ATTI

CLASSE DI SCIENZE FISICHE, MATEMATICHE
E NATURALI

173 - I

2014-2015

STUDY DAYS
ON VENETIAN GLASS

Approximately 1700's

IstitutoVeneto
diScienzeLettere
edArti

2015

AVVERTENZA

L'Istituto, al fine di diffondere con maggiore celerità le Note approvate dall'Assemblea dei Soci e accolte nella propria annuale rivista ATTI, ha stabilito di pubblicare, a partire dal tomo 151, i volumi delle due classi suddividendoli in fascicoli.

Ciascun tomo degli ATTI esce quindi in fascicoli, dalla scadenza possibilmente trimestrale, suddivisi tra la classe di scienze fisiche, matematiche e naturali e la classe di scienze morali, lettere ed arti. La numerazione delle pagine dei fascicoli è distinta e progressiva per ciascuna classe fino alla chiusura del tomo annuale. Ogni fascicolo ha un indice proprio.

Alla fine di ogni anno saranno pubblicati l'indice generale e l'indice analitico dell'intero tomo.

La «Parte generale e Atti ufficiali» esce annualmente in un unico volume.

IMPORTANT

The Istituto Veneto, in order to distribute with greater speed the Note approved by the Members and included in its annual journal ATTI, has decided to publish, from volume 151 onwards, the volumes of the two classes subdividing them into separate numbers.

Each volume of ATTI therefore appears in numbers, quarterly where possible, subdivided into the two classes: Physical, Mathematical and Natural Sciences; Moral Sciences, Letters and Arts. Page numbers are distinct and continuous for each class; the number sequence ends with the final issue of the year. Each number will have its own index. At the end of each year the Table of Contents and General Index will be published for each volume.

The «Parte Generale e Atti Ufficiali» appears annually in a single volume.

ISTITUTO VENETO
DI SCIENZE, LETTERE ED ARTI

ATTI

TOMO CLXXIII

**CLASSE DI SCIENZE FISICHE, MATEMATICHE
E NATURALI**

Fascicolo I

*CLXXVII
ANNO ACCADEMICO*

2014-2015

VENEZIA
2015

ISSN 0392-6680

30124 Venezia - Campo S. Stefano 2945
Tel. 041 2407711 - Telefax 041 5210598
ivsla@istitutoveneto.it
www.istitutoveneto.it

Progetto e redazione editoriale: Ruggero Rugolo

Direttore responsabile: Leopoldo Mazzarolli

Autorizzazione del Tribunale di Venezia n. 544 del 3.12.1974

stampato da CIERRE GRAFICA - Sommacampagna (VR) 2015

ISTITUTO VENETO DI SCIENZE, LETTERE ED ARTI

STUDY DAYS ON VENETIAN GLASS

APPROXIMATELY 1700'S

edited by
ROSA BAROVIER MENTASTI and CRISTINA TONINI

VENEZIA
2015

Si raccolgono qui alcuni dei contributi presentati dal 2 al 4 aprile 2014
al Corso di alta formazione organizzato dall'Istituto Veneto sul tema:

Study Days on Venetian Glass. Approximately 1700's

Giornate di Studio sul vetro veneziano. 1700 circa

HIGHER EDUCATION COURSE

With the support of
Corning Museum of Glass
Ecole du Louvre
Fondazione Musei Civici di Venezia
Institut national du patrimoine
Venice International Foundation
Victoria & Albert Museum

With the participation of
UNESCO Regional Bureau for Science and Culture in Europe Venice (Italy)

Organised with the collaboration of
AIHV – Association Internationale pour l'Historie du Verre – National Italian Committee
LAMA – Laboratorio Analisi Materiali Antichi dell'Università IUAV, Venezia
Museo del Vetro, Fondazione Musei Civici di Venezia

Our acknowledgements go to
the Regione del Veneto
and Scuola Abate Zanetti

Atti dell'Istituto Veneto di Scienze, Lettere ed Arti
Tomo CLXXIII (2014-2015) - Classe di scienze fisiche, matematiche e naturali

INDICE DEL FASCICOLO PRIMO

Rosa Barovier Mentasti and Cristina Tonini, *Tools to Study Glass: Inventories, Paintings and Graphic Works of the 17th-18th Century* . . . . . Pag. 3

Paolo Zecchin, *Ettore Bigaglia: the Inventory of the* Negozio Alla Croce D'oro *Dated 1714 April 2nd* . . . . . » 53

Suzanne Higgott, S*urvey of Venetian and* Façon de Venise *Enamelled and Gilded Glass Made c. 1500-1550 and Excavated from Reliably Dated Contexts in Great Britain* . . . . . » 69

Audrey Whitty, *The Venini Covered Cup, Venice, Second Half of the 16th Century (1550-1599 AD)* . . . . . » 91

Hedvika Sedláčková and Dana Rohanová, *From Renaissance to Baroque: Glass in the 2nd Half of the 17th Century in Moravia, Czech Republic* . . . . . » 101

Valeria Mamczynski, *«Conservation of Glass Objects in the James Jackson Jarves Collection», an Andrew W. Mellon Research Fellowship at The Metropolitan Museum of Art* . . . » 111

Giulia Musso, *The Glass Museum of Altare and its Activities: the Restoration of Two 17th-18th Century Furnaces* . . . . . » 115

Anna Awad-Konrad, *Glassworks Hall in Tirol 1534-1635* . . . . . » 123

Maria João Burnay, *Murano Glass at National Palace of Ajuda* . . . . . Pag. 129

Brigitta Maria Kürtösi, *Archaeometric Investigation of Medieval Wall Mosaic Fragments of Székesfehérvár, Hungary* » 137

Kitty Laméris, *Differences Between Early Filigrana Glass and Rosenborg Castle Type Filigrana Glass* . . . . . » 147

STUDY DAYS
ON VENETIAN GLASS

Rosa Barovier Mentasti and Cristina Tonini

TOOLS TO STUDY GLASS: INVENTORIES, PAINTINGS AND GRAPHIC WORKS OF THE 17TH-18TH CENTURY

Introduction

There are different tools that may contribute significantly to the story of Venetian glass from the fifteenth to the eighteenth century. Amongst them inventories and figurative sources have an important role. Fundamental are the Muranese documents – among them many inventories – published by Luigi Zecchin and in more recent years by his son Paolo Zecchin. New research on these documents is fundamental, particularly in reference to the type of glass reported in old Venetian language or dialect, which is sometimes very difficult to interpret even by Venetians themselves. Other archival documents used in this study are inventories belonging to European nobility and upper middle class. Figurative sources, from paintings to frescoes, from graphic works to sculpture reliefs, will give an important contribution for dating, for attribution to Venetian or to façon de Venise glassworks and for the function of glass objects. Our paper will focus on some Italian archive documents and on figurative sources of the seventeenth and early eighteenth century starting from the reading of some Muranese glass furnaces inventories of the period to interpretate some words in Venetian language referred to glasses.

Bembo

> *Né pettinarsi né lavarsi le mani si vuole tra le persone, ché sono cose da fare nella camera e non in palese, salvo (io dico del lavar*

le mani) quando si vuole ire a tavola, perciò che allora si convien lavarsele in palese, quantunque tu niun bisogno ne avessi, affinché chi intigne teco nel medesimo piattello il sappia certo.

Don't comb yourself or don't wash your hands in other people's company, these are things to do in your bedroom and not in front of others, except (I say about washing hands) when you want to dine, so in this case it is convenient to wash them in front of others, even if you didn't need to, so that when someone pickles food with you in the same dish he knows it for sure.

Giovanni Della Casa, *Il Galateo over De' costumi*, (written 1550-1553) 1578, p. 54v.

The word *bembo* is found in Muranese inventories from the middle of the XVI century until the first decades of the XVIII century. Which kind of glass can we identify with this word? Reading inventories helps us to understand this meaning. The word *bembo* is reported for the first time in the list of glasses that Domenico Bortolussi sent to Milan in 1540-41[1]. One of the cases he sent contained:

Bembi a diamante n. 2
zotole a diamante n. 2.

Both glass types had probably a diamond pattern obtained with a mould. The *zotole* (italian *ciotole*) were bowls but from this document it is difficult to know the meaning of *bembi*. On the other hand, another Muranese inventory, a list of glass vessels that Pietro Ballarin had to send to Constantinople in 1590, offers a clue to identify them. Several *bembi* are listed after several *bacili*[2]*:*

Bacili indoradi a pigna n. 1, lire 15
Bacili doradi a pigna coloradi n. 1, lire 15
Bacili miniadi d'oro n. 1, lire 15
Bacili inarzentadi a pigna n. 1, lire 15
Bacil inarzentado a pigna colorado n. 1, lire 15
Bacili inquartadi n. 5, lire 60

---

[1] Zecchin 1989: 188.
[2] Zecchin 1989: 166.

Bacili inquartadi e d'oro n. 3, lire 36
Bembo indorado a pigna n.1, lire 4 soldi 10
Bembo dorado a pigna colorado n. 1, lire 4 soldi 10
Bembo miniado d'oro n. 1, lire 4 soldi 10
Bembo inarzentado a pigna n. 1, lire 4 soldi 10
Bembo inarzentado a pigna colorado n. 1, lire 4 soldi 10
Bembi inquartadi n. 5, lire 20
Bembi inquartadi e d' oro n. 3, lire 36
Vasi... soltanie... tapsi... mastrapá... ziati... acanini.

From this document it is clear that every *bembo* is an ewer connected to a basin, used as a tool to wash hands in the Renaissance culture. The decorations reported for some of the *bacili* and *bembi* have not yet been identified with a specific type. There are basins and ewers (*bembi*) *indoradi a pigna*, which literally means with pine-cone decoration gilt, or *inarzentadi a pigna*, the same decoration but in silver. Others are *doradi a pigna*. The «pine-cone» might be a pattern obtained by gold-leaf engraving or by gilt painting, but it might also be a mould-blown pattern, highlighted by gold. This kind of decoration is used also for other glass vessels in the list as the so called *mastrapà*, which were tankards [or jugs][3]. Listed in the Ballarin document are the *Bacili miniadi d'oro* and *Bembi miniadi d'oro* which are basins and ewers painted in gold. This kind of decoration might be identified with the one made on a jug in cristallo with *retortoli* of the State Hermitage Museum in Saint Petersburg[4]. We have to underline a perfect correspondence in numbers and decorations between *bacili* (basins) and *bembi* (ewers) in Ballarin's inventory. For example: the *Bacili indoradi a pigna n. 1* correspond to a *Bembo indorado a pigna n. 1*, or the *Bacili doradi a pigna coloradi n. 1* to a *Bembo dorado a pigna colorado n. 1*, or *Bacili inquartadi n. 5* to *Bembi inquartadi n. 5* and so on in the whole document.

Another Muranese paper some years later confirms the hypothesis that *bembo* is an ewer often related to a basin as reported in the inventory of the glassmaker Nicolò di Francesco Savonetti (1599)[5]:

---

[3] Barovier Mentasti and Tonini 2014: 9-14.
[4] Pagella and Rappé 2013: 116, n. 66.
[5] Zecchin 2003: 25.

Un cain grando de cristallo
Un bembo per il cain grando de cristallo.
A large crystal basin
An ewer for the large crystal basin.

The word *bembo* for extension indicates in general ewers not always related to the basins. In the same inventory are listed:

12 bembeti schieti
12 bembeti da messa.
12 small ewers without decoration
12 small ewers for holy Christian Mass.

We can notice that the latter ones are different as to shape from the 24 *impolete da messa bocca d'oro,* 24 small cruets with gilt rim, mentioned in the same paper, which are characterized by an applied spout.

Other *bembi* mentioned in two Muranese inventories of the second half of the sixteenth century aren't connected to basins[6]:

- In the first one (1569), concerning the goods belonging to the well-known glassmaker Bortolo d'Alvise, illegally expatriated to Florence, hired by the Medici court for his glass skill, are quoted:

Bembi grandi de più sorte n. 13
Benbeti n. 11.
Big ewers of different shapes n. 13
Small ewers n. 11.

- In the second owned by the glassmaker Gio. Antonio Zanchi dal Castello - 1577 [1578]:

Bembi doradi n. 3
Bembi lavoradi de redesello n. 14
Bembo spesso de color.
Gilt ewers n. 3
Ewers in reticello filigree n. 14
A coloured thick ewer.

---

[6] Zecchin 2009a: 33; Barovier Mentasti and Tonini 2014: 24-29.

The origin of the word *bembo* is unknown. Until now no relations have been found with the patrician Venetian family Bembo and with Pietro Bembo (1470-1547). The distinguished cardinal appreciated is *cristallo* as confirmed by some orders to Muranese glassworks. He wrote to his nephew, Giovanmatteo, in 1539:

> *Ho ancora finiti i miei bicchieri alla foggia vostra, che sapete quanto mi piacciono, però vorrei che andaste a Murano e me ne ordinaste mezza dozzina di quelli meglio fatti che si può, non grandi, e col piè picciolo, e schietto, cioè senza cerchio. Sarà bene che compriate qualche guastada piccola e forse qualche altro bichiero.*
>
> I have no more drinking glasses shaped as yours, as you know I love them, so I would like you to go to Murano to order an half dozen of the better ones, not big, and with a little foot without decoration that is without ring. It would be a good idea to buy also some small bottles and perhaps some more drinking glasses[7].

It's interesting to note that Pietro Bembo used a Tuscan word, *guastada,* instead of the Venetian *inghistera,* for bottle. He was the theorist of the Italian language, based on Boccaccio and Petrarca, Tuscan writers. So in his writings he adopted the Tuscan language.

The interest of Bembo's family in glass is elsewhere recorded: in a cupboard of their palace in Venice were kept some glass vessels and others were in a case[8]. The idea of a link between a glass type and a family name may be suggested by another well-known case. The *aretini, mezzi aretini* and *mezzi aretini de fili spessi*, refer to the Tuscan writer Pietro Aretino. They were produced in the Serena glasswork based on the design by Giovanni da Udine as reported by Aretino himself in one of his letters (1531)[9]. The idea of a connection with a Venetian prominent personality may be hyphotized in another case.

---

[7] *Lettere di Messer Pietro Bembo*: [1539] 1743: 317.

[8] *In un armer alcuni veri… in cassa maioliche e veri fra boni e roti*. Archivio di Stato di Venezia, *Cancelleria Inferiore*, notaio P. Partenio, 28 luglio 1579, Inventario dei beni di Andrea e Gerolamo Bembo; Palumbo Fossati 2012: 254.

[9] Zecchin 1989: 182; Barovier Mentasti 1982: 92.

A *gotto alla moceniga di cristallo*, crystal beaker in Mocenigo's fashion, is quoted in the inventory of the *quondam,* deceased, glassmaker Ettore Bigaglia (1714)[10]. The shape of this glass hasn't yet been identified.

The word *bembo,* starting from the middle of the XVI century, substitutes the word *ramini/ramineti* (*rame* means copper) used to indicate glass ewers that were strictly connected to a model in metalware as we find in Muranese inventories. A merchant, writing from Costantinople in 1473 to his Venetian envoy, is asking: *piadene senza pié, ramini de vedro pur chrestalini schieti*, bowls without foot, glass ewers in crystal without decoration. As Luigi Zecchin suppose these items correspond to basins and ewers made of Venetian crystal glass[11]. In a later inventory, dated 1508, referred to the glassmaker Tommaso Dragan, are mentioned: *Ramineti et sechieleti et impolete da messa, de lactexin et marmorin, et de calcedonio et de cristalino e azuri, lavoradi de smalto et doradi*, Ewers and small buckets and cruets for mass, in lattimo and in alabaster-translucent glass, and in chalcedony and in crystal and blue glass, gilt and enamelled[12].

In a different area, in Ferrara, at the Este court, similar glass objects, often referred to their model in metal, usually in bronze, rather than in copper as in the Muranese inventories. In *post mortem* inventory of Eleanor of Aragon, wife of Ercole I d'Este, dated 1493, amongst her rich collection of Venetian glasses is mentioned: *Uno bronzino de vedro dorado,* A glass ewer gilt[13].

We find another word for this kind of object, always related to its function as *lavamani* (basin to wash hands). In another inventory belonging to Girolamo Scopolo, auditor and jureconsult at the Gonzaga court (1537) is quoted *uno bochallo de vetro da dar l'aqua alle mani*, one glass tankard to rinse hands with water[14]. It

---

[10] Archivio di Stato di Venezia, Podestà di Murano, b. 209, 2 aprile 1714. *Negozio dalla croce d'oro del quondam Ettore Bigaglia*; see Paolo Zecchin article in this book. We thank Paolo Zecchin.

[11] Zecchin 1990: 151, 153.

[12] Zecchin 1990: 59.

[13] Archivio di Stato Modena, *Amministrazione della Casa, Guardaroba,* busta 114; Barovier Mentasti and Tonini 2013: 213.

[14] Archivio di Stato di Mantova, n. 31 (busta 662), Notaio Adoardo da Rimini, 18 settembre 1537. Rebecchini 2011: 87-89; Barovier Mentasti and Tonini 2013: 214-215.

was kept together with his collection of nearly one hundred glasses displayed in the *studiolo* of his home in Mantua. The same word and function is associated with a *Bochallo col bacile*, Tankard with a basin, depicted as an ewer with basin, in an engraving in one of the most well-known Renaissance cookery book, *Opera*, by Bartolomeo Scappi, published in Venice in 1570.

The custom during banquets was to display ewers with basins on a *credenza*, a dresser, as reported in a letter, March 3rd, 1473, written by Giovanni Arcimboldi and sent to Galeazzo Sforza, duke of Milan. During the Carnival banquet hosted by the cardinal Pietro Riario, nephew of Pope Sisto IV della Rovere, in Rome, the following objects were displayed on one of the two *credentie de arzentero…: bacinelle sedici cum li bronzini suoi da dare l'acqua a le mane*, dressers with silverware…, sixteen basins with their ewers, used to rinse hands with water[15]. The display of the *credenza* and particularly the ewers with basins, both of them in metal, are well depicted in the fresco of Palazzo Altemps, at that time residence of Girolamo Riario and his wife Caterina Sforza. The fresco is probably connected to their marriage (1477-1481). The habit to rinse hands with scented water during the Renaissance banquets is well described by Christoforo Messisbugo, seneschal at the Este court in the first half of XVI century. In his book he wrote about a banquet held by the cardinal Ippolito d'Este in Belfiore (Ferrara)*: 22 maggio 1529… Erano adunque hore 22. Quando si partirono del salotto essendo già finita la farsa…, & mentre venivano alle Tavole… dove data subito l'acqua odorifera alle mani, si mangiarono le insalatte… E Qui si levo ogni altra cosa che era in Tavola e poi si diede acqua odorifera alle mani, & si portar le confettioni…*, May 22nd 1529… It was 10 pm. When the guests left the living room after the end of the farce… & went to the tables where the scented water were used to rinse hands, they ate salads… and tables were cleared and then again scented water were brought to rinse hands, & and then sweets were served[16]. The use to wash hands in public is well documented through a long period but at the end of XVIII

[15] Benporat 2001: 161-165.
[16] *Banchetti* 1546: VIII.

century it became not only out of fashion but it was considered a sign of impoliteness as reported by an anonymous writer in 1787[17].

