cesspit 12/96 – until the 1560s (OIDN20-01-16)*

A cesspit with a trapezoidal layout, lined with stone and 290 cm deep, was unearthed in the courtyard of lot no. 443. To a depth of 270 cm, there was a fill of debris deposited at one time containing fragments of sandstone moulding and small fragments of Renaissance goblets, window glass, and coins. The youngest coin is a pfennig of Archbishop Michael Khunburg of Salzburg (1540-1560) from 1556. Older glass was found in the lower part of the debris and in the remains of the original septic fill, including a small late Gothic beaker, Olomouc-type beakers, a beaker with optical decor, rosary rings, and three goblets made in a Tyrolean workshop in Hall. The goblets were originally dated to the 1560s (Sedláčková ed. 1998, cat. no. 04.1-1, 2). Based on the subsequent discovery of an analogical find of one “Luther goblet” it was necessary to shift the dating to the 1530s-1540s (Reformation 1983, cat. no. 607).

Olomouc, 8. května Street, lot no. 473 (construction site of the Prior department store), feature I/73 – until circa 1540 (OIPrI-001-104)

During an excavation on the lot of the former Latin school At St. Moritz in 1973, a cesspit was uncovered in the courtyard on the southwest part of the lot. The contents of the cesspit were deposited from the end of the 15th century and the *terminus ante quem* is provided by written sources on the reconstruction of a school in 1538-1541. Discovered in the cesspit were some unique examples of school supplies and tools, such as a fragment of a Latin textbook, a wooden writing board with a wax surface, and the fragment of another wooden inkpot and stylus. Among the standard utility ceramics, a large fragment of a jug with variously coloured glazes and decoration in relief was found as was a set of small crucibles with traces of verdigris (Bláha 1999, 616-626).

Blown and window glass was found in several layers of the fill: to 20 cm (OIPrI-025-056), -30 cm (OIPrI-057-059), 20-40cm (OIPrI-060-073), 40-60 cm (OIPrI-074-090), 60-70 cm (OIPrI-091-098), 60-80 cm (OIPrI-099-101), and the depth for the final fragments was not indicated.

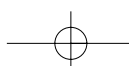
Finds from the “superelevation” (OIPrI-001-024) date from the period around 1600 and have no connection to the content of the cesspit; nevertheless, an Olomouc-type beaker was found in the bottom part (OIPrI-017). Part of an hourglass (OIPrI-011, 039, 047, 051) was assembled with finds from the fill.

In terms of style, the glass content revealed two groups – a late Gothic style of glass and products signalling the arrival of the Renaissance. The first group includes fragments of several late Gothic varieties of beaker, Olomouc-type beakers, a small beaker, the base of which is wrapped around with a pinched thread, and a ribbed bottle, two Stangenglas beakers (OIPrI-054, 064), a small beaker with an optical decor of rose cuts (OIPrI-068), and a kuttrolf (OIPrI-069).

The second group is represented by a goblet with a funnel-shaped bowl (OIPrI-049), a small beaker or goblet with a foot made of coiled spiral thread (OIPrI-053), a square bottle with an optical ribbed decoration and a remarkable set of laboratory glass (OIPrI-038, 52, 67, 82, 83).

Olomouc, Žerotín Square no. 2, well 2/82 – before circa 1540 (OIŽN2-001-306)

In the farmyard section of the St. Michael Dominican monastery, a well walled with stone and with an inner diameter of around 200 cm was unearthed and excavated to a depth of 860 cm. Based on the numerous finds of coins, the well must have been used as a cesspit in the 1540s. Alongside a large assemblage of ceramics, tiles, and evidence of literacy (stylus), it also contained a large assemblage of glass. Most of it (over two hundred pieces) was made up of tiny fragments of window glass.



There were 34 examples of blown glass vessels, also for the most part in tiny fragments. A concentration of finds could be observed in the fill, gathered in 20 cm sections at a time, at the depths of 200-220 cm (OIŽN2-006-011) and 280-300 cm (OIŽN2-027-033), mostly comprising fragments of blown glass. In the layers between 560 and 680 cm, the finds included, almost exclusively, fragments of window discs (OIŽN2-146-292) and the only three vessels made of blue-green glass were found in these layers (OIŽN2-220, 292, 293). The fragments of some vessels came from different layers. Six glass marbles were distributed between the upper layer and the depth of 660 cm (OIŽN2-002, 024, 049, 140, 145, 216). It may therefore be assumed that the assemblage is not an example of typical waste from the domestic functions of the monastery, but that it is a mixture of debris fill, which the glass fragments became mixed up in by chance.

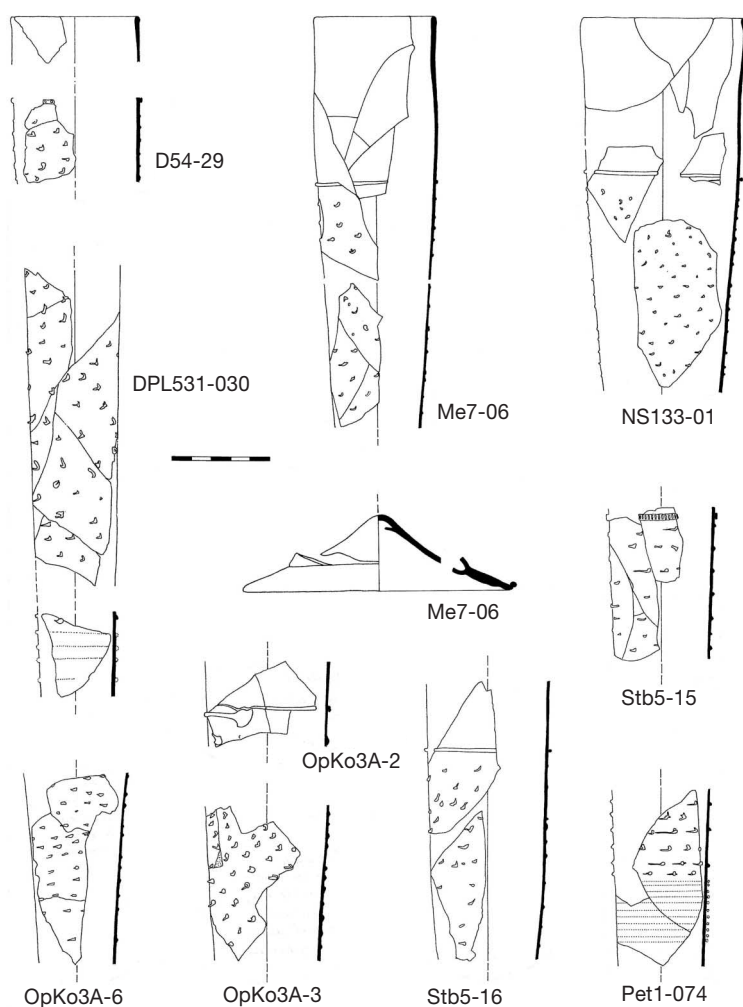


Fig. 1. Tall beakers with crescent-shaped prunts. Second half of the 15th century – first half of the 16th century.

Drawings by H. Sedláčková.

Obr. 1. Vysoké číše se srpečkovitými nálepy. 2. polovina 15. – 1. polovina 16. století.

Kresby H. Sedláčková.

IV. Types of glass

IV.1 Glass tableware – tall shapes

• IV.1.1 Late varieties of Gothic beakers (figs. 1-7)

We find that, from the middle of the 15th century in Moravia, new decorative elements were applied to tall beakers, replacing the coiled prunts with diameters of 0.5-0.7 cm that had been predominant since the second half of the 14th century. These new elements were mainly small crescent-shaped prunts, sometimes manifested as very small pointed drop prunts. At the same time, there were increasingly more smooth sections on the body, both on the mouth separated by a thread and on the parts above the foot. In some cases, the only decorated part was a relatively narrow strip at the centre of the body of the beaker. Beakers with these types of decorations are often found in Brno and Opava.

These beakers are present in many cesspits from the second half of the 15th century in Brno, sometimes in just individual pieces, other times in large numbers (fig. 1: D54-29, Me7-06, NS133-01, Pet1-074, Stb5-15, 16; fig. 2: Or10-14; fig. 3: Or10-15-18), and in Opava, in cesspits 3/60 and 3/63 on Kolářská Street (fig. 1: OpKo3A-2, 3, 6; fig. 2: OpKo3-10, 11), and in cesspit 5/94 on Masařská Street no. 6 there were dozens of them (Sedláčková 2001, 451, fig. 4: 2-5;

Drahotová et al. 2005, chapter 2, colour supplement 12). They are even found on rare occasions in Brno, dating to the first half of the 16th century (fig. 1: DPL531-030).

Other new decorations on the tall beakers were slanted and coiled moulding with a wheel-pressed decoration. There were one or two examples of these in some features containing beakers with crescent-shaped prunts (fig. 4: D54-01, 12, 14, Stb5-18, OpKo3-09; fig. 5; Opava, Masařská Street no. 6 – Sedláčková 2001, 451). According to the finds in well 1/94 on Petrova Street and in feature 531/00 on Náměstí svobody in Brno, it is not impossible that this type of decorated beaker survived into the first half of the 16th century (Fig. 4: Pet1-028, 038, DPL531-009).

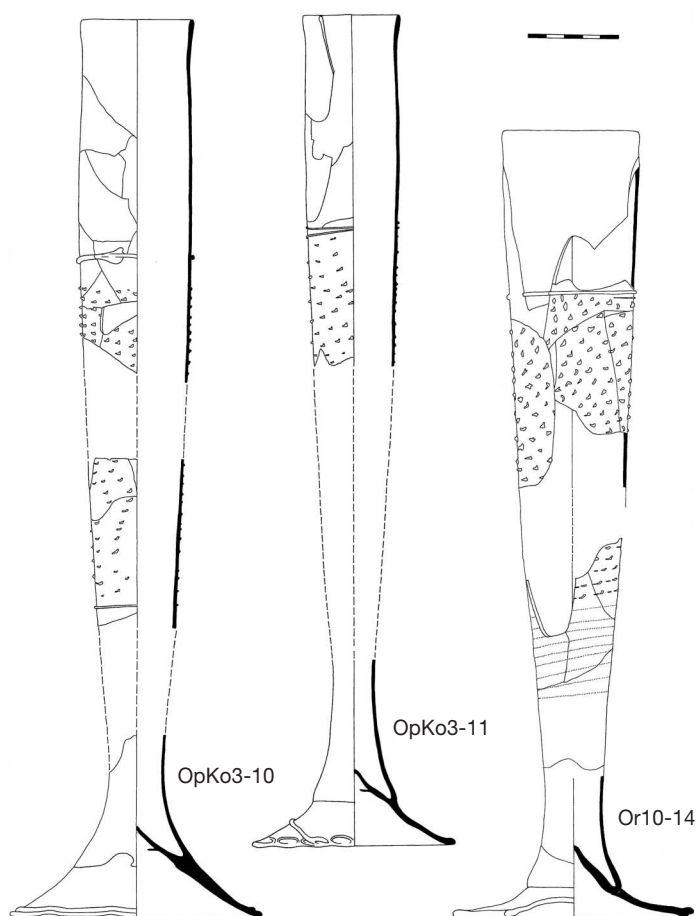
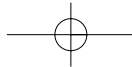


Fig. 2. Tall beakers with crescent-shaped prunts. Second half of the 15th century.
Obr. 2. Vysoké číše se srpečkovitými nálepy. 2. polovina 15. století.

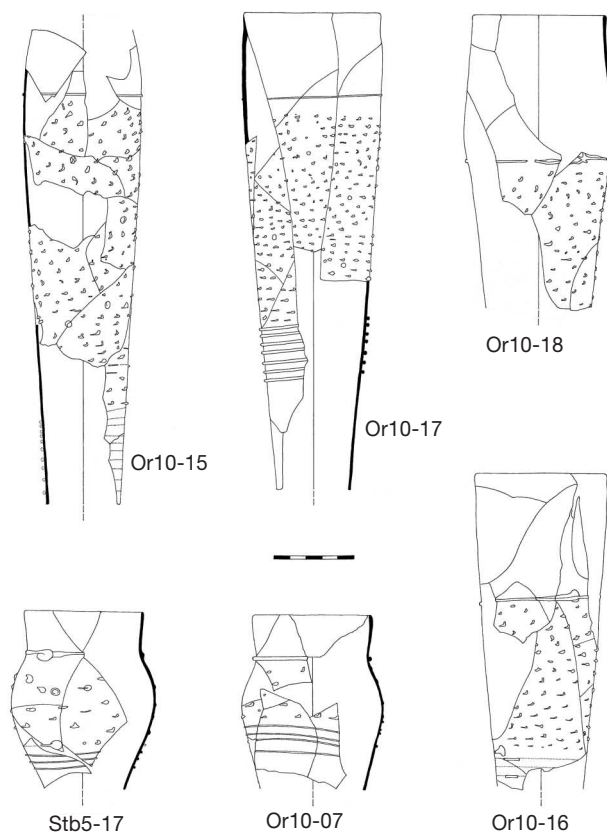


Fig. 3. Tall and low club-shaped beakers with crescent-shaped prunts. Second half of the 15th century.
Obr. 3. Vysoké a nízké kyjovité číše s srpečkovitými nálepy. 2. polovina 15. století.

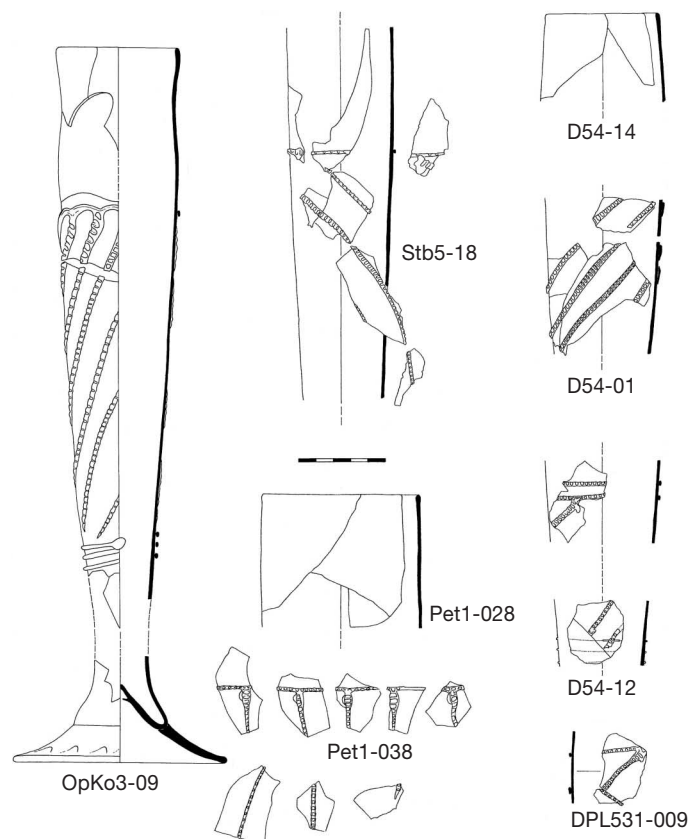
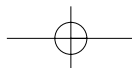


Fig. 4. Tall beakers with slanted mouldings with wheel-pressed decoration. Second half of the 15th – middle of the 16th century.
Obr. 4. Vysoké číše se šikmými lištami promačkávanými radélkem. 2. polovina 15. – polovina 16. století.



Fig. 5. OpKo3-09.
Obr. 5. OpKo3-09.



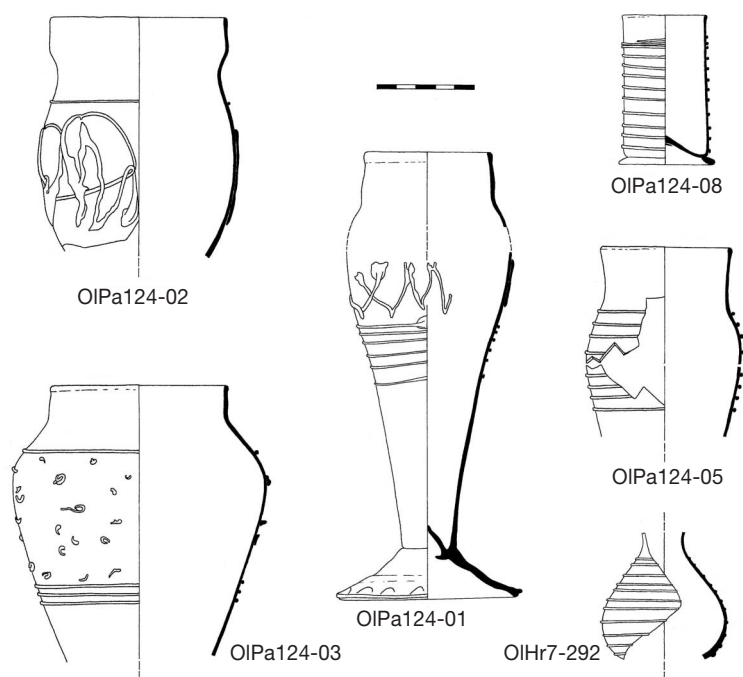


Fig. 6. Vessels decorated with an applied zigzag, wrapped around with thread and crescent-shaped prunts. Shortly before the middle of the 15th century and around the middle of the 16th century (OIHr7-292).

Obr. 6. Nádobý zdobené natavenou klikatkou, ovinutými vlákny a srpečkovitými nálepy. Krátce před polovinou 15. století a ca polovina 16. století (OIHr7-292).



Fig. 7. OIPa124-01.
Obr. 7. OIPa124-01.

Outside Brno and Opava, these beakers were found in Most, Pilsen, and Tábor, where evidence of them was found in layers dating from the end of the 15th to the start of the 16th century (Sedláčková 2004, 244-245). The slanted and coiled mouldings with a wheel-pressed decoration from horizon 1460/70 – 1530/40 form part of the repertoire of decorative features of Rhineland stangenglas and short beakers (Prohaska-Gross 2002, Abb. 2).

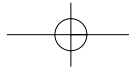
The shape of the beakers with the crescent-shaped prunts and with slanted mouldings do not differ from the preceding period. These were standard flute-shaped beakers, or less often club-shaped beakers with slightly inturned lips (fig. 3: Or10-15). The height of the reconstructed vessels from Brno, Orlí Str. 10, and from Kolářská Street in Opava, is approximately 42-45 cm and the diameter at the foot is 12-14 cm. Occasionally, we can find crescent-shaped prunts even on the shorter, club-shaped beakers with a cylindrical mouth (fig. 3: Or10-07, Stb5-17). They were made of light to very light green, impure glass, and were substantially corroded.

The reduction in the size of the prunts to a crescent shape in the 15th century was part of a general tendency in this part of Europe, where tall beakers, both slender and club-shaped, had been popular. The rising demand for glass even among the urban middle classes would have forced glassmakers to produce more products, faster and therefore also more economically. Small crescent-shaped prunts appear on club-shaped beakers in northern Germany (e. g. in Braunschweig – Bruckschen 2004, cat. no. 170 and 171, or in Lübeck – Dumitrache 1990, cat. no. G 264-266), and in Silesia (e. g. Nysa – Biskont 2005, Tab. 8a; Vratislav – Biskont 2005, Taf. 12).

In Olomouc, just before the middle of the 15th century, short, often pronouncedly club-shaped beakers began to appear with a previously unknown decor applied in the shape of a zigzag, others decorated with a thickly coiled spiral thread or with tiny prunts (fig. 6: OIPa124-01-03, 05; fig. 7). Occasionally, late Gothic club-shaped beakers with these kinds of decorations were found in Brno (see fig. 8). Also found in Olomouc was a kind of small cylindrical beaker with a thickly coiled thread (fig. 6: OIPa124-08), in Brno a beaker with an applied zigzag (fig. 8: Ja1018-07; fig. 9: c), in Prostějov a jug with a tall cylindrical neck with a coiled thread on a spherical body (fig. 39: Pro-1; fig. 40: Pro-1). A fragment of a small jug or bottle decorated in the same way was also found in a feature from the 16th century in Olomouc (fig. 6: OIHr7-292).

- IV.1.2a Late Gothic varieties of small beakers (figs. 8-10)

From the turn of the 15th century, small, slender beakers between 20 and 23/24 cm in height begin to predominate. The tall-shaped mediaeval beakers retained their proportions, but were reduced in size to small, delicate shapes. These small beakers were first recorded in Olomouc, where roughly a hundred examples were found, and where they typically feature a so-called lobed foot



(Sedláčková 2000, 179-184). Later, another group of small beakers was identified with a bell-shaped foot, a type that included both slender and club-shaped forms. Along with the foot, they differed with regard to their decorative features. I described them as “Olomouc-type beakers” and “small late Gothic beakers”.

Small late Gothic beakers were found in Olomouc, Opava and Brno. The bell-shaped foot tends to be shaped by folding back and pinching the lower part of the body and its diameter tends to be around 8 to 11 cm. There are several rows of thread on the foot, or impressions of pucellas (see fig. 10). There are rare examples of a foot with a folded rim on a club-shaped beaker from Opava, created out of the bottom part of the body (fig. 8: OpKo1A-1). They are decorated with one or more rows of a fibre wrapped around the body, usually with a wheel-pressed decoration. There is an altogether unique example of a club-shaped beaker pre-blown into a mould from Opava.

The glass is often entirely corroded, in beige and brown colours, only a small amount of the original, slightly green glass material, with numerous bubbles and grains of sand, survived.

Because the glass is of such poor quality, we usually only find the bottom part with the foot. It was possible to reconstruct one beaker from Olomouc, where the body widens smoothly towards the top, with a rim diameter of 7 cm, a foot diameter of 10 cm, and a height of circa 23 cm (fig. 10: OIPrI-042-044). A bottom part with a diameter of 9.6 cm and a base and foot with a diameter of 11 cm found in the feature evidently belong to the same beakers (fig. 10: OIPrI-084, 092). Other finds from Olomouc are known from cesspit 12/96 on Dolní Náměstí 20, where a fragment was found of a lower part of a beaker with a foot with a diameter of 8.6 cm (fig. 10: OIDN20-13). A late variety of a flute-shaped beaker was very likely identified in the fill of a well on Žerotín Square no. 2. There is a clear fragment of a bell-shaped foot with traces of pucellas on the circumference and also fragments of a smooth slender body (OlŽN2-003, 013, 142 a 148). In Olomouc, this variety was also found in cesspit 151/77 on Riegrova Street no. 11 (Sedláčková 2001, 448).