Different iconographic sources of the sixteenth and seventeenth centuries provide information about the shapes of basins and ewers used as *lavamani*; the ones depicted are usually metalworks, in silver and in brass. In the fresco, *The banquet of Love and Psyche* (1527-1529) by Giulio Romano in Palazzo Te in Mantua, Love is showing his hand over a bronze plate and some water is poured on his hand from a bronze ewer. In another work of art, *Nozze di Cana*, by Leandro Bassano (1579-1582), kept in the Museo Civico of Vicenza, in front of the table are the amphoras for the wine which is poured in the *inghistere*, bottles, to bring it on the table. Meanwhile the ewer with the plate depicted has a different function: to rinse hands with scented water. An elegant ewer and a basin, probably made of brass, stand also on a *credenza* in Paolo Cavagna's, *The Last Supper*, Treviglio, San Martino, dated 1602[18]. Ewers with basins are also represented in paintings with the *Birth of Jesus, of John the Baptist and of Mary*: in the frescoes of Paolo Uccello, Prato Cathedral, mid 15th century, St. Anne is rinsing her hands with the help of a servant holding a metal ewer and a basin[19] and in the *Birth of John the Baptist* by Domenico Ghirlandaio in S. Maria Novella, dated 1480, an ewer and a basin, both of them in metal, stand on an inlaid chest after its use. It's interesting to underline that items of this kind were part of the Renaissance ladies' trousseaus as documented by inventories, particularly in Tuscany. They were attested after 1450 and they were strictly connected to weddings[20]. The same objects are found also in a Venetian inventory belonging to the noble lady Marina, widow of Alvise Zorzi fu di Polo (1512). There is mentioned *un bazil et uno ramin grandi d'argento lavoradi ed indoradi cum l'arma Crinara(?) et un'altra arma inquarta*', a basin and an ewer, both of them big in silver gilt embossed with the Crinara's (of family Corner?) arms

---

[17] Cavagnari and Mignoni 1993: 117.
[18] Thornton 1991: 104-105.
[19] *Ibid*., 1991: 255.
[20] Klapisch-Zuber 1995: 205.

quartered with another coat of arms[21]. Probably a wedding gift was the basin depicted in Titian's *Sacred and Profane Love*, to be used as a *lavamani* during the marriage banquet and later on for the birth of the child. It is embossed with the coat of arms of Laura Bagarotto who married Nicolò Aurelio in 1514[22]. Unfortunately we don't know if the *bronzino de vedro dorado,* a glass ewer gilt, mentioned in Eleanor of Aragon's inventory was connected to a basin and if in origin was part of her trousseau.

The word *bembo* is still in use in the Muranese inventories in the second half of the XVII century always with the same meaning: an ewer related to a basin, as in the Darduins' glassworks inventory dated 1689.

> *Un bembo grande da bacil di redesello.*
> A big ewer for a basin in reticello filigree[23].

Its shape was probably similar to a piece in the Museo del Vetro at Murano (Fig. 1) or to an ewer, designed differently, with its basin, in the shape of a dish, preserved in Basilica of Assisi (Figg. 2-2a). For both of them, published in the past as sixteenth century pieces, we suggest a date at the end of XVII century - beginning of the XVIII century. Another set belonging to the Dresden Kunstkammer (Fig. 3) is dated to an earlier period: end of sixteenth-first two decades of seventeenth century. The ewer shape is very similar to a rare one, with reticello technique obtained in this case with retortoli canes, preserved in the Musei Civici of Brescia[24]. The Dresden set is recorded for the first time in one inventory of the Kunstkammer, dated 1640[25]. A large group of Venetian glass vessels reached the Saxony court at the time of Christian I (1560-1591) through Giovanni Maria Nosseni, the architect of the court, who brought, returning from his voyage

---

[21] Archivio di Stato di Venezia, *Giudici del Proprio, Mobili* 1, foll. 66-67; Jestaz 1998: 707.

[22] Dal Pozzolo 2008: 76-85; Klapisch-Zuber 1995: 183.

[23] Trivellato 2000: 286.

[24] Barovier Mentasti and Tonini 2012: I/29.

[25] Sachsisches Staatarchiv – Haupstats Archiv Dresden – Inventar der Kunstkammer, Dresden, 1640, fol. 98 r: «1 Gläserne gieskanne und 1 Gläsern giesbecken, beyde mit weiß streifichten circkeln in glas verfertigt.»; Syndram, Minning 2010: n. 3.

in Italy, in 1588, almost two hundred muranese glasses. They were inherited by Christian II and his wife. In 1630 they entered in the Kunstkammer[26]. For the Dresden set we may suppose a profane use while for the Assisi one an holy use is certain. As an ecclesiastical set it was usually utilized for ablutions and aspersions. Generally it was employed during the pontifical high Mass where the bishop used it to rinse his hands during the offer of bread and of the Christ's blood and also after the Holy Communion. Priests used them for the same function during some liturgical ceremonies such as the Baptism, the Lavabo, The Ash Wednesday and the Palm Sunday.

A complete ecclesiastic set in crystal of the last two decades of the seventeenth century is connected to an important family of the Marche region in Italy. It's an ewer with a basin, diamond point engraved with naturalistic subjects and with the coat of arms of Raimondo Ferretti of Ancona, first Bishop and Governor of Loreto and Recanati and later Archbishop of Ravenna, who died in 1701. It has been reputed that the two pieces were used for the ceremony of Baptism in the palace Mengoni Ferretti in Ancona[27]. The shape is different from the ones of the ewers in the Museo Vetrario (Fig. 1) and in Assisi (Fig. 2). It is characterized by an *elmo* mouth.

We still find in Muranese papers the word *bembo* in the first two decades of the eighteenth century as in *quondam*, deceased, Ettore Bigaglia's inventory (1714) where the pieces quoted have clearly an holy use:

> *135 pezzi da girasol… Bembetti da messa*
> *Due baciletti da messa.*
> 135 pieces in girasol, opal glass… small ewers for mass
> Two small basins for mass[28].

But some years later the word *bembo* was substituted by *brocca,* used till today in the Italian language. Amongst the glass vessels sent

---

[26] Max, Plabmeyer 2014: 407.

[27] Baumgartner 1995: 71-72, n. 204; *An important collection* 2000: 34, n. 70.

[28] Archivio di Stato di Venezia, *Podestà di Murano*, b. 2092, aprile 1714. *Negozio dalla croce d'oro del quondam Ettore Bigaglia*. See Paolo Zecchin's article in this book.

as a gift to the Emperor of China in 1719 by the Pope Clemente XI there are:

> *4 bacili di filigrana 1 detto simile con sua Brocca compagna*
> *Cadin con sua Brocha di retortoli verdi bianchi e gialli.*
> 4 basins in filigree 1 similar with its ewer
> Basin with its ewer of retortoli filigree green, white and yellow.
>
> *1 Cadino di filigrana grande con sua Brocca di Cristallo verde smaltato con filigrana rossa, gialla, e torchin.*
> 1 large basin in filigree with a crystal ewer with green, red, yellow, and turquoise filigree [29].

The last pieces in filigree are interesting for the use of yellow glass very difficult to obtain and in fashion from the second half of the seventeenth century. It was very complex in this period to get this kind of colour in glass. It was obtained with *giallolini* or *anime,* so called in Venetian language[30]. So this type of glass was rarely employed, usually only for decorative details as handles, canes and flowers, in few cases for blowing glasses in yellow as documented by some pieces in Rosenborg Castle in Copenaghen and by some fruits, like lemons, kept in different public collections and by three pieces in the Museo del Vetro at Murano. One of the latter pieces, a vase, has been recently dated to the sixteenth century but this datation has to be postponed to the last decades of seventeenth century[31]. The kind of coloured *retortoli* filigree of the ewer quoted in the inventory of gifts for the Emperor of China (1719), before mentioned, could be similar to the ones of a bowl, a very rare glass, in the collection of Castello Sforzesco in Milan that has to be dated earlier, to the second half of seventeenth century[32].

In the list of glasspieces made by the glassmakers Giacinto Berton and Andrea Rossetto for the Piedmont Princess, dated

---

[29] Zecchin 2009b: 19.

[30] Zecchin 1986: 41, 136-142; Moretti, Salerno and S. Tommasi Ferroni 2004: 44-45; Moretti and Hreglich 2007: 172-174.

[31] Bova 2010: 323, fig. 11.28.

[32] Mori 1996: 31.

1721 [1722][33], some *brocche*, ewers are mentioned amongst the filigree:

Filigrane
1 Cadin con sua Brocha.
Filigree
1 Basin with its Ewer.

Girasol
1 Cadin con Brocha.
Opal glass
1 Basin with its Ewer.

The Bigaglia's inventory (1714) mentioned above gives an interesting insight in another kind of basin probably produced also for export to Eastern markets:

Un cadin alla turchesca di fillagrana colorita
Un coperchio di cadin alla Turchesca dorato.
A basin in turkish-style in coloured filigree
A gilt cover for a basin in turkish-style.

The basin quoted was probably in origin accompanied by an ewer as we know from contemporary Turkish pieces in gilt copper, such as two specimens in the Turkish and Islamic Museum in Istanbul, dated at the first half of the XVII century, one piece auctioned by Christie's and another produced in India at the end of XVIII century with a rose water sprinkler, preserved in the David museum in Copenaghen[34]. The set is usually composed by a basin with a circular and removable inner cover connected to a raised stand and by an ewer. As far as we know, one Venetian glass ewer in turkish-style may be identified with a piece in *girasol*, opal glass, in the Rosenborg Castle collection. It is clearly inspired by original Islamic metalware and is connected with a basin in *girasol*[35]. Unfortunately there is no removable cover connected with the ewer and the basin. The only unusual, glass opalescent object in the

[33] Boesen 1960: 82.
[34] *Art of the Islamic* 2009: n. 201; Folsach 2001: 334, n. 544-545.
[35] Boesen 1960: n. 79 e n. 67.

Danish collection, quoted separately from the ewer and the basin in 1718 Rosenborg's inventory, is a circular dish with a foot and an hole at the center[36]. Might it be a basin lid for another set?

The glass sets of this kind, used as tools to rinse hands during meals and inspired by original Islamic metalware, were produced also by other European glassworks in the second half of the seventeenth century. They were exported to the Turkish market as documented by a basin for ewer made in England by Ravenscroft[37].

In Bigaglia's inventory (1714) are reported other different glass pieces in turkish-style not yet identified:

8 caraffine di fiori alla Turchesca di cristallo
Carafine di aqua marina con fiori alla turchesca
9 caraffine per Costantinopoli fillade
12 piatti alla Turchesca tra buoni e rotti.
8 small crystal flacons with flowers in turkish-style
Small flacons in aquamarine glass with flowers in turkish-style
9 small flacons for Constantinople with threads
12 dishes in turkish-style, some whole and some broken.

Sottocoppa

Istromenti e, robbe che adoprano nel servire il Padrone […] il Bottigliero vuole ritenere le bocce con sugari, bicchieri, giare, sottocoppe, brocche, conche, cuccumi. E tutta la biancheria, che tiene in mano.

Tools and things used to serve the Landlord […] the wine butler wants to keep decanters with their corks, beakers, jars, serving dishes, ewers, basins, jugs and all the linens in hand[38].

Il Perfetto Maestro di casa di Francesco Liberati Romano distinto in Tre Libri, 1665, pp. 19-20.

---

[36] Boesen 1960: n. 74.

[37] Smith and Whitehouse 2013: 101-106.

[38] The chapter refers to the belongings of the landlord that the servants want to appropriate after his death.

The word *sottocoppa* is attested in the Muranese inventories of the second half of the seventeenth century and of the first two decades of the eighteenth century as in Darduins' glassworks inventory, dated 1689. The document reveals the function of this kind of glass object as a large serving dish:

Sottocoppa di christallo con cinque carafine tra redesello e retortoli.
A large crystal serving dish in with small flacons in reticello and retortoli filigree[39].

In the inventory belonging to quondam, deceased, Ettore Bigaglia, dated 1714[40], are quoted:

Due sottocoppe di redesello
Due sotocope una a punta di diamante et una aqua marina
2 sottocoppe fillate di zallo
Due sottocoppe di lattimo
Sotocope da siropade.
Two serving dishes in reticello filigree
Two serving dishes one diamond point engraved and one in aquamarine (Fig. 4)
2 serving dishes with a yellow fillet
Two lattimo serving dishes
Serving dishes for fruits in syrop.

The use of yellow glass became in fashion in Murano in the second half of XVII century, as before mentioned. In Bigaglia's inventory (1714) are quoted other glasses made with yellow glass as:

15 sechielli d'acqua santa di zallo rotti offesi e inversiai
5 cadinetti d'onze dodeci, color giallo e uno col biancho
12 ampoline da messa color zallo

---

[39] Trivellato 2000: 285.

[40] Archivio di Stato Venezia, *Podestà di Murano*, b. 2092, aprile 1714. *Negozio dalla croce d'oro del quondam Ettore Bigaglia.* See Paolo Zecchin's article in this book. See also another inventory of the widow of Pietro Bigaglia (1694) in Archivio di Stato di Venezia, *Podestà di Murano*, b. 206, mentioned in Boesen, 1960, where are quoted: *25 sottocoppe ordinarie mezzane e piccole*. We thank Paolo Zecchin's for the draft of the inventory.

4 mazzi di lastre zalle[41].
15 buckets for holy water of yellow glass broken, damaged and crizzled
5 basins of twelve ounce, yellow colour and one with lattimo
12 cruets for mass in yellow colour
4 sets of yellow glass panes.

Glassblowers may use yellow canes to produce pieces in filigree such as flacons, used during meals and usually displayed on serving dishes (*sottocoppe*). They are documented in the list of glasses sent by the Pope Clemente XI as a gift for the Emperor of China (1719):

10 garaffine da tavola con coverchi smaltate di filigrana bianca
2 Dette smaltate con filigrana gialla
2 Dette retortoli gialle[42].
10 covered flacons for the table set in white filigree
2 covered flacons similar to the above ones with yellow filigree
2 covered flacons similar to the above ones, yellow retortoli filigree.

In the Museo del Vetro at Murano is kept one flacon not in yellow filigree but totally in yellow glass with handles in crystal, formerly in Gatti Casazza collection (Fig. 5).

The glass vessels with yellow canes in retortoli and reticello are very rare, due to the complex use of yellow and the difficult technique. The ones known today are: a serving dish, published in Christie's catalogue, in yellow reticello, that might be attributed to Venice more than to Catalonia; a bowl with yellow, white and red retortoli in the Museo del Vetro at Murano and a candlestick in yellow reticello decorated with yellow and aquamarine threads, formerly in the ancient Winter palace built in the years 1711-1721, during the reign of Peter the Great[43]. The filigrees, sometimes also coloured, were,

---

[41] Archivio di Stato di Venezia, *Podestà di Murano*, b. 209, 2 aprile 1714. *Negozio dalla croce d'oro del quondam Ettore Bigaglia*. See Paolo Zecchin's article in this book.

[42] Zecchin 2009b: 21. In the same list are mentioned: *sottocoppe di filigrana, anzi di retortoli*, serving dishes in filigree, particularly twisted filigree.

[43] *An important collection* 2000: 87, n. 210.

often, included amongst the glasses donated to eminent personalities at the beginning of XVIII century. They reflect the baroque taste of the period and show the high quality and high level of the Muranese glassworks. But this production in the same years was considered out of fashion by the French Baron Montesquieu (1689-1755) who wrote about his visit to Venice during his voyage in Italy (1728-1729). In a passage of his book he expresses his opinion on: *les verres à filagrammes, ouvragés et colorés, que j'ai vus à Murano, ce sont des gardes-boutiques*, the elaborated and coloured filigree glasses, I saw in Murano, are a kind of merchandises very difficult to get rid[44].

The use of the *sottocoppe* as serving dishes, mainly in metal, is well documented in contemporary Italian paintings: *Loggia con giardino, fiori e frutta* by Christian Berentz (Napoli, Capodimonte), *Natura morta* by Cristoforo Munari (Modena, Galleria Estense), in Carlo Cane's *Merenda* (post 1671) (Milano, Castello Sforzesco) and in Monogrammista "I.Z", *Natura morta con cesta di fichi*, in Fano's Pinacoteca Civica, dated at the beginning of the XVIII century, where a drinking glass stands on a white *sottocoppa*. Pottery or lattimo glass? In another painting by Pietro Longhi's workshop, *Convito in Casa Nani in onore dell'elettore Clemente Augusto, 9 settembre 1755*, preserved in the museum of Ca' Rezzonico in Venice, its function is also clear: a servant keeps in his hand a *sottocoppa* with goblets and flacons[45]. A contemporary written source gives us informations on the ritual of drinking and on the use of *sottocoppa*. In the occasion of an official court dinner in public of Pietro Leopoldo di Lorena and his wife Maria Luisa of Spain in 1766 the *Coppiere* is following precise rules to serve wine and water. The *Coppiere*, cup-bearer, goes to the *credenza,* dresser*,* where the *Bottigliere*, wine butler, gives him the *sottocoppa* with the goblet and a page holds a dish with the flacon with wine. The *Coppiere* first presents the goblet to the soverain and then he takes the flacon and pours some wine in the *sottocoppa* and he tastes it. Then he puts the flacon on the *sottocoppa* and kneeling again he presents it to the soverain who pours the wine in the goblet and then he display it on the *sottocoppa.* The same ceremony is repeated

---

[44] *Voyages de Montesquieu* 1894: 46.

[45] Barovier Mentasti and Tonini 2013: n. 80.

to serve the water[46]. The *sottocoppe* used in this case had to be with rise rims, not flat, so the *Coppiere* may pour the wine and taste it to test the quality of it but perhaps also to check if poisoned, as a memory of medieval custom.

An early use of this kind of object is documented in one painting by Alessandro Allori, *Banchetto di Siface* (1579-1582), Villa Medicea at Poggio a Caiano, where servants with different metal dishes are bringing to the banquet drinking glasses, covered vases and bottles in cristallo. The word *sottocoppa* is used in written sources contemporary to Allori's painting, as the inventory of furnitures of the house of Lorenzo Correr in Venice, dated 1584, where is mentioned: *una sottocoppa con un gotto et coperta che fa vaso d'acqua, tutti dorati d'argento,* a serving dish with a beaker covered as a vase for water, both of them gilt silver[47].

But the serving dish in the eighteenth century had also a different function: in an engraving by Giuseppe Mitelli, *L'omaggio*, dated 1692 ca, preserved in Rome, Biblioteca Casanatense, it is used to bring a floral homage to a lady[48]. In another case the *sottocoppa* in metal has a display function for extravagant and baroque blown glasses and for candied fruits as in a painting by Marcantonio Angiolelli, painter at Giovan Carlo Medici court, today kept formerly in Florence in Palazzo Del Rosso, now in the Museo della natura morta at Poggio a Caiano, dated between 1648-1660.

Canevetta

Cantinette e cantimplore
stieno in pronto a tutte l'ore
con forbite bombolette
chiuse e strette tra le brine
delle nevi cristalline.

---

[46] Aschgreen Piacenti 2004: 96-97.
[47] Molmenti 1880: 485.
[48] Omodeo 1970: 77.

Cantinette and *cantimplore*
have to be ready at all hours
with refined little bottles
closed and hemmed in the frost
of crystalline snow.
Francesco Redi, *Bacco in Toscana, dithyramb*, ed. 1685, vv. 292-296[49].