A second reconstructed small beaker with a rim diameter of 6 cm and a foot diameter of 10 cm was found in Brno (Fig. 10: D54-11). In this case, the slightly greenish glass of the beaker is covered with a chalk-white, powdery corrosion, which appears relatively often in Brno and on tall beakers or small beakers in other collections from the second half of the 15th century. Evidence of this type is found

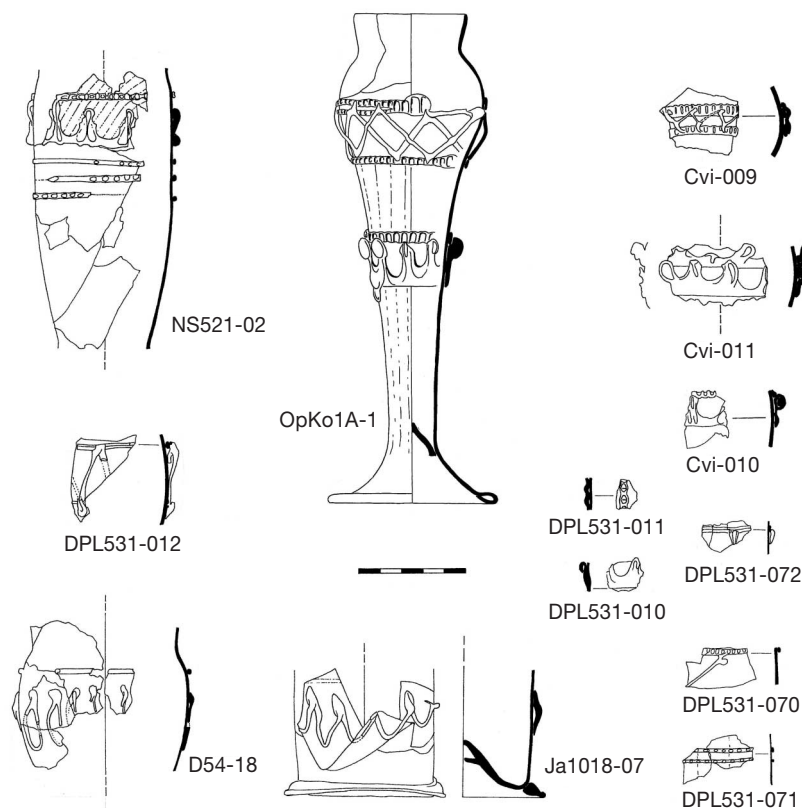


Fig. 8. Beakers decorated with an applied zigzag and garlands. Second half of the 15th – first half of the 16th century.
Obr. 8. Číše zdobené natavenou klikátkou a girlandami. 2. polovina 15. – 1. polovina 16. století.

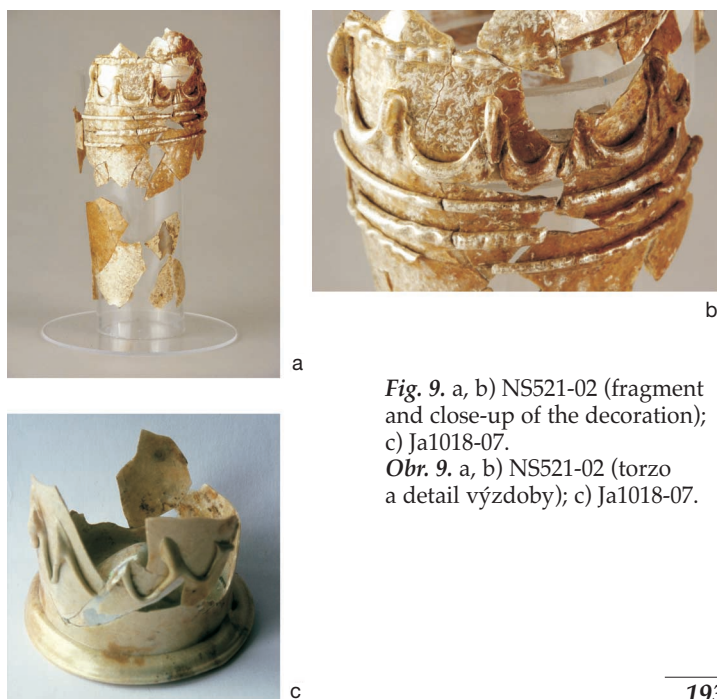
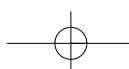


Fig. 9. a, b) NS521-02 (fragment and close-up of the decoration); c) Ja1018-07.
Obr. 9. a, b) NS521-02 (torzo a detail výzdoby); c) Ja1018-07.



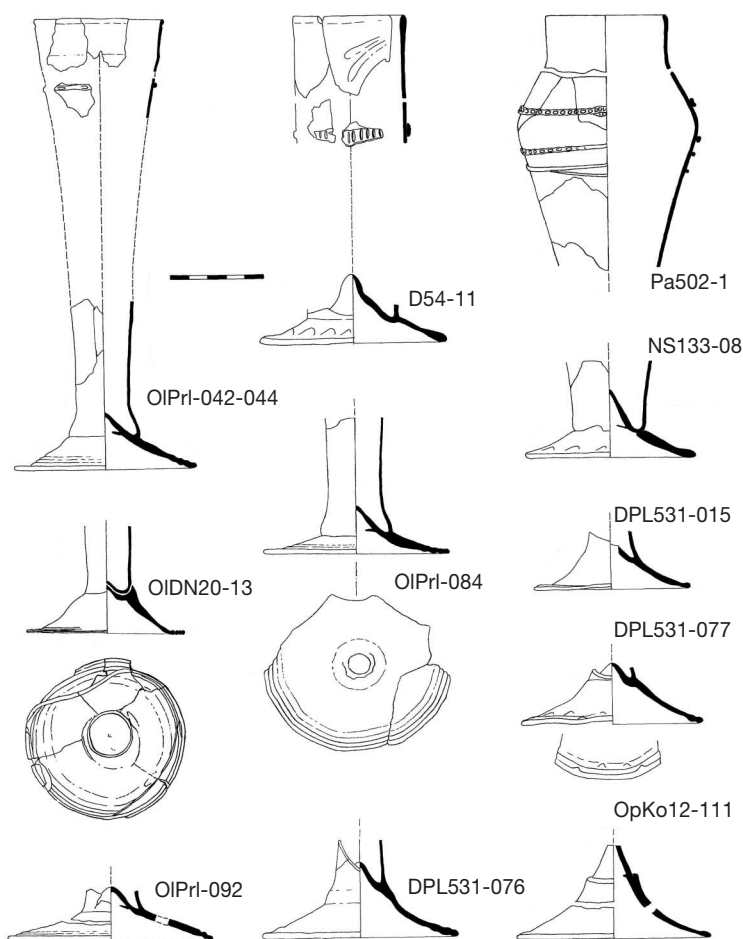


Fig. 10. Small late Gothic beaker.
End of the 15th – middle
of the 16th century.

Obr. 10. Pozdně gotická drobná
číše. Závěr 15. – polovina
16. století.

in the form of small foot and body fragments in feature 531/00 on Náměstí svobody 17 (fig. 10: DPL531-015, 076, 077) and in Opava in cesspits 3/63 and 12/63 on Kolářská Street (fig. 10: OpKo12-111).

The group of small late Gothic beakers also includes club-shaped beakers. The best-known example is a beaker from Opava, Kolářská Street with an applied zigzag and garlands (fig. 8: OpKo1A-1), the closest territorial analogy of which is from the Cvilín Castle at Krnov (fig. 8: Cvi-009-011). Fragments of club-shaped beakers with a zigzag, garlands or wrapped around with thread are also present in Brno collections from the second half of the 15th to the middle of the 16th century (fig. 8: D54-18, DPL531-010-012, 070-072, Pa502-1).

A unique example is a find from Brno at Náměstí svobody no. 9. A slender beaker that survived in the form of several large fragments of the body, without the rim or base, and which may be an example of the Olomouc type. It has a slender form, the diameter of the body is 6.5 cm, and the height of the fragment is 13.1 cm. On the fragment's upper break there is evidence of the indentation of the neck or a tapering on a club-shaped stretch. The colourless glass is covered with a light-beige glossy corrosion (fig. 8: NS521-02; fig. 9: a, b).

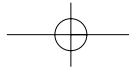
Three decorative elements customary for late Gothic glass are applied on the beaker from Brno: on the upper part, coiled with thread with a wheel-pressed decoration and with moulding with the tips stretched into garlands, there is optical decoration in the shape of slanted grooves. On the smooth lower part there are three rows of threads, partly with a wheel-pressed decoration.

Garland decorations are a contemporary, fashionable feature, especially popular on German glass. I gathered evidence of its existence in the Czech lands in connection with a club-shaped beaker from Opava (Sedláčková 2004, 245-246). The opinion expressed at the time that these may have been products from Silesian glassworks was not confirmed when the complete finds of glass from Silesia were published; among material containing several hundred finds not one example with garlands was found (Biszkont 2005).

The use of ribbing as a form of optical decoration is found relatively often on mediaeval glass in Bohemia (Frýda 1990, 64, type I.4). In Moravia (in Brno) this technique was encountered up to the last third of the 15th century only on glass imported from the south, primarily on small tapered beakers.

Beakers with optical decorations from Bohemia appeared in Moravia only rarely – I know of only one example from a cesspit on Dominikánské Náměstí in Brno, the contents of which were dated to the period between the end of the 14th and the middle of the 15th century (Štourač 2005).

It was only in the final decades of the 15th century that pre-blowing into moulds began to be practised also in Moravian glassworks. This technique was used to make the majority of the Olomouc-type beakers and the beakers with garlands from Opava, and there are also examples of kuttrolfs and ribbed bottles, ribbed domestic beakers, and beakers covered with decorations.



- IV.1.2b Olomouc-type beakers (figs. 11, 12)

Typical for Olomouc-type beakers, alongside the lobed foot, is the use of the optical decoration of vertical ribs, only rarely were the surfaces plain (fig. 11: OIHr7-284, 288; fig. 12b: OIHr7-288). On one fragment there is also evidence of optical decorations with rose cuts (fig. 11: OIHr7-232). A common form of decoration is a thread with wheel-pressed decoration, often wrapped in multiple rows around the upper part of the vessel. In one case the thread was made from blue glass (fig. 11: ZtX-3; fig. 12: c), and in one case decoration with garlands (OIDN20-08). The body of the Olomouc-type beakers widens at an almost straight angle from a relatively wide lower part up to the rim, but there is an example of a beaker with a barrel-shaped body (fig. 11: OIPrV-001; fig. 12: a) and one beaker with a cylindrical mouth and club-shaped shoulders (fig. 11: OIPrI-077). However, it should be noted that there are few fully complete or reconstructed specimens. The lower part and the foot of the beakers have tended to survive well, but of the upper part there are usually only fragments that cannot be reconstructed. The glass material tends to be greenish and impure, according to an analysis of five beakers with a potash-lime composition (Sedláčková ed. 1998, 107-108, analyses no. 5, 6, 8-10). However, they are usually heavily corroded.

An inventory of finds of Olomouc-type beakers shows the largest concentration in Olomouc, with some finds also in Brno and at several castles and fortresses (Sedláčková 2000, 179-184). There are none in Opava. The Olomouc-type beaker emerged at the same time as a small type of late Gothic beaker around the end of the 15th century, and the joint appearance of the two in Olomouc is documented in the 1540s. The longer duration of the Olomouc-type beaker is indicated from numerous examples found

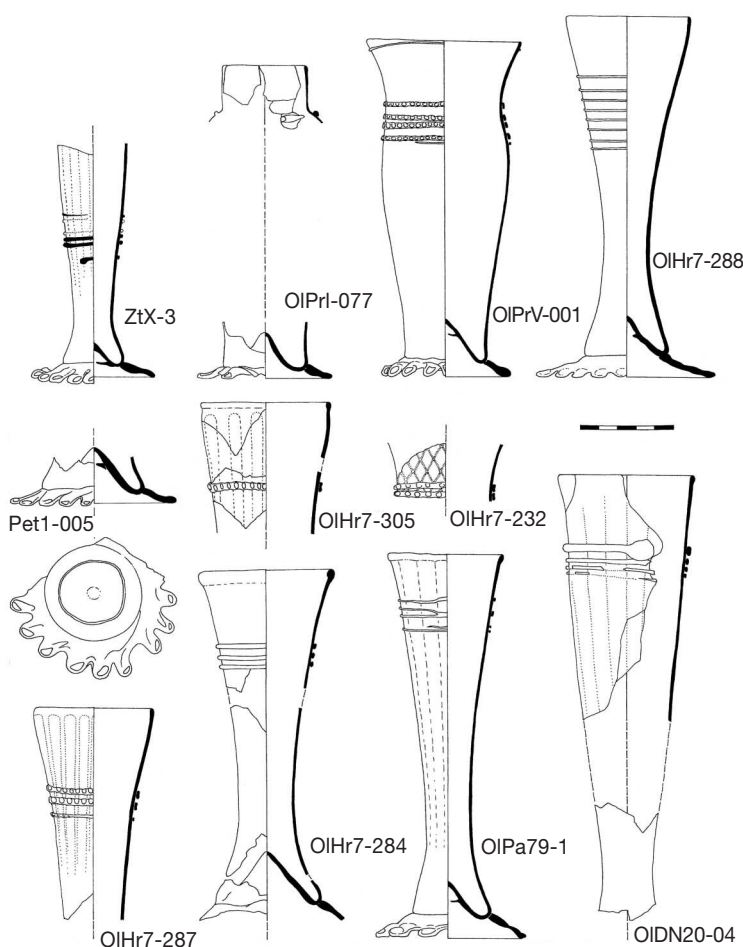


Fig. 11. Olomouc-type beakers.
End of the 15th – middle
of the 16th century.

Obr. 11. Číše olomouckého typu.
Závěr 15. – polovina 16. století.



a

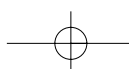


b



c

Fig. 12. a) OIPrV-001;
b) OIHr7-288; c) ZtX-3.
Obr. 12. a) OIPrV-001;
b) OIHr7-288; c) ZtX-3.



in cesspit 7/93 on Hrnčířská Street in Olomouc (*fig. 11: OIHR7-232, 284, 287, 288, 305*), which dates from the time just before the middle of the 16th to the start of the 17th century (*Sedláčková ed. 1998, 53-54*), just like another cited find of a fragment in Brno at Petrov no. 2, possibly also from the “superelevation” above cesspit I/73 in Olomouc.

A larger collection of glass from the bottom septic layers of cesspit 12/96 on Dolní Náměstí in Olomouc also included evidence of eight Olomouc-type beakers in very fragmented condition. On some fragments, a slightly greenish glass survived, but usually the glass was secondarily opacified. Reconstructed, there were three typical beakers (*fig. 11: OI DN20-04*) and one beaker with a garland decoration on the lower part of the body.

In cesspit I/73 on 8. května Street in Olomouc three examples of the beaker were found (OI PrI-063, 077, 089), and a fourth, lower part was from the “superelevation” (OI PrI-017). In one case, it was possible to reconstruct a beaker with a shape not yet seen before – having a cylindrical mouth and club-shaped shoulders. This beaker and the beaker from the “superelevation” are made of a slightly greenish glass with small corrosion stains, while the glass of the others is corroded all over.

In a well on Žerotín Square, the presence was verified of a fragment of a typical lobed foot and a fragment of a body with optical decoration of rib pattern and applied with thread bearing wheel-pressed decoration (OI ŽN2-017, 139).

Several vessels were found in a collection from Petrov no. 2 in Brno that represent the late Gothic heritage, among them the lower part of an Olomouc-type beaker (*fig. 11: Pet1-005*). This is the second find with this shape in Brno. It is interesting that the first known fragment from Brno was from a disturbed cesspit at Zelný trh Square no. 9, which is in the immediate vicinity of Petrov (*fig. 11: ZtX-3; fig. 12: c*).

IV.1.2c Stangenglas (*figs. 13-15*)

While the previous shapes represent a change in and culmination of the development of domestic tall beakers, cylindrical beakers with prunts made of a deep blue-green glass is a type that was produced in German glassworks from the end of the 15th to the first half of the 16th century (*Baumgartner – Krueger 1988, 392*). As the overview of finds from Olomouc, Brno and Cimburk castle showed, the classic form of stangenglas was also found in Moravia (*Sedláčková 2000, 167-170*). Later, several other examples were added to these, which also included some products made domestically.

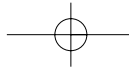
There is an almost complete form from Olomouc. In cesspit I/73 a fragment was found of a deep blue-green glass with a broken foot and a height of 17.7 cm (*fig. 13: OI PrI-064; fig. 14: a*). The cesspit also turned up a smaller fragment of a cylindrical body with a diameter of 4.4 cm made of colourless glass covered with light beige corrosion, and this piece can be regarded as a domestic product (*fig. 13: OI PrI-054*).⁴⁾

There is also a find from the period before 1540, which was discovered on Žerotín Square. The fragment, made of a deep blue-green glass, had a row of prunts beneath the upper smooth part of the body. It had a relatively wide shape, with a diameter across the body of 5 cm, and the preserved prunt is large, flat, and has a pinched tip (*fig. 13: OI ŽN2-292*).

Among the pieces of stangenglas with a single row of prunts, there is a lower part of a foot with a coiled thread from cesspit 7/93 on Hrnčířská Street in Olomouc (*fig. 13: OIHR7-333; fig. 15: e*). This product of colourless glass, covered with corrosion, may be of domestic origin, dating from the first half of the 16th century.

Note 4:

Sedláčková 2000, 167, cat. no. 1.9.1 – indicated as a “krautstrunk” (a cabbage-stalk beaker). In an analysis of material from cesspit I/73 in Olomouc, it was found that the fragments considered to be from a tall beaker could be assembled into the cylindrical shape of a stangenglas – see OI PrI-054.



From Brno there is an example of a piece with prunts in the shape of small animal heads, found in feature 4/87 on Kozí Street, and two fragments with flat prunts, unearthed in an excavation at Koblížná Street no. 4 (fig. 13: Ko4-1, Kob150-1, Kob4-01; fig 15: a, b).⁵⁾ This last fragment came from a cesspit dated to the first half of the 15th century. A fragment of an open-work foot from a cesspit on of the 15th century (fig. 13: Stb5-22).

Other new finds emerge in connection with the first half of the 16th century. One is a blue glass fragment, with a pinched coiled thread on the base, found in cesspit 531/00 on Náměstí svobody no. 17 (fig. 13: DPL531-034; fig 15: d), another is the lower part of an open-work foot made of blue-green glass, taken from the cultural layer on the same lot (fig. 13: DPL130-1; fig 15: c), and another is a fragment on a foot of coiled thread, which is broken at the base, found at Dominikánská Street no. 5 (fig. 13: D638-01).

The youngest stangenglas from the well on Petrov no. 2 in Brno is essentially already a type of Renaissance cylindrical beaker on a blown bell-shaped foot. It was made of a medium-blue glass and had only one row of prunts on the lower part of the body (fig. 13: Pet1-029; fig 14: b). The Renaissance foot corresponds to a late dating to a period around the middle of the 16th century.

An almost complete find of green glass on a foot of coiled thread, found in the fill of a building on the site of the “Rozkvět” department store on Náměstí svobody, can only typologically be dated to the period around the middle of the 16th century (fig. 13: Roz-1; fig. 14: c).

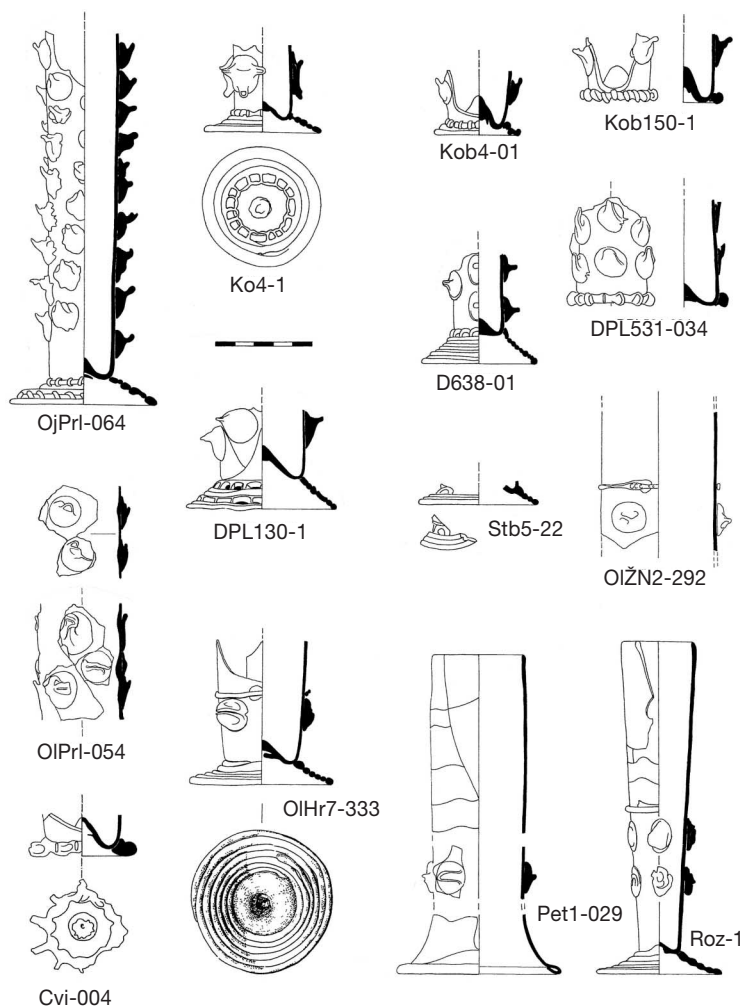


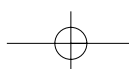
Fig. 13. Stangenglas. First half of the 15th century (Kob4-01) and the end of the 15th – middle of the 16th century.

Obr. 13. Stangenglas. 1. polovina 15. století (Kob4-01) a závěr 15. – polovina 16. století.

Note 5:
Sedláčková 2000, 166,
cat. no. 1.3.1, 1.4.1 a 1.5.1
erroneously classified
as “krautstrunk”.



Fig. 14. a) OIPr1-064;
b) Pet1-029; c) Roz-1.
Obr. 14. a) OIPr1-064;
b) Pet1-029; c) Roz-1.



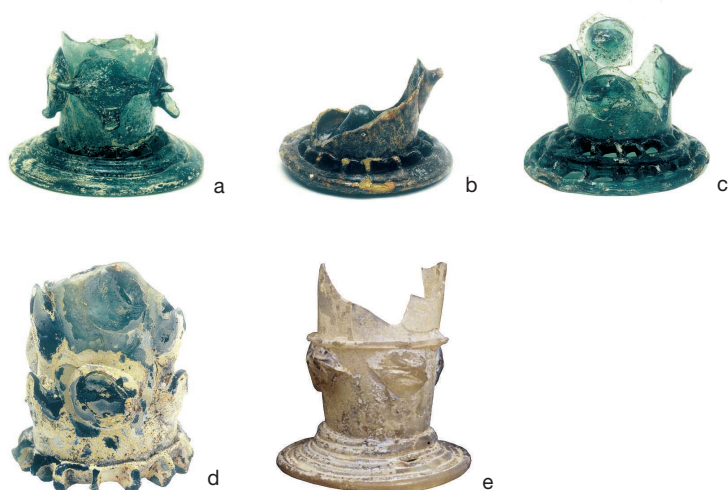


Fig. 15. a) Ko4-1; b) Kob4-01;
c) DPL130-1; d) DPL531-034;
e) OIHr7-333.

Obr. 15. a) Ko4-1; b) Kob4-01;
c) DPL130-1; d) DPL531-034;
e) OIHr7-333.

Stangenglas with one row of prunts on the lower part of the body is less common than the classic shape with a body covered with prunts in slanted and vertical rows. Published finds from the German lands are dated to the second to third quarters of the 16th century (*Rademacher 1933*, Taf. 53; *Baumgartner 1987*, cat. no. 103-106). This type is, on rare occasions, found in Germany, also from blue glass from the start of the 16th century (*Baumgartner – Krueger 1988*, cat. no. 438 and 442).

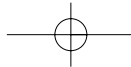
Vessels made of blue glass from the turn of the 16th century are somewhat more numerous than those from the Middle Ages, when this glass was usually used just for decoration; however they still remain rare. In Moravia, in addition to the beakers from Olomouc and Brno, I know of only one fragment of a small beaker, with ribs, found in cesspit 531/00 on Náměstí svobody in Brno (*fig. 24: DPL531-006*). I found an analogy from the first half of the 16th century for both varieties in Germany in a prunted beaker from Freising (*Baumgartner – Krueger 1988*, cat. no. 442) and in a small beaker with ribs from Lüneburg (*Steppuhn 2003*, cat. no. 2.027). These beakers are regarded as products from German glassworks or from glassworks located between the Rhein and the Maas Rivers. In this area, products made of blue glass dating to the first half of the 16th century are more numerous than they are in the Czech lands, and therefore it is likely that they were brought from there to Moravia.

In the group of Moravian finds of stangenglas, it is possible to find products of blue-green, blue, and green glass, shapes with an open-work foot, with a base wrapped around with a pinched thread, or with multiple rows of threads. The prunts tend to be very acuminate, flat with a stretched and folded back tip, and one in the shape of the small head of an animal. The oldest are from pits dating from the first and second half of the 15th century, and the youngest are dated to around the year 1550. This diversity indicates more random imports from various production areas over a longer period of time than any kind of regular supply of such goods. Stangenglas was also occasionally also made of colourless (green-tinged) glass in domestic glassworks – alongside the above-mentioned fragments from Olomouc, the lower part of the piece from Cvilín Castle is another example (*fig.13: Cvi-004*).

IV.2 Glass tableware – short shapes

• IV.2.1a Late prunted beakers (*figs. 16, 17*)

Based on finds from Brno, sometime in the early 15th century the shape of small beakers made of colourless glass (always with a light grey tinge) became fixed in the form of a slightly barrel-shaped body and a low bowl-like mouth with a thread on the neck and with a pinched thread coiled around the base. The prunts covering the body in slanted rows are larger, oval, with stretched tips 10-12 mm in diameter. They still occur occasionally in this form in the second half of the 15th century, as fragments from cesspit 7/90 on Mečová Street no. 2 indicate (*fig. 16: Me7-01*). The entire profile was preserved in cesspit 17/90 on the same lot (*fig. 16: Me17-29; fig. 17: a*). Beakers with the same shape, made of quality glass, dating between the 15th and the start of the 16th century can also



be found at sites in Hungary, where they are considered to be Venetian products (Budapest: Gyürky 1986, tab. XXV/2; Gyürky 1991, tab. 51/6; Felsőnyék: Gyürky 1991, tab. 35/1; Székeszfehérvár: Gyürky 1991, tab. 25/10; Visegrád: Mester 1997, fig. 365). They have also been found in several towns in Slovenia, but there it is regarded as a product from a glassworks in Ljubljana copying Venetian models (Lazar 2003, 82, 84, fig. 3; Kos – Šmit 2003, 76).

We have many more examples of domestic late Gothic pruned beakers appearing in Brno continuously from the end of the 14th century into the first half of the 16th century. In the latest period, they can be found occasionally even in Olomouc. Usually all that had survived are individual prunts and especially bases in a range of varieties: coiled with a smooth, thick thread (e. g. fig. 16: Pet1-094), with a wider moulding around the base (e. g. fig. 16: Pet1-039), with a spiralling thread coiled around it (e. g. fig. 16: OIDN20-14), with a pinched thread (e. g. fig. 16: D617-04, NS133-12, Pet1-076), or with a wavy thread (e. g. fig. 16: OIPrI-062), and a large number of examples with a thread stretched into a lobe, like that found on the Olomouc-type beakers (e. g. fig. 16: DPL531-052). However, it may be that some bases belonged to other varieties of beaker instead.

Most of the finds have heavily corroded glass, and therefore, it is only possible in some cases to obtain a clear idea of their full shape. The best-preserved beaker from a layer dated to the second half of the 15th century was found on the grounds of Velký špalíček in Brno. It was made of colourless glass with nacreous corrosion, and it featured rows of blue thread coiled around the lower part of the barrel-shaped body and four rows of coil-shaped prunts around its upper part (fig. 16: VŠ166-1; fig. 17: b), and there is a beaker from Česká Street no. 5 that is completely colourless (fig. 16: Če3-2). One beaker on a foot of coiled thread and with large prunts, dating from the first half of the 16th century from Olomouc, also has a thread above the base (fig. 16: OIDN20-14).

The diversity of domestic pruned beakers from the late period is evident from two finds. In cesspit 521/04 on Náměstí svobody no. 9 in Brno, small fragments of a beaker with optical decoration of a lentil pattern were found, and on one of the fragments there is a small piece of a prunt (fig. 26: NS521-15). The lower part of the beaker from the cesspit on Náměstí svobody no. 1 from the first half of the 16th century is decorated with alternating lines of large prunts above one another and with vertical threads with wheel-pressed decoration (fig. 16: NS115-10, 11).

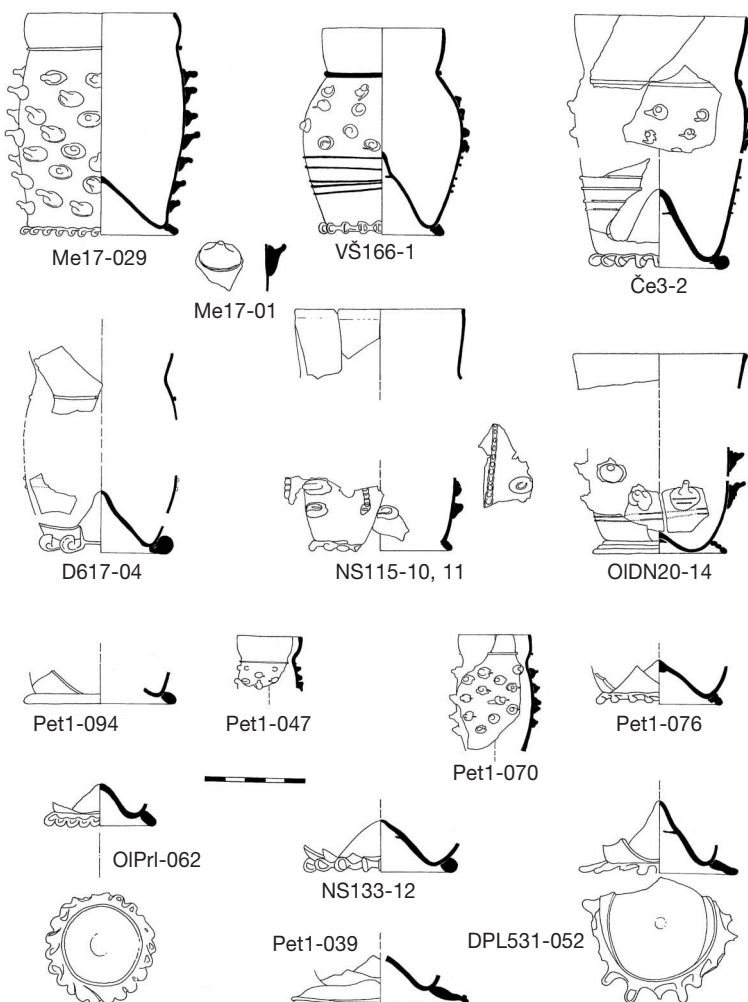
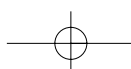


Fig. 16. Late pruned beakers. Second half of the 15th – middle of the 16th century.
Obr. 16. Pozdní číšky s nálepy. 2. polovina 15. – polovina 16. století.



Fig. 17. a) Me17-029; b) VŠ166-1.
Obr. 17. a) Me17-029; b) VŠ166-1.



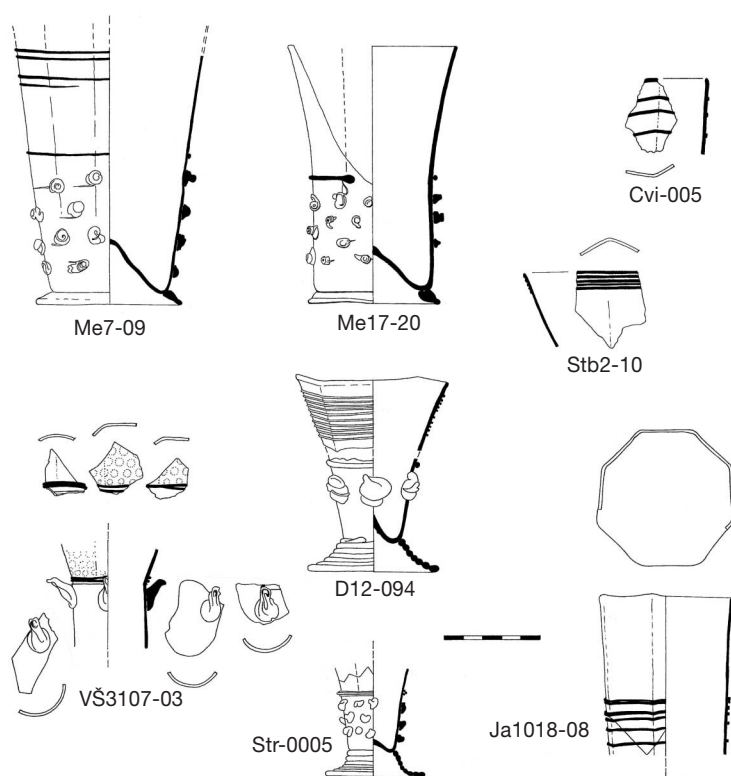


Fig. 18. Multi-sided beakers. Second half of the 15th – middle of the 16th century.

Obr. 18. Číšky víceboké. 2. polovina 15. – polovina 16. století.



Fig. 19. a) Me7-09; b) D12-094; c) Ja1018-08. Obr. 19. a) Me7-09; b) D12-094; c) Ja1018-08.



cesspit 7/90 at Mečová Street no. 2 dates back to the second half of the 15th century (fig 18: Me7-09; fig. 19: a). Beakers from cesspit 17/90 at Mečová Street no. 2 and from cesspit 9/90 on Dominikánské Náměstí in Brno come from the first half of the 16th century (fig. 18: Me17-20, D12-094; fig. 19: b). The first is decorated with a blue thread, and the second is made entirely

of a slightly greenish glass. A fragment of the rim of a beaker made of quality glass, with a thickly coiled blue thread, is from the fill of a feature at Starobrněnská Street no. 2 (fig. 18: Stb2-10). At the Cvilín Castle at Krnov fragments were found of two such beakers, and a coiled blue thread has been preserved on one of them (fig. 18: Cvi-005).

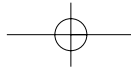
• IV.2.1b Multi-sided beakers (figs. 18, 19)

A unique variety of beaker is a prunted beaker with a multi-sided bowl. In archaeological finds this shape appears from time to time from the end of the 13th century, and it is considered to be a product of Czech glassworks (Pause 1993, 10-11; Černá 1997, 335). These older finds have a plain cylindrical or slightly tapered shape and no prunts. We first encounter prunted beakers with multi-sided bowls in Brno at the end of the 14th century (Merta – Peška – Sedláčková 2002, 367, cat. no. II-19, fig. 11), and they become relatively more widespread between the middle of the 15th and middle of the 16th century. Examples have been found in Brno, at the Cvilín Castle at Krnov, and at the Anabaptist estate in Strachotín. A beaker from

cesspit 7/90 at Mečová Street no. 2 dates back to the second half of the 15th century (fig 18: Me7-09; fig. 19: a). Beakers from cesspit 17/90 at Mečová Street no. 2 and from cesspit 9/90 on Dominikánské Náměstí in Brno come from the first half of the 16th century (fig. 18: Me17-20, D12-094; fig. 19: b). The first is decorated with a blue thread, and the second is made entirely

of a slightly greenish glass. A fragment of the rim of a beaker made of quality glass, with a thickly coiled blue thread, is from the fill of a feature at Starobrněnská Street no. 2 (fig. 18: Stb2-10). At the Cvilín Castle at Krnov fragments were found of two such beakers, and a coiled blue thread has been preserved on one of them (fig. 18: Cvi-005). A high-quality product made of a very light green, pure glass was found in layer K 3107 on the grounds of Velký špalíček, dating to the first half of the 16th century. The multi-sided bowl of a small beaker with a diameter across the body of 3.7 cm features optical decorations of a lentile pattern and a blue thread coiled around the neck. The prunts are stretched to tall points and are pinched at the tips (fig. 18: VŠ3107-03). A small beaker with a multi-sided bowl on a foot of coiled thread made of blue-green glass was found on the grounds of the Anabaptist courtyard in Strachotín (fig. 18: Str-0005).

Bowls that have been blown into a six- or seven-sided shape with the aid of wooden or ceramic moulds appear more often on small beakers dating from around the year 1500 (Henkes 1994, cat. no. 7.4).



In Germany, tall beakers named “achtkantglas” were becoming popular at this time, and fragments of this type, with a coiled blue thread, dating from the second half of the 15th century, were found in Brno at Jakubská Street no. 4 (fig. 18: Ja1018-08; fig. 19: c).

• IV.2.1c Krautstrunk

(Cabbage-stalk beakers – figs. 20, 21)

At the same time as the various types of late Gothic beakers, the first Krautstrunk beakers of blue-green glass started appearing in Moravia (Sedláčková 2000, 164-167). The oldest finds are two specimens dating from the destruction of the castle in Melice at Vyškov by the Hussites before 1423 (fig. 20: Me-1, 2). For a long time, the only Krautstrunk beaker known from Brno was from a cesspit on Zelný trh Square, which survived almost in complete form and is made of pure, blue-green glass (fig. 20: Zt6-1; fig. 21). From a well in Petrov, from a layer dating to the first half of the 15th century, the lower part of one with two prunts and made of light blue glass was found (fig. 20: Pet1-104). A fragment of a body with one large flat prunt of blue-green glass was found in cesspit 105/99 at Koblížná Street no. 4, which contained a mixed fill dating to the first half of the 16th and the 17th centuries (fig. 20: Kob105-08).

Also of blue-green glass is a fragment of a body with one large heart-shaped prunt, found at the Cvilín Castle at Krnov in the Bruntál region, dating from between 1474 and roughly the middle of the 16th century (fig. 20: Cvi-003). Other fragments are known from the castles in Lukov and Cimburk, and the find from the latter site is made of a deep green glass (Sedláčková 2000, 166).

Parts of two Krautstrunk beakers made of deep green glass were found in Opava in cesspit 12/63 on Kolářská Street, the content of which was dated to between the end of the 15th century and circa 1560/70 (fig. 20: OpKo12-001, 102).

In addition to Krautstrunk beakers made of green, blue-green, or even light blue glass, in Moravia there are also vessels with the same shape made out of poorer quality and heavily corroded glass. Their typically large prunts, with a diameter of around 20 mm, distinguish them from late beakers with prunts of smaller diameter. The oldest find of this type, dating from between 1455 and circa 1480, is from cesspit 521/04 on Náměstí svobody no. 9 in Brno. From the fragments of a thin-walled, but secondarily opacified glass with a clear to dark brown colour, it was possible to reconstruct a bowl-shaped mouth, which also belonged

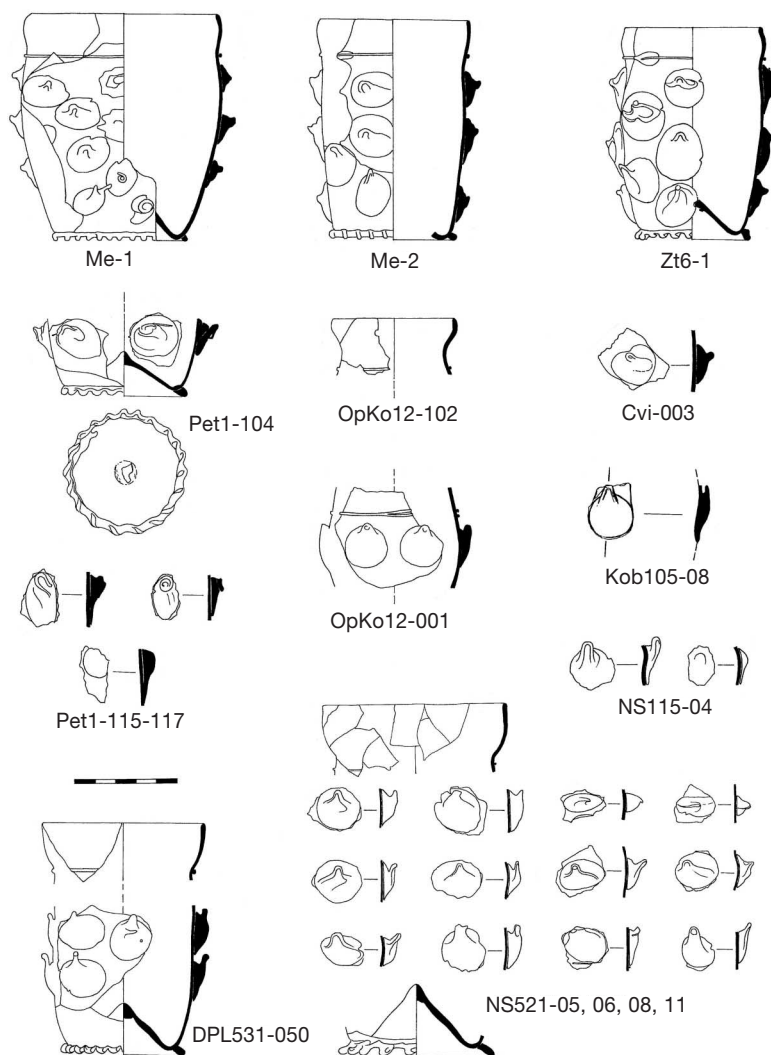
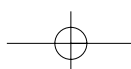
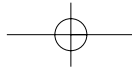


Fig. 20. Krautstrunk beakers.
First half of the 15th – middle
of the 16th century.
Obr. 20. Krautstrunky.
1. polovina 15. –
polovina 16. století.



Fig. 21. Zt6-1.
Obr. 21. Zt6-1.



**Note 6:**

In the first summary of glass from the first half of the 16th century in Moravia, a fragment was mentioned, based on literature, as coming from cesspit 3/86 on Česká Street in Brno (Himmelová 1990, 442, fig. 2: 5; Sedláčková 2000, 166, cat. no. 1.2.1). However, in a detailed analysis of the material it was possible to find other parts and to reconstruct a larger fragment of a cylindrical beaker with large snail-like prunts made of a distinctly dark brown-yellowish glass, which unquestionably belongs to a horizon from the period 1270-1350 and in the feature dating from the second half of the 15th century it represents an older piece mixed up in the fill.

to the fragments of a body with 12 large flat prunts, with upward-stretched tips, and with a lobed foot (fig. 20: NS521-05, 06, 08, 11). In the younger cesspit 531/00 on Náměstí svobody no. 17, there was a large fragment of colourless, corroded glass. A vessel with a bowl-shaped mouth, this piece has large flat prunts on a barrel-shaped body, the tips of the prunts are stretched and folded over, and a pinched thread is coiled around its base (fig. 20: DPL531-050).

These are all the finds of Krautstrunk beakers made of blue-green or green glass and associated shapes made of colourless glass in Moravia.⁶⁾ They occurred in this area in the first decades of the 15th century, in the second half of the 15th century, and in the first half of the 16th century. As in the case of stangenglas, this shape was evidently made in domestic glassworks out of poorer quality glass.

Krautstrunk beakers were also found in Bohemia even before the middle of the 15th century, at which time, according to available information, they were not yet being produced even in Germany (Kutná Hora and Plzeň – *Lehečková* 1975, 460, cat. no. 81; *Hejdová – Nechvátal* 1967, 464-465, cat. no. 37 and 38). In some cases, they were found to be made of a soda-lime based composition of glass, produced in southern Europe (*Hejdová – Nechvátal* 1967, 489, analyses no's. 16 and 35). Consequently, it may be that from the end of the 14th and in the 15th century, Krautstrunk beakers were imported to Moravia and Bohemia from, for example, Venice, where fragments of them made out of a blue-green glass of local origin have been found (*Pause* 1996, 58-60).

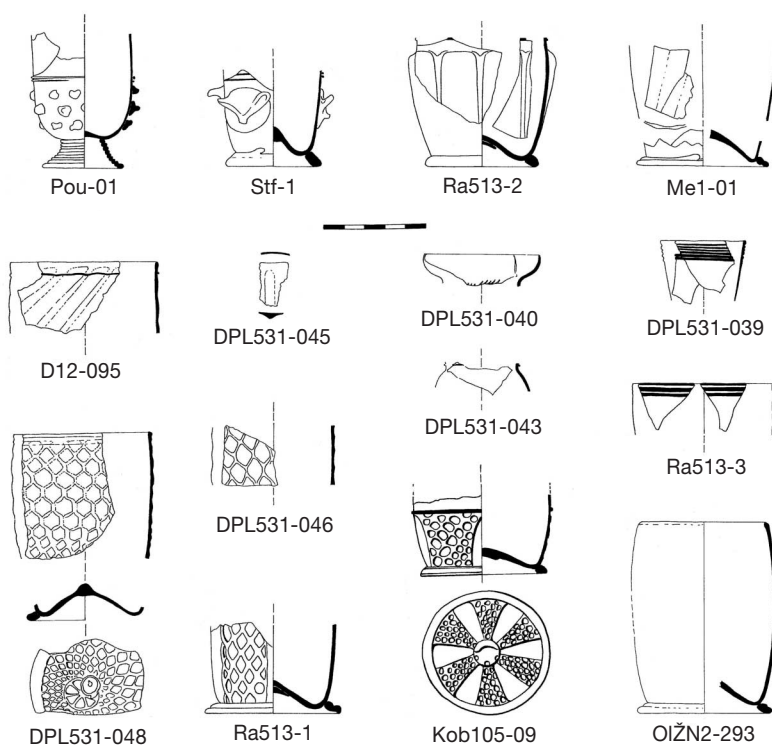


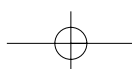
Fig. 22. Beakers made of blue-green glass. Ca 1500-1550/60.
Obr. 22. Číšky z modrozeleného skla. Ca 1500-1550/60.