The *cantimplore* were vessels containing wine, which was cooled by ice put in an inner container. The *cantinetta,* whose name means small *cantina* or cellar, had a similar function but it was a cylindrical vessel filled with snow, envelopping small bottles or flacons containing wine, put in the vessel itself. In Venice and in its region this vessel was called *canevetta*, instead of *cantinetta*, because *caneva***,** instead of cantina, meant cellar in Venetian dialect. The small bottles were called *pestoncini.*

Several *canevette* are listed in the *post mortem* inventory of the goods kept in the palace in Padua, inhabited by abbé Matteo Priuli, a Venetian nobleman. The inventory is dated August 3rd, 1700[50]. We find:

Canevete grande in diverse misure con bozze
Canevetta coperta in corame con 4 bozze con bocchini d'argento
Caneveta di cristallo a filograna.
Large *canevette* of different sizes with bottles
Canevetta with leather cover and 4 bottles with silvers mouths
Filigree crystal glass *canevetta*.

In Florence the very rich *post mortem* inventory of cardinal Leopoldo de' Medici, written between November 14th, 1675, and February 24th, 1676, lists:

Tre cantinette di cristallo con sue boccie dentro simile, che una adornata con fiorellini di cristallo dipinti, con loro coperchi, che la maggiore inclinata n. 3.

---

[49] Francesco Redi, Tuscan scientist and poet (Arezzo, 1626 - Pisa, 1698), began to draft this dithyramb in 1666 but he finished it in 1685, when it was published.

[50] Zecchin 2014: 44-45.

Three crystal glass *cantinette* with their crystal glass bottles inside, with their covers, among them one decorated with painted crystal glass little flowers, the biggest one inclined, nr. 3[51].

Probably the *fiorellini di cristallo dipinti*, painted crystal glass little flowers, were not indeed painted but made of coloured glass, hot worked, typical of the second half of the 17th century and of the early 18th century.

The oldest paper of Murano glassworks, we know today, which lists *canevette* is a very important inventory of the glassworks by *Giacomo e fratelli Darduin*, written in 1689[52]. The items are typical and richly decorated baroque glass vessels. Among them there are 18 *canevette:*

6 canevette con suo coperchio picolo con dentro pestoni e senza a giazo alla dretta
5 canetteve di christallo tra grande e picole alla dretta e schiete con suoi pestoncini
1 canevettina a giazo di christallo piccola con soi pestoncini
2 canevetine a giazo di christallo
2 canevetine a giazzo di christallo una senza pestonici
2 canevette di redesello con suoi pestoncini.

6 *canevette* with their small covers with and without flacons inside, made of ice glass alla *dretta*?
5 crystal glass *canevette*, big and small, alla *dretta*? and plain with their small flacons
1 small *canevetta* made of ice crystal glass with its small flacons
2 small *canevette* made of ice crystal glass
2 small *canevette* made of ice glass, one without small flacons
2 *canevette* made of *redesello* filigree with their small flacons.

Besides that, there are hundreds of *pestoncini*.

The Darduin family at Murano dated back to the fifteenth century, they became glass entrepreneurs in the sixteenth century and their glassworks with the sign «alle Due Fortune» was successful

---

[51] *Inventario del cardinal Leopoldo de' Medici*: C. 35 v., n. 1321 (adì 13 dicembre 1675).
[52] Trivellato 2000: 285.

in the baroque period most of all. It was visited by Cosimo, the Medici Grand Duke's son, in 1664 and by Vittorio Amedeo II of Savoy, Prince of Piedmont, in 1687[53].

Towards the end of the 17th century the most important glassworks at Murano was the one of Ettore Bigaglia, who died in 1694. His widow Adriana Zanon inherited it and she made an inventory be written in the same 1694, where some *canevette* are listed, and another one in 1714. This rich inventory lists more than 20 *canevette* with and without *pestoncini*, with and without covers. Among them two *canevette* were made of *rettortoli,* that's twisted filigree, one was made of *fillagrana*, probably *reticello* filigree, three were made of *girasol*, traslucent milky glass, and two small ones were made of *acquamarina* glass with Medusa applications[54].

Paolo Zecchin quoted another inventory (1712) with three *canevete di filograna* and one *canevetta di retortoli*, of twisted filigree[55].

Some *canevette* can be found in the lists of presents from the Republic of Venice to foreign princes visiting Venice in 1722. The visitors were the Princess of Piedmont, Anne Christine von Sulzbach, and the Prince of Modena, Giovanni Federico d'Este[56]. The former received, besides other glass pieces made of filigree glass:

> *1 Caneveta da 12 Carafe incoperta con fiori.*
> 1 *canevetta* fit for 12 flacons with a cover with flowers.

The latter:

> *1 Caneveta da 12 carafe incoperta.*
> 1 *canevetta* fit for 12 flacons with its cover (among other filigree items).

---

[53] Zecchin 1989: 168.

[54] Paolo Zecchin's transcription and introduction to the inventory of 1714 is published in this issue of «Atti» *Study days on Venetian glass*. Venezia, Archivio di Stato, Podestà di Murano, b. 209. The inventory of 1694 has been transcripted by Paolo Zecchin. Venezia, Archivio di Stato, Podestà di Murano, Busta 206.

[55] Zecchin 2009a: 23.

[56] Boesen 1960: 49, 67, 82.

1 Caneveta da 12 coperta.
1 *canevetta* fit for 12 flacons with its cover (among other crystal glass items decorated with flowers).

This type was so appreciated that three *canevette* were chosen with other presents to be brought by a delegation of Pope Clemente XI sent to the Chinese Emperor, in Peking, in 1720. Among the documents concerning the delegation, kept in the Archivio Propaganda Fide in Vatican, there are two complete lists of the Venetian glass pieces, both written in Venice in 1719[57].

One *canevetta* was made of *mezza filigrana* with *7 pestoncini*, called also *caraffine lunghe con coverchi*, put inside. These were probably the cylindrical small flacons which were then produced in Murano, along with pear-shaped ones. The cover of the *canevetta* and the covers of the *pestoncini* were decorated with blue and white flowers on the top. As to the technique «*mezza filagrana*», it is difficult to understand what it precisely meant in that period.

Two *canevette* were instead made of crystal glass and diamond point engraved. The top of their covers was a gilt flower. Their innner flacons were made of plain crystal glass.

In 2009 Paolo Zecchin first identified the *canevetta or cantinetta* with the large cylindrical vessel with cover, handles and three typical sferical feet, which is shown in some important glass collections[58]. The height of all of them is between 26,5 and 45 centimeters.

The Museo del Vetro at Murano keeps three or four *canevette*:

A *canevetta* is made of *reticello* filigree, as well as its three globular feet and its cover with its top (cl. VI, inv. 1101).

Another *canevetta* is made of plain crystal glass, while its three globular feet are ribbed and the top of its cover is composed by blue and white flowers and crystal crests (cl. VI inv. 1290).

The third *canevetta* is made of crystal glass, diamond point engraved with flowering branches and a spread eagle. The knob of its cover, diamond point engraved, had an applied finial, today damaged. Its globular feet are ribbed. Its handles are decorated by

[57] Zecchin 2009b: 21-22; Byrne Curtis and Zecchin 2009: 81-91.
[58] Zecchin 2009b: 22.

pinched threads, which form crests with alternately horizontal and vertical tips (cl. VI inv. 1125).

Another covered vessel might be a *canevetta*, even if its body with large ribs is not actually cylindrical because its sides are curved. The top of its cover is decorated by vertical crests. Its only handle (one is missing) is decorated by a pinched thread[59].

All details, such as flowers, feet, handles crests, diamond point engraving, are typical of Venetian glass production of the second half of the seventeenth century and the first quarter of eighteenth century. Nevertheless in the books published in the 20th century, before Paolo Zecchin's proposal, such vessels were considered compote jars and wrongly dated 16th century[60] but in the catalogue of the Museo del Vetro, published in 1888, the *canevetta* with the blue and white flowers, purchased in 1862, is considered a *compostiera* or compote jar, of the 17th century[61]. So Giuseppe Marino Urbani de Gheltof, the 19th century author, correctly considered it a baroque artifact but he didn't understand its actual function. We have no news about the acquisition of the others.

Authentic Renaissance vessels of this kind are very rare or unknown also because they have never been the subject of specific studies. In Italy the collection of the Casa Museo Lodovico Pogliaghi at Sacro Monte di Varese includes a *canevetta* of late 17th century (inv. nr. 906). Its body and cover are characterized by large ribs, mold blown, and its crested handles have alternately horizontal and vertical tips. The collection of the Museo Civico in Turin includes a *canevetta* made of reticello filigree, today without cover, which can be dated early 18th century, even if an old catalogue dates it 16th century[62]. Frequently such vessels are forgeries of the 19th century or later. The Victoria & Albert Museum keeps a *canevetta* (nr. 5222&A-1901) which is identical to the *reticello* filigree one in the Museo del Vetro and which has been analysed. Its composition matches late 19th century Venetian pieces. The Corning Museum

---

[59] Mariacher 1968: 87, f. B.

[60] Mariacher 1968: 77, 87, 91; Dorigato 2002: 79, 86.

[61] Urbani de Gheltof 1888: 33, n. 1.

[62] Mallè 1971: 63-64, f. 48.

of Glass keeps a yellowish *canevetta* (nr. 73.3.440) decorated with red and white flowers, almost certainly dated late 19th century or later[63]. In the same museum another *canevetta* (nr. 91.3.32) made of clear glass and diamond point engraved is correctly dated 19th century. Indeed the engraved patterns are taken from Venetian pieces of the late XVI century, while its shape and its hot worked details are derived from the authentic engraved *canevetta* in the Museo del Vetro. It is an eclectic work.

The most important *canevette* are kept in the Rosemborg castle in Copenhagen. They are not only of very high quality but also they can boast an year and a place of production, based on sure documents. The three pieces belong to the well known glass collection, formed by the glassware given as a present to King Frederik of Denmark by the Republic of Venice and bought by him in the city in January-February 1709. The *canevette* of the glass room[64] at Rosemborg are various, but all of them are decorated with flowers, whose two-colour petals are made of opaque glass, as the decorative flowers applied to other vessels made in 1700 ca or depicted in still-lives of the same period:

- a *canevetta* is made of crystal glass and decorated by light blue and white flowers. Branches with flowers are applied on the knob of its cover,
- another *canevetta* is made of *reticello* filigree and branches with light blue and white flowers are applied on the knop of its cover,
- the brightest *canevetta* is made of blue glass, decorated by combed white threads (a technique called *sgraffado* at Murano at that time) and with red and white flowers. Branches with flowers are applied on the knob of its cover.

In the display of the collection in the glass room, arranged in 1714, no *canevetta* is put in relation with any of the several flacons, or *pestoncini,* there shown, even when they match. Indeed the first known inventory of Rosenborg glass vessels was compiled in 1718.

---

[63] William Gudenrath believes that this vessel was produced in the second half of the XIX century considering the crown type pontil mark and the sharp shear mark at the top end of the *morise* pincered decorations on the handles.

[64] Boesen 1960: nn. 14, 27, 8.

By that time the function of the *canevette* had been already forgotten by the Danish royal family and its court. The three *canevette* are indeed listed as *welkom* or *welkomme*. The corresponding German *Willkomm* designates today a huge cylindrical beaker but in the past centuries it «did not necessarily have to be of the Humpen [tall cylindrical] form», as Axel von Saldern stated. In any case it was a tall beaker and it was «supposed to be used to greet guests who were willkommen or welcomed»[65]. Therefore far from Italy the *canevetta* was soon considered a huge beaker, no more a container for flacons.

In Italy too its function was sometimes misunderstood. A *canevetta* is depicted in a still life, kept in the Museo della Natura Morta at Poggio a Caiano, near Florence. This painting is attributed to Michele or Michelangelo Pace da Campidoglio (1610-1670) and recently dated 1665-1670. The glass depicted is without its cover and it is used as a vase for flowers by the Roman painter. Another glass *canevetta* can be seen among several Venetian glass vessels in the rich *Still life with servant*, signed by Giuseppe Recco and dated 1679, kept in the Fundación Casa Ducal Medinaceli in Seville[66].

There is an unexpected correspondance, as to shape and details, between the Venetian glass *canevetta* and a silver vessel, generally called *porringer,* used in England in the same period. The *porringer* was a shallow bowl with one or two flat, horizontal handles but in recent usage the name *porringer* has also been used, perhaps incorrectly, to refer to 17th century deep cups with cover and two vertical scroll handles[67]. In the latter category have been included also some peculiar perfectly cylindrical silver cups, made for a short period during the reign of Charles II, from at least 1669 to 1885. They are characterized by three ball feet, two scroll handles, a domed cover. Their plain covers and sides are cased in a pierced cage-work of scrolling foliage sometimes with birds, beasts or putti. The finial of the cover generally is an acanthus bud or a flower. This type of cage-work was influenced by the style and technique of German silversmiths.

---

[65] Von Saldern 1965: 29.

[66] Tonini 2014: 172-173.

[67] Glanville 1987: 62-63. We thank Rainer Zitz for his advice.

Rare examples of this peculiar vessel are kept in English and American museums, such as the British Museum (nr. AF.3054), the Victoria and Albert Museum (nr. 290.1854), Temple Newsam House in Leeds, the Metropolitan Museum of Art (68.141.281ab), the Cleveland Museum of Art (nr. 1958.422.a) and the Detroit Institute of Art (nr. 1985.36). Others have been auctioned in recent years. All of them are less than 20 centimeters tall.

The strict similarity between the *canevette* and the English silver cage-work cups can't be fortuitous, because it concerns their cylindrical shapes, proportions, scroll handles, ball feet and other details. Furthermore the cage-work silver cups decorated with foliage, flowers and eagles, especially the one of the Cleveland Museum of Art, and the *canevetta* in the Museo del Vetro, diamond point engraved with foliage, flowers and an eagle, seem based on the same design, even if made of different materials. Foliage together with flowers and birds or eagles is a typical decorative pattern of Venetian diamond point engraved glassware of late 17th century and early 18th century, for instance of the trumpet-footed salver in the Ernesto Wolf glass collection in Stuttgart. In the catalogue of the Wolf collection by Klesse and Mayr this salver is dated late 16th century[68] but it is a century later.

As to the development of diamond point engraving in Venice, we can today distinguish three periods. The Muranese decorators achieved the highest quality in their work in the third quarter of the 16th century, when they produced diamond point engraved vessels with refined patterns typical of the Renaissance and Mannerism, like garlands, cornucopias, horns of plenty, dragoons, winged lions, dolphins, sphinxes and allegorical figures. The late 16th century and the early seventeenth century vessels generally show simpler and conventional patterns, as stylized scrolls, frames, trifoils, gadroons, fleur-de-lis. Only in the second half of the 17th century and in the early 18th century the engraved decoration became naturalistic and irregular, consisting in scrolling foliage, branches with flowers and scattered insects and birds. The engraved *canevetta* in the Museo del Vetro belongs to the third period.

---

[68] Klesse-Mayr 1987: n. 32.

Two questions arise.

Was the Venetian glass type derived from the English silver one or did the contrary happen? It is possible that the glass *canevetta* was derived from the English cage-work cups, so called *porringers,* because very frequently in different centuries it was a metal prototype, precious, long-lasting, easy to transport, which was copied in a less expensive material by glassblowers. Nevertheless a drawing in the *Bichierografia* by Giovanni Maggi, dated 1604 and depicting a covered two-handled bowl, proves that glass ball feet were already in use before that year[69].

Was the original function of the silver cylindrical cage-work cups the same as the function of English more traditional *porringers* (containing alcoholic mixtures, broth or gruel) of the same period or might they be containers for very small flacons, perhaps perfum flacons? Only English scholars, baroque silver expert, can answer. Nevertheless in Italy *canevette* or *cantinette* were also precious boxes with the function of containing small perfum flacons. The *post mortem* inventory of prince Filippo II Colonna in Rome, for instance, includes a *cantinetta*[70]:

> *Una Cantinetta d'Argento tonda, con quattro palline sotto per piede, con suo Coperchio, parimenti d'Argento con Arme Colonna, con Cappello e Crocetta sotto, con quattro boccette di Cristallo, et anima dentro dj satta dj peso il solo argento di libre tre, e meza.*
>
> A round *cantinetta* made of silver, with four balls as feet under its bottom, with its silver cover, with the Colonna coat-of-arms with Hat and little Cross under it, with four crystal flacons and inside silk lining, the only silver weighting three and half pound.

Thus the *cantinetta* (or *canevetta*) of Filippo II Colonna had a cylindrical shape with cover and ball feet and it was marked by the Colonna coat-of-arms (a column) together with a Cardinal's hat and a Cross, as other silverware in this inventory. Probably Filippo had

---

[69] Maggi 1977 (1604): f. 5.

[70] Safarik 1996: 375.

inherited it together with other silver pieces from cardinal Girolamo Colonna (1604-1666), his great-uncle, a rich and renowned collector. Its weight (three and half pound) was not consistent with the large size of Venetian glass *canevette*. The Colonna piece could better be similar to the English cage-work cups, as to size, and it probably contained parfum bottles. Furthermore its silk lining was not fit for snow, the material used to cool wine.

Also a later *cantinetta*, made of carved ivory, gold and gems, owned by Princess Anna Maria Luisa de' Medici (1667-1743) was lined by silk. This small box is included in the *post mortem* inventory of Anna Maria Luisa[71]:

> *Cantinetta da fiaschi, sopra delle quale due teste d'uccelli, guarnita di Chiodi d'oro e diamanti.*
>
> *Cantinetta* fit for flacons, on whose top two bird heads, decorated by gold nails and by diamonds.

This precious box is now kept in the Museo degli Argenti, Palazzo Pitti, Florence, and it contains three perfume crystal flacons, actually very small.

Pipe all'armena *or* pipe persiane

> *La maniere de prendre du Tabac en Perse est inconuë dans nos païs, & tout à fait particuliere à la Perse, & aux Indes... Ils font passer la fumée dans une bouteille d'eau, dont je donne la fugure ici à côté. Ils appellent ces sortes de pipes, callion.*
>
> The way to take tobacco in Persia is unknown in our countries, and it is absolutely distinctive of Persia and of Indies... They make smoke pass through a bottle of water, of which I give a picture here. They call this kind of pipes, callion.
>
> *Voyages de Mr. Le Chevalier Chardin, en Perse*, 1711[72].

Jean Chardin (1643-1712 or 1713) was an Huguenot jeweler

---

[71] Casciu 2006: 242, 244.

[72] *Voyages de Mr. Le Chevalier Chardin* 1711: 34-35.

who travelled through Persia to India in 1664/65-1670. He was again in Persia and in India in 1671-1680. Water pipes or *callions* (hookah or ḡalyān or nargileh) aroused the interest of Chardin, who reported that «cet bouteilles sont d'ordinaire pleines de fleurs pour la satisfation des yeux» (these bottles are generally full of flowers to satisfy eyes). As a matter of fact Adam Olearius (1599-1671), who took part of the diplomatic mission of Frederick III of Schleswig-Holstein-Gottorp to Russia and Persia in the years 1633-1639, mentioned «l'eau rose, de fleur d'orange, ou quelques autres eaux de senteur» (rose water, orange-blossom water or some other scented waters) mixed with simple water in the pipe bodies. Chardin wrote also that there were several glassworks in Persia but they produced low quality glass: «le verre est la pluspart pailleux, plein de vessies & de bulles, & grisastre... Le verre de Chiraz est le plus fin du païs» (glass is mostly smoky, full of blisters and of bubbles, and greyish... the glass of Shiraz is the finest of the country). He wrote futhermore: «Ils ne savent point étamer le verre, comme je l'ai observé, ce qui fait leurs Miroirs de verre sont apportez de Venise, comme aussi leurs Glaces de Chassis, & leurs belles Bouteilles à prendre du tabac» (they can't tin-plate glass, as I have observed, therefore their glass mirrors are imported from Venice, as well as their window panes and their fine tobacco bottles, or water pipes)[73].