Fig. 23. a) Ra513-1; b) Stf-1; c) Kob105-09.
Obr. 23. a) Ra513-1; b) Stf-1; c) Kob105-09.

- IV.2.1d Beakers of blue-green glass (figs. 22, 23)

A smaller group of beakers is united by the use of quality blue-green glass, which resembles the glass of some of the stangenglas or Krautstrunk beakers from Zelný trh Square. Only some specimens are stained with corrosion. The group contains different shapes and is variously decorated. Fragments of 26 prunted beakers were found in the Anabaptist courtyards in Pouzdřany and in Strachotín. They had tall, smooth mouths, separated from the body by a fine thread, the prunts were slightly coiled, and the beakers had a bell-shaped foot with a coiled thread (fig. 22: Pou-01). These are small beakers with semi-oviform bodies, but there was also at least one beaker with a multi-sided body and one prunted goblet (fig. 18: Str-0005; fig. 27: Str-0011). Finds of these beakers have thus far been limited to Anabaptist sites.



One beaker with prunts in a shape of small animal heads was found in Brno (*fig. 22: Stf-1; fig. 23: b*), another fragment found there was from a beaker with massive ribs blown in a mould (*fig. 22: Ra 513-2*). Other fragments were from beakers with optical decoration of ribs (*fig. 22: D12-095, DPL531-045, Me1-01*), decorated all over with rose cuts (*fig. 22: DPL531-048*) or decorated with alternating ribs and rose cuts (*fig. 22: Ra513-1; fig. 23: a*), or with alternating smooth strips and strips with a lentile pattern only on the bottom part of the body (*fig. 22: Kob105-09; fig. 23: c*). On the upper part of the body, there tends to be a coiled dark-blue thread, with a thicker smooth thread around the base. Several beakers in this group have smooth tapered shapes, with several rows of blue thread on the rim (*fig. 22: DPL531-039, Ra513-3*), and there are also beakers with a bowl-shaped mouth (*fig. 22: DPL531-040, 043*). In Olomouc, a smooth barrel-shaped beaker with a thread around the base was found (*fig. 22: OIŽN2-293*).

This is the youngest glass from the assemblage dated generally to the first half of the 16th century. A group of similar shapes made of a blue-green glass was identified in Vienna and Krems as being from the first quarter of the 16th century (*Tarcsay 2003, 170, Abb. 7*).⁷⁾ The finds from Anabaptist courtyards may form a guideline for determining the origin. It is logical to assume that beakers were part of the supplies of the Anabaptists' original households in Germany and Switzerland, where the beakers were produced. They may therefore have first come to Moravia after 1526 with the arrival of Anabaptists.

• IV.2.2a Ribbed beakers (*figs. 24, 25*)

In the text above, we were looking mostly at glass that came to Moravia from German glassworks and the influence of such glass on domestic glassmaking. In the last decades of the 15th century, products from and the influence of Venetian glassmaking also re-surfaced in Moravia.

In archaeological finds, we can see that the intense wave of importing glass to Moravia from Italy ended at the start of the 1420s. This was no doubt a result of the outbreak of the Hussite Wars, but it was also owing to the ban on trade between Hungary and Venice, which was issued in 1417 by Emperor Sigismund (*Gyürky 1991, 78-79*). The spread of glassmaking in Hungary is associated with the need to make up for the lack of popular goods by means of domestic production, and Italian masters were involved in establishing glassworks there (*Gyürky 2003, 48*). Political, cultural, and trade ties between Hungary and Italy were not renewed until 1476 under Matthias Corvinus. The king was an admirer, patron, and collector of Renaissance art and, during his rule, Venetian glass returned to Hungary, but by then it had taken on a Renaissance style of glass. This is evident in archaeological finds (*Gyürky 1986; 1991; 2003*) and in written

Note 7:

I had a chance to study dozens of the same, unpublished small beakers from the cesspit in Getreidegasse no. 3 in Salzburg in April 2007. I would like to thank Dr. Wilfried K. Kovacovics from Carolino Augusteum Museum in Salzburg for this possibility.

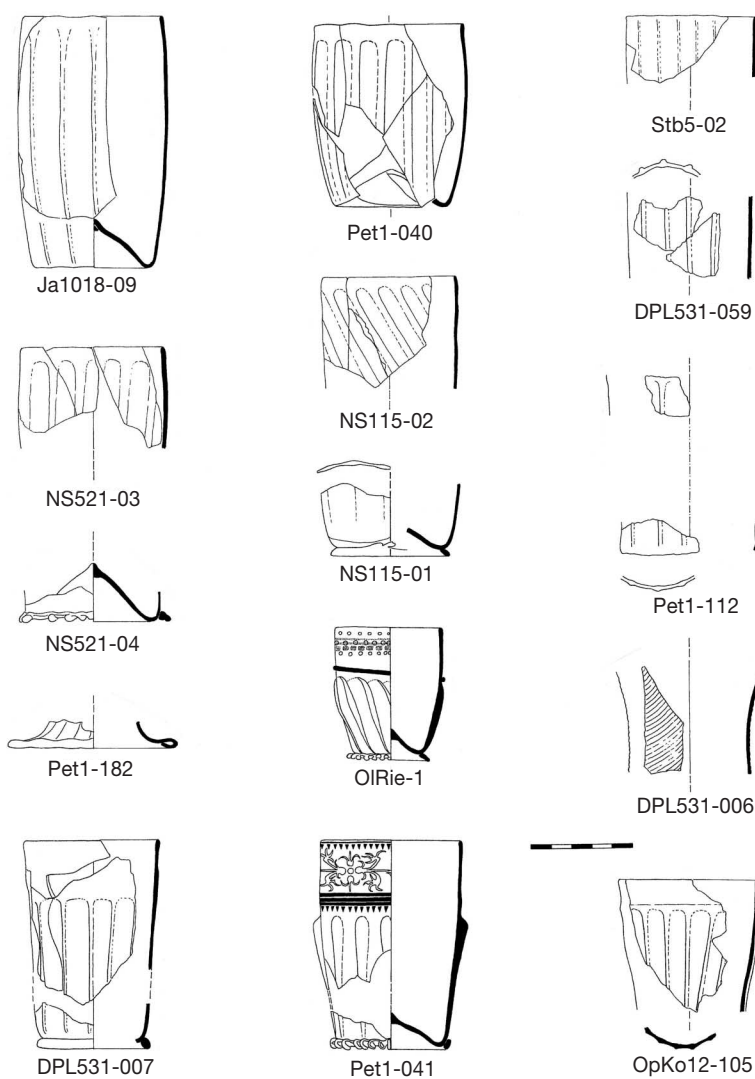


Fig. 24. Late Gothic and Renaissance ribbed beakers. Second half of the 15th – middle of the 16th century.

Obr. 24. Pozdně gotické a renesanční číšky se žebry. 2. polovina 15. – polovina 16. století.



Fig. 25. a) OlRie-1; b) Pet1-041;
c) Pet1-040.

Obr. 25. a) OlRie-1; b) Pet1-041;
c) Pet1-040.

sources. Beakers made of crystal glass were given as gifts to the king by high-ranking church figures and imperial court dignitaries. He placed large orders for glass himself in Venice, and crystal was included in the array of royal gifts (Balogh 1975, 283-285).

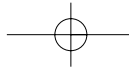
Several pieces of the personal property of Matthias and Beatrix have survived to date and they provide an idea of the kind of glass found

in the highest social echelons. The pieces are large, between 34 and 42 cm in height, luxuriously designed, and usually fitted with a lid. Enamel, gilded, and applied decorations made of multi-coloured glass adorn their tapered bowl. The foot is tall, bell-shaped, and, like the bowl, is ribbed. The pieces were made in the years 1480-1490. A beaker bearing the symbol of the Czech lion and the Hungarian coat of arms is decorated in gold and in red and white enamel (Strasser 1999, 6, Abb. 4 – destroyed during the war in Wrocław). A goblet with a smooth funnel-shaped bowl has a large filigree node (*vetro a fili*). According to the inscription on the metal, gilded bell-shaped foot, it belonged to Matthias Corvinus and later to Ludvík Jagello (Strasser 1999, 13, Abb. 5). During an archaeological excavation in Buda, fragments of a goblet were found bearing the heraldic arms of Queen Beatrix (Balogh 1975, 285).

The connection between another two exquisite glass beakers and Matthias Corvinus as the donor stems from historical sources and events, according to which Matthias was generous even towards his defeated adversaries. He used to give them beakers as gifts to secure their allegiance. In 1485, he was so impressed with the way Pitten fortress in Lower Austria was defended that he gave the commander there, Wolf Teufel, a silver goblet as a gift. It has also been verified that he gave the New Town in Vienna a gift of a tall silver goblet in 1487, when the town surrendered to the king (Strasser 1999, 12).

There is also knowledge of a glass beaker on a blown bell-shaped foot, described as the “beaker of Petronell”, which features *nípt-diamond-weies* decoration in relief and is richly gilded in colourful enamels. This was probably a gift made when a treaty was signed in 1487 between Matthias and the representatives of estates in Lower Austria (Strasser 1999). The beaker of the “Lords of Puchheim”, which survived with its lid, is decorated with prunts in blue and purple glass and in gold and coloured enamels. The fate of the beaker can again be traced to Matthias’ military sieges in Austria, when in 1482 Hartneid I von Puchheim surrendered “in peace his estates in Vienna’s New Town and was presented with the beaker” (Strasser - Baumgärtner 2002, cat. no. 2). Both the “Petronell beaker” and the beaker of the “Lords of Puchheim” were subsequently adorned in the 17th century with diamond-engraved inscriptions that had no relation to the original events.

The popularity of Venetian glass in Hungary found an immediate echo in Moravia. This brings us to the beaker of the “Lords of Deblín” which is, beyond doubt, another gift from Matthias Corvinus. It takes its name from an inscription on the foot and it is located today in the British Museum in London (Tait 1979, cat. no. 23, plate 2). The beaker is a unique piece, one of only four such pieces in the world (Strasser - Baumgärtner 2002, 21-27). It is 42.2 cm high and has a tapered bowl with a lobed moulding above the foot. The *nípt-diamond-weies* decoration in relief on the body is accompanied by three rows of large, flat



prunts with stretched tips. The upper and lower rows are made of deep blue glass and the middle row is purple. The rim is purfled in enamel and gold. The ribbed lid is also decorated with enamel and gold. On the lower side of the foot, there is a diamond-engraved inscription that reads:

KWALTE HOSPODINA A PITE / PRAISE THE LORD AND DRINK
Z CZERSTWIHO WINA ZA ZDRAWI / OF THIS NEW WINE
TO THE HEALTH
PANUW Z DEBLINA / OF THE LORDS OF DEBLIN

A toast and date are inscribed on the underside of the base:

BIBITE EX HOC OMNES Anno DCCCCXV

The year 1415 contradicts both the beaker's ownership by the lords of Deblín and the beaker's dating, as it must have been made in the last quarter of the 15th century, when the estate of Deblín belonged to the City of Brno. The Deblíns were the owners of the estate until 1415 and it was not until 1573 that the new owner, the Brno townsman and duties collector, Matouš Šram, obtained the heraldic title "of Deblín". The fate of the Deblín beaker can hypothetically be linked to the descendent of the new lord of Deblín, Maximilián František, who lived during the second half of the 17th century. He was a great history lover and collector of old historical relics. Perhaps for this reason, this Maximilián František acquired the beaker and in an effort to increase the historical prestige of the relatively recent establishment of his family lineage he had an inscription and date added to it, revealing his own inadequate knowledge of history. There are reports even in the middle of the 18th century about an inherited collection at Znojmo castle, and in 1784 the family of the lords of Deblín died out (*Ottův slovník 1893*, 109-110).⁸⁾

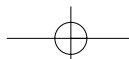
On rare occasions, only simpler variants of these opulent beakers ended up in the cesspits. It may be that some were even made in glassworks in Slovakia in the second half of the 15th century, under the influence of Venetian glass. Pieces that may be products from Slovakia are a whole beaker with ribbing set on a tall bell-shaped foot, made from a single piece of slightly green-yellow glass from Trnava (*Meszárosová 1983*, 120-122, fig. 2, 8) and a fragment of a foot from the castle in Bratislava (*Maruniaková 1989*, 319, fig. 11: c). Glassworks in Hungary were also making these shapes of beaker at beginning in the first half of the 15th century (*Gyürky 2003*, Abb. 3, 4). The only example of this type of beaker in Brno is a fragment of a foot found in a well in Petrov (*fig. 24: Pet1-182*). According to the poor quality greenish glass, this is evidently a product from a glassworks in Lower or Upper Hungary.

A beaker set on a blown bell-shaped foot with centaurs, which is today housed in the museum in Prostějov, is a less luxurious product, decorated with coloured enamels (*fig. 33: Pro-2; Hetteš 1973*, cat. no. 7). Although the year 1518 is inscribed on the bottom of the funnel-shaped bowl, this again may have been added later. It is difficult to judge how it was acquired. Nevertheless, it would not be implausible to associate it with the Pernštejns, lovers of art and propagators of the Renaissance in Moravia.

Unlike Hungary and Slovakia, there are not many archaeological finds of glass of Venetian origin in Moravia. Alongside a complete Bardejov beaker with crests and with a foot made of deep blue glass, there is a fragment of the same foot from the monastery in Košice – Krásná in Slovakia (*Füryová – Janovičková 1988*, fig. 1, 2: 4). Thus far unpublished is a collection of Venetian glass,

Note 8:

The beaker of the "Lords of Deblín" is so significant an example of Renaissance glass that it warrants a study of its own. It became part of the collection in the British Museum in London in 1892, when it was donated by Baron Rothschild, one of the biggest collectors in the 19th century. I was not able to find out whether any other information relating to this gift is contained in the museum's old inventories, such as how it was acquired or perhaps its price. The collectors of the 19th century tended to acquire pieces by buying them from dealers, and it is likely that the Deblín beaker was acquired in the same way. However, at that time, it may no longer have been in Moravia. The dating of the subsequent inscription is important and could be determined more accurately by means of a palaeographic analysis. However, I believe that in archive sources it would be possible to find the details of to whom the beaker was given and when – the time corresponds to a gift to the City of Brno for outstanding services.



Note 9:

I would like to thank Dr. Marta Janovičková for allowing me access to study the material deposited in the City Museum of Bratislava. I had a possibility to study similar pieces later in Salzburg.

including beakers with a foot made of deep blue glass found in Bratislava at Sedlárska Street no. 4.⁹⁾ In Moravia, there are first of all the two beakers with ribbing and with enamel on a smooth mouth from Olomouc and Brno and a fragment of a lid with ribs of pure green glass (*fig. 24: OlRie-1; fig. 25: a; fig. 24: Pet1-041; fig. 25: b; Pet1-026*). There is no doubt that these products originated in Venice – a number of similar examples have been preserved in collections in European museums (e. g. *Strasser 1999, Abb. 3*), and there are also examples in the mentioned collection in Bratislava. The Bratislava beakers are made of an excellent quality glass, which I visually judged to be “kristallo”. An analysis of the Olomouc beakers revealed a common soda-lime glass with a high content of potassium oxide (*Sedláčková ed. 1998, 106, analysis no. 1*) and, based on a visual assessment the Brno beaker, can also be judged to be from the same glass.

Also of Venetian origin are some simple beakers with ribs, pre-blown into a mould. The beaker from Brno – Jakubská Street no. 4, from a well in Petrov, and a fragment from Starobrněnská Street no. 5 (*fig. 24: Ja1018-09, Pet1-040; fig. 25: c; fig. 24: Stb5-02*) are made of a slightly greyish glass, and in shape allude to the simple tapered beakers optically decorated with ribbing, produced in the 14th century. The results of the analyses of the same beakers from Visegrád show they are made of soda-lime glass (*Mester 1997, fig. 78, 304, 366, analysis 138/377*).

Simple beakers and beakers decorated with enamel were replicated in domestic production using a poor quality glass. An almost complete beaker was found in Brno, with smooth thread coiled around the base and with a smooth mouth on top of a body with ribs (*fig. 24: DPL531-007*). Beakers from Opava belong to this same type, as perhaps also some fragments from Brno (*fig. 24: OpKo12-105, DPL531-059, Pet1-112*). The fragments of simple ribbed beakers from corroded glass found in cesspits on Náměstí svobody no. 1 and no. 9 belong to the simple variety, even though the older one evidently had a base with a pinched coiled thread (*fig. 24: NS115-01, 02, NS521-03, 04*).

- IV2.2b Beakers with flat optical decoration (*fig. 26*)

Simple tapered beakers with optical decoration of lentile pattern stopped being imported to Brno after the middle of the 15th century. They only appear in cesspit 17/90 on Mečová Street no. 2 and in cesspit 614/00 on Dominikánská Street no. 5 (*fig. 26: Me17-28, D614-14*). The similarity of the pure, slightly blue-tinged glass material and the subtle design indicate they were imported from the same glassworks. After 1500, they are only known from finds from cesspit I/73 in Olomouc and cesspit 531/00 in Brno (*fig. 26: OlPrI-068, DPL531-056*). There are no other simple beakers like these that draw on the tradition of optically decorated mediaeval beakers in Moravia. The quality glass material of the youngest specimens enables the assumption that they were imported from Italy.

Domestic glassworks also began producing beakers covered with optical decorations. The oldest finds date from around 1480. A beaker with lentiles and prunts from a cesspit in Brno has already been mentioned (*fig. 26: NS521-15*). Fragments of beakers with rose cuts were also found in the same feature (*fig. 26: NS521-14*).

Other domestic beakers covered with decorations are known from the first half of the 16th century. The bases tended to have one or more threads coiled around them. A fragment of the lower part was found in cesspit 12/96

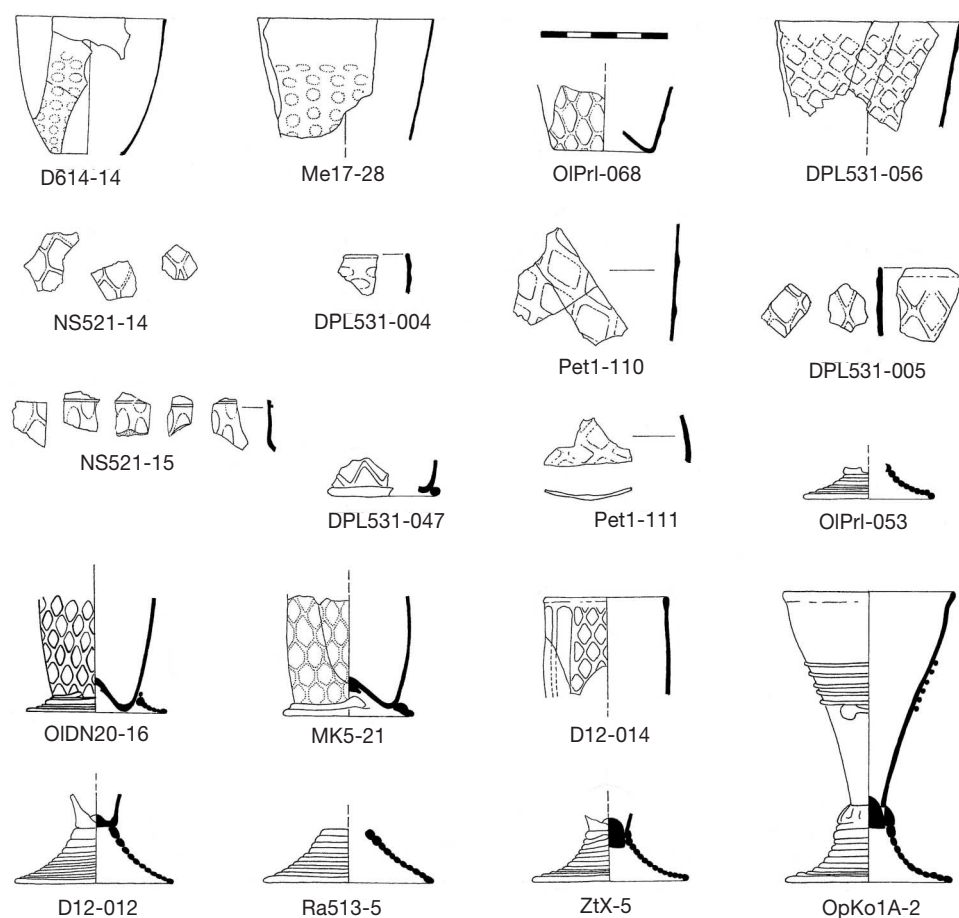
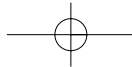
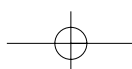


Fig. 26. Late Gothic and Renaissance beakers covered with optical decorations and funnel-shaped beakers.
Obr. 26. Pozdně gotické a renesanční číšky s plošným optickým dekorem a trychtýřovité číšky.

in Olomouc, and fragments of a base and body are from cesspit 531/00 in Brno and from Petrov (*fig. 26*: OIDN20-16, DPL531-004, 005, 047, Pet1-110, 111). The youngest beaker from waste cesspit 5/89 at the Minorite monastery and another fragment from Brno (*fig. 26*: MK5-21, D12-014) are similar in shape to the cylindrical beakers from the period of Rudolf II, which were widely found in Moravia and Bohemia (e. g. *Sedláčková ed. 1998*, cat. no. 02.3-10, 11; *Sedláčková 1997*, cat. no. 5-9).

- IV.2.3 Funnel-shaped beakers (*fig. 26*)

Another Renaissance shape is the funnel-shaped beaker on a bell-shaped foot of coiled thread ("Spitzglas") that survived in complete form in Opava on Kolářská Street (*fig. 26*: OIKo1A-2). The only other examples known are foot fragments, sometimes with a small part of the body (*fig. 26*: OIPri-053, OIŽN2-029, D12-012, Ra513-5, MK5-17, ZtX-5). They are all made of a greenish glass that contains bubbles and small grains of sand. Worth noting is the method used to create the base of a beaker from Opava and a disturbed cesspit in Brno at Zelný trh Square no. 9: a massive semi-spherical stopper was lodged into the lower part of the body. This is not the only case – the above-mentioned beaker with garlands from Opava and a magnificent lamp from Brno also have an inserted base (see below). In my opinion, this technical detail, elsewhere unknown, is evidence of the objects having originated in the same glassworks. We can also find a similar shape in a collection from Strachotín. It may be that even this belongs to the group of older glass (*Sedláčková 2001a*, *fig. 5*: 98, 126). The shape continues to remain in the repertoire of glass from the Rudolphine horizon (e. g. *Sedláčková ed. 1998*, cat. no. 02.3-8).



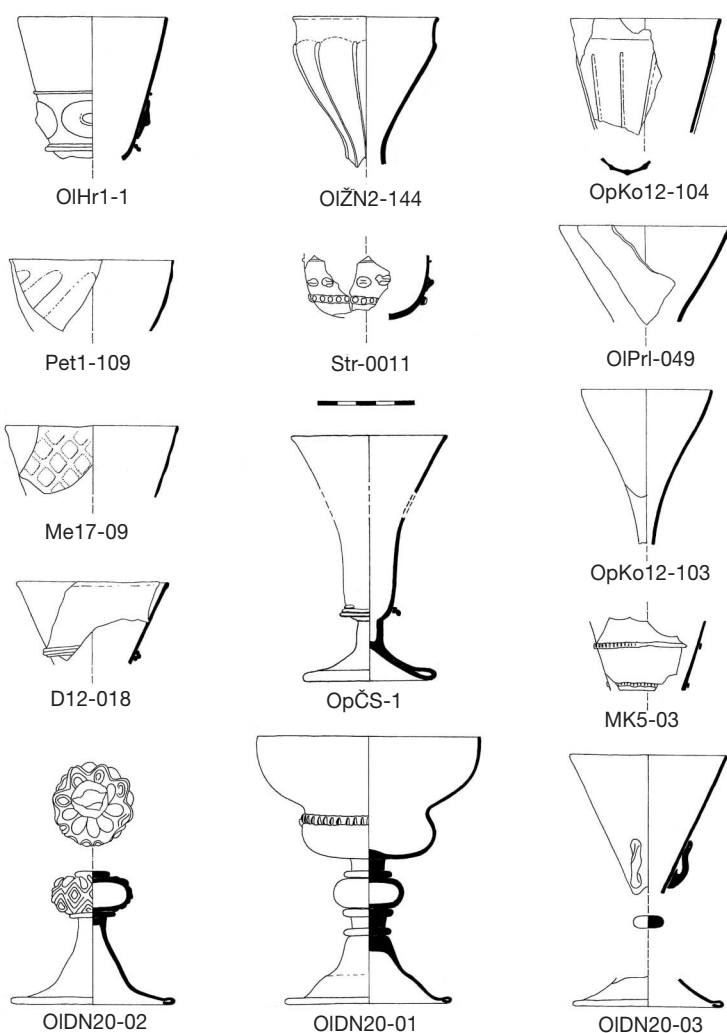


Fig. 27. Late Gothic and Renaissance goblets. End of the 15th – middle of the 16th century.
Obr. 27. Pozdně gotické a renesanční poháry. Závěr 15. – polovina 16. století.



Fig. 28. OIDN20-01.
Obr. 28. OIDN20-01.

IV.3 Goblets (figs. 27-31)

In medieval Europe, the goblet belonged to the wine-related sphere of French glass, and in Central Europe it appears only rarely. This shape, on a tall, slender base, began to be produced in the German lands only at the end of the 15th century, undoubtedly under the influence of Venetian products. German terminology distinguishes between the shapes that make up some of the varieties of the beakers appearing at that time with an appended tall stem ("Gläser/Becher mit Stiel", Baumgartner – Krueger 1988, 408-416) and the goblets that were made from three parts and were already in a Renaissance form, made according to Venetian models ("Kelchglas", Drahotová – Žegklitzová-Veselá 2003). The Czech language only has one term for the two – "goblet".

In Moravia, only fragments have survived of the oldest of the many goblets representing "beakers on a foot". A bowl made of green glass from Olomouc, with one row of large prunts and with a coiled thread around the base, is dated to the end of the 15th century (fig. 27: OIHr1-1; fig. 30). An identical goblet comes from Regensburg (Trapp – Boos – Germann-Bauer 1995, cat. no. 174). Another goblet from Olomouc, somewhat younger, has a bowl with ribbing blown in a mould (fig. 27: OIŽN2-144), which is also in the shape of a late

beaker. Evidence of its German origin is the potash-lime composition of the glass, which is visually very pure and yellowish (Sedláčková ed. 1998, cat. no. 19.1-1, 111, analysis no. 19). There is a fragment of a ribbed bowl of yellowish glass also from feature 12/63 in Opava (fig. 27: OpKo12-104). A foot of a goblet of blue-green glass comes from the castle in Cvilín Castle (Cvi-058). The bowl of a prunted goblet from Strachotín, with a thread around the base, is made of blue-green glass (fig. 27: Str-0011).

The first real goblets north of the Alps were made at a Tyrolean glassworks in Hall, established in 1534. It produced a Venetian-style glass with soda imported from Spain, and employed Italian glassmakers (Egg 1962). Three unusual goblets came from Hall to Olomouc (fig. 27: OIDN20-01-03; fig. 28; Sedláčková ed. 1998, cat. no. 04.1-1, 106, analysis no. 2). Dating and origin can draw on an analogical example of a complete goblet, with a bowl-shaped bowl. This is a "Luther's goblet", dating from between the 1530s and 1540s (fig. 29), one of the best-studied pieces of glass in Germany (Reformation 1983, cat. no. 607).

In other cesspits from the second quarter of the 16th century, fragments of Renaissance-style goblets also appear. Based on the greenish or greyish glass material, they could have been made in Moravian glassworks, but more likely come from Lower Austrian glassworks. Several of them have a smooth funnel-shaped bowl, sometimes coiled with a thread bearing wheel-pressed decoration (fig. 27: OIPri-049, D12-018, MK5-03), or a bowl with optical decorations (fig. 27: Me17-09, Pet1-109). There are even fragments of goblets with a smooth semi-ovoid bowl (OIŽN2-006, 009). The bell-shaped foot from this period is massive,

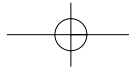


Fig. 29. Luther's goblet. German national museum in Nuremberg.¹⁰⁾
Obr. 29. Lutherův pohár. Německé národní muzeum v Norimberku.

Note 10:

I would like to thank Dr. Silvia Glaser from Germanisches National Museum Nuremberg for making this picture available and for arranging for possibility to publish it in this text.



Fig. 30. OIHr1-1.
Obr. 30. OIHr1-1.

with the impression of pincers beneath a small, full node (*fig. 31: Me1-06, Me4-006, VŠ3107-04*), while others have a simple bell-shaped foot without a node (*fig. 31: D12-011*).

I must also mention a goblet from Opava that was found in a cesspit dating to the turn of the 17th century (*fig. 27: OpČS-01*). The goblet has a bell-shaped bowl shaped from a single piece, like the above-mentioned goblet from Trnava, and one from Biel in Switzerland, both of which date from before the middle of the 16th century (*Glatz 1991, cat. no. 269*). It is therefore likely that the Opava goblet comes from the same period and that it is an older material added to the feature.

The range of shapes and decorations on goblets grew rapidly. Around the middle of the 16th century, goblets were appearing with a funnel-shaped, semi-oviform, and spindle-shaped bowl, either smooth or with optical decoration of rib and lentile patterns (e. g. *fig. 27: OpKo12-103; fig. 31: D12-010, Me1-05, 07, Pet1-011*), no different from the shapes from the end of the 16th century. On cheaper products made of a slightly greenish glass, there are often rod-like stems and the foot is coiled with a thread (*fig. 31: D12-006*), and large blown nodes also start to appear (*fig. 31: Me4-005*).

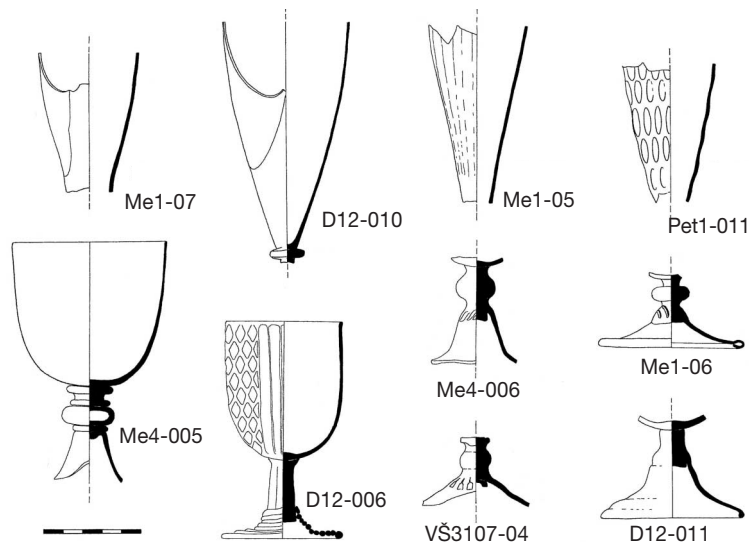
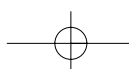


Fig. 31. Renaissance goblets. Circa 1550.
Obr. 31. Renesanční poháry. Kolem 1550.

IV.4 Beakers on a hollow bell-shaped foot (*figs. 32, 33*)

The model for a popular Renaissance shape – beakers on a blown bell-shaped foot – was Venetian beakers, made from the start of the 16th century. They were small shapes, usually with a funnel-shaped bowl with enameled decoration. An example is a beaker with centaurs from Prostějov (*fig. 33: Pro-2*).

We find fragments of undecorated specimens in archaeological material around the middle of the 16th century. They are made of a slightly greenish or greyish glass, and are often funnel-shaped (*fig. 32: Me1-03, Pet1-008, 009, OpKo12-004*). An example of enamel decoration from this time is the fragments of a large beaker from a well in Petrov (*fig. 32: Pet1-006*). After the middle



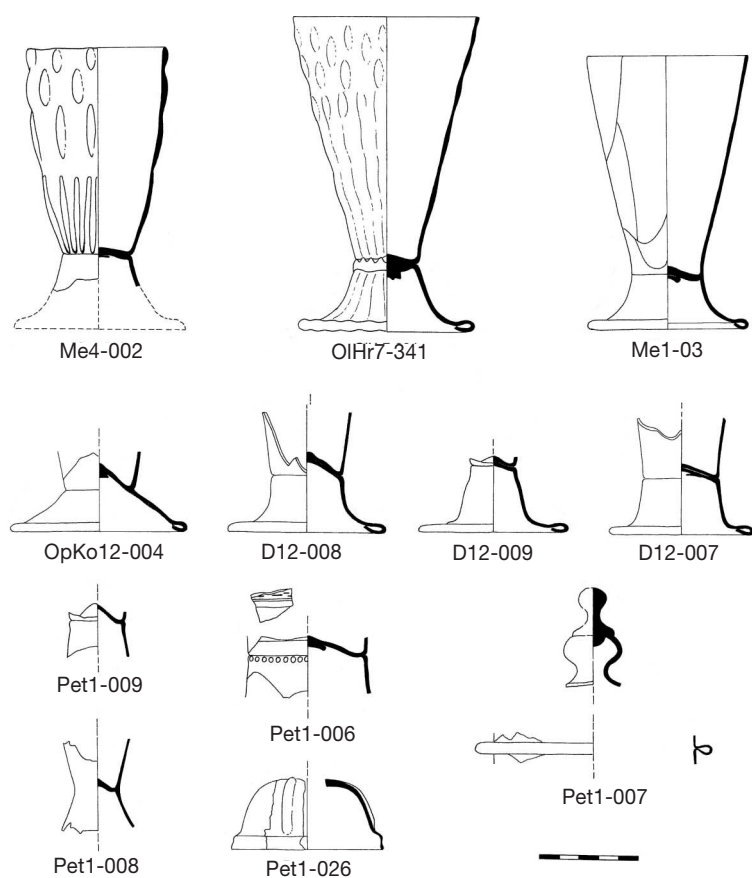


Fig. 32. Beakers on a blown bell-shaped foot.
First half of the 16th century – circa 1550/60.
Obr. 32. Číše na duté zvonovité patce.
1. polovina 16. století – ca 1550/60.



Fig. 33. Pro-2. Prostějov Museum.
Obr. 33. Pro-2. Muzeum Prostějovska.

of the 16th century, beakers on a blown bell-shaped foot are very common in archaeological material (e. g. *fig. 32*: D12-007-009).

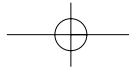
In Olomouc, larger funnel-shaped beakers on a blown bell-shaped foot, made of greyish glass material, and often with optical decoration of lentile pattern, appeared before the middle of the 16th century.

It is likely that, like the goblets, they come from Hall, or from some other Viennese glassworks, founded in the years 1530 and 1552 (*Tarcsay 1999*, 8-9). Fragments of roughly 13 pieces were found in cesspit 7/93 on Hrnčířská Street (*fig. 32*: OIHr7-341), which was filled from the period before the middle of the 16th to the start of the 17th century. Occasionally, this shape has been found in Brno, in layers from the second half of the 16th century (*fig. 32*: Me4-002).

A novelty in Renaissance glassmaking is two lids made of greyish and bright green glass (*fig. 32*: Pet1-007, 026). They only start appearing in larger numbers in the Rudolphine horizon.

IV.5 Bottle tableware, kuttrolf, and “pilgrim bottles” (*figs. 34-38*)

An integral part of dinnerware in mediaeval Brno was bottle tableware. From the middle of the 13th to the first half of the 15th century, several types are found here in large numbers. Until the middle of the 14th century, the most common was a bottle with an inside ring and with the lower part of the body in a cylindrical shape, which occasionally appeared also in Olomouc. In Opava and at the Cvilín Castle, a variety of this type with a barrel-shaped lower body only begins to appear between the second half of the 15th and the first half of the 16th century (*fig. 34*: Cvi-002). This variety is found often until the 16th century in the areas of Slovakia, Hungary, and the former Yugoslavia; its occurrence at the Cvilín Castle can be linked to the sojourn of the armies



of Matthias Corvinus there in 1474 (Sedláčková 2004, 243; Sedláčková 2004a, 369-370).

Other surviving types of tableware bottles up to the second half of the 15th century include a bottle with ribbing and with a funnel-shaped mouth, thickly coiled with a blue thread. These bottles were made of quality colourless glass with a greyish tinge, and were evidently produced in Italy. They appear in the same shape in a large part of Europe – from Slovenia through to Hungary, Lower Austria, southern Moravia, and southwest Germany. The oldest pieces are dated to the end of the 13th century, the youngest to the start of the 16th century. Eight bottles of this type were found in Brno. The oldest was in a layer containing coins from the period after the middle of the 14th century (Himmelová 1990, 440, fig. 2: 2). One of the youngest pieces from 7/90 on Mečová Street no. 2 is dated, based on the coins, to the period before circa 1460 (fig. 34: Me7-03; fig. 35). A fragment from cesspit 17/90 on the same lot dates to the second half of the 15th century (fig. 34: Me17-42) and another fragment from cesspit 638/00 at Dominikánská Street no. 5 theoretically dates to the first half of the 16th century (fig. 34: D638-24).

From the first half of the 15th century, the preceding type of bottles is gradually replaced with bottles with a bowl-shaped mouth, also coiled with a blue thread. The body of the bottle is optically decorated with ribs, but the neck is smooth. They are made of poor quality glass, often thoroughly corroded. The oldest find from the first half of the 15th century is from a well on Dominikánské Náměstí (Štourač 2005). Fragments of 11 specimens in Brno date from the second half of the 15th up to the middle of the 16th century.

From cesspit 7/90 at Mečová Street no. 2, where the youngest bottle with a funnel-shaped mouth was found, a fragment of a bottle with a bowl-shaped mouth was also found (fig. 34: Me7-04). The same dating applies to finds from a well in Petrov at Josefská Street no. 7 and Mečová Street no. 4 (fig. 34: Pet1-095, Me546-01, Jos7S3-01). The others were added to the pits in the first half of the 16th century (fig. 34: D617-01, NS115-12, DPL531-058, Pa502-3, Pet1-032).

This bottle is occasionally found in the first half of the 16th century in Olomouc and Opava (fig. 34: OIPri-090, OIHr7-161, OpKo12-106). Based on the glass material and the corrosion, the youngest piece was identified in the Anabaptist courtyard in Strachotín (Sedláčková 2001a, fig. 7: 1156).

Late dating of Moravian finds corresponds to finds of bottles with a bowl-shaped mouth from Vienna, where they appear in collections terminated before 1529 (Tarcsay 1999, 40). Finds of this type of bottle in Hungary are identified as coming from domestic glassworks (Gyürky 2003, 48). It can be assumed that they also came to Moravia from there.

Bottles with a bowl-shaped mouth are regarded as precursors to German kuttrolfs made of green or blue-green glass and having one or more necks (Prohaska-Gross – Soffner 1992, 309). From sometime at the end of the 15th century,

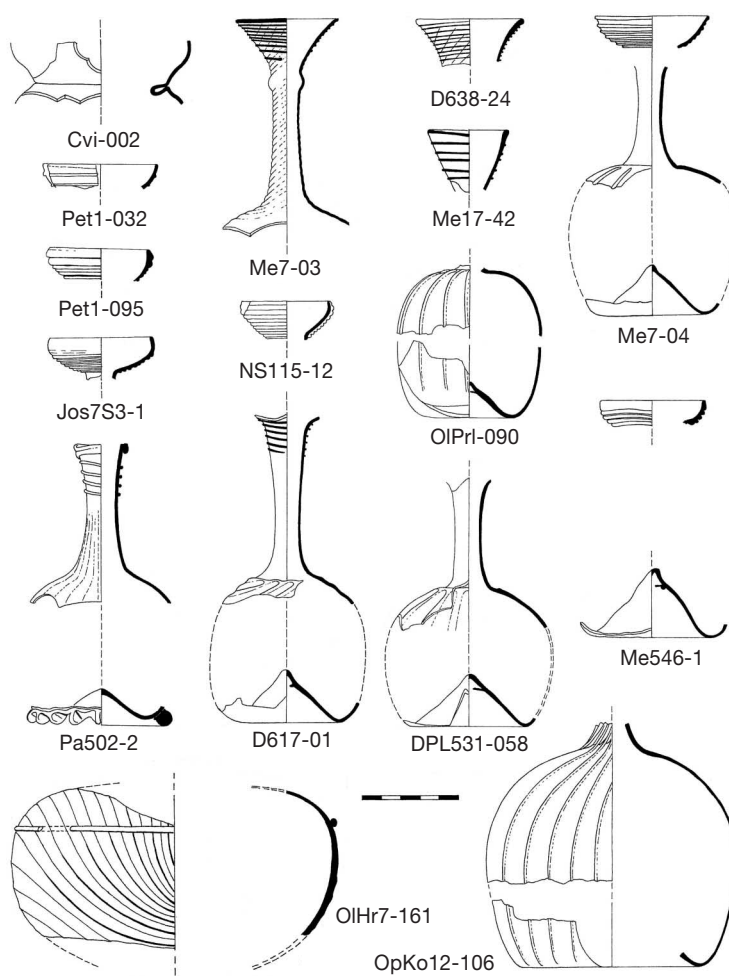
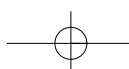


Fig. 34. Bottle tableware. Last quarter of the 15th century – circa 1550/60.
Obr. 34. Stolní lahve. Poslední čtvrtina 15. století – ca 1550/60.



Fig. 35. Me7-03.
Obr. 35. Me7-03.



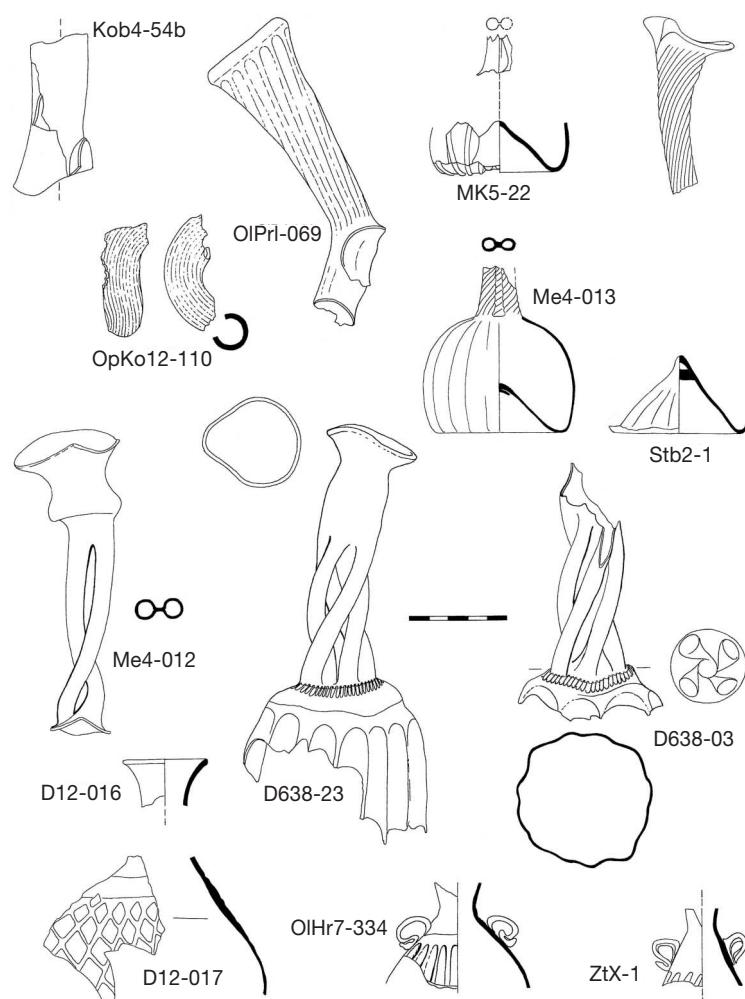


Fig. 36. Kuttrolfs and "pilgrim bottles". First half of the 15th century (Kob4-54b) and end of the 15th century – circa 1550/60.

Obr. 36. Kuttrolfy a poutnické lahve. 1. polovina 15. století (Kob4-54b) a závěr 15. století – ca 1550/60.

but certainly the first half of the next century, several kuttrolfs from Germany are found in Brno. This shape of bottle, with one neck and made of green glass, were found at Starobrněnská Street no. 2 (fig. 36: Stb2-1) and in an excavation of the grounds of Velký špalíček (fig. 37a: VŠX-1). A kuttrolf made of blue-green glass was also found in a midden at the kitchen of the Minorite monastery (fig. 36: MK5-22) and the same type made of green glass was found in the upper layer of cesspit 4/90 at Mečová Street no. 2 (fig. 36: Me4-013; fig. 37: b, left). All the above-cited pieces are small, with optical decorations of 15-16 vertical ribs on a domed, bulbous body.