Already Jean-Baptiste Tavernier (1605-1689), who had visited Persia and other eastern countries several times between 1631 and 1668, described Persian water pipes and quoted the glassworks in Shiraz, which produced large and small bottles for rose water[74]. Two Venetian travellers, Ambrosio Bembo and Angelo Legrenzi, confirmed the good quality of glass produced in Shiraz. Bembo (1652-1705), in Persia in 1674, wrote that in Shiraz there were six furnaces and their glass was thin and white, the best seen by him, made outside of Venice. The glassblowers in Shiraz only lacked inventivenes and mastery in working it. Therefore the most demanding rich customers bought glass imported from Venice.

---

[73] *Relation du Voyage de Moscovie* 1656: 385. *Voyages de Mr. Le Chevalier Chardin* 1711: 257.

[74] *Les six voyages de Jean Baptiste Tavernier* 1676: 644, 659.

Bembo visited the royal Palace of Mirrors in Isfahan. There were some cabinets full of Venetian glass and crystal glass together with Chinese porcelain and various fine German things[75].

Angelo Legrenzi (1643-1708) travelled in Persia in 1678 and visited a glassworks in Shiraz, where he appreciated the quality of its glass but not the shapes of its glassware, of course due to the low level of hot-working. «Tra le opere, e lavori, che con sommo stupore vidi, fù la fabrica di vetri di tanta bianchezza, e perfettione, che più non si può desiderare, che se havessero miglior forma, e modelo potrebbero andar dal pari con quelli di Venetia. Mi mosse la curiosità di vedere le fornaci dove liquano il materiale, e le ritrovai assai povere, & anguste, vero ben è, che sono sufficienti al bisogno, riguardo il poco consumo de cristali. Consistono questi la maggior parte in Caraffe, & Ingistare con il collo lungo, e con gruppetti à modo di giaccio, tazze, alembichi, et cose simili delle quali massime delle Caraffe ne passa quantità in Persia per l'uso di bere il Tabaco» (Among the things and works I saw with the greatest amazement, there was the furnace producing glass items of such whiteness, and perfection, that one couldn't want more, and if they would have better shapes and design, they could be judged as fine as the Venetian ones. I was driven by the curiosity of seeing the glassworks where rough materials are melt and I found them very poor and narrow, even if they satisfy the need of the country, because of the small consumption of crystals. These mainly consist in flacons and bottles with long necks and with little knots (?) similar to ice, bowls, alembics and similar items; among them a lot of flacons are widespread in Persia because of the use of drinking tobacco)[76]. Obviously Legrenzi never tried to smoke with the water pipe and he didn't actually understand how smoking with a water pipe worked, therefore he always used the locution «bere il tabaco» (to drink tobacco).

Father Raphaël du Mans (1613-1696), who lived in Isfahan from 1647 to 1696, wrote *Estat de la Perse en 1660*, a manuscript published in 1890. He reported that the better quality of Shiraz glass was due to the fact that it was melted using quartz and soda

---

[75] Bembo 2007: 302, 348-351.

[76] Legrenzi 1705: 162-163.

(«le verre neuf se faisant à Chiraz de pierre et de soude») and that wood fit for glass kilns was at lower price there («là le bois est à meilleur marché»). In Isfahan, on the contrary, glass was obtained remelting cullet generated from the recovery of waste glass («ils allument leur fournau lorsque les pilivers ou ramasseurs de verres ou bouteilles cassées leur ont apporté une siffisante quantité... ils ne font que refondre ce verre là»). Furthermore Isfahan glassblowers didn't use crucibles and they burned a sort of unsuitable bush, which caused bad smoke and ash («ils mettent le verre à mesme le fourneau et non pas dans un creuset; ce feu, qui n'est que la moitié fumée et meslé de cendres voltigeantes, fait que ce verre devient, de blanc et clair qu'il estoit, demi noir, plein de pailles et de vessies»)[77].

More briefly these journals give us basic infomation:

- Persian furnaces generally produced coarse glass.
- Only Shiraz furnaces produced glass of good quality but their blowers were not skilled in hot working.
- Persians could not tin-plate glass sheets, therefore they didn't manufactured mirrors.
- The most demanding customers bought glassware and mirrors imported from Venice.
- Smoking with water pipes, unknown in Europe, was a national custom in Persia (and also Armenia).
- The water of pipes was sometimes mixed with flowers or with scented water.
- Water pipe glass bases were produced also in Persia but the finest ones were imported goods from Venice.

A sign of Murano glass' appeal for Persians was the list of Venetian precious artifacts, which the envoys of Shah Abbas the Great had to get for their sovereign in Venice in 1613. Among other items, as satins, silvers and rock crystal pieces, Abbas wanted «Vedri lavorati di diverse sorti, che siano belli, et ben fatti, et indorati la maggior parte» (worked glasses of different kinds, which have to be fine, and well done, and gilt the most of them), «Specchi di christallo grandi, che siano netti, et belli, senza cassa» (large crystal glass mirrors, which have to be plain, and fine, without frames) and

[77] Du Mans 1890: 198-199.

«altri specchi mediani et piccoli, à ponta di diamante» (medium and small mirrors, diamond point engraved)[78]. Indeed the islamic lands were one of the main markets for Venetian glass in the 17th and 18th centuries. The goods, unloaded in the ports of eastern Mediterranean sea, were carried by caravans to many countries, including Persia, frequently thanks to Armenian merchants. Aleppo was a junction of commercial routes and an important emporium. Still in 1797, the last year of the Venetian Republic, the Venetian consul in Aleppo recorded Murano glass beads, chandeliers, blown glass and crystal ware, window panes and mirrors, among the most important goods, shipped from Venice, and he wrote: «here women have to bring at least a Venetian mirror with gilt frame in their dowry»[79].

Also Constantinople, the capital of the Ottoman Empire, and the court itself requested Murano products, which were both European glass types and Islamic ones, made of Venetian glass. The high personalities of the Venetian Republic who established relationships with the Ottoman world, used frequently glass artifacts as presents to authorities and to the Sultan's family. Already in the 16th century there had been much demand of Murano glass: mosque lamps, *mastrapà*, *acanini*, vases, window panes, roundel panes, mirrors, reading glasses and also glass featherns[80]. In the 18th century richly decorated Murano chandeliers, called *chiocche* or *ciocche*, and centerpieces in the form of a garden, *deseri*, were much appreciated in the Near East. Antonio Donà, *bailo* or ambassador in Constantinople in the years 1754-1757, got a lot of glass pieces, probably for his own residence in the Ottoman capital in 1754[81]. On the contrary Francesco Foscari, *bailo* or ambassador in Constantinople in the years 1757-1762, used glass pieces as diplomatic gifts. He gave a mirror with eight wall lamps, to the Reis Effendi of the Ottoman state and two *chioche* (chandeliers), sent to him by the famous glass entrepreneur Giuseppe Briati, to

---

[78] Berchet 1865: 48-49, 65-66; Gagliardi Mangili 2013: 61, 63, 72-73.

[79] Morana 1799: 22-23, 26; Sella 1961: 3, 9-13, 25-26, 66; Trivellato 2000: 229-245.

[80] Pedani 2000: 12-13; Raby 2007: 94-104; Pedani 2010: 103-104.

[81] Zecchin 2011: 174.

the Grand Vizir on the occasion of the birth of the Sultan's first daughter in 1759. The Sultan himself was honoured with the gift of a crystal deser. In 1761 on the occasion of the second daughter's birth the Grand Vizir and the Reis Effendi received two *chiocche* and eight wall lamps. Later Foscari chose again a crystal *deser* as a present for the Captain Pasha[82]. Before Donà and Foscari, Antonio Diedo was the bailo in the years 1751-1754. Giuseppe Briati sent him in Constantinople chandeliers, mirrors, candle holders with glass flowers, vases with glass flowers and *6 pipiere con fiori (*six water pipes with flowers)[83]. Certainly the pipes at least were not for the personal use of Diedo. Indeed during the 17th century water pipes had spread in the countries of the Ottoman Empire.

Francesco Grimani was *Provveditore Generale da Mar,* admiral of the Venetian fleet in peacetime, in the years 1757-1760. His seat was Corfù in an area strongly influenced by Islamic culture, because Greece was a part of the Ottoman Empire. He received *Pipiere o sia fumiere alla Persiana con piatto* (water pipes that's smoking equipments with their dishes) from Giuseppe Briati in 1769. In 1760 again Briati supplied Francesco Diedo, *Provveditore Generale di Dalmazia e Albania,* civil and militar governor of Venetian Dalmatia and Albania, in the years 1760-1762, with glass artifacts. His seat was Zadar and the whole Balkan mainland belonged to the Ottoman Empire. The list of the several items got by Diedo included *4 pipiere con fiori* (4 water pipes with flowers) and *6 acanini da acque odorifere con fiori* (6 flacons for scented waters with flowers)[84]. Not only water pipes were types produced explessly for the Islamic market but also *acanini,* rose water sprinklers with globular bodies and one or two constrictions at the base of their long necks. Such flacons, copied from an Eastern Medieval model, had been in fashion also in Italy and Germany in the 16th century but later they had become only an export item[85].

The first inventory of a Murano glassworks which lists water pipes in the Islamic style is twenty years later than the travels of

---

[82] Foscari 2007: 178-180, 183-184, 450.

[83] Zecchin 2011: 174.

[84] Zecchin 2011: 174: note 91.

[85] Barovier-Tonini 2013: 26. Id. 2014: 5-9.

Chardin in Persia. This is the inventory, dated 1689, of *Giacomo e fratelli Darduin*, glass entrepreneurs, who even managed a store in Izmir. It includes sixteen water pipes[86]:

3 pipe all'armena di cristallo picole
4 pipe all'armena di cristallo
7 pipe all'armena a colletto di granata
Pipa d'armeno di cristallo smaltada
1 altra simile con fiori dentro.
3 small crystal glass pipes in Armenian style
4 crystal glass pipes in Armenian style
7 pipes in Armenian style with garnet red mouth
Enamelled crystal glass pipe in Armenian style
Another similar with flowers inside.

The inventory of Alessandro di Bartolomeo Berton's glassworks, dated 1691, lists simpler items[87], among them pipes without any details:

160 corpi de pipe de vero.
160 bodies of glass pipes.

In 1714 the glassworks «Alla croce d'oro» of late Ettore Bigaglia was owned by his widow Adriana Zanon and it had a much varied production, as shown by its iventory of the same year[88]. All the items listed are very interesting, also the seven pipes:

Una pipa di cristallo senza fiori pincesada
Tre pipe di cristallo schiette
Una detta simile
Una pipa cristal de rocha con fiori ofesa
Una detta cristalo ordinario con fiori
Altri fiori per pipe in tre tazze. Tutti essi fiori 800 in circa.
One crystal glass pipe without flowers pincesada?

---

[86] Trivellato 2000: 47, 284-288.

[87] Trivellato 2000: 289.

[88] Paolo Zecchin's transcription and introduction to the inventory of 1714 is published in this issue of «Atti». *Study days on Venetian glass*. Venezia, Archivio di Stato, Podestà di Murano, b. 209.

Three plain crystal glass pipes
A similar one, as above
One potash crystal glass pipe with flowers, damaged
One ordinary crystal glass pipe with flowers
Other flowers for pipes in three bowls. All these flowers 800 circa.

In this inventory all the water pipes are made of crystal glass, among them one of potash crystal glass, in the fashion of Bohemia, «ad uso di Boemia». Only two pipes are decorated with glass flowers but hundreds of flowers are stored, ready to be reheated and applied.

The later price-list, dated 1795, of the glassworks of Pietro Bigaglia[89] includes:

Pippe con frutto entro
Pippe Persiane senza frutto colorite
Pippe Persiane dorate e colorite sortite.
Pipes with fruit inside
Coloured Persian pipes without fruit
Gilt and coloured Persian pipes of many kinds.

Here the water pipes are called Persian pipes. Some of them are decorated by fruits, instead of flowers, inside. Others are made of coloured glass or gilt and coloured.

The Museo del Vetro at Murano keeps two crystal glass water pipes, until now considered simple bottles, with coloured glass fruits inside, fixed at their bottoms. Their bodies are pear-shaped with long neck as the ones of eastern water pipes and their stems are made of solid crystal glass. One (inv. cl. VI n. 1207) has a blown yellow glass citron with green leaves and a red and white flower inside. Its large foot has a folded rim. The other piece (cl. VI n. 3989) has two orange and yellow fruits with green leaves and red and white flowers inside. Its foot is missing and it is replaced by a metal one. Their date of

[89] Cecchetti, Zanetti and Sanfermo 1873: 237-240. *Progressi nei vari rami della vetraria* 1878: 83. The nineteenth century transcription of this price-list is neither complete nor correct. These items are based on Paolo Zecchin recent transciption. Museo del Vetro, Archivio, b. 32, fasc. 293.

acquisition is unknown but certainly after 1888, because they are not included in the catalogue of the Museo del Vetro published in that year. Instead they are included in the handwritten inventory of the year 1908[90]. The former was exhibited in 1982: «bottiglia con limone, sec. XVIII»[91]. The quality of glass and the details of both the water pipes match Venetian pieces of the second half of the 18th century.

It is difficult today to date precisely and attribute to Venice or to Iran some water pipe bases with coloured flowers inside. A base in the Corning Museum of Glass (nr. 75.1.109) is colorless but bubbly and with small white stones and it has a tubular base ring. The flower inside has pink petals[92]. Two pieces in the Metropolitan Museum of Art (nr. 91.1.1588 and nr. 91.1.1601) are different from the Corning piece and from each other. Certainly enclosing flowers in a bottle or vase was a Venetian idea, which is exemplified in a big vase in the Rosemborg collection[93]. Technically it derived from the blown glass balls fixed in the bottom of bowls, produced in Venice since 1600 circa and well known to scholars. Nevertheless the glass bases in the Corning Museum and in the Metropolitan Museum and other similar ones could have been produced in Persia, because Persian glassblowers learned to make water pipes with enclosed flowers in the late 18th century. Edward Scott Waring, a Bengal civil servant, visited Shiraz in 1802 and wrote a description of such works: «They have here a glass-house and a foundery, both worth seeing. The bottoms which they blow, of glass, for the Kuleeans [qalyān or ḡalyān or water pipe], have a curious appearance to a stranger; they are ornamented in the inside with representations of trees, flowers, &c. and sometimes with small medallions. When the glass is just blown, they fix them in the bottom with small pincers; and so neatly are the pieces joined together, as to entirely escape observation»[94].

---

[90] Inventario manoscritto di Angelo Santi (1908), Museo del Vetro, Archivio, b. 4, fasc. 353.

[91] Barovier Mentasti, Dorigato, Gasparetto and Toninato 1982: 176-177, n. 286. Barovier Mentasti 2013a: 62: f. 15.

[92] We thank Audrey Whitty for sending photos of the details of the hookah in the Corning Museum of Glass.

[93] Boesen 1960: n. 17.

[94] Scott Waring 1807: 31-32. Carboni and Whitehouse 2001: 279-280.

In the second half of the 19th century, the age of revivals, some glassblowers got inspiration from 18th century water pipes, and produced pear-shaped vases with flowers or other decorative elements inside. Their flaring mouths prove that they are not water pipes but decorative vases.In an old photo of the private Salviati museum a showcase keeps ten similar bottles. One of them is now in the Musei Civici agli Eremitani, Padua. It is decorated by a fine blue flower inside[95]. An handled version of this type was in the catalogue of the Murano glassworks Fratelli Toso (nr. 2823) and it is characterized by a glass basket with fruits inside[96]. When full of water its body worked as globular lens, magnifying the decorative element enclosed. The same effect was obtained with 17th - 18th century *pipe armene* and with some vases designed by Napoleone Martinuzzi in 1930. Martinuzzi, a partner and art director of the Venetian Venini glassworks, indeed created a series of vases with glass bubbles or compositions of fruits, plants, and fishes fixed on the bottom inside. The designer was the director of the Museo del Vetro at Murano from 1922 to 1931 and he was certainly intrigued by the two water pipes with fruits of its collection and got inspiration from them[97]. But this is another story.

REFERENCES

An important collection of Venetian and Façon de Venise Glass. 2000. London: Chrisite's.

Art of the Islamic and Indian worlds. 2009. London: Christie's.

Aschengreen Piacenti, Kirsten. 2004. Cerimonie alla corte di Pietro Leopoldo. In *Arte, collezionismo conservazione. Scritti in onore di Marco Chiarini*, edited by Miles L. Chappell, Mario di Giampaolo and Serena Padovani. Firenze-Milano: Giunti.

Banchetti. Compositioni di vivande, et apparecchio generale di Christoforo di Messisbugo, Allo illustrissimo et reverendissimo signor il signor don Hippolito da Este

[95] Barovier Mentasti 2013b: 35. We thank Anna Tedeschi for giving us the copies of old photos of the Museo Salviati.

[96] Kotaki 2000: 36-37, 74, nn. 27-28.

[97] Barovier Mentasti 2013a: 60-62, ff. 12-15.

Cardinale di Ferrara. 1549. Ferrara: Giovanni De Buglhat et Antonio Hucher Compagni.

Barovier Mentasti, Rosa. 1982. *Il vetro veneziano*. Milano: Electa.

Barovier Mentasti, Rosa. 2013a. La tradizione vetraria nell'opera di Napoleone Martinuzzi. In *Napoleone Martinuzzi. Venini 1925-1931*, edited by Marino Barovier. Milano: Skira: 59-63

Barovier Mentasti, Rosa, ed. 2013b. *Vetri dal Museo Salviati. Magiche trasparenze della donazione Tedeschi*. Milano: Skira.

Barovier Mentasti, Rosa and Cristina Tonini. 2012. I vetri. In *Collezioni e collezionisti. Arti applicate dei Civici Musei di Arte e Storia di Brescia*, edited by Antonio B. Spada and Elena Lucchesi Ragni. Brescia: Grafo.

Barovier Mentasti, Rosa and Cristina Tonini. 2013. *Fragile. Murano, chefs-d'œuvre de verre de la Renaissance au XXI^e^ siècle*. Paris: Gallimard.

Barovier Mentasti, Rosa and Cristina Tonini. 2014. Tools to Study Glass: Inventories, Paintings and Graphic Works of the 16th Century. In *Study days on Venetian glass. Approximately 1600's* (*Atti dell'IVSLA* 2013-14, 172/I, Classe di scienze fisiche, matematiche e naturali). Venezia: Istituto Veneto di Scienze, Lettere ed Arti: 3-41.

Barovier Mentasti, Rosa, Dorigato, Attilia, Gasparetto, Astone and Tullio Toninato. 1982. *Mille anni di arte del vetro a Venezia*. Venezia: Albrizzi.

Baumgartner, Erwin. 1995. *Verre de Venise. Trésors inédits*. Genève: Musée Ariana.

Bembo, Ambrosio. 2007. *The travels and journal of Ambrosio Bembo*, edited and annotated and with an introduction by Antony Welch. Berkeley and Los Angeles - London: University of California Press.

Benporat, Claudio. 2001. *Feste e banchetti. Convivialità italiana fra tre e Quattrocento*. Firenze: Olschki.

Berchet, Guglielmo. 1865. *La Repubblica di Venezia e la Persia*. Torino: G.B. Paravia e Comp.