There are two or three kuttrolfs made of colourless, corroded glass that can be considered to be domestic products. A fragment of a neck with the remains of an appended second neck were found in a cesspit filled in the first half of the 15th century at Koblížná Street no. 4 in Brno (fig. 36: Kob4-54b). An entire neck with ribs and with the attachment of the second one was found in Olomouc (fig. 36: OIPri-069), and it is very likely that a rounded part of a ribbed bottleneck from Opava also came from a kuttrolf (fig. 36: OpKo12-110).

According to finds in the upper layer of cesspit 638/00 at Dominikánská Street no. 5, in the first

half of the 16th century there were large kuttrolfs made of a slightly greenish glass and with multiple necks in Brno. They have a lobate body and a moulding with a wheel-pressed decoration at the base of the neck (fig. 36: D638-03, 23; fig. 37: c). The upper part of two necks from cesspit 4 at Mečová Street no. 2 may also belong to this same type (fig. 36: Me4-012; fig. 37: b, right).

There are no known examples of this type of kuttrolf from Germany. But it appears in the 16th and 17th century in Slovakia (Füryová – Janovíčková 1986, 195-197; Maruniaková 1989, 306-309, fig. 7; Hoššo 2003, Abb. 3: 13) and in Hungary (Gyürky 1986, tab. XLVIII below; Gyürky 1991, Kép 22: 3, 25: 15, 63: 3). It is therefore possible that the pieces from Brno originally came from that region.

Fig. 37. a) VŠX-1; b) Me4-012 (on the left), 013; c) Me638-03, 23.
Obr. 37. a) VŠX-1; b) Me4-012, 013; c) Me638-03, 23.



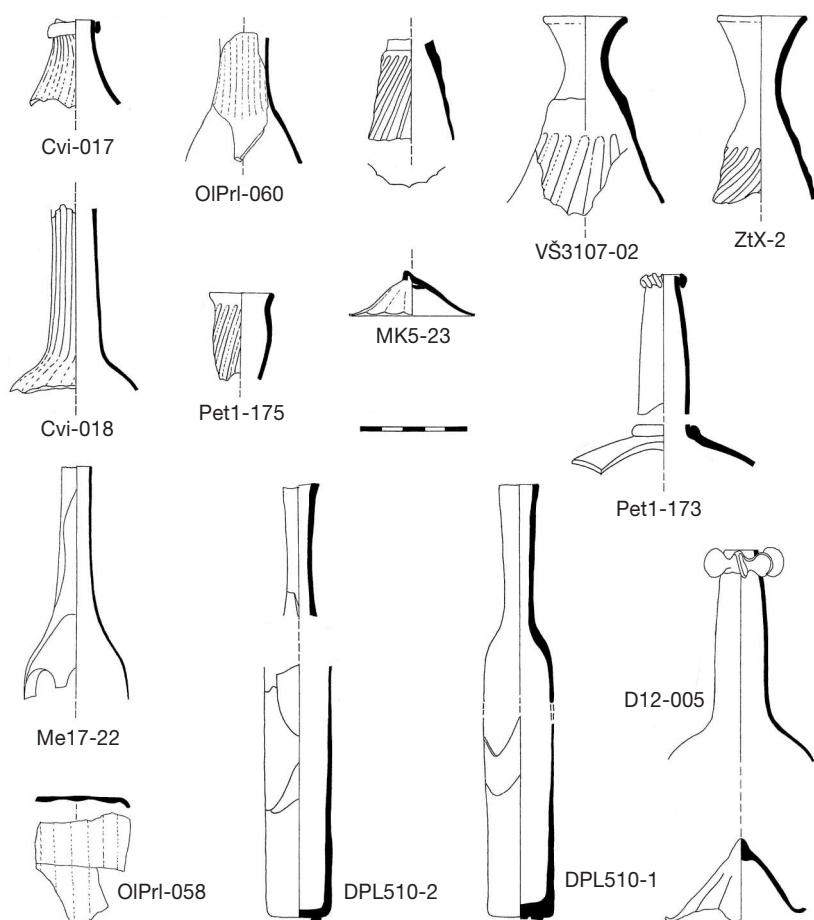
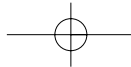


Fig. 38. Bottle tableware.
Last quarter of the 15th century –
circa 1550/60.
Obr. 38. Stolní lahve. Poslední
čtvrtina 15. století – ca 1550/60.

We can also include, in the category of glass tableware, bottles made of blue-green and green glass with a pinched thread around the rim (fig. 38: D12-005, Pet1-173), small slender bottles for spirits made of a bluish and a green glass (fig. 38: Me17-22, DPL510-1, 2), and numerous smaller bottles optically decorated with slanted ribs made of colourless and blue-green glass (fig. 38: MK5-23, ZtX-2, VŠ3107-02, OIPri-060). Evidence of a bottle made in Italy is found in a fragment of a body made of blue soda-lime glass found in Olomouc¹¹⁾ (OIPri-059). The necks of three bottles made of completely colourless, pure glass, found at the Cvilín Castle, are unquestionably of the same origin (fig. 38: Cvi-017, 018).

Before the middle of the 16th century, there is occasionally also evidence of square (e. g. fig. 38: OIPri-058) and cylindrical bottles (OIPri-072, 085, OIŽN2-220 – blue-green glass), which became widespread in the Renaissance.

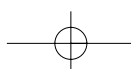
So-called “pilgrim bottles” constitute a special group, optically decorated with ribbing and with two handles on the shoulders of the bottle. In Germany, in the first half of the 16th century they were made of green glass (Baumgartner – Krueger 1988, 424-427). Finds from Olomouc and Brno are made of a slightly greenish or yellowish glass (fig. 36: OIHr7-334, D12-016-017, ZtX-1).

IV.6 Jugs (figs. 39, 40)

Jugs made of glass were rare throughout the Middle Ages. Ceramic products were more practical, and stoneware or metal were more expensive. Only one jug made of greenish glass from the second half of the 15th century is known in Brno, from Starobrněnská Street no. 5 (fig. 39: Stb5-21). A jug with a spherical body thickly coiled with thread dating to the end of the 15th century is known

Note 11:

I would like to thank Katharina Müller of the Technisches Universität Berlin for kindly carrying out the analyses.



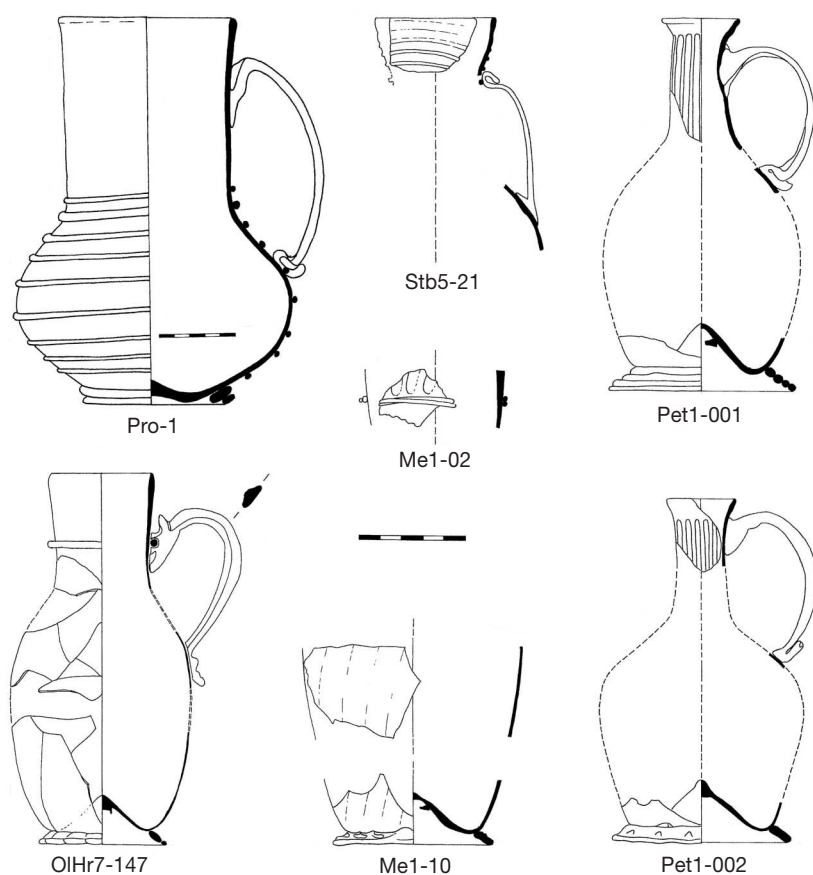


Fig. 39. Jugs. Second half of the 15th century – circa 1550/60.
Obr. 39. Džbány. 2. polovina 15. století – ca 1550/60.



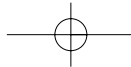
Fig. 40. Pro-1.
Obr. 40. Pro-1.

from Prostějov (fig. 39: Pro-1; fig. 40). The jug became a standard part of household ware around the middle of the 16th century. Usually, they feature optical ribbed decorations made of a slightly greenish and, less often, blue glass (fig. 39: Pet1-001, 002, Me1-02, 10, OIHr7-147).

IV.7 Storage bottles (fig. 41)

Bottles of various sizes used to store liquids appear relatively late. They appear rarely even in the second half of the 15th century, in the form of simple, pear-shaped bottles. The glass is greenish, impure, and often entirely corroded. Usually all that has survived is the pincered base without any other finishing or with a slightly tapered neck with a thread coiled around the rim or tilted and without a thread. Alongside some smooth specimens (NS521-18) there is also an example of a bottle optically decorated with ribs (fig. 41: Or10-08). Small bottles, intended for medicines, are very rare (Me7-16).

From the end of the 15th century and in the first half of the 16th century, storage bottles became more numerous and more diverse in size and style. This is evidently related to the spread of domestic glassworks and the greater availability of cheap utility glass. Nevertheless, it is interesting that more bottles are found in cesspits on church grounds than at secular sites. In a well on Žerotín Square in Olomouc there were roughly 13 bottles. Though only fragments of conical necks, neck bases, or bases have survived, in the majority of cases it is possible to detect that these were small pear-shaped bottles (OIŽN2-010, 014, 023, 028, 032, 039, 041, 042, 220, 281, 294, 295, 298). In waste cesspit I/73, the necks of small bottles were preserved (fig. 44: OIPrI-078, 091) and from other bottles only small fragments of smooth domed bodies of greenish glass remained



(OIPrI-055, 066, 080, 097, 099, 100). While there was only one bottle found in the upper layer of a well in Petrov (Pet1-030 a 031), a large collection of bottle necks and bases were found in the layer dating to the second half of the 15th century (e. g. *fig. 41*: Pet1- 082, 083).

Around the middle of the 16th century, pear-shaped bottles on a low, blown, bell-shaped foot appear, made of greenish or greyish glass, with dark grey, peeling corrosion. They are smooth (*fig. 41*: Me1-11-13, D12-50, 51), and fewer of them are optically decorated with ribbing (*fig. 41*: D12-46).

IV.8 Technical glass – lamps and hourglasses (*figs. 42, 43*)

Glass lamps were found in the Czech lands only rarely. Not long ago, I managed to reconstruct one complete lamp found in Brno in a horizon dating from 1270-1350, considered originally to be fragments of smooth beakers. Made of colourless glass, it is tall with a slightly tapered body and an almost vertically tilted mouth. Analogical finds were then identified in other cesspits dating even from the first half of the 15th century. Alongside these undecorated lamps, another mediaeval Brno find is an Islamic lamp, with enamel and gilded decorations (*Sedláčková 2006, fig. 8: 1*).

In the subsequent period, glass lamps were still known only occasionally from Brno. A fragment of the upper part of a lamp dating from the 15th century was found at Náměstí svobody no. 1, and a lower part was from a well in Petrov dating from the first half of the 16th century (*fig. 42*: NS133-15, Pet1-025). These are pieces of colourless glass with a thick layer of brown corrosion. This type of hanging lamp belonged to the assortment of goods produced by glassworks in Hungary (*Gyürky 1986, tab. VI: 1, 2; Gyürky 2003, Abb. 2: 8*).

A noteworthy example of a lamp, initially considered to be a goblet, came from cesspit 521/04 at Náměstí svobody no. 9 (*fig. 42*: NS521-01; *fig. 43a, b*: NS521-01), dating from between 1455 and circa 1480/90. This luxury product is unique among mediaeval glass products in the European context, and therefore it warrants special attention, and all the more so given that there are many signs indicating that it was produced in a Moravian glassworks.

The torso of this lamp, stuck together out of fragments, has a distinctly domed body with a low cylindrical mouth. The convex bulge merges into the tapered lower part of the body. The base was inserted into the open lower part like a stopper, which was already seen on some of the above-mentioned

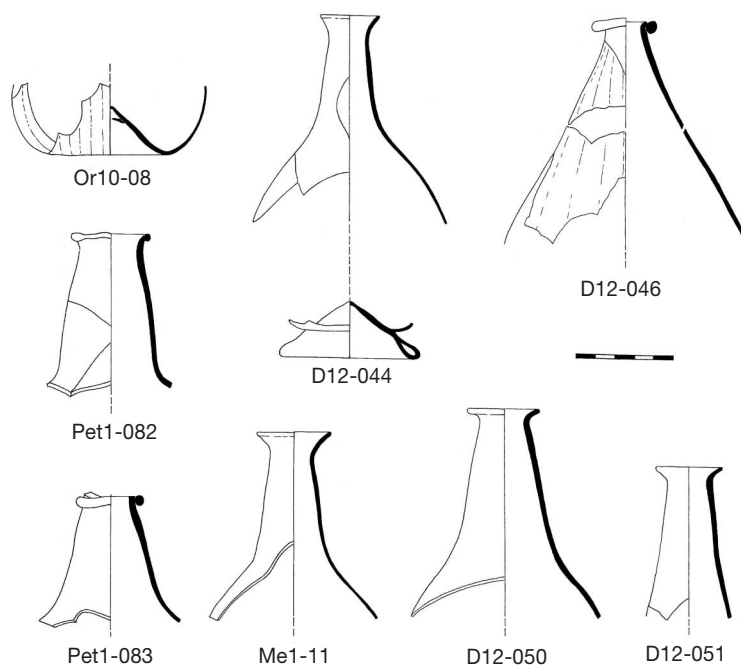


Fig. 41. Storage bottles. Second half of the 15th century – circa 1550/60.

Obr. 41. Zásobní lahve. 2. polovina 15. století – ca 1550/60.

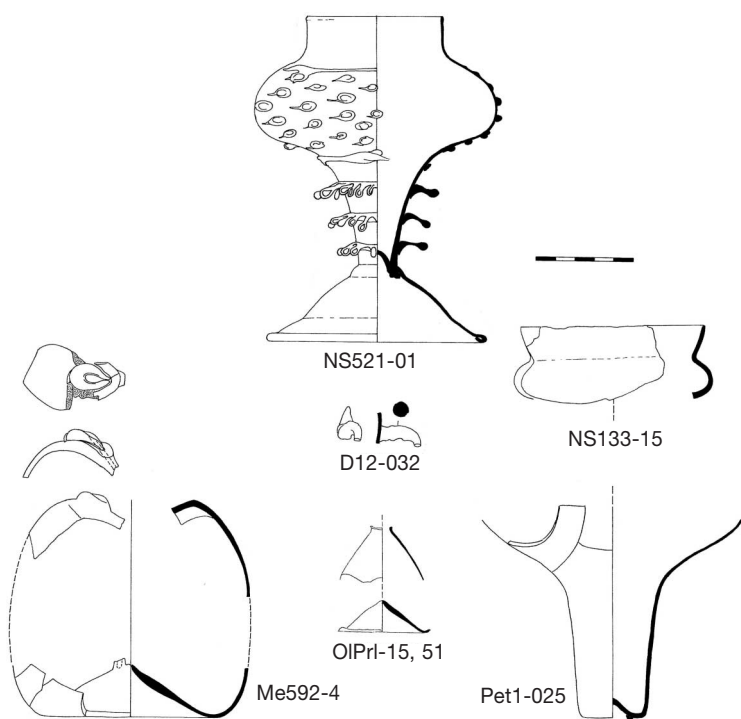


Fig. 42. Lamps. Second half of the 15th century – circa 1550/60.

Obr. 42. Lampy. 2. polovina 15. století – ca 1550/60.

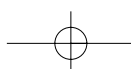




Fig. 43. a) NS521-01; b) close-up of the decoration.

Obr. 43. a) NS521-01; b) detail výzdoby.

Moravian beakers. A bell-shaped Renaissance foot with a folded back rim was attached to the base. It was richly decorated with five rows of coiled prunts across the body. The lower rows are coiled more or less regularly, while the upper ones are only drops of glass with a trace of coiling. This was also seen in Brno and in Jihlava on several club-shaped beakers from the second half of the 15th century. On the neck and on the lower part of the body there are coiled threads. The tapered lower part is decorated with three rows of mouldings with stretched lobed tips with the impression of a pincer on the ends of them (13, 17 and 19 tips). It is rendered in the same way as the foot on the Olomouc-type beaker. It is 17.7 cm in height, with a diameter at the rim of 7 cm and 11.3 cm at the foot. The originally colourless glass with a greyish undertone is covered with a continuous layer of light grey, glossy corrosion.

The attached bell-shaped foot resembles the Renaissance-style beakers that were produced in Venice from the last third of the 15th century. On these older Venetian beakers, we also find a “skirt” of stretched thread beneath the bowl. The closest examples are the above-mentioned beaker of “the Lords of Deblín”, or the beaker of white opaque glass, with the image of a bride and groom and richly decorated with enamel and gilding that comes from the collection of the National Museum in Prague (*Hejna 1953*). From the turn of the 16th century, this feature also appears on products made in German glassworks (*Steppuhn 2003*, 110, cat. no. 3.001). However, to be thorough it should be mentioned that similar decorations are found on a beaker from Prague that forms part of an assemblage dating from between the second half of the 14th and the start of the 15th century (*Janská 1982*, 150-151, 153).

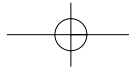
There is no known example of a luxurious table lamp rendered in this style. In Hungary, in addition to simple lamps, there is also a lamp shape with three handles on the body (*Gyürky 1986*, tab. VII: 2-4). A similar type with handles was found in Most (*Černá 2002*, 109, fig. 96: 2) and it may be that a fragment of a body with a handle found in Brno is also an example of this type (fig. 42: D12-032). From Venice simple cylindrical lamps made of quality glass were imported to Hungary (*Gyürky 2003*, Abb. 4: 4) and a lamp decorated with white-glass filigree was imported to Bratislava (*Maruniaková 1989*, 330, fig. 18a).

Essentially, not much imagination was expressed in the shapes of lamps or their decorations. Practicality outweighed any decorative function, though the decorative function of the lamp from Brno is very apparent. It was most likely made at a glassworks in Moravia around 1480, when the first Olomouc-type beakers were beginning to appear. The glassmaker abandoned established patterns and instead combined Gothic prunts with the late Gothic feature of a lobed foot, and sometimes even a Renaissance foot.¹²⁾

To be thorough, I should also mention some fragments of a barrel-shaped vessel with corroded glass found in the cesspit at Mečová Street no. 4 (fig. 42: Me592-4), the lower part of which survived, with a pincer base and with the remains of a channel at its peak. On the upper, domed part of the body there is a strangely placed opening, with a thick coiling thread around it, from which another channel extends. I categorised this find among unknown shapes. However, I recently discovered that lamps with channels leading from the base,

Note 12:

Producing a lamp was not a technically demanding or time-consuming activity. It took the glassmaker Jiří Haidl from Nový Bor 20 minutes and 17 steps to produce a replica.



a structure similar to that of the vessel from Brno, were common in the Islamic world (*Notario – Rey de Viñas 2006*, Cat. No. 8-12).¹³⁾

Hourglasses can also be classified into the category of technical glass. A fragment found of a conical body around 6 cm tall and made of slightly greenish glass is part of an hourglass (*Fig. 42: OIPri-011, 051*). This shape is found on a functional hourglass dating from the period before 1536, which evidently belonged to Desiderius Erasmus, and on an archaeological find from Cologne, dating probably from the 15th century (*Baumgartner – Krueger 1988*, Cat. No. 563, 564).

Note 13:

The catalogue shows only bottoms with the tubes. However, at the exhibition, for which the catalogue was published, a reconstruction was shown of the entire shape, based on other finds from Andalusia, which is what led me to consider that the Brno vessel had the same function.

IV.9 Laboratory and hygienic glass (*fig. 44*)

Evidence of the use of ceramic vessels in distillation dates back to the fourth millennium BC (*Kurzmann 2000*, 27). From the 9th century AD, distillation apparatus made of glass were already found in the Arab world (e. g. *Notario – Rey de Viñas 2006*, cat. no. 34), but in medieval Europe ceramic materials continued to be used for a long time. It was only from the middle of the 15th century that a glass alembic for distillation appeared and, up to the 17th century, was documented at 80 sites (*Kurzmann 2000*, 57-59, Taf. 3). The closest find is from Buda and it dates from the years 1375-1441. According to written sources, at that time both apothecaries and goldsmiths were working on the lot with the cesspit in which the alembic was found. Both of these professions used distillation apparatus, either to produce acid to process metal or to distil oils from herbs. One product they made was “aqua vitae” – alcohol. Small crucibles and a number of fruit stones were also found on the same lot, so it may have been for either of the two uses (*Gyürky 1982*, 204-208, Abb. 13: 13, 21 and 22). On the castle grounds of Oberstockstall in Lower Austria where an alchemic laboratory was based in circa 1549 to 1580/90, not just parts of a distillation apparatus made of ceramic and glass were found, but also crucibles and cherry stones (*Osten 1998*).