Boesen, Gudmund. 1960. *Venetianske Glas på Rosenborg, I vetri Veneziani del Castello di Rosenborg, Venetian Glass at Rosenborg Castle*. København: Rosenborg.

Bova, A., ed. 2010. *L'avventura del vetro dal Rinascimento al Novecento tra Venezia e mondi lontani*. Milano: Skira.

Byrne Curtis, Emily and Paolo Zecchin. 2009. Four Cases of Precious Glass. In *Glass Exchange between Europe and China, 1550-1800. Diplomatic, Mercantile and Technological Interactions*, edited by Emily Byrne Curtis. Farnham (Surrey): Ashgate Publishing Ltd.

Carboni, Stefano and David Whitehouse. 2001. *Glass of the Sultans*, with contributions by Robert H. Brilla and William Gidenrath. New York: The Metropolitan Museum of Art - Corning N.Y.: The Corning Museum of Glass - Athens: Benaki Museum - New Haven: Yale University Press.

Casciu, Stefano, ed. 2006. *La principessa saggia. L'eredità di Anna Maria Luisa de' Medici, Elettrice Palatina*. Livorno: Sillabe.

Cavagnari, Jacqueline and Elisabetta Mignoni. 1993. Imborghesimento di una corte: Firenze tra i Lorena e i Borbone. In *Traités Savoir-vivre Italiens, I trattati di saper vivere in Italia*, edited by Alain Montandon. Clermont Ferrand: Association des Publications de la Faculté des Lettres et Sciences Humaines de Clermont-Ferrant.

Cecchetti, Bartolomeo, Zanetti, Vincenzo and Eugenio Sanfermo. 1873. *Monografia della vetraria veneziana e muranese*. Venezia: Antonelli.

Dal Pozzolo, Enrico Maria. 2008. *Colori d'amore. Parole, gesti e carezze nella pittura veneziana del Cinquecento*. Treviso: Canova.

Della Valle, Pietro. 1681. *Viaggi di Pietro Della Valle il Pellegrino. Descritti da lui medesimo in Lettere familiari all'erudito suo Amico Mario Schipano. La Persia divisa in due Parti*. Venezia: Giovanni Battista Tramontino.

Dorigato, Attilia. 2002. *L'arte del vetro a Murano*. Venezia: Arsenale.

Du Mans, Raphaël. 1890. *Estat de la Perse, publié avec notes et appendice par Ch. Scheffer*. Paris: Ernest Leroux Editeur.

Folsach von, Kjeld. 2001. *Art from the world of Islam in the T. David collection*. København: David collection.

Gagliardi Mangili, Elisa, ed. 2013. *I doni di Shah Abbas il Grande alla Serenissima. Relazioni diplomatiche tra la Repubblica di Venezia e la Persia Safavide*. Venezia: Marsilio.

Glanville, Philippa. 1987. *Silver in England*. London: Unwin Hyman.

Inventario del cardinal Leopoldo de' Medici. 1675-1676. Firenze: Archivio di Stato, Guardaroba Mediceo 826. Pdf, March 2002: www.memofonte.it

Jestaz, Bertrand. 1998. L'orfèvrerie et les objets précieux à Venise dans la première moitié du XVI^{e} siècle d'après les inventaires. *Mélanges de l'Ecole française de Rome. Italie et Méditerranée* 2: 703-729.

Klapisch-Zuber, Christiane. 1995. *La famiglia e le donne nel Rinascimento a Firenze*. Roma: Laterza.

Klesse, Brigitte and Hans Mayr. 1987. *European Glass from 1500-1800. The Ernesto Wolf Collection*. Vienna: Kremayr & Scheriau.

Kotaki, Chisa, ed. 2000. *Meraviglioso mondo delle Murrine*. Catalogo della Mostra (Tokio, Kotaki Glass Museum). Tokio: Kotaki Glass Museum.

Legrenzi, Angelo. 1705. *Il pellegrino nell'Asia cioè Viaggi del Dottor Angelo Legrenzi, Fisico, e Chirurgo, Cittadino Veneto, Parte seconda.* Venezia: Domenico Valvasente.

Les six voyages de Jean Baptiste Tavernier, Ecuyer Baron d'aubonne, qu'il a fait en Turquie, en Perse et aux Indie, Première partie. 1676. Paris: Gervaise Clouzier et Claude Barbin.

Lettere di Messer Pietro Bembo cardinale a Messer Gianmatteo Bembo suo nipote. 1743. Verona: Preffo Pietro Antonio Berno.

Maggi, Giovanni. [1604] 1977. *Bichierografia. Libri Quattro*. Edited by Paola Barocchi. Firenze: Studio Per Edizioni Scelte.

Mallè, Luigi. 1971. *Vetri - Vetrate - Giade - Cristalli di rocca e Pietre dure*. Torino: Museo Civico.

Mariacher, Giovanni. 1968. *Vetri italiani del Rinascimento*. Milano: Antonio Vallardi Editore.

Max, Barbara and Peter Plabmeyer. 2014. *Sehen und Staunen die Dresdner Kunstkammer von 1640*. Berlin: Deutscher Kunstverlag.

Molmenti, Pompeo Gherardo. 1880. *La storia di Venezia nella vita privata dalle origini alla caduta della Repubblica*. Torino: Roux Favale.

Morana, Antonio Maria. 1799. *Relazione del commercio d'Aleppo et altre scale della Siria, e Palestina.* Venezia: presso Francesco Andreola.

Moretti, C., Salerno, C.S. and S. Tommasi Ferroni. 2004. *Ricette vetrarie muranesi. Gasparo Brunoro e il manoscritto di Danzica.* Firenze: Nardini.

Moretti, Cesare and Sandro Hreglich. 2007. I vetri opachi. Sintesi delle tecniche usate dall'antichità all'Ottocento. In *Il vetro nell'alto Adriatico, Atti delle IX Giornate Nazionali di Studio dell'Association Internationale pour l'Histoire du Verre - Comitato Nazionale Italiano*. Imola: Editrice La Mandragora.

Mori, Giovanna. 1996. *La collezione dei vetri artistici, Civiche Raccolte d'Arte Applicata, Castello Sforzesco*. Milano: Arti grafiche Torri.

Omodeo, Anna. 1970. *Bottiglie e bicchieri nel costume italiano*. Milano: Gorlich.

Pagella, E. and T. Rappé, ed. 2013. *Il collezionista di meraviglie. L'Ermitage di Basilewsky*. Milano: Silvana Editoriale.

Palumbo Fossati, Isabella. 2012. *Intérieurs vénitiens à la Renaissance*. Paris: Michel de Maule.

Pedani, Maria Pia. 2000. Safiye's Household and Venetian Diplomacy. *Turcica* 32: 9-32.

Pedani, Maria Pia. 2010. *Venezia porta d'Oriente*. Bologna: il Mulino.

Progressi nei vari rami della vetraria di Venezia e Murano dalla metà del secolo passato a tutto oggi. 1878. *La Voce di Murano* XII/18: 83-84.

Raby, Julian. 2007. The Serenissima and the Sublime Porte: Art in the Art of Diplomacy 1453-1600. In *Venice and the Islamic World 828-1797*, edited by Stefano Carboni. New York: The Metropolitan Museum of Art - New Haven and London: Yale University Press.

Rebecchini, Guido. 2011. Portraits by objects. Three 'Studioli' in Sixteenth-Century Mantua. In *Mantova e il Rinascimento italiano. Studi in onore di David. S. Chambers*. Mantova: Sometti.

Relation du Voyage de Moscovie, Tartarie et de Perse, Fait à l'occasion d'une ambassade, Enuoyée au Grand-Duc de Moscou, & du Roy de Perse; Par le Duc de Holstein: Depuis l'An 1633. jusques en l'An 1639. 1656. Traduit de l'Allemand du Sieur Olearius, Secretaire de la dite Ambassade. Paris: Gervais Clouzier.

Safarik, Eduard A. 1996. *Collezione dei dipinti Colonna. Inventari 1611-1795. The Colonna Collection of Paintings. Inventories 1611-1795*. Münich: K. G. Saur Verlag.

Saldern von, Axel. 1965. *German enameled Glass. The Edwin J. Beinecke Collection and Related Pieces*. Corning N. Y.: The Corning Museum of Glass.

Scott Waring, Edward. 1807. *A tour to Sheerazad by the route of Kazroon and Feerozabad with various remarks on the manners, customs, laws, language, and literature of the Persians, to which is added A History of Persia*. London: T. Cadell and W. Davies.

Sella, Domenico. 1961. *Commerci e industrie a Venezia nel secolo XVII*. Venezia-Roma: Istituto per la collaborazione culturale.

Smith, P. John and David Whitehouse. 2013. A basin attributed to George Ravenscroft. *Journal of Glass Studies* 55: 101-106.

Syndram, Dirk and Martina Minning. 2010. *Die kurfürstlich-sächsische Kunstkammer in Dresden: Das Inventar von 1640*. Dresden: Sandstein Verlag.

Thorton, Peter. 1991. *The Italian Renaissance Interior 1400-1600*. New York: Harry N.Abrams, Inc., Publishers.

Tonini, Cristina. 2014. A margine di una natura morta di Giuseppe Recco: proposte di datazione di alcuni soffiati. In *XVI Giornate Nazionali di Studio sul vetro. Il vetro in età protostorica in Italia*, edited by Silvia Ciappi, Annamaria Larese and Marina Uboldi. Cremona: Fantigrafica.

Trivellato, Francesca. 2000. *Fondamenta dei Vetrai. Lavoro, tecnologia e mercato a Venezia tra Sei e Settecento*, Roma: Donzelli.

Urbani De Gheltof, Giuseppe Marino. 1888. *Catalogo del Museo Civico Vetrario di Murano*. Venezia: stabilimento Antonelli.

Voyages de Montesquieu publiés par Le Baron de Montesquieu. 1894. Bordeaux: Imprimerie G. Gounouilhou.

Voyages de Mr. Le Chevalier Chardin en Perse, et autres Lieux de l'Orient, Tome Quatriéme, contenant une Description générale de la Perse. 1711. Amsterdam: Jean Louis de Lorme.

Zecchin, Luigi. 1987-1990. *Vetro e Vetrai di Murano.* Venezia: Arsenale Editrice.

Zecchin, Luigi. 1989. *Vetro e vetrai di Murano*. Vol. 2. Venezia: Arsenale Editrice.

Zecchin, Paolo. 2003. Prodotti vetrari muranesi alla fine del Cinquecento. *Rivista della Stazione Sperimentale del Vetro* 3: 23-32.

Zecchin, Paolo. 2009a. Due importanti inventari muranesi del Cinquecento. *Rivista della Stazione Sperimentale del Vetro* 5: 27-34.

Zecchin, Paolo. 2009b. Un regalo di vetri veneziani settecenteschi all'imperatore di Cina. *Rivista della Stazione Sperimentale del vetro* 1: 19-24.

Zecchin, Paolo. 2010. Giuseppe Briati, il più famoso vetraio veneziano del Settecento. *Journal of Glass Studies* 53: 161-175.

Zecchin, Paolo. 2011. Giuseppe Briati, il più famoso vetraio veneziano del Settecento. *Journal of Glass Studies* 53: 161-175.

Zecchin, Paolo. 2014. *The inventory of Matteo Priuli in the year 1700*. In *Study days on Venetian glass. Approximately 1600's* (*Atti dell'IVSLA* 2013-14, 172/I, Classe di scienze fisiche, matematiche e naturali). Venezia: Istituto Veneto di Scienze, Lettere ed Arti: 43-51.

Fig. 1 - Ewer, *reticello* filigree, Venice, end of 17th-beginning 18th Century. Murano, Museo del Vetro.

Fig. 2a-b - Ewer and basin, *reticello* filigree, Venice, end of 17th-beginning 18th Century. Assisi, Tesoro della Basilica.

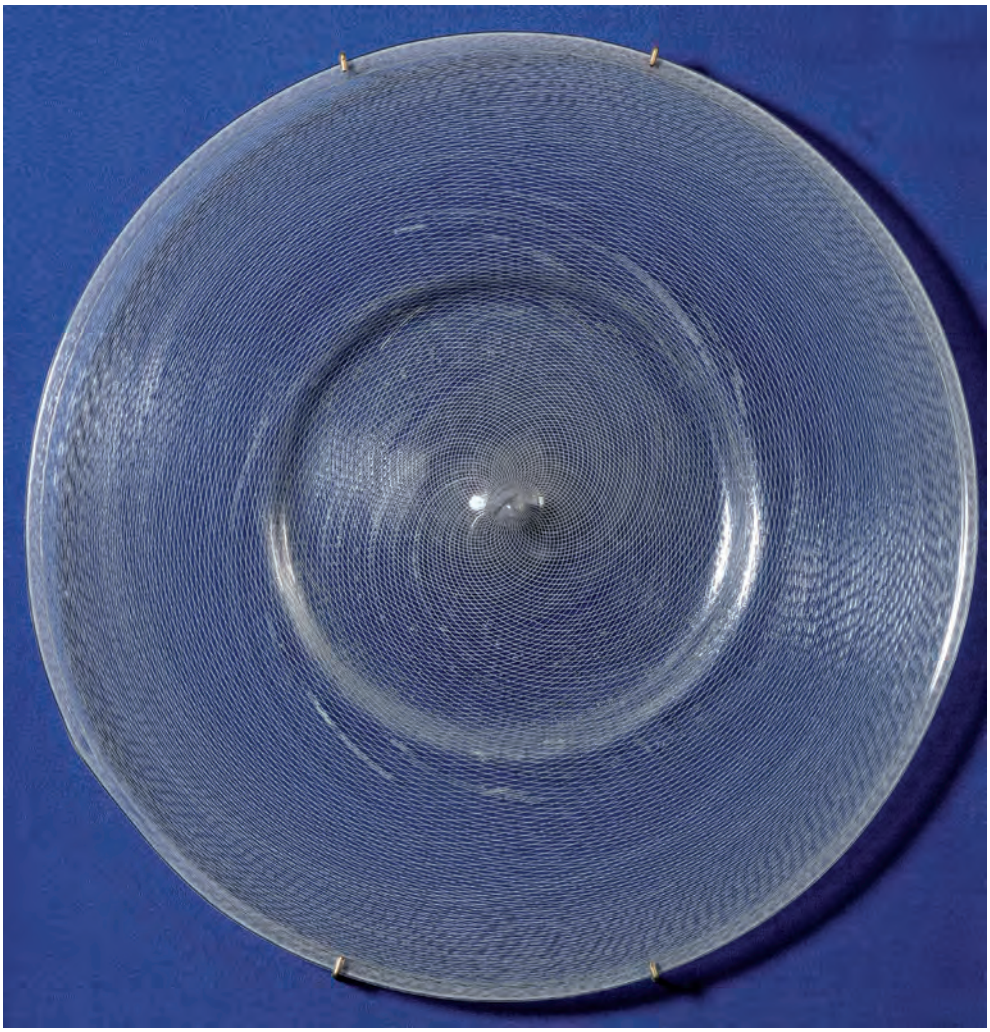


Fig. 3 - Ewer and Basin, *reticello* filigree, Venice, end of 16th-first two decades of 17th Century. Dresden, Grünes Gewölbe, Staatliche Kunstsammlungen.

Fig. 4 - Serving dish, crystal, aquamarine, diamond point engraved, Venice, end of 17th-beginning of 18th Century. Pavia, Musei Civici.

Fig. 5 - Flacon, yellow glass and cristallo, Venice, beginnning of 18th Century. Murano, Museo del Vetro

Fig. 6 - Crystal glass *cantinetta*, diamond point engraved, Murano, late 17th century - early 18th Century. Murano, Museo del Vetro, cl. VI inv. 1125.

Fig. 7 - Two-handled silver cup, England, 1677. Cleveland, The Cleveland Museum of Art, nr. 1958.422.

Fig. 8 - Water pipe base, made of crystal glass with blown glass citron inside, Murano, second half of the 18th Century. Murano, Museo del Vetro, cl. VI inv. 1207.

Fig. 9 - Water pipe base, made of crystal glass with glass fruits and flowers inside (detail), Murano, second half of the 18th Century. Murano, Museo del Vetro, cl. VI inv. 3989.

Fig. 10 - Water pipe base, made of colorless glass, with pink flower inside, Venice or Iran, 18th Century. Corning, NY, The Corning Museum of Glass, nr. 75.1.109.

Paolo Zecchin

ETTORE BIGAGLIA: THE INVENTORY OF THE *NEGOZIO ALLA CROCE D'ORO* DATED 1714 APRIL 2ND

The most important among the Murano glasswork owners of the late XVIII century, was Ettore Bigaglia. In the first «comparto», from documents we know, he appears as an owner of big glassworks specialized both in crystal glassware and in «quari e lastre», that are glass sheets for mirrors and window panes[1].

He went down in the history of glass technology thanks to some recipes for crystal glass, one of them connected with pieces made for «Serenissimo D. Amburgo». Tullio Toninato and Cesare Moretti identified this individual with King Frederick of Danemark, who resided in Venice between 1708 and 1709[2].

Ettore Bigaglia died in 1694, leaving his «Alla croce d'oro» (Golden cross) glassworks to Adriana Zanon, his widow. According to the rules of the *Arte,* or glassblowers' guild, she continued the glasswork activity, but the firm had to be run by «a competent Murano man who could act as the owner»[3]. To keep production under control, Adriana periodically made an inventory of the glassworks crafted in the workshop.

The inventory taken on April 2nd, 1714, lists many interesting items which, at least partially, can be identified thanks to the

---

[1] Zecchin 2001.

[2] Toninato and Moretti 1992.

[3] Zecchin 2008.

pieces purchased by the King of Danemark in Venice[4]. One of his suppliers was Ettore Bigaglia, as we have previously shown. Two lists of the Venetian glassware presented to the emperor of China in 1720 can also be useful to identify other glass items[5].

Among the first items in the inventory are some «canevette». These were cylindrical containers with covers, fit for holding some flacons (called «pestoncini», these flacons had a cylindrical shape and a small diameter). Our «canevette» were made of *girasol* glass (a kind of traslucent milky glass which looks red against the light), of *fillagrana* and of *rettortoli.* Filigree glasses are blown pieces based on white or coloured glass rods; today they include the *mezza filigrana* (with parallel simple rods overlayed by clear glass), the *redesello* (with rods worked so that they intersect getting the appearance of a network) and the *retortoli* glass (twisted filigree). In the Bigaglia inventory we find the first ones (if we correctly identify, for instance, the *vardachi de fillo di diversi colori* and the *sottocoppe fillade de zallo* with *mezza filigrana* glasses) and the third ones (the parallel rods are not simple but they are obtained putting together elementary rods and forming a solid cylinder, then pulled at the ends in opposite directions to make a twisted rod with various patterns). We have to notice that in the Bigaglia inventory *fili*, *retortoli* and *filigrane* are regarded as distinct techniques. The reason of this distinction between tecniques isn't clear.

There are *belliconi,* goblets with high stem and cover (from the German *Willkommhumpen*, welcome beakers), *bardachi*, perhaps for the Turkish market, and *fingiane,* which I cannot identify.

Many items were *sgraffadi*: they could be decorated scratching or combing the threads (generally white) applied around the surface, to obtain a wavy or feather pattern. This decoration will be called *graffito* in the nineteenth century.

---

[4] Boesen 1960.

[5] Zecchin 2009.

Archivio di Stato di Venezia, *Podestà di Murano*, b. 209
2 aprile 1714. Negozio dalla croce d'oro del q. Ettore Bigaglia

In bottega da gotti, nell'armer vicino li calti, in the beakers shop, in the cupboard near the shelves

135 pezzi di girasol, cioè gotti, caraffine, bembetti et impoline da Messa, tazzette, tazze di dodeci onze incirca et qualche coperchio, piatelli da chichare e chichare in tutto pezzi n. 135, 135 *girasol*, opal glasses that are beakers, flacons, small ewers and mass cruets, cups of twelve ounce and some covers, trembleuse cups and saucers for trembleuses all of them are 135 pieces

Tre canevete di girasol, una senza coperchio, una per rosolini e una col coperchio, tutte senza pistoncini, Three *girasol*, opal flacons containers, one without cover, one for rosolio's flacons and one with cover, all of them without flacons

Un cadin di girasol, A *girasol*, opal basin

Sei sottocope tra grande e picole, Six big and small serving dishes

Due sechii di girasol, Two *girasol*, opal buckets

Sei candelieri di girasol, Six *girasol*, opal candlesticks

Un belliconcin di girasol, A small *girasol*, opal goblet

Undeci vasi di girasol sortidi (*la qual roba di girasol era offesa et buona et anco colorita*), Eleven *girasol*, opal vases of different types (they are whole ones, damaged and also coloured)

Due vasi grandi color di granata diamantati a punta, Two big garnet coloured vases diamond-point engraved

Due tazze graffade bianche d'aqua marina coperchiate, e meduse dorate, Two covered aquamarine bowls with white combed threads and gilt Medusa prunts

Un vaso di fillagrana con manici postici, A filigree vase with postiche handles

Due candelieri color amatista con cerchio e rosa, Two amethyst colour candlesticks with a ring and a rose flower

Due vasi di cristallo con fiori con sopra due cedri, Two crystal vases decorated with flowers on the top two lemons

Tre coperchi di filograna da bellicon con fiori, Three filigree covers for high goblet with flowers

Un bellicon di fillagrana con coperchio offeso, A high filigree goblet with damaged cover

Un vardaco di fillagrana, A filigree *vardaco-bardaco*

Un bellicon di filagrana senza piedi rotto, A high filigree goblet with broken foot

14 vardachi de fillo di diversi colori, 14 coloured filigree *bardachi*

11 frutti tra offesi e buoni, 11 whole and damaged fruits

Due vasi turchini color di blò, Two turquoise-blue vases

Due bardachi di cristallo sgraffadi bianchi, Two crystal *bardachi* with white combed threads

Due candelieri sgraffadi con tre rosette l'uno, Two candlesticks with combed threads and with three rose flowers each one
Due detti cristal di rocca[6] *coloriti con cerchio e una rosa*, Two rock cyrstal candlesticks with a coloured ring and a rose flower
Due vasi sgraffadi con manici color di blu grandi, Two vases with combed threads and big blue handles
Un belicon di rettortoli con tre rosette, A high retortoli goblet with three rose flowers
Una pipa di cristallo senza fiori pincesada, A cyrstal pipe or hookah without flowers pincered
Un vaso color di agata con manici postici, An agata colour vase with postiche handles
Due vasi sgraffadi d'aqua marina con manici zalli, Two aquamarine vases with combe threads and with yellow handles
Una morisa di fillagrana coperta, A covered filigree *morisa* goblet
Due caraffine color di blò coperte, Two blue covered flacons
Un gotto da medicina coperchiato con meduse, A pharmaceutical beaker with a cover decorated with Medusa prunts
Due sechieli d'acqua santa color di rubin, Two ruby-red colour buckets for holy water

Nel secondo armeretto vicino della fillagrana, In the second small cupboard near the filigree glasses
Due canevette rettortoli coperte una con pestoncin et una senza, Two flacons containers in retortoli filigree one with flacons and one without
Una canevetta senza coperchio di fillagrana, A filigree container for flacons without cover
Quattro pestoncini di fillagrana, Four filigree flacons
Un coperchio di fillagrana senza canevetta, A filigree cover for a flacons container
Un bardaco di fillagrana, A filigree *bardaco*
Un gotto da medicina di fillagrana, A pharmaceutical filigree beaker
Un gotto da birra, A beer beaker
Una rinfrescadora di fillagrana rotta, A broken filigree wine cooler
Due bardachi di fillagrana, Two filigree *bardachi*
80 pezzi di rettortoli, cioè caraffine coperte e scoperte, tazzette e carafine da rosolio compreso vasole(?) e gotti, 80 retortoli filigree pieces, that are flacons with and without covers, small cups and flacons for rosolio
12 pezzi di rubin, tra tazzette, ampole da messa e sechielli, 12 ruby-red pieces, amongst them mass cruets and buckets

---

[6] Rock crystal has to be identified in this period with a crystal made with lead and potassium on the base of seven Muranese recipes of «cristallo di rocca», rock crystal, dated from 1697 to 1700. See Zecchin 1986: 228-230.

11 frutti, 11 fruits
Una canevetta di cristalo coperchiata senza bozze e senza manichi, A crystal flacons container with cover without flacons and without handles
Un cadin alla Turchesca di fillagrana colorita, A coloured filigree turkish-style basin
18 pezzi di robba a filli coloriti, cioè sechieletti, carafine, compreso un piato, 18 coloured filigree pieces, that are small buckets, flacons and a dish
13 ampole da messa con fiori di cristal di rocha con suoi stropoli, 13 rock crystal mass cruets with flowers and with their lids
10 belliconi la maggior parte offesi, 10 high goblets most of them damaged
10 vasi grandi di rettortoli con fiori offesi, 10 retortoli filigree high vases with damaged flowers
Due sottocoppe fillate di zallo, Two serving dishes with yellow threads
Due gotti da medicina con fiori, Two pharmaceutical beakers with flowers
26 vasi da fiori con manici parte color di blu e parte di cristalo con fiori, 26 bouquetières with handles in blue glass and partially in crystal with flowers
Due mezzimondi coperchiati con fiori da dama, Two covered *mezzimondi* (half-worlds) with lady flowers
Due vasi con suoi mazzetti di fiori di cristallo offeso, Two vases with crystal flowers damaged
Due candelieri d'aqua marina con fiori offesi sgraffadi, Two aquamarine candlesticks with combed threads and damaged flowers
Un bellicon con croce, A high goblet with a cross
4 pezzi di recotti grandi, 4 large pieces fired twice
Tre chichare da recotti, Three cups and saucers *da recotti*
Due candelieri color d'amatista, Two amethyst colour candlesticks

Nel armer grande, In the big cupboard
10 canevette di cristallo coperchiate, parte offese senza pestoncin, 10 crystal flacons containers with covers, partially damaged without flacons
7 pestoncini di cristallo da canevetta, 7 crystal flacons for containers
7 belliconi parte offesi, 7 high goblets partially damaged
60 frutti di diverse sorte, 60 fruits of different types
65 pezzi di robba sgraffada, 65 pieces with combed threads
4 fontane in tre e quatro in due calti parte offese, 4 fountains with three and four flours(?) partially damaged in two drawers
70 pezzi robba di cristallo, cioè bocchaletti e chichare, 70 crystal pieces, that are small beakers and trembleuse cups and saucers
16 tazze alla francese d'ingranata, 16 cups of garnet coloure in french-style
20 dette fingiane tra coperte e scoperte, 20 so-called *fingiane* with and without covers
Una lampada di fillagrana, A filigree lamp

14 bardachi, 14 *bardachi*
12 vasi di cristal di rocca grandi da fiori color amatista inferior, 12 big rock crystal ametyst light colour(?) bouquetières
10 vasi di cristallo da fiori, 10 crystal bouquetières
20 gotti tra da dame con fiori e da monache, bassi, 20 low beakers for lady with flowers and for nuns
Due candelieri di cristallo di altar, Two crystal candlesticks for altar
Due detti da tavola, Same candlesticks as above for table
Due brichi di cristallo recotti, Two crystal jugs fired twice
20 pezzi in circa di cristallo, cioè vasi per Spagna, gotti per Napoli coperti, Nearly 20 crystal pieces, that are vases for Spain and covered beakers for Naples
Una giara di cristallo offesa, A damaged crystal jar

Nell'altro armer vicin alla porta de bottega, In the other cupboard near the door's shop
15 gotti di calcindonia da bira tutti scoperti, 15 beer beakers in chalcedony without covers
Tre pipe di cristallo schiette, Three crystal pipes or hookah without decoration
Una detta simile, One similar to the above ones
300 pezzi in circa cioè reliquiari, candellieri, gotti da medicina, gotti d'acqua nevata, bordachi, robba sgraffada piccola, vasi da fiori, gotti ordinari, covertine, frutti, sechielli, tacette, canevette senza pestoni, due coperchiate, tutta detta robba tra offesa e buona, Nearly 300 hundred pieces that are reliquiaries, chandeliers, pharmaceutical beakers, snow cooled-beakers, *bordachi*, small glass pieces, bouquetières, ordinary beakers, small covers, fruits, buckets, small cups, flacons containers without flacons, two of them covered, all these pieces are whole and damaged

Nel armer del Sol, In the cupboard of the Sun's shop
Due mazzetti di cristal di rocha con fiori, Two rock crystal bunches with flowers
Tre tazzette da 2 di rochetta con aqua marina, Three small cups *da 2 di rochetta* with aquamarine
Una simile, One similar to the above ones
Due dette sgraffade, Two as the above ones with combed threads
Due borondoli da bochin d'argento, Two *borondoli da bochin d'argento*
13 fingiane a filli coloriti di diverse sorte senza coperchii, 13 *fingiane* with coloured threads of different types without covers
5 cadinetti d'onze dodeci, color giallo e uno color biancho, 5 basins of twelve ounce in yellow colour and one white
24 pironi di cristallo e due coltelli, 24 crystal forks and two knifes

Un orinal per Spagna da pisiar, One urinal for Spain to piss

Su il tramezzo in mezo la bottega, On the mezzanine in the middle of the shop
Una canevetta grande coperchiata, A large flacons container covered
Due sottocope una a punta di diamante et una aqua marina, Two serving dishes one diamond point-engraved and one in aquamarine
4 vasi da fiori due color di blu e due girasol, 4 bouquetières two blue colour and two *girasol*, opal
Una pipa cristal di rocha con fiori ofesa, One damaged rock crystal pipe or hookah with flowers
Una detta cristalo ordinario con fiori, One similar to the above one in ordinary crystal with flowers
Due ferali rotti, Two broken lamps
Un bacil grando et un piato di cristalo imperial, A large basin and a crystal dish to serve *imperial*
4 robbe da sgabello tre colorite, 4 pieces for stool three of them are coloured
Due canevettine d'aqua marina con meduse offese, Two small damaged flacons containers with Medusa prunts
50 pezzi in circa di robba diversa, Nearly 50 pieces of different stuff
10 libre in circa di corda (cordon?), Nearly 10 libras of rope (cord?)

Nelli armeretti sotto li due grandi armeri, In the small cupboards below the two large cupboards
88 tacette da rosolio color di granata tra bone e offese, 88 small cups for rosolio garnet coloured some whole and some damaged
6 quiachere da rosolio, 6 cups and saucer for rosolio
9 caraffine per Costantinopoli fillade, 9 flacons for Costantinople with threads
Due bocali di cristalo, Two crystal tankard
Tre tazze da spudar, Three cups to spit
8 caraffine di fiori alla Turchesca di cristallo, 8 crystal flacons with flowers in turkish-style
260 pezzi di cristallo tra caraffine di granata, mastelle da rosolio, coperchii, tacette, caraffine da fiori, giarette piciole, pestoncini da semada, zottolette, gottesini da rosolio, mastelleti, tazze da rosolio, carafine di aqua marina con fiori alla turchesca e sei gotti da sorbetti, 260 crystal pieces garnet coloured flacons, small tubs for rosolio, covers, small cups, flacons for flowers, small jars, flacons for orgeat(?), small bowls, small beakers for rosolio, small tubs, cups for rosolio, aquamarine flacons with flowers in turkish-style and six beakers for sorbets

Nelli armeretti sotto li due armeri grandi, In the small cupboards below the large cupboard
25 tazze alla francese con manici, 4 d'onze 20 et il resto di onze 12, 25 cups in french-style with handles, 4 of 20 ounce and the others of 12 ounce
26 ciotole colorite, 26 coloured bowls
4 dette granata intagliate a punta, 4 similar to the above ones garnet coloured diamond-point engraved
Altri 12 pezzi robba piciola, cioè piatelli da lampade et altre, Other 12 small pieces, that are small dishes for lamps and others
12 piatti alla Turchesca tra buoni e rotti, 12 dishes in turkish-style some whole and some damaged
40 coperchi in circa da tazze, Nearly 40 covers for cups
Due bardachi di latimo, Two lattimo bardachi
Due baciletti da messa, Two small basins for mass
32 caraffine con manici, 32 flacons with handles
4 dette color de granata, 4 similar to the above ones garnet coloured
5 tazze di cristallo con manici, compreso una a giazzo, 5 crystal bowls with handles, one ice-glass is included
Zavagi diversi 15 pezzi in circa, Different types of triffles(?) nearly 15 pieces
15 penarioli acqua marina, 15 aquamarine colour needle or pen boxes
16 pezzi di granata, cioè mastelletti e tazette, 16 pieces garnet coloured, that are small tubs and small bowls
Un paio ampoline sgraffade da messa, A pair of mass cruets with combed threads
10 tazze di cristallo d'onze 8, 10 crystal bowls of 8 ounce
Un bardacho di cristallo con aqua marina, A crystal *bardacho* with aquamarine
50 pezzi sortidi, cioè caraffine schiette con manici, giare d'onze 8, baciletti da mezza, piatelletti da siropade e due vasetti da due colti, 50 pieces different types, that are flacons without decoration with handles, jars of 8 ounce, small dishes for fruits in syrop and two small vases *da due colti*
500 pezzi in circa di robba di latimo inferior, cioè chichare e tazze da caffè parte offese, con un pezo calcindonia, Nearly 500 pieces in low quality (or light intensity?) lattimo, that are trembleuse cups and saucers and coffee cups partially damaged, with a piece of chalcedony

Sotto li travi, Underneath the girders
Due cesendelli di girasol coloridi con sue cattene, Two *girasol*, opal oil lamps with their hangings
4 sechielli d'acqua santa di cristallo, 4 crystal holy water buckets
Uno di fillagrana d'acqua, One as above in filigree for water
Due detti di cristallo grandi, Two large crystal buckets

Tre detti mezani alla dritta, Three as the above ones of medium size
Un lambico col suo capello, An alembic with its cover
12 fiaschi impagliati da lira grossi, 12 flasks with straw covers of lira

Nelli banchetti e cassetta sotto la balconada, On the shelf and in a box underneath the balcony
150 carafine, 150 flacons

Drio la porta di bottega della riva, Behind the shop's door on the canal
Una fruttiera grande, A large fruit bowl
Un coperchio di cadin alla Turchesca dorato, A gilt cover for a basin in turkish-style
Due coperchi da caneveta di cristalo, Two crystal covers for flacons container
4 piati reali, 4 dishes *reali*, to serve
Due detti da tovagliol, Two dishes *tovagliol*, for personal use
Altri due pezzi di robba, Other two pieces

Sotto i due armeri sive nelli calti, Below the two cupboards in the shelves
6 piatti da capon di cristallo, 6 crystal dishes *da capon*, to serve
7 detti da tovagliol, 7 small crystal dishes *da tovagliol*, for personal use
4 sottocope da siropade, 4 serving dishes for fruits in syrop
Una sottocopa da L2, A serving dish of two pounds
Un bromboletta, A rattle or a bubble
Tre ferali mezani offesi, Three medium size lamps damaged
Una coperta di rochetta, A cover *di rocchetta*

Su le scancie delli armeri grandi, On the shelves of the large cupboards
Una coperta grande un feral mezano, A large cover and a medium seize lamp
Due cadini grandi filladi, Two large basins with threads
12 ampoline da messa color zallo, 12 mass cruets yellow colour
Due cadini a fillograna, Two filigree basins
Due maneghette da susta, Two *maneghette da susta*
Un cadino di color d'agata da rader, An agate colour basin to shave
Un cadino di cristallo grande alla dretta, A large crystal basin *alla dretta*
Due maniche da candela, Two handles for candles
Due sottocoppe di latimo, Two lattimo serving dishes

Nelli calti drio la porta, In the shelves behind the door
12 ferali rotti, 12 broken lamps
8 orinali da sabion, 8 urynal *da sabion*
Una storta, A retort
Due sazioli, Two *sazioli*

In altri calti, On other drainer ditches
80 bottiglie in circa, Nearly 80 bottles
40 pezzi di buffaria, 40 pieces of ordinary glasses

Tre mazzi di pescami zalli, Three bunches of yellow *pescami*
Un detto bianco, One similar to the above ones in white

Nelli calti a basso, In the shelves below
25 pezzi di robba tra buona e rotta, 25 pieces whole and damaged
Fiori di diverse sorte da bellicon lattadi, rossi e bianchi e per frutti, Flowers of different types of alabaster glass, red and white colour for high goblets and for fruits
Impolete da messa, Mass cruets
Bembetti tre, Small ewers three
Taze da spudar n. 10, Bowls to spit n.10
Altri fiori per pipe in tre tazze, Other flowers for pipe or hookah in three bowls
Tutti essi fiori 800 in circa, All these flowers are nearly 800
14 bozzette da rosolin, 14 flacons for rosolio

Nella cassa davanti, In the case in front
36 gotti di rochetta, 36 beakers *di rocchetta*
12 detti con acqua in fardi da scambio, 12 beakers with water *in fardi da scambio*

In altra cassa, In another case
5 gotti da sorbetti di cristallo, 5 crystal beakers for sorbets
un gotto alla moceniga di cristallo, One crystal beakers Mocenigo-style
Tre detti d'ingranata, Three as the above ones in garnet coloured

Nell'altra cassa drio il canello(?), In another box behind a small table(?)
15 gotti di cristallo tra da rosolin con manici e grandi, 15 crystal beakers amongst them some for rosolio with handles and some large
Un mastello di robba di lattimo rotta da cambio, A tub with broken lattimo pieces *da cambio*

Al canello, Small table(?)
Una stadiera 370, One scale 370
Sei lissadore da curamani, Six smoothers for leather
Sei stampi di bronzo, cioè lion metà capasanta stampeta e piumin(?), Six bronze moulds, that are lion and half Saint Jacques sea-shell prunt and hands pieces(?)

4 formette in bronzo, 4 small bronze moulds

Un canon grando di bronzo a zelosia, A large cannon shaped mould in bronze *a zelosia*
Un baril con L. 100 in circa di vero rotto, A barrel with nearly 100 pounds of broken glass

Nella bottega del Sol, In the *Sol*'s shop
Li calti tutti vuodi, All the shelves empty
6 casselle nelle quali vi sono drento sei brochieri(?), 6 small cases inside them there are 6 buclers(?)
Due armeri con 4 ferali piturati rotti, Two cupboards with 4 broken painted lamps
50 quaretti in circa colorati, Nearly 50 coloured small squares
Lastre grande e picole colorite n. 20 in circa, Large and small coloured panes nearly n. 20
Pezzami di lastre di color zallo et altri colori 200 in circa, Pieces panes of yellow colour and other colours nearly 200
Canoni di cristallo da feral et scartozetti e giarette pezzi 60 in circa, Crystal cannon shaped for lamps and lamps chmineys and small jars nearly 60

Sotto li armeri, Underneath the cupboards
15 sechielli d'acqua santa di zallo rotti offesi e inversiai, 15 yellow buckets for holy water broken, damaged and crizzled
4 mazzi di lastre zalle, 4 yellow glass panes
300 pezzi in circa tra masteletti, scatolette, lampade, tra bone e offese, Nearly 300 pieces amongst them small tubs, small boxes, lamps, some whole and some damaged

In sponzetta
In una cassetta con quatro calti, In a case with four shelves
Ventose 150 in circa, Nearly 150 cupping glasses
50 lampade da tre bechi, 50 lamps with three spouts
50 dette in circa, Nearly 50 as above

In altra cassa, In another case
30 caraffine in circa di vero, Nearly 30 glass flacons

Nella bottega suso, Upstair in the shop
200 gotti in circa da cerchio di vetro, Nearly 200 beakers with glass ring
30 cesendelli in circa di vero longhi, Nearly 30 long glass oil lamp
60 stampette, 60 miniature prunts
200 robbe da tre bechi, 200 pieces with three spouts

REFERENCES

Boesen, Gudmund. 1960. *I vetri veneziani del Castello di Rosenborg*. Copenaghen: I kommission hos G.E.C. Gad.