There is thus far little such evidence from Moravia. A fragment of a ceramic distillation bowl was found at the castle in Lelekovice (*Ungr 1999*, 104). Laboratory and “alchemy” glass do not appear until just before 1540. In cesspit I/73 in Olomouc, fragments were found of two spherical flasks with diameters measuring 8 and 6.7 cm. Originally, they were made of colourless glass, but are now covered with light-beige corrosion. The inside surface of the smaller flask is covered with a continuous layer of black, matte, metal-like material (*fig. 44: OIPri-038, 067*). The fragment of the larger flask-like vessel – the cucurbit – made of greenish glass is covered on the inside with a layer of lightly burnt clay with a roughly polished surface (*OIPri-061, Sedláčková ed. 1998*, cat. no. 13.1-2). A massive tube made of thick-walled green glass and a thin tube of a slightly greenish glass may have been parts of the alembic (*fig. 44: OIPri-082, 083*). A fragment of a spherical body

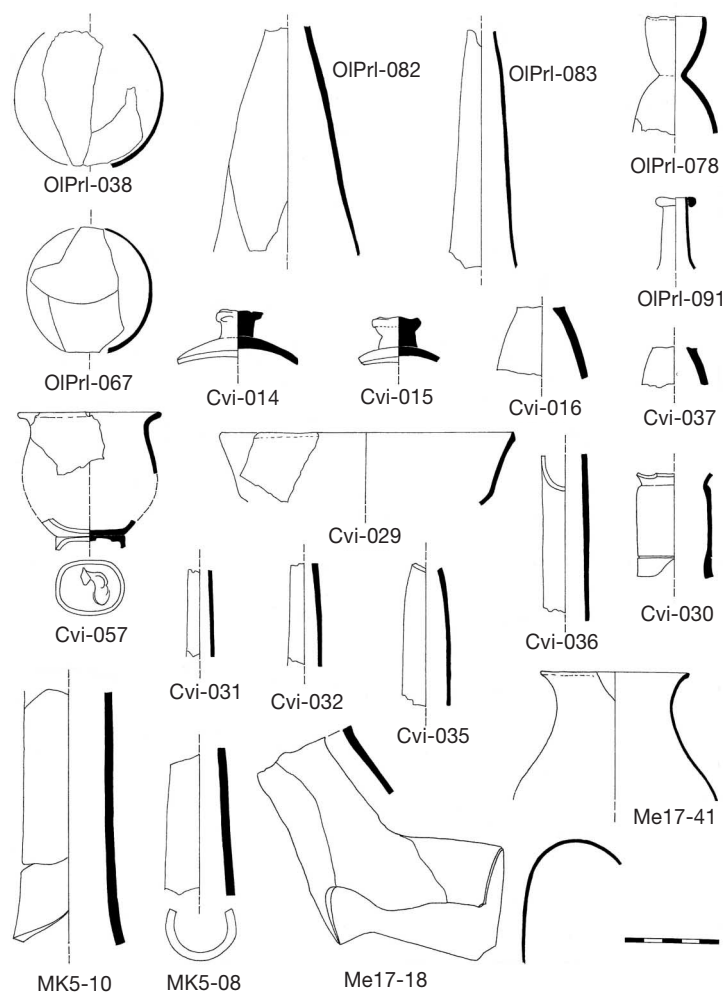
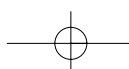


Fig. 44. Laboratory and hygienic glass. End of the 15th century – circa 1550.

Obr. 44. Laboratorní a hygienické sklo. Závěr 15. století – ca 1550.



wrapped around with a ring of several rows can provisionally be interpreted as a still pot – the cucurbit (OIPrI-052). It is interesting in this regard that crucibles with verdigris residue on the bottom were also found in the cesspit (*Bláha 1999*, cat. no. 606-610). It can be assumed that what was run on this lot was a technical type of laboratory, where an hourglass and some bottles could also have been used (*fig. 42*: OIPrI-015, 051; *fig. 44*: OIPrI-078, 091).

Also dating from this period is a collection of laboratory glass from the Cvilín Castle at Krnov, where several alembics, cucurbits, numerous tube fragments, ointment bottles, an albarello, and a wide bowl were also found (*fig. 44*: Cvi-014-016, 029-032, 035-037, 057). This collection was more likely used for medicinal purposes, including the production of alcohol. Somewhat younger are the finds of fragments of thick-walled massive tubes from cesspit 5/89 by the kitchen of the Minorite monastery in Brno (*fig. 44*: MK5-08, 10).

In collections from this period, we relatively often come across fragments of cylindrical necks made of thin-walled glass wrapped around with a thick thread. The inside diameter of one was around 4.5 cm. I believe that this is part of the remains of a urinal. The pear-shaped urinal was found in cesspit 17/90 at Mečová 2, where part of a bedpan made of green glass was also found (*fig. 44*: Me17-41 a 18).

IV.10 Small objects: beads, marbles and rosary rings

A number of small glass playing marbles have been found in Olomouc cesspits. In cesspit 124/96 at Pavelčákova Street no. 22, there were eight pieces found (*Sedláčková 2001*, 446), another eight were found in cesspit 12/96 at Dolní Náměstí no. 20 (*Drobný – Sedláčková 1997a*, 21, *fig. VIII*, 9), and six were found in a well at Žerotín Square no. 2 (OIŽN2-002, 024, 049, 140, 145, 216). Those that survived intact had a diameter between 10 and 14 mm, and all of them were from secondarily opacified, light to dark grey glass.

From a cesspit at Dolní Náměstí no. 20, a collection of at least 20 rosary rings was found, rolled out of a glass thread with an outside diameter of 20–25 mm. The originally clear, very slightly greenish soda-lime glass was preserved on only one of them (*Sedláčková ed. 1998*, cat. no. 04.1-3, 106, analysis no. 3), while the glass of the others was of a secondarily opacified grey colour.

In Brno, a smooth oval bead made of clear, deep green glass, with a length of 6 mm, was found only in the bottom layer of cesspit 7/90 at Mečová Street no. 2 (Me7-23).

IV.11 Window glass (*fig. 45*)

Window glass ended up in the fill of features certainly only after it had been in use for a long time. Often, the finds are just small fragments located in the layers with construction debris. Nevertheless, it is possible to observe that in objects from the second half of the 15th century the finds are exclusively window discs with sealed rims and a diameter of 13-14 cm (e. g. *fig. 45*: Me17-08) or occasionally 11 cm or 15-16 cm (e. g. *fig. 45*: D12-164). In younger features, window discs with a diameter between 8.5 and 11 cm and with a folded-over rim gradually become more common (e. g. *fig. 45*: DPL531-035, Pet1-003), but the earlier type with the sealed edge continues to be found (e. g. *fig. 45*: D12-054, Pet1-004). Window panels of various shapes cut into the window discs are common (e. g. *fig. 45*: DPL531-036, 037). Only occasionally have lead frame fragments with an “H” profile survived (MK5-19).

Older type glass is usually greenish and less often yellowish in colour. Window discs with a folded-over rim are made of thinner glass with a greenish, yellowish, or often greyish tinge. Some fragments are made of high-quality colourless glass.

Occasionally, the window discs are optically decorated with patterns of ribs and lentiles. Such pieces were found at the Cvilín Castle at Krnov and in cesspit 546/00 at Mečová Street no. 4 in Brno (fig. 45: Cvi-100, 101, Me546-4, 5). Analogical fragments are known from Budapest (*Gyürky 1986*, tab. XLV below). The Cvilín fragments and as yet unpublished finds from an excavation of a cesspit on Kolářská Street in Opava¹⁴) make it possible to assume that they were produced in northern Moravia; finds from Budapest at the same time confirm the previously mentioned assumption about the intensity of contacts between Moravia and Hungary during the reign of Matthias Corvinus and also perhaps under Vladislav Jagello.

Some rare finds are of fragments of sheet glass, usually of high quality (OIPrI-075, Me1-15 – completely colourless and 3 mm thick). Fragments of thick, corroded sheet glass with traces of Schwartzlot paint, found in cesspit 5/89 at the Minorite monastery in Brno, more likely date back to the mediaeval period (MK5-13). However, a fragment of thin glass, covered with Schwartzlot, was also found in a layer dating to the middle of the 16th century on the grounds of Velký špalíček in Brno. The delicate decorations of typically Renaissance ornamental motifs were subsequently scratched off by the time it reached this layer (VŠ3107-1). The fragment was probably part of a decorative box.

V. Conclusion: The Renaissance arrived in Moravia with glass

I am able to express this opinion after having analysed at least two thousand specimens of hollow and window glass from 34 whole items in Brno, 11 in Olomouc, and 5 in Opava and Cvilín Castle dating from the period around 1450–1560. In this volume of finds, it is possible to observe the gradual changes that led from the Gothic to the Renaissance period:

- The remarkable increase in the amount of glass is certainly linked to the spread of domestic glassmaking. This situation is most striking in Olomouc where, before the middle of the 15th century, there was almost no glass at all. Most features containing glass date from the end of the 15th century. Large collections of glass are also found in Opava, often dozens of vessels, appearing from the middle of the 15th century. In Brno, where glass was imported from roughly the 13th century, this continuous trend continued even after the middle of the 15th century. From approximately 140 features, 34 (whole or just their parts in the form of some layers) of them are from this period and the glass found in them represents approximately 30% of all the glass found in all the features together.

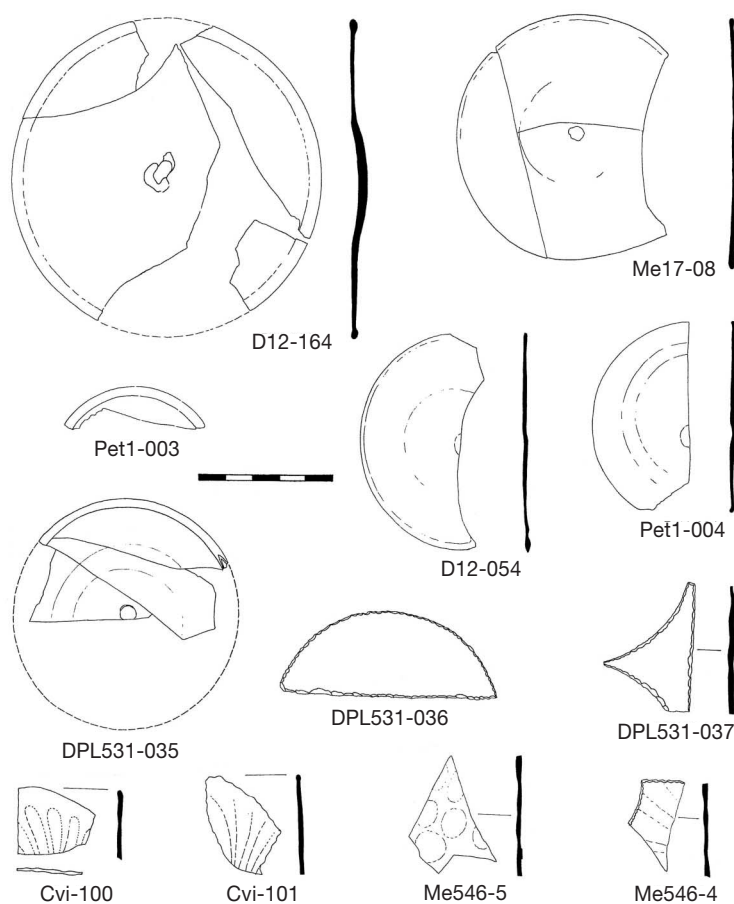


Fig. 45. Window glass.
Second half of the 15th century –
circa 1550/60.

Obr. 45. Okenní sklo.
2. polovina 15. – ca 1550/60.

Note 14:

I would like to thank Michal Zezula for allowing me to view the finds from an excavation of the National Institute of the Care of Monuments, Ostrava.

- Around the middle of the 15th century, changes in style begin to become apparent on hollow glass. These changes include new decorative elements on already existing types of tall beakers (Opava, Brno – crescent-shaped prunts and slanted mouldings with wheel-pressed decoration), in Olomouc we can see new shapes and decorations (low club-shaped beakers, zigzags of glass threads, thickly spiralling coiled thread). Imports from the south begin to wane (see the prunted beakers and bottles with funnel-shaped mouths), and glass from Germany reappears (see the first krautstrunk beakers and stangenglas).

- Between 1480/90 and circa 1540, there is a literal boom in domestic glass. Production takes on a mass character and conforms to contemporary trends and to customers' needs – see the Olomouc-type beakers. It is possible to observe a general tendency toward smaller shapes – tall Gothic beakers are replaced with smaller versions. Instead of prunts they have optical decorations, applied threads form zigzags and garlands, or the beakers are wrapped around with a thread with a wheel-pressed decoration. Especially popular in Brno are different types of beakers, variously executed and made of different kinds of glass material. Glass from Germany and Italy inspired production in domestic glassworks. Knowledge of Italian glass reached Moravia through Hungary, but it was imported in the form of glass from Hungarian glassworks. At the close of this period, Renaissance goblets began to appear, along with beakers on a blown bell-shaped foot. Examples of alchemy and technical glass also appear. In Olomouc, a larger number of finds come from Church grounds, while in Brno the absolute majority of finds come from the upper and middle urban stratum.

- Around the middle of the 16th century, glass in Gothic shapes vanishes from the cesspits. Almost all the shapes of the advanced Renaissance appear instead: goblets, beakers, jugs, and bottles. Optical decorations are almost the rule.

Glass finds from this period certainly reflect the political situation in the country, manifesting itself in economic prosperity, trade contacts, and cultural ties. In this regard glass represents a very valuable historical source.¹⁵⁾

Note 15:

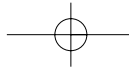
The work is based entirely on glass finds. Moravian glassworks is an extensive topic that should be studied cooperatively by historians and archivists and subsequently with the aid of field prospecting, which has only been conducted on the Branná estate, but with very positive results (*Gelnar – Štěpán 2000*).

Resumé:

Množství podrobně zpracovaného dutého i okenního skla z více než padesáti celků z Brna, Olomouce, Opavy a dalších lokalit ukazuje, že sklo zůstalo na Moravě v tomto období velmi výraznou složkou hmotné kultury. Bylo možné sledovat postupnou přeměnu gotických tvarů v renesanční, regionální odlišnosti v tvarových variantách, ale i podíl importů a jejich vliv na domácí výrobky.

Rozvoj domácího sklářství souvisel s tendencí industrializace tohoto výrobního odvětví v okolní Evropě i se změnou životního stylu, kterou přinášel přechod k renesanci. Sklo se z kategorie luxusního zboží dostávalo stále více do domácností i středních měšťanských vrstev a stoupala jeho spotřeba. Sklářství v reakci na zvyšující se poptávku potřebovalo vyrábět více a rychleji, a proto docházelo k inovacím. Nejprve se projeví na výzdobných prvcích. Nálepy na vysokých číších se zmenšují do drobné srpečkovité, často až čárkovité formy, zvyšuje se podíl hladkých částí těla (Brno, Opava). Vedle klasických vysokých číší jsou takto zdobené i nižší, kyjovité tvary (Brno, *obr. 1-3*). V průběhu 2. poloviny 15. století se objevují také vysoké číše ovinuté šikmými lištami, zdobenými radélkem (Brno, Opava, *obr. 4, 5*). Podle nálezů v několika souborech z Brna obě varianty číší dožívaly v 1. polovině 16. století.

Krátce před polovinou 15. století se v Olomouci a později i v Brně, Opavě a na hradu Cvilín objevuje skupina nádob s výzdobou natavené klikatky, hustě ovinuté vlákny i s girlandami, objevují se první číše s optickým dekorem svislých žeber (*obr. 6, 7, 8, 9a-c*).



Mezi posledními desetiletími 15. až 1. polovinou 16. století se často vyskytují zmenšené varianty vysokých číší, tzv. pozdní gotická drobná číše (Brno, Olomouc, Opava, *obr. 10*) a číše olomouckého typu (*obr. 11, 12a-c*). Obě varianty jsou jednoduše zdobené ovinutými vlákny s radélkem, většina číší olomouckého typu má předfukovaná svíslá žebra.

Nečetné německé stangenglasy z modrozeleného skla jsou v nálezech rozptýlené od 1. poloviny 15. do poloviny 16. století. Jedná se o různorodou skupinku, nasvědčující nepravidelnému dovozu z různých středisek. Některé číše tohoto typu z nekvalitního, bezbarvého, případně nazelenalého skla však mohly být vyrobeny v domácích sklárnách. Nejmladší stangenglas z modrého skla již je vlastně renesanční číší na duté zvonovité patce, zdobenou nálepy (*obr. 13, 14a-c, 15a-e*).

S rostoucí oblibou menších tvarů souvisely množství i variabilita číšek. Číšky s nálepy, dříve ve velkém množství dovážené do Brna z Itálie, postupně mizí a jsou nahrazovány domácími číškami soudkovitého těla i číškami s vícebokou kupou (*obr. 16, 17a-b, 18, 19a-c*). První krautstrunky z modrozeleného skla se vyskytly již před rokem 1423, poslední jsou datovány do poloviny 16. století. I tento tvar byl vyráběn v domácích sklárnách (*obr. 20, 21*). Ze 2. čtvrtiny 16. století je v Brně a na novokřtěnských dvorech známá skupina číšek různých tvarů a výzdoby z modrozeleného skla, většinou s hladkým vláknem okolo dna (*obr. 22, 23a-c*). Dalším typem byla číška z bezbarvého skla, předfukovaná nebo vyfouknutá do formy se svíslými žebry. Převahu nálezů tvoří jednoduché tvary dovážené z Itálie i vyráběné doma (*obr. 24, 25b*).

V poslední čtvrtině 15. století lze na moravských nálezech pozorovat sílící vliv renesančního benátského sklářství zprostředkovaný přes Uhry v době vlády Matyáše Korvína. Obliba benátského skla v Uhrách je doložena písemnými prameny i četnými archeologickými nálezy, typické tvary číší na vysoké zvonovité patce byly napodobovány i v domácích sklárnách. Podle dobových pramenů byl král ctitelem benátského skla, které nakupoval ve velkém množství pro svou potřebu a byl jím obdarováván. O několika obzvláště luxusních číších je známo, že je osobně věnoval svým příznivcům. Jedním z takových královských darů je nepochybně tzv. číše pánů z Deblína, dnes uložená v Britském muzeu v Londýně. Unikátní číše, dochovaná pouze ve čtyřech ne zcela identických exemplářích na světě, byla patrně dodatečně opatřena nápisem s chybným datováním a určením majitelů a podle tohoto nápisu je dnes nazývána. Méně honosná číška s emailovým dekorem kentaurů a vročením 1518 se dochovala v muzeu v Prostějově (*obr. 33*). Tvar této číšky je předlohou později velmi oblíbených číší na duté zvonovité patce.

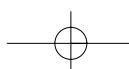
Do odpadních jímek se sklo této kvality dostávalo jen ojediněle. Dvě drobné číšky s emailovým dekorem jsou známy pouze z Brna a Olomouce (*obr. 24; 25: a, b*).

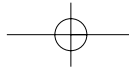
Drobné kónické číšky s plošným dekorem čoček, dovážené do Brna od 14. století, byly postupně nahrazeny domácími tvary a kolem poloviny 16. století se mění ve stejně zdobené válcovité číšky se dnem ovinutým vláknem. Tyto číšky i hladké trychtýřovité číšky na zvonovité patce ze svinutého vlákna zůstávají i v repertoáru renesančního skla rudolfinského horizontu (*obr. 26*).

V závěru 15. století se ve střední Evropě znovu objevují poháry. Nejprve se jedná o číšky různých variant, opatřené vyšší, různě utvářenou patkou. Několik takových exemplářů je známo i z Moravy (*obr. 27, 30*). První klasické poháry začaly severně od Alp vyrábět od roku 1534 sklárny v tyrolském Hallu. Celý pohár z Hallu a zlomky dvou dalších pocházejí z Olomouce; celý pohár je unikátní nejen tvarem a stavem dochování, ale i paralelou s tzv. Lutherovým pohárem, uloženým v Germanische Nationalmuseum v Norimberku (*obr. 28, 29*). V jímkách datovaných do doby okolo 1550 se již vyskytují výhradně klasické renesanční poháry (*obr. 31*).

Oblíbené číše na duté zvonovité patce se objevují v souborech skla krátce před polovinou 16. století. Nejprve byly nepochybně dováženy ze skláren v Hallu nebo Dolním Rakousku, kolem poloviny století jsou již běžně rozšířené hladké tvary z nazelenalého skla domácí provenience (*obr. 32*).

Ke stolním sklu patří i různé varianty stolních lahví, rozšířené především v Brně. Dožívají lahve se žebry a trychtýřovitým ústím ovinutým modrými vlákny z kvalitního skla, jež jsou nahrazeny lahvemi se stejně zdobeným miskovitým ústím z méně kvalitního skla. Výroba těchto lahví je doložena v Uhrách. Na severu Moravy se v této době objevuje několik lahví s vnitřním prstencem a soudkovitou spodní částí těla, což je tvar známý především z Maďarska (*obr. 34, 35*). Typický představitel německého skla v 16. století – kutrolf – je doložen jen několika exempláři v Brně, Olomouci a Opavě, opět jak ze zeleného až modrozeleného skla, tak ze skla bezbarvého, silně zkorodovaného. Několik kutrolfů s více hrdly, lalokovitým tělem a lištou s radélkem na plecích má analogie ze 16. a 17. století na Slovensku a v Uhrách. Před polovinou 16. století se objevují první poutnické lahve (*obr. 36, 37a-c*). Výčet tvarů stolního skla z 1. poloviny 16. století završují menší lahve s optickým dekorem žeber, zdobené vytahovanou lištou na okraji, i hladké, štíhlé lahvičky. Zcela ojediněle se začínají objevovat lahve čtyřboké (*obr. 38*).





Džbán ze skla byl vzácným tvarem po celý středověk a běžným výrobkem se stal teprve kolem poloviny 16. století. Starší exempláře jsou známy jen z Prostějova a z Brna (*obr. 39, 40*).

V průběhu 2. poloviny 15. a 1. poloviny 16. století se zvyšuje počet nálezů zásobních lahví většinou hruškovitého těla (*obr. 41*).

Ojedinělou ukázkou v evropském kontextu je lampa z Brna, datovaná do doby kolem roku 1480. Setkávají se na ní gotické svinuté nálepy a renesanční patka; tři řady lalokovitě vytahovaných lišt na spodní části těla a sklo silně postižené korozií poukazují na moravský původ v okruhu výroby číší olomouckého typu. Ukázkami běžného typu závěsné lampy jsou dva nálezy z Brna, drobným zlomkem je patrně doložena lampa s oušky. Jako lampa může být s rezervou interpretována i nádoba soudkovitého těla s trubičkou, vedoucí ode dna k otvoru v plecích. Kuželovitá lahvička z Olomouce patrně byla součástí přesýpacích hodin (*obr. 42, 43: a, b*).

Od závěru 15. století se na Moravě poprvé objevují doklady laboratorního skla – alembiky, baňky a trubice, lahvička na mast a albarello (?), vzácně i urinál a „bažant“ (Olomouc, Cvilín a Brno, *obr. 44*).

Mezi množstvím hladkých okenních terčků upoutává několik nálezů s optickým dekorem, které jsou vedle Brna, Cvilína a Opavy známy také z Budy (*obr. 45*).