Toninato, Tullio and Cesare Moretti. 1992. Ricettari Muranesi (XVI-XX secolo). *Rivista della Stazione Sperimentale del Vetro* 4.

Zecchin, Luigi. 1986. *Il ricettario Darduin. Un codice vetrario trascritto e commentato*, edited by Rosa Barovier Mentasti, Antonio Tucci and Marco Verità. Venezia: Arsenale: 228-230.

Zecchin, Paolo. 2001. L'arte vetraria a Murano nella seconda metà del Seicento. Parte prima. *Rivista della Stazione Sperimentale del Vetro* 4.

Zecchin, Paolo. 2008. Il Capitolare dell'Arte vetraria muranese del '700. III parte. Le bozze di "Perfezione dei lavori, Custodia; Pietà e Carità". *Rivista della Stazione Sperimentale del Vetro* 6.

Zecchin, Paolo. 2009. Un regalo di vetri veneziani settecenteschi all'Imperatore della Cina. *Rivista della Stazione Sperimentale del Vetro* 1.

Fig. 1 - *Canevetta*, Venezia, early 18th century. Murano, Museo del Vetro.

Fig. 2 - *Canevetta*, detail, Venezia, early 18th century. Murano, Museo del Vetro.

Fig. 3 - *Canevetta*, detail, Venezia, early 18th century. Murano, Museo del Vetro.

Suzanne Higgott

SURVEY OF VENETIAN AND *FAÇON DE VENISE* ENAMELLED AND GILDED GLASS MADE *c.* 1500-1550 AND EXCAVATED FROM RELIABLY DATED CONTEXTS IN GREAT BRITAIN

This paper results from the author's participation in a research project concerning enamelled and gilded Venetian Renaissance glass. The project (Project Cristallo) was initiated in 2009 by the Musée du Louvre, under the supervision of their curator of Renaissance glass, Françoise Barbe, and in collaboration with Isabelle Biron (Laboratoire du Centre de Recherche et de Restauration des Musées de France [C2RMF]), independent glass scholar Rosa Barovier Mentasti and Marco Verità (Laboratorio di Analisi dei Materiali Antichi [LAMA] – Università IUAV, Venice). The project aims to establish, through chemical analysis of the glass and enamels, criteria that enable Venetian Renaissance enamelled glass to be distinguished from *façon de Venise* production. The project will also attempt to distinguish Renaissance examples from later pastiches or fakes. The database that is being developed is the first to be dedicated to this subject.

The project incorporates a historic and stylistic study of Venetian Renaissance enamelled glass in tandem with the physico-chemical studies being carried out by the C2RMF on glasses in various French collections. It is essential that the project includes analysis of well dated and/or well documented glasses to serve as references by which to gauge the groups of vessels from French museum collections that have been identified through chemical analysis. Recent finds of enamelled glass fragments datable to the Renaissance in archaeological contexts can provide rare evidence

about this problematic production. In 2013 the C2RMF made a European-wide appeal for information about such objects or fragments in museum collections or from archaeological excavations; this quest would lead, at the next stage, to requests to analyse some of this material.

This author's brief was to locate examples of Venetian Renaissance enamelled and gilded glass from reliably dated contexts in Britain[1]. These are often either unpublished or published in an archaeological context. Furthermore, staff responsible for archaeological finds may be uncertain of the characteristics of Venetian Renaissance glass. In rare cases, fragments may be lost. A major source of information about glass in British excavations are the reports, published and unpublished, by the glass historian Robert Charleston (1916-1994), Keeper of Ceramics at the Victoria and Albert Museum (1963-1976). His *English Glass and the glass used in England* (Charleston 1984) provides useful information about glass from British excavations. Hugh Willmott's *Early post-medieval vessel glass in England c. 1500-1670*[2] also provides indispensable information on glass from archaeological sites.

The project undertaken regarding material from British sites comprised a survey of Venetian and *façon de Venise* enamelled and/or gilded glass dating from the later 15th to the 17th centuries and excavated from reliably dated contexts. The Venetian-style fragments yielded from such contexts were more wide-ranging and also included examples of *millefiori*, *lattimo*, *vetro a filigrana*, diamond-point engraved and other glass types. This article presents the Venetian and *façon de Venise* enamelled and/or gilded glass dating from the later 15th to the mid-16th centuries. While information on finds was sought throughout Great Britain, examples of this type were only found from excavations in England.

---

[1] Postscript: In November 2014 some of the fragments described here were analysed by Isabelle Biron and Marco Verità at the C2RMF. The results will be presented at the 20th Congress of the Association Internationale pour l'Histoire du Verre (AIHV) in September 2015 and subsequently published in the *Annales du Congrès de l'Association Internationale pour l'Histoire du Verre*.

[2] Willmott 2002.

The fragments of Venetian enamelled and gilded glass all have decorative features that are generally dated to the late 15th - early 16th centuries, while at least some of the *façon de Venise* examples probably date from a little later.

The finds relevant to this paper are luxury imports rarely found at British archaeological sites. This is reflected in the locations of the sites discussed here: ports, the City of London, a royal palace, castles and manor houses. Outside London, the richest source of material is Southampton. This survey is arranged by county, place and, when more than one site is discussed in a city, in chronological order by excavation date.

THE SURVEY

HAMPSHIRE

Southampton

Southampton was one of England's leading medieval ports. In the 15th century its trade in commodities such as wine, wool and cloth made it one of the most prosperous and cosmopolitan cities in England. Italian merchants were frequently resident. This prosperity continued in the early decades of the 16th century, and there were active trade routes to the Mediterranean. From the later 16th century much of the international trade went to other ports, principally London, and Southampton entered a long period of decline.

Excavations and 15th-century port records indicate that Southampton was a prime port of entry for glass from Italy and the Netherlands. Historically, Southampton has produced the finest collections of late medieval and early post-medieval vessel glass outside London.

The finds are from three areas of the city, excavated during three campaigns that were undertaken between 1953 and 2006. They are in the care of Southampton City Council. Unless deposited with a museum, they are located at the Collections Management Centre under the responsibility of the Archaeological Curator.

Excavations carried out 1953-1969

The earliest excavations were carried out between 1953 and 1969 and published in 1975[3] (various site codes). Two locations revealed material pertinent to this study. The Quilter's Vault (site code SOU127) deposits, found in an early 16th-century context, included fragments from a goblet bowl with a gilt band below the rim[4], a shallow bowl with pale blue and white enamelling and gilding below the rim and *mezza stampaura* ribbing[5] (compare with Upper Bugle Street, Southampton, invs SOU124.451, 452 and Winchester, acc. no. ARCH 1585.153 below and an intact example in the Museo del Vetro, Murano, inv. Cl. VI. 1083[6]), and the foot and gilt knop from a goblet[7]. High Street C site (site code SOU161) contained a fragment of purple glass with white, green and yellow enamel and gilding[8] and fragments from two goblet bowls, one with white, blue and red enamels[9], the other with traces of gilding on the knop[10].

Upper Bugle Street excavation, 1976

The second Southampton excavation cited here was carried out in 1976 on the site of a medieval tenement on the corner of Simnel Street and Upper Bugle Street (site code SOU124). It contained a remarkable assemblage of over 200 glass fragments from about ninety vessels at the bottom of a garderobe, together with Dutch and Italian maiolica and English tableware. The material is dated to the late 15th to early 16th centuries. Many of the glass vessels can be reconstructed almost completely, suggesting they were discarded together soon after breakage.

---

[3] Platt and Coleman-Smith 1975. The glass was written up by Robert Charleston (Charleston 1975), whose analysis here, according to Hugh Willmott (Willmott 2011: 46), remains one of the key reference works on vessel glass of the late medieval and early post-medieval period.

[4] Charleston 1975: cat. 1524; fig. 223.

[5] Charleston 1975: cat. 1526; fig. 223 and pl. III.

[6] Illus. Barovier Mentasti and Tonini 2013: cat. 15.

[7] Charleston 1975: cat. 1527; fig. 223.

[8] Charleston 1975: 208 and cat. 1548.

[9] Charleston 1975: cat. 1553.

[10] Charleston 1975: cat. 1554; all three illus. in Charleston 1975: fig. 224.

The glass has only been published in a small general booklet on the excavation[11]. However, Robert Charleston compiled an unpublished report on the glass, and it is also discussed in a recent doctoral thesis about Roger Machado, who occupied a house on the site from 1486 until 1497[12]. Machado (d. 1510) was a diplomat and officer of arms of Portuguese extraction. He was an important courtier and Henry VII's roving ambassador to the courts of Naples, Spain and France. Machado probably entertained visiting dignitaries, so if the glass is from his occupancy it may include gifts received by him.

Unfortunately, the glass and ceramics from the site were disturbed by later activity (especially the top layer of the garderobe), which may explain the presence of later material. However, the vast majority of the assemblage can be dated to the later 15th century.

The glass includes fragments from Venetian flasks, beakers, jugs and bowls. Many have worn gilding with etched bands of gold leaf. Others have enamel dots and vertical ribs. In his report, Charleston observed that the site was notable for perhaps the greatest concentration of long-necked flasks with pushed in bases[13] from one find spot: eighteen necks and bases, three of each ribbed. Three of the necks have a band of gold leaf an inch or two below the rim (SOU124.350, SOU124.353, SOU124.354).

The site also contained fragments of significant sections of three ribbed beakers, two with enamelled and gilt rim borders (SOU124.279, with brown dots; SOU124.281, with white dots). Compare these and similar beakers from Southampton's French Quarter, Christchurch (Dorset), Acton Court (Avon) and Gateway House (City of London), all below, with an intact example in the Hockemeyer Collection[14]. A large blue glass bowl fragment with extensive incised gilding and white enamel dots probably had a pedestal foot originally (SOU124.450). Two colourless glass bowls

---

[11] *Luxury Goods from a Medieval Household* (Holdsworth n.d.).

[12] Gemma Watson, University of Southampton, 2013. The subject of the thesis was the 15th-century herald Roger Machado.

[13] Two examples of this type, dated 1492, were excavated in Cremona (Zecchin 1990: 161-63).

[14] Dreier 1998: cat. 26.

with *mezza stampaura* ribbing below an applied trail have enamelling and gilding below the rim (SOU124.452, with pale blue and white dots; SOU124.451, the gilding including a horizontally running scallop motif, and white dots). Fragments from a colourless footed bowl with *mezza stampaura* ribbing on the bowl, a ribbed foot and dark blue trails round the bowl and foot rim include a blue handle with traces of gilding (SOU124.453).

French Quarter excavation, 2005-2006

Excavation of the French Quarter (site code SOU1382) was carried out by Oxford Archaeology in 2005-2006 and published in 2011 with the glass written up by Hugh Willmott[15]. The finds have not yet been deposited.

The glass comprised 2,073 fragments from 191 contexts, at the time of its publication the most important assemblage of its kind to have been excavated in the last decade[16].

The largest property, and the most significant for finds assemblages and documented history, was Polymond's Hall (tenement 237 [including tenement 236]), in the 15th century home to notable residents such as the Venetian Consul. The finds from here included a large assemblage of glass dating to *c.* 1500-1550 and incorporated good quality tablewares as well as more utilitarian storage vessels. Five fragments are from an enamelled and gilded Venetian ribbed beaker dated to the first decades of the 16th century[17] and similar to those already described from Upper Bugle Street. Willmott describes it as the most complete example of this type found archaeologically. It is enamelled below the rim with a band of red, yellow and white rosettes between horizontal lines of white dots and its ribs are gilded.

Another important vessel is represented by six fragments from a French enamelled pedestal beaker[18]. It has a band of lettering between horizontal lines of dots below the rim, above a male head in profile wearing a beret. The glass is dated to the first half of the 16th century,

[15] Willmott 2011.
[16] Willmott 2011: 182.
[17] Willmott 2011: cat. 43; fig. 5.37.
[18] Willmott 2011: cat. 82; fig. 5.41.

but the fragments are unstratified, being from a disturbed area of the site, and cannot be assigned to a specific tenement.

Finds from tenement 172 include a small fragment from the rim of a bowl with at least one surviving trail and some small patches of opaque white enamel[19]. It is dated to the early to mid-16th century.

Winchester

Winchester was an important religious centre and trading city, directly connected by the River Itchen to Southampton. Fragments of a shallow Venetian colourless glass bowl of a type dated to *c*. 1500 were excavated in Winchester in 1957 at a site called TSLH 57, The Slaughter House (East Wing), in St George's Street. The bowl has *mezza stampaura* ribbing below an applied trail and a rim border comprising incised gilding and two rows of white enamel dots that appear to be overlaid with red (Fig. 1). The excavation was carried out by Frank Cottrill but only partially published[20]; plans to publish the post-medieval finds, including the bowl, were not fulfilled. Charleston referred to the bowl in two publications[21]. The bowl (acc. no. ARCH 1585.153) is in the care of Winchester City Council and is displayed in the Westgate Museum.

DORSET

Poole

Poole in Dorset was an established southern English port in the medieval period and the town was moderately prosperous for much of the 16th century. Salvage excavations were carried out between 1973 and 1983 and published in 1992, with the glass catalogued by Robert Charleston[22]. The finds are located in Poole Museum. Charleston observed that the glass included some rare and interesting examples, the majority imports.

---

[19] Willmott 2011: cat. 5; fig. 5.34.

[20] Cunliffe 1964.

[21] Charleston 1975: 208 and Charleston 1984: 45.

[22] Charleston 1992.

Several fragments from enamelled colourless glass vessels were excavated at the Orchard Car Park site. Charleston catalogued them as probably French, *c*. 1525-1550[23]. He noted that they lacked the gilding found in association with enamelling on Venetian glasses and that the enamel colours, white, blue and red, were characteristic of French glass. Some of the fragments appear to be from a rim border and incorporate lettering from an inscription.

Christchurch Priory, Christchurch

Christchurch was in Hampshire until 1974, when the county boundary changed. Christchurch Priory was an Augustinian foundation dissolved during the Dissolution of the monasteries in 1539, in the reign of Henry VIII. The conventual monastic buildings were soon demolished. Excavations carried out between 1969 and 1980 were published in 1983, with the glass identified by Robert Charleston[24].

The finds from 1969/70 include three sherds from the bowl of a Venetian colourless glass ribbed beaker dating to *c*. 1500, its rim border comprising incised gilding and white and blue enamel dots, with further gilding below[25]. They were in a 13th-16th-century context in a waterlogged garderobe. The finds are in the care of Hampshire County Council, and the beaker fragments (acc. no. A 1980.62) are at the headquarters of the Arts & Museums Service, Chilcomb House in Winchester.

AVON

Acton Court, near Iron Acton, South Gloucestershire

An important group of Venetian glass fragments came to light during the excavation carried out by English Heritage in the late 1980s at Acton Court, a moated manor house near Iron Acton in South Gloucestershire. The excavation has been published, with the

---

[23] Charleston 1992: cats. 5-10, illus. fig. 79: 135 for discussion; cat. 106, beaker base, perhaps belonging to cat. 10, not illus.

[24] Charleston 1983.

[25] Charleston 1983: cat. 2; fig. 31; Tyson 2000: cat. g175-6.

vessel glass catalogued by Paul Courtney[26]. The glass is in the care of Bristol Museums, Galleries and Archives.

Acton Court was inherited from the widow of the last of the Actons by her nephew, Sir John Poyntz, in 1364 and remained in the Poyntz family until 1683. The glass may be associated with a royal visit. Henry VII dined there in 1486, when it was in the ownership of Robert Poyntz. Robert's grandson, Nicholas Poyntz, also received royal favour. Henry VIII, Queen Anne Boleyn and their retinue stayed at Acton Court in August 1535 and it appears that pottery and glass were imported for the occasion.

Superb Venetian glass vessels were found in association with a set of ceramic plates, the latter discarded no later than the 1540s. Coin evidence indicates a mid-16th-century date for the purchase and deposition of this group. Thus, the deposits of glass are very important in presenting a large group of vessels discarded around the 1540s and 1550s.

The enamelled and gilded Venetian glass finds comprise fragments from four vessels. A rarely found deposit is a fragment in *lattimo* glass with green and dark brown (probably red originally) enamel dots and traces of gilding[27] (Fig. 2). For an intact enamelled *lattimo* object compare the Rothschild Bowl, Corning Museum of Glass, inv. 76.3.17[28]. The rim and body sherds from a colourless beaker have blue, white and red enamel dots and traces of gilding[29]. A very rare fragment comprises the upper neck and rim from a colourless flask enamelled in red and white, perhaps with additional colours, and scales on the neck that were probably achieved by gilding[30]. The enamelled pedestal flask occurs primarily in the 15th century, but examples can date to the very early 16th century[31]. A colourless rim sherd is enamelled with white dots[32].

---

[26] Courtney 2004.

[27] Courtney 2004: cat. 4; fig. 9.12. BRSMG 36/1989/SF1467.

[28] Charleston 1980: no. 35.

[29] Courtney 2004: cat. 28; fig. 9.14. BRSMG 36/1989/SF918; BRSMG 36/1989/SF1000a,b; BRSMG 36/1989/SF907.

[30] Courtney 2004: cat. 40; fig. 9.15. BRSMG 36/1989/SF1363.

[31] Willmott 2002: 83.

[32] Courtney 2004: cat. 41; fig. 9.15. BRSMG 36/1989/SF1424.

SURREY

Nonsuch Palace, Cuddington

The royal palace of Nonsuch, at Cuddington in Surrey, was first excavated in 1959. The excavation was published in 2005, with the vessel glass catalogued by Robert Charleston[33] .

Henry VIII began building Nonsuch in 1538. Queen Catherine Parr dined there in September 1544 and Henry VIII visited her there in 1545. Unfinished at Henry's death in 1547, in 1556 it was sold to Henry Fitzalan, 12th Earl of Arundel, who, with his son-in-law John, Lord Lumley, completed it. During the thirty-six years of Arundel/Lumley occupation the palace seems to have been in constant use and the family kept their art collection there. Queen Elizabeth 1 visited Nonsuch on numerous occasions. Later, Henrietta Maria owned the palace until her death in 1669.

The glass excavated at Nonsuch was probably deposited between 1665 and the 1680s. It comes under the auspices of the London Archaeological Archive and Research Centre (LAARC)[34] and is stored at Mortimer Wheeler House in London. The Nonsuch site code is NON 59 GL1. Fragments from two Venetian enamelled and gilded glass vessels dated to the first third of the 16th century were among the finds.