Většinu nálezů skla na Moravě můžeme považovat za domácí výrobky. Ukázalo se tak, že v pojednávaném období v žádném případě nedošlo k útlumu domácího sklářství, naopak je patrný jeho velký rozvoj, doložený množstvím i různorodostí vyráběných tvarů. Sortiment byl v menší míře doplňován dovozem skla z německých skláren, z Itálie a především z Maďarska.

Bibliography:

Balogh, J. 1975: Die Anfänge der Renaissance in Ungarn. Forschungen und Berichte des Kunsthistorischen Institutes der Universität Graz IV. Graz.

Baumgartner, E. 1987: Glas des späten Mittelalters. Die Sammlung Karl Amendt. Düsseldorf.

Baumgartner, E. – Krueger, I. 1988: Phoenix aus Sand und Asche. Glas des Mittelalters. Bonn – Basel.

Bláha, J. 1998: Komunikace, topografie a importy ve středověku a raném novověku (7.-17. století) na území města Olomouce – Die Kommunikationen, Topographie und Importe im Mittelalter und der Frühzeit (7.-17. Jh) auf dem Gebiet der Stadt Olmütz. Archaeologia historica 23, 133-159.

- 1999: Archeologie a poznání výtvarné kultury období 1400-1550. In: Hlobil, I. – Perůtka, M (ed.): Od gotiky k renesanci. Výtvarná kultura Moravy a Slezska III. Olomoucko. Olomouc, 585-637.

Biszkont, J. 2005: Późnośredniowieczne szklarstwo na Śląsku. Wratislavia Antiqua. Studia z dziejów Wrocławia 7. Wrocław.

Bruckschen, M. 2004: Glasfunde des Mittelalters und der frühen Neuzeit aus Braunschweig. Bedeutung, Verwendung und Technologie von Hohlglas in Norddeutschland. Materialhefte zur Ur- und Frühgeschichte Niedersachsens, Band 35. Rahden/Westf.

Cejnková, D. 1986: Malý špalíček – Starobrněnská 5. Nálezová zpráva. Ms., housed in Brno City Museum, no. 1/86.

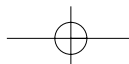
Černá, E. 1997: Sklo ve výbavě středověkého mosteckého domu – Glas in der Ausstattung des Mittelalterlichen Hauses in der Stadt Most (Brüx). Archaeologia historica 22, 331-344.

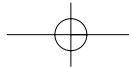
- 2002: Sklo 13. až 16. století – 13th-16th century glass. In: Klápště, J.: Archeologie středověkého domu v Mostě (čp. 226). Mediaevalia archaeologica 4, Praha – Most, 93-114.

Černá, E. (ed.) 1994: Sklo v zemích koruny české. Katalog výstavy. Most.

Dexel, T. 1983: Gebrauchsglas. Gläser des Alltags vom Spätmittelalter bis zum beginnenden 20. Jahrhundert. München.

Drahotová, O. et al. 2005: Historie sklářské výroby v českých zemích I. Od počátků do konce 19. století. Praha.





Drahotová, O. – Žegklitzová-Veselá, J. 2003: Die Typen der Renaissancekelchgläser (Weingläser) in venezianischer Art aus böhmischen und mährischen Fundorten. Beiträge zur Mittelalterarchäologie in Österreich 19, 119-126.

Drobný, T. – Sedláčková, H. 1997: Kachle a sklo z odpadní jímky ze 16. století v Olomouci – Ofenkacheln und Glas aus einem Abfallbehälter von dem 16. Jh. in Olomouc (Olmütz). Muzejní a vlastivědná práce 35, 129-140.

- 1997a: Olomouc Dolní Náměstí 20. Odpadní jímka 12/96. Nálezová zpráva. Ms., housed in the Archives of the National Institute of the Care of Monuments, Olomouc.

Dumitrache, M. 1990: Glasfunde des 13. – 18. Jahrhunderts aus der Lübecker Innenstadt. Grabungen 1948 – 1973. Lübecker Schriften zur Archäologie und Kulturgeschichte 19, 7-161.

Egg, E. 1962: Die Glashütten zu Hall und Innsbruck im 16. Jahrhundert. Tiroler Wirtschaftsstudien 15. Innsbruck.

Foy, D. – Sennequier, G. 1989: A travers le verre du moyen age a la renaissance. Katalog zur Ausstellung. Rouen.

Fryda, F. 1979: Středověké sklo v západních Čechách – Mittelalterliches Glas in Westböhmen. Sborník Západočeského muzea v Plzni. Historie II, 8-78.

- 1990: Typologie středověkého skla v Čechách od 13. do konce 15. století – Zur Typologie des böhmischen Glases aus dem Mittelalter vom 13. Bis zum 15/16. Jahrhundert. Sborník Západočeského muzea v Plzni. Historie V, 59-84.

- 2000: Nálezy skla z Rábí, Gutštejna a Klenová – Glasfunde aus Rábí, Gutštejn und Klenová. Historické sklo 2. Sborník pro dějiny skla. Čelákovice, 117-124.

Füryová, K. – Janovičková, M. 1986: Stredoveké sklo v zbierkach Archeologického ústavu SNM – Mittelalterliches Glas in den Sammlungen des Archäologischen Institutes des SNM. Zborník Slovenského národného múzea LXXX, História 26, 181-213.

- 1988: Odras vplyvu benátskeho sklárstva na nálezoch stredovekého skla z územia Slovenska – Widerspiegelung des Einflusses venezianischen Glashüttenwesens auf das in der Slowakei gefundene mittelalterliche Glas. Archaeologia historica 13, 619-631.

Gelnar, M. – Štěpán, V. 2000: Sklářské hutě na panství Branná z pohledu archeologické prospekce. Ms., archiv autorky.

Glatz, R. 1991: Hohlglasfunde der Region Biel. Zur Glasproduktion im Jura. Bern.

Gyürky, K. H. 1982: Forschungen auf dem Gebiete des mittelalterlichen Buda: Ein unbekanntes Wohnhaus und der Ursprung eines Destillierkolbens. Acta Archaeologica Academiae Scientiarum Hungaricae XXXIV, 179-211.

- 1986: Az Üveg. Katalógus. Monumenta Historica Budapestiensia. BTM. Budapest.

- 1991: Üvegeg a kozepkori Magyarországon. BTM. Budapest.

- 2003: Glasimport und Glasherstellung im mittelalterlichen Ungarn. Beiträge zur Mittelalterarchäologie in Österreich 19, 47-53.

Haase, G. 1988: Sächsisches Glas. München.

Hejdová, D. 1975: Types of medieval Glass Vessels in Bohemia. Journal of Glass Studies 17, 142- 150.

Hejdová, D. – Fryda, F. – Šebesta, P. – Černá, E. 1983: Středověké sklo v Čechách – Mittelalterliches Glas in Böhmen. Archaeologia historica 8, 243-266.

Hejdová, D. – Nechvátal, B. 1967: Studie o středověkém skle v Čechách. (Soubor z Plzně, Solní ul.) – Studie über das mittelalterliche Glas in Böhmen. (Fundkomplex aus Plzeň, Solní ul.). Památky archeologické LVIII-2, 433-498.

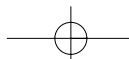
Hejna, A. 1953: Renesanční pohár ve sbírkách Národního musea v Praze – Bokal epochi renesanca v sobranii Nacionalnogo muzeja v Prage. Časopis Národního musea, oddíl věd společenských CXXII-1, 47-55.

Henkes, H. E. 1994: Glas zonder glans – Glass without gloss. Rotterdam Papers 9. Rotterdam.

Hetteš, K. 1973: Benátské sklo. Katalog UPM Praha.

Himmelová, Z. 1990: Sklo středověkého Brna – Mittelalterliches Glas in Mähren. Archaeologia historica 15, 437-446.

- 1997: Nálezy dutého skla z archeologického výzkumu hradu Melice na Vyškovsku – Das Hohlglas in den archäologischen Funden von den Burg Melice. In: Z pravěku do středověku. Sborník k 70. narozeninám Vladimíra Nekudy – Aus der Urgeschichte zum Mittelalter. Festschrift für Vladimír Nekuda. Brno, 219-224.



Himmelová, Z. – Procházka, R. 1995: Brno – Mečová 2. Nálezová zpráva z archeologického výzkumu 1990-1991. Ms., housed in the Archives of Archaia Brno.

Hlobil, I. – Perůtka, M. (ed.) 1999: Od gotiky k renesanci. Výtvarná kultura Moravy a Slezska 1400-1550. III. Olomoucko. Olomouc.

- 2002: Od gotiky k renesanci. Výtvarná kultura Moravy a Slezska 1400-1550. I. Úvodní svazek. Olomouc.

Holub, P. – Sedláčková, L. 2005: Brno, Náměstí svobody 9. Nálezová zpráva. Ms., housed in the Archives of Archaia Brno, no. A 69/04.

Hoško, J. 2003: Mittelalterliche und neuzeitliche Glasfunde aus der Slowakei. Stand der Forschung. Beiträge zur Mittelalterarchäologie in Österreich 19, 91-106.

Chamonikola, K. (ed.) 1999a: Od gotiky k renesanci. Výtvarná kultura Moravy a Slezska 1400-1550. II. Brno. Brno.

- 1999b: Od gotiky k renesanci. Výtvarná kultura Moravy a Slezska 1400-1550. IV. Opava. Brno.

Janská, E. 1982: K novým nálezům gotického skla v Praze. Staletá Praha XII. Památková péče a umělecká řemesla, 149-159.

Jordánková, H. – Loskotová, I. – Merta, D. 2004: Odras domácí války v produkci brněnských kamnářů druhé poloviny 15. století – Widerspiegelung des Heimkrieges in der Produktion der Brüner Ofensetzer in der zweiten Hälfte des 15. Jahrhunderts. Archaeologia historica 29, 581-596.

Kos, M. – Šmit, Ž. 2003: Ljubljana Glassworks – New Discoveries. The Report on archaeometrical Research. Beiträge zur Mittelalterarchäologie in Österreich 19, 75-80.

Krajíc, R. et al. 1998: Dům pasíře Prokopa v Táboře (Archeologický výzkum odpadní jímky v domě čp. 220) – Das Haus des Gürtlers Prokop in Tábor (Archäologische Erforschung der Abfallgrube im Haus Cnr. 220). Tábor.

Král, J. 1964: Středověké nálezy v Opavě 1963. In: Přehled výzkumů 1963. Archeologický ústav ČSAV, pobočka v Brně. Brno, 67-68.

Kurzmann, P. 2000: Die destillation im Mittelalter. Archäologische Funde und Alchemie. Tübingen.

Lazar, I. 2003: Medieval Glass in Slovenia – some principal Forms. Beiträge zur Mittelalterarchäologie in Österreich 19, 81-89.

Lehečková, E. 1975: Nové nálezy středověkého skla z Kutné Hory – Neue mittelalterliche Glasfunde aus Kutná Hora. Památky archeologické LXVI-2, 450-485.

Maruniaková, M. 1989: Sůbor skla z Bratislavského hradu – Die Glaskollektion aus der Burg von Bratislava. Zborník Filozofickej fakulty Univerzity Komenského. Historica XXXIX-XL, 295-335.

Merta, D. 1999: Brno, Panenská ulice. Nálezová zpráva. Ms., housed in the Archives of Archaia Brno, no. 29/99.

Merta, D. 1999a: Brno, Starobrněnská 2-4, 6, 8. Velký Špalíček. Nálezová zpráva. Ms., housed in the Archives of the Institute of the Care of Archaeological Monuments, Brno, no. 105/00.

Merta, D. – Peška, M. 1999: Brno, Knihovna Jiřího Mahena. Nálezová zpráva o provedení archeologického výzkumu. Ms., housed in the Archives of Archaia Brno, no. 28/99.

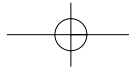
Merta, D. – Peška, M. – Sedláčková, H. 2002: Příspěvek k poznání středověkého skla z Brna – Ein Beitrag zur Erkenntniss mittelalterlichen Glases aus Brno. In: Pravěk NR 12. Brno, 359-412.

Merta, D. – Peška, M. – Zůbek, A. 2003: Dřevěné stavební prvky z Velkého Špalíčku – Wooden Construction Elements from Velký Špalíček. In: Hašek, V. – Nekuda, R. – Unger, J. (ed.): Ve službách archeologie IV – In service to archaeology IV. Brno, 202-206.

Merta, D. – Zapletalová, D. – Zůbek, A. 2001: Brno – Obchodní galerie Velký špalíček. Nálezová zpráva o záchranném archeologickém výzkumu, díl I-III. Ms., housed in the Archives of Archaia Brno, nos. 28/99, 18/01.

Mester, E. 1997: Középkori Üvegeg. Visegrád Régészeti Monográfiái 2. Visegrád.

- 2003: Research of medieval Glass Vessels and Glasshouses in Hungary. Beiträge zur Mittelalterarchäologie in Österreich 19, 55-74.



Meszárosová, K. 1983: Nález stredovekého skla v Trnave – Der Fund von mittelalterlichen Glas in Trnava. Zborník Slovenského národného múzea LXVII. História 23, 117-130.

Mosel, Ch. 1979: Glas Mittelalter bis Biedermeier. Kestener – Museum Hannover. Hannover.

Notario, E. R. – Rey de Viñas, P. P. 2006: Vidrio islámico en al-Andalus. Junta de Castilla y León. La Granja.

Olmerová, H. 1977: A Find of mediaeval Glass in the Old Town of Prague. Glass Revue 32, 32-35.

Osten, S. 1998: Das Alchemistenlaboratorium Oberstockstall. Monographien zum Frühgeschichte und Mittelalterarchäologie 6. Wien.

Ottův slovník, 1893: Ottův slovník naučný. 7. díl. Praha.

Pause, C. 1993: Mediterrane Importgläser im mittelalterlichen Göttingen. Göttinger Jahrbuch 41, 7-34.

- 1996: Spätmittelalterliche Glasfunde aus Venedig. Ein archäologischer Beitrag zur deutsch-venezianischen Handelsgeschichte. Universitätsforschungen zur prähistorischen Archäologie, Bd. 28. Bonn.

Peška, M. – Zapletalová, D. 2001: Brno, Náměstí Svobody 17 – „Dům pánů z Lipé“. Nálezová zpráva. Ms., housed in the Archives of Archaia Brno, no. 19/01.

Polánka, P. – Sedláčková, L. – Zúbek, A. 2006: Nálezová zpráva o provedení záchranného archeologického výzkumu při stavbě Rekonstrukce a adaptace domu U zlatého orla, Náměstí svobody 1. Ms., housed in the Archives of Archaia Brno, no. 07/06.

Prohaska-Gross, Ch. 2002: Flaschen und Trinkgläser. In: Spätmittelalter am Oberrhein. Teil 2. Aufsatzband. Alltag, Handwerk und Handel 1350-1525. Karlsruhe, 207-214. Prohaska-Gross, Ch. – Soffner, A. 1992: Hohlglasformen des 13. und 14. Jahrhunderts in Freiburg im Breisgau. Materialhefte zur Archäologie in Baden-Württemberg 31, 49-128.

Prohaska-Gross, Ch. – Soffner, A. 1992: Hohlglasformen des 13. und 14. Jahrhunderts in Südwestdeutschland und der nördlichen Schweiz. In: Stadtluft, Hirsebrei und Bettelmonch. Die Stadt um 1300, 299-310.

Procházka, R. 1993: Archeologie k počátkům středověkého města Brna – Archäologie zu den Anfängen des mittelalterlichen Brünn. In: Brno v minulosti a dnes. Sborník příspěvků k dějinám a výstavbě Brna XI. Brno, 29-53.

- 1996: Brno – Petrov, č. p. 2, 8. Nálezová zpráva o provedení záchranného archeologického výzkumu. Ms., housed in the Archives of the Institute of the Care of Archaeological Monuments, Brno, no. 136/96-I.

Procházka, R. – Himmelová, Z. 1995: Příspěvek k vývoji středověké zástavby tzv. Velkého Špalíčku v Brně – Beitrag zur mittelalterlichen Bebauungsentwicklung des sg. „Grossen Hauszwickels“ in Brno (Brünn). Archaeologia historica 20, 233-245.

Prudká, A. 1982. Skleněný džbán z 15. století. Zpravodaj Prostějovska 2, 35-36.

Rademacher, F. 1933: Die deutschen Gläser des Mittelalters. Berlin.

Reformation 1983: Martin Luther und Reformation in Deutschland. Ausstellungskatalog. Germanisches Nationalmuseum Nürnberg.

Rückert, R. 1982: Die Glassammlung des Bayerischen Nationalmuseum München. Bd. I. München.

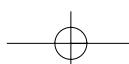
Saldern, v. A. 1965: German enamelled Glass. New York.

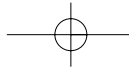
Sedláčková, H. 1997: Renesanční sklo a další archeologické nálezy z Nymburka – Renaissance Glass and other archaeological Finds from Nymburk. Libice nad Cidlinou.

- 2000: Sklo první poloviny 16. století na Moravě v archeologických nálezech – Mährisches Glas der 1. Hälfte des 16. Jahrhunderts in archäologischen Funden. In: Pravěk NR 10. Brno, 163-191.

- 2000a: Olomouc – Žerotínovo nám. čp. 2. Objekt č. 2/82. Rozbor nálezů dutého a okenního skla ze studny v areálu konventu dominikánů. In: Bláha, J.: Hmotná kultura období pozdní gotiky a raného novověku v Olomouci ve světle archeologických poznatků. Grantový úkol Grantové agentury ČR, č. GA04/00/0492. Ms.

- 2000b: Olomouc – Hrnčířská ulice. Objekt č. 7/93. Rozbor nálezů dutého a okenního skla z jímky v areálu konventu dominikánů. In: Bláha, J.: Hmotná kultura období pozdní gotiky a raného novověku v Olomouci ve světle archeologických poznatků. Grantový úkol Grantové agentury ČR, č. GA04/00/0492. Ms.





- 2001: Gotické sklo na střední a severní Moravě v archeologických nálezech – Gotisches Glas in den archäologischen Funden aus Mittel- und Nordmähren. *Archaeologia historica* 26, 441-458.

- 2001a: Soubor renesančního skla z areálu novokřtěnského dvora ve Strachotíně (okr. Břeclav) – Kollektion von Renaissance Glas aus dem Areal des Wiedertäuferhofs Strachotín (Bez. Břeclav). In: Jižní Morava. Vlastivědný sborník 37. Mikulov, 43-68.

- 2002: Olomouc, ul. 8. května (staveniště obchodního domu Prior). Objekt č. I/73. Rozbor nálezů dutého a okenního skla z odpadní jímky. In: Bláha, J.: Hmotná kultura období pozdní gotiky a raného novověku v Olomouci ve světle archeologických poznatků. Grantový úkol Grantové agentury ČR, č. GA04/00/0492. Ms.

- 2003: Nález renesančního skla z Pouzdřan, okr. Břeclav – Funde von Renaissance-Glas aus Pouzdřany, Kr. Břeclav. In: Historické sklo 3. Sborník pro dějiny skla. Čelákovice, 35-46.

- 2004: Středověké sklo z Opavy – Das mittelalterliche Glas aus Opava (Troppau). *Památky archeologické* XCV, 223-264.

- 2004a: Archeologické nálezy skla z hradu Cvilín u Krnova, okr. Bruntál – Archäologische Glasfunde auf der Burg Cvilín (Schellenburg) bei Krnov (Jägerndorf), Bezirk Bruntál (Freudental). *Vlastivědný věstník moravský* LVI, 367-379.

- 2006: Ninth- to Mid- 16th- Century Glass Finds in Moravia. *Journal of Glass Studies* 48, 191-224.

Sedláčková, H. (ed.) 1998: Renesanční Olomouc v archeologických nálezech. Sklo, slavnostní keramika a kachle. Archeologické výzkumy Památkového ústavu v Olomouci 1973-1996 – Renaissance Olomouc in archaeological Finds. Glass, Festive Ceramics and Tiles. Archaeological Research of the Institute of Landmark Conservation in Olomouc 1973-1996. Olomouc.

Steppuhn, P. 2002: Glasfunde des 11. bis 17. Jahrhundert aus Schleswig. Ausgrabungen und Funde in Schleswig. Berichte und Studien 16. Archäologisches Landesmuseum Schleswig.

- 2003: Katalog. In: Ring, E. (hrsg.) 2003: *Glaskultur in Niedersachsen. Tafelgeschirr und Haushaltsglas vom Mittelalter bis zum frühen Neuzzeit*. Husum, 48-187.

Strasser, R. v. 1999: Der „Petroneller Wilkhumb“. Kunsthistorisches Museum Wien. Wien.

Strasser, R. v. – Baumgärtner, S. 2002: Licht und Farbe. Dekoriertes Glas – Renaissance, Barock, Biedermeier. Die Sammlung von Rudolf von Strasser. Schriften des Kunsthistorischen Museums, Band 7. Wien.

Šebesta, P. 1979: Středověké sklo z Chebu – Mittelalterliches Glas aus Cheb. Sborník Západočeského muzea v Plzni. Historie II, 79-95.

Štourač, D. 2005: Studna z Mincmistrovského sklepa na Dominikánském náměstí v Brně. Nálezy z 15. století. Ms., housed in the Archives of the Faculty of Philosophy, Masaryk University in Brno, Institute of Archaeology and Museology.

Tait, G. H. 1979: Golden Age of Glass. London.

Tarcsay, K. 1999: Mittelalterliche und Neuzeitliche Glasfunde aus Wien. Altfunde aus den Beständen Historischen Museums der Stadt Wien. Beiträge zur Mittelalterarchäologie in Österreich, Beiheft 3.

- 2002: Neue Erkenntnisse zum Spektrum des mittelalterlichen und neuzeitlichen Glases in Wien. In: *Fundort Wien. Berichte zur Archäologie* 5, 168-191.

- 2003: Zum Stand der mittelalterlichen und neuzeitlichen Glasforschung in Österreich. *Beiträge zur Mittelalterarchäologie in Österreich* 19, 165-178.

Teryngerová, H. 1995: Předběžná zpráva o hromadném nálezu gotického skla v Opavě. In: Sborník Památkového ústavu v Ostravě. Ostrava, 33-36.

Trapp, E. – Boos, A. – Germann-Bauer, P. 1995: Regensburg im Mittelalter. Katalog der Abteilung Mittelalter im Museum der Stadt Regensburg. Regensburg.

Ungr, J. 1999: Život na lelekovickém hradě ve 14. století. Antropologicko sociokulturní studie. Brno.

Vondráčková, K. 1996: Nálezy ze středověkých studní pod jezuitským kostelem v Klatovech – Die Funde aus den mittelalterlichen Brunnen unter Jesuitenkirche in Klatovy. Sborník Západočeského muzea v Plzni. Historie XIII, 134-159.