Numerous fragments survive from an exceptional goblet[35]. It is of greyish-colourless glass with enamelled and gilded bowl and foot. The enamel colours are white, pale blue and brownish iron-red with lines in black. The bowl was extensively decorated with floral ornament; the upper and lower bowl and the lower part of the foot were embellished with enamels and incised gilding.

The fragments from the second vessel show that it had mould-blown ribbing below an applied trail and a gilt rim border incised with

---

[33] Charleston 2005.

[34] LAARC is responsible for the Museum of London's archaeological collections excavated between 1972 and 1991 as well as the material from a few earlier sites and archives from excavations undertaken since 1991.

[35] Charleston 2005: cat. 1; Frontispiece and fig. 110.

a scale pattern and embellished with red and white enamelled dots[36]. Although Charleston indicated elsewhere[37] that this vessel was a small bowl of shallow ribbed type, and the comparatives cited in Charleston 2005 suggest this possibility, Charleston observed in his catalogue entry that it is hard to determine the shape of the lower part of the vessel, while the accompanying illustration indicates a relatively deep profile.

CITY OF LONDON

Several sites in the City of London have included deposits of Venetian or *façon de Venise* Renaissance enamelled and gilded glass. The sites are described in Schofield and Maloney 1998. The quays in the vicinity were important for foreign trade and wealthy merchants were among the residents of the area.

Dyer's Arms, Cannon Street

The Dyer's Arms, 78-80 Cannon Street site was excavated in 1966. The finds are in the LAARC (site code GM29). They include a ribbed and gilded flask neck of *inghistera* type in greenish glass, probably dating to the late 15th - early 16th century (context no. ER1118, acc. no. 25005). Context ER1118 was the uppermost fill of a chalk-lined pit, a lower layer of which yielded a rare coin of Henry IV (r. 1399-1412). Context ER1118 contained several ribbed flask necks and many bases and body sherds in green glass. Compare an intact example of the type in the Museo del Vetro, Murano, inv. Cl. VI. 1172, illus. Dorigato 2003:17.

Baynard's Castle (Baynard House), Queen Victoria Street

Excavations were carried out in 1972 on the site of Baynard's Castle, a prominent waterfront townhouse in Queen Victoria Street that was probably named after an earlier castle formerly on a nearby site. The house was built in 1428 and extensively modified by Henry VII. Its foundations overlay earlier tenements and a public Watergate. The finds, in the LAARC (site code BC72), include two fragments

---

[36] Charleston 2005: cat. 2; fig. 110.

[37] Charleston 1984: 45.

from the rim of a blue glass vessel with a pattern of white enamel dots (acc. no. 30) and a rim fragment of colourless (now cloudy) glass with blue enamel dots framing a horizontal gilt band (acc. no. 56).

Abacus House, 33-39 Gutter Lane

Abacus House, 33-39 Gutter Lane, was excavated in 1987. The finds are located in the LAARC (site code ABC87). A cesspit deposit near the Gutter Lane frontage contained a range of mid-16th-century drinking vessels, including fine glass and pottery. The deposit appears to be associated with the guild hall of the Embroiderers livery company (Embroiderers' Hall). Founded in 1520, the hall's functions would have included hosting celebrations and feasts. There are several fragments from various enamelled glass vessels perhaps dating to the mid-16th century, but possibly more broadly within the century[38]. Some of these are French, such as sections from the rims and upper bodies of two drinking vessels, probably beakers. One of these last is of colourless glass enamelled in white, red and yellow with horizontal and vertical bands of ornament and an inscription below the rim that included the letters 'S' and 'P' (acc. no. 65). The other comprises four fragments of blue glass, also enamelled in white, yellow and red, incorporating a horizontally framed inscription including the letters '…N:SALVT:ET:MON' and an indication of floral ornament below (acc. no. 51)[39]. Probably also French are a blue glass beaker foot and lower body fragment with a vertical pattern in white enamel (acc. no. 54) and the lower bowl and foot of a colourless goblet with similar enamelled decoration (acc. no. 67). Further enamelled fragments are a blue glass with, below the rim, a profile of part of the head of a person in a red hat (acc. no. 56); a small piece of blue glass with white and red enamels (acc. no. 285); two rim fragments of colourless glass with a double horizontal band of blue dots (acc. no.

[38] Some of the examples from Abacus House listed here have similar decoration to examples attributed to France and dated to the latter half of the 16th century in Gaynor 1991. Compare also acc. no. 56 here and Gaynor 1994: 131, the Pontivy fragments, illus. See also note 52 here.

[39] Published in Clark 2003. Julie Edwards kindly provided information about the publication of acc. no. 51. Clark 2003: 5 dates acc. no. 51 as probably first half of the 16th century.

55), and a fragment of colourless glass with white enamel dots below the rim (acc. no. 64).

1-4 Great Tower Street

1-4 Great Tower Street (LAARC, site code TWR89) is just behind the quays between London Bridge and the Tower of London. Excavation of the site was carried out in 1989. No. 4 was on the site of a large 15th-century cesspit. Fragments from a magnificent Venetian late 15th-century colourless glass beaker with extensive incised gilt decoration, including an inscription and bands of leaves, embellished with dots of white enamel, were found here. The re-joined fragments are currently displayed in the Museum of London. The vessel has been published[40]. Compare British Museum, reg. no. 1904,0706.19.

Gateway House, 1 Watling Street

An evaluation of the site of Gateway House at 1 Watling Street was carried out in 1996, when the building was demolished (site code GM160). Extensive burnt debris found in various cesspits is thought to date from the Great Fire of 1666. The finds, in the LAARC, include two fragments of Venetian enamelled and gilded glass (acc. nos 21435 and 21437), the former incorporating part of the rim of a ribbed beaker with a band of ornament below the rim[41].

Plantation Place

Plantation Place is located near the Thames waterfront and close to Great Tower Street. Historically, it was a thriving area of shops, warehouses and merchants' residences. The site was excavated from 1997 to 2003. The glass assemblage from tenements here is one of the largest of the period in London, with vessels dating from the 12th/13th to the 16th/early 17th centuries. Finds include the largest assemblage of late medieval Islamic-style glass yet found in Britain.

---

[40] Tyson 2000: cat. g174; fig. 15.

[41] Tyson 2000: cat. g177; fig. 15.

They are deposited with Museum of London Archaeology (MoLA)[42] at Mortimer Wheeler House. The site code is FER 97. Fragments from two vessels are pertinent to this study. A colourless glass bowl rim fragment with white enamel dots and gilding is attributed to Venice or in the *façon de Venise* and dated to the late 15th to early 16th century (acc. no. 1243). It was found in tenement 17 in a context dated to *c*. 1200-*c*. 1550. Referring to this glass, Tyson[43] has observed that an enamelled blue glass fragment (tenement 17, acc. no. 3270) may be contemporary with it.

Three fragments from the everted rim of a glass attributed to Venice *c*. 1500 were found on the site of tenements 32-33. They have a gilt band incised with letters from an inscription ('..ON..' and 'N' are visible) framed by horizontal lines above a row of upright scales. The fragments have been published[44].

NORFOLK

Baconsthorpe Castle, Baconsthorpe

Baconsthorpe Castle in Norfolk was built by the ambitious Heydon family over a period of approximately a hundred years from *c*. 1450. They extended the castle as their wealth increased and furnished it luxuriously. In the 1650s they suffered a reversal of fortune when debt obliged them to demolish part of the castle to sell as building material.

Excavations of the site (site code: Norfolk HER no. 6561) carried out between 1951 and 1972 were published in 2002, with the glass catalogued by Robert Charleston[45]. The finds are in the care of the Norfolk Museums and Archaeology Service (site acc. no. 1989.58; English Heritage smallfind no. 546048). Fragments from the upper section and base of the bowl of a Venetian greyish-colourless enamelled 'wine glass' dated to the early 16th century were

[42] MoLA is responsible for the archaeological collections that it has excavated from 1991 to the present.

[43] Tyson 2013: 93.

[44] Tyson 2013: cat. G63; fig. 58.

[45] Charleston 2002.

excavated from the moat. There are degraded traces of an enamelled border below the rim[46]. Willmott has described these fragments as being from a pedestal goblet[47].

CHESHIRE

Amphitheatre, Chester

The site of the Roman amphitheatre just outside the city walls of Chester in Cheshire was excavated by Chester Archaeology (now Cheshire West and Chester [CWAC] Historic Environment Team) and English Heritage from 2004 to 2006 (site code CHE/AMP04 [3084]). The amphitheatre was filled and flattened during the English Civil Wars (1642-1651). Finds from a large pit contained the debris from a high status feast or banquet that took place during the 16th century – possible in the first half or mid-century – with fragments from at last one French enamelled drinking vessel (Fig. 3). The fragments are enamelled in pale blue, white and red with a rim border incorporating the white letters '..V..' and '..AVX..' and, below this, vertical bands of ornament and clusters of stems with white dots representing flower heads or blossom. Previously unpublished.

STAFFORDSHIRE

Eccleshall Castle, Eccleshall

Eccleshall Castle belonged to the bishops of Lichfield. It was demolished by parliamentarians in 1646. Between 1972 and 1975 a small area of the castle was excavated. The artefacts from the excavation are on long-term loan from the present owners of the castle (which was rebuilt after the demolition) to the Potteries Museum and Art Gallery, Stoke-on-Trent. Finds include fragments from two 16th-century *façon de Venise* enamelled vessels: a pedestal goblet[48] and the bowl of another goblet[49]. The former, which is probably French,

---

[46] Charleston 2002: 68 and cat. 111; fig. 38.

[47] Willmott 2002, classification 13.7: 70-72.

[48] Sheale 1993, no. 3; Willmott 2002, classification 13.7: 70-72, fig. 81a.

[49] Sheale 1993, no. 4.

is enamelled on the bowl with a rim border comprising a row of dots above three horizontal lines above a now illegible inscription in yellow. The latter is enamelled in red, turquoise, white and yellow, with a rim border comprising two rows of white dots, each with a superimposed smaller red dot, above elements from motifs in turquoise, yellow, red and white enamel.

YORKSHIRE

Wood Hall, Womersley, West Riding of Yorkshire

Another enamelled pedestal goblet[50] was found at the site of Wood Hall, a medieval moated manor house near Womersley in the West Riding of Yorkshire, which was excavated from 1987 to 1998. It has gilding and enamelling in white, green and red. It appears to have been dropped from the first floor window of the gatehouse into the moat below[51]. Its sophisticated bowl decoration comprises an enamelled and gilded rim border including the inscription 'IESUS MARIA' incised into the gilding and, around the centre of the bowl, enamelled lilies. It is almost certainly of French origin[52].

Sewer Lane, Hull, East Riding of Yorkshire

Hull is a port city on the Hull River at its junction with the Humber estuary, inland from the North Sea in the East Riding of Yorkshire. In the Middle Ages it had important trade links with northern Europe, but these declined in the 16th and 17th centuries. Finds from an excavation carried out in Sewer Lane in the Old Town in 1974 (site code SL 74) included a greenish colourless glass rim fragment with part of a border comprising 'a horizontal row of dark

---

[50] Willmott 2002, classification 13.7: 70-72, fig. 81b.

[51] Supplementary information about the Wood Hall excavation not taken from Willmott 2002 is taken from 'The Wood Hall Moated Manor Project' online resource.

[52] Compare, for example, elements of the decoration with Gaynor 1991: cat. nos 11, 13, 14 and 29. Gaynor 1991: cat. nos 41 and 42 comprise fragments of glass of the type under discussion in this article, excavated at Dartford, England, and Castle Loch, Mochrum, Galloway, Scotland and dated to the 16th century, but since the reliability of the dated contexts in which they were found is unknown to the author they are not included here.

brown enamel spots above a band'[53]. The deposit that included this fragment was probably made in the second half of the 16th century, possibly after 1560, rather than at mid-century as suggested by Armstrong[54]. The finds are in the care of Hull County Council, deposited in Hull Museums.

REFERENCES

Armstrong, Peter. 1977. Excavations in Sewer Lane, Hull 1974. *East Riding Archaeologist* 3: Hull Old Town Report Series No. 1.

Barovier Mentasti, Rosa and Cristina Tonini. 2013. Exh. cat., Musée Maillol, Paris. *Murano, chefs-d'œuvre de verre de la Renaissance au XXIe siècle*. Paris: Gallimard.

Charleston, R. J. 1975. The glass. In Platt and Coleman-Smith 1975. Vol. 2.

Charleston, Robert J. 1980. *Masterpieces of Glass: A World History from the Corning Museum of Glass*. New York: Harry N. Abrams, Inc.

Charleston, R. J. 1983. The Glass. In *Excavations in Christchurch 1969-1980*, edited by Keith S. Jarvis *et. al*. Dorchester: Dorset Natural History and Archaeological Society, Monograph Series No. 5.

Charleston, R. J. 1984. *English Glass and the glass used in England, c. 400-1940*. London: George Allen & Unwin (Publishers) Ltd.

Charleston, R. J. 1992. The Glass. In *Excavations in Poole 1973-1983*, by Ian P. Horsey *et. al.*, edited by Keith S. Jarvis. Dorchester: Dorset Natural History and Archaeological Society Monograph Series: Number 10.

Charleston, R. J. 2002. Glass. In *Baconsthorpe Castle, Excavations and Finds, 1951-1972*, edited by C. Dallas and D. Sherlock *et. al*. Dereham: East Anglian Archaeology Report No. 102 (Archaeology and Environment, Norfolk Museums and Archaeology Service).

Charleston, Robert J. 2005. Fine Vessel Glass. In *Nonsuch Palace: The Material Culture of a Noble Restoration Household*, edited by Martin Biddle *et. al*. Oxford: Oxbow Books.

Clark, Rose. 2003. Recent research on the assemblage of Tudor Glass from Gutter Lane, London. In *Glass News*, no. 14, November: 5-7.

Courtney, Paul. 2004. Vessel Glass. In *Acton Court: The evolution of an early Tudor courtier's house*, edited by Kirsty Rodwell, Robert Bell *et. al*. London: English Heritage.

---

[53] Armstrong 1977, context Phase IV: cat. no. 61; fig. 26.

[54] Dave Evans by email, 13 August 2014.

Cunliffe, B *et. al*. 1964. *Winchester Excavations, 1949-1960*. Winchester: City of Winchester Museums and Libraries Committee.
Dorigato, Attilia. 2003. *Murano Island of Glass*. Verona: Arsenale Editrice.
Dreier, Franz Adrian. 1998. Catalogue of Venetian glass. In *The Hockemeyer Collection. Maiolica and Glass*, edited by Franz Adrian Dreier and J.V.G. Mallet. Bremen: H.M. Hauschild GmbH.
Gaynor, Suzanne. 1991. French enameled glass of the Renaissance. In *Journal of Glass Studies* 33: 42-81.
Gaynor, Suzanne. 1994. More French Enameled Glass of the Renaissance. In *Journal of Glass Studies* 36: 130-33.
Holdsworth, Philip. N.d (*c*. 1976-1977). *Luxury Goods from a Medieval Household*. Introduction by Philip Holdsworth. Southampton: Southampton Archaeological Research Committee.
Platt, Colin, Richard Coleman-Smith *et. al*. 1975. *Excavations in Medieval Southampton 1953-1969*. 2 vols. Leicester: Leicester University Press.
Sheale, Catherine A.M. 1993. *Excavated Vessel Glass from Eccleshall Castle, Staffordshire*. Unpublished MA Dissertation, University of Leicester.
Schofield, John with Cath Maloney (eds). 1998. *Archaeology in the City of London 1907-91: a guide to records of excavations by the Museum of London*. London: Museum of London. The Archaeological Gazetteer Series, vol. 1.
Tyson, Rachel. 2000. *Medieval glass vessels found in England c. AD 1200-1500*. York: Council for British Archaeology Research Report 121.
Tyson, Rachel. 2013. In *Medieval to early post-medieval tenements and Middle Eastern imports: excavations at Plantation Place, City of London, 1997-2003*, by Ken Pitt *et al*. Monograph Series 66. London: MoLA.
Willmott, Hugh. 2002. *Early post-medieval vessel glass in England c. 1500-1670*. York: Council for British Archaeology Research Report 132.
Willmott, Hugh. 2011. Catalogue of illustrated glass. In *Trade and Prosperity, War and Poverty: An archaeological and historical investigation into Southampton's French Quarter*, edited by Richard Brown, Alan Hardy *et. al*. Oxford: Oxford Archaeology Monograph No 15.
Zecchin, Luigi. 1990. *Vetro e Vetrai di Murano*. 3 vols (1987, 1989, 1990). Vol. 3. Venice: Arsenale Editrice.

Acknowledgements

I am indebted to Françoise Barbe and colleagues for inviting me to take part in the Venetian Renaissance enamelled and gilded

glass project (Project Cristallo) and to the many people who helped me to locate and gather information about examples from reliably dated excavations in Britain, especially David Allen, Gail Boyle, Melissa Carter-Motley, Sally Cottam, Julie Edwards, Dave Evans, Lisa Greenhalgh, Francis Grew, Nigel Jeffries, Deb Klemperer, Katie Morton, Cassandra Parsons, Joe Perry, Tim Pestell, Helen Rees, Ross Turle, Rachel Tyson, Steve Tucker, Gemma Watson, Gill Woolrich, Francesca Vanke and Hugh Willmott. The library of the Society of Antiquaries was a wonderful resource. Any errors are entirely my own. I would like to dedicate this paper to the memory of Robert J. Charleston.

Fig. 1 - Rejoined fragments of an enamelled and gilded bowl excavated at The Slaughter House (East Wing), St George's Street, Winchester, Hampshire. Venice, *c*. 1500 (© Winchester City Council Museums).

Fig. 2 - Fragment of enamelled and gilded *lattimo* glass from Acton Court, Iron Acton, Avon. Venice, late 15th-early 16th century (© Bristol Museums, Galleries & Archives).

Fig. 3 - Fragments of enamelled glass from Chester amphitheatre, Cheshire. Early to mid-16th century (© Cheshire West and Chester Council).

Audrey Whitty*

THE VENINI COVERED CUP, VENICE, SECOND HALF OF THE 16TH CENTURY (1550-1599 AD)

The Venini Covered Cup, Venice, second half of the 16th century (1550-1599 AD). Corning, New York, The Corning Museum of Glass (Fig. 1)

Covered Cup. Colorless. *Vetro a fili*, *vetro a retortoli*; applied. In a rare occurrence, this covered vessel retains its original lid, albeit missing its small, *cristallo* finial. Overall Height: 19.8cm, Lid Diameter: 11cm. 2013.3.15, purchased with funds from the estate of Richard Andrasi.

This covered cup is a superb example of several styles of decoration of *cristallo* with *lattimo* canes. The term *lattimo* is derived from the Italian word for milk, *latte*. An early use of *lattimo* in Venice was to imitate porcelain. With the increased perfection of *cristallo* throughout the 16th century, *lattimo* found roles both as a decorative highlight, and as an equal partner in vessels with walls that combined *cristallo* and *lattimo*. The simplest and possibly earliest form of highlight decoration was a simple trail of *lattimo*, such as that around the top of a *cristallo* cup in the British Museum (Accession Number: 1855,1201.122).

Lattimo. British Museum Accession Number: 1855, 1201. 122. Height: 18.5cm; Diameter: 12.4cm (Fig. 2)

This recalls trailed decoration appearing on vessels, such as Corning's 17th century covered goblet given by the Ruth Bryan Strauss Memorial Foundation, 79.3.363 (see image below).

* Dr. Audrey Whitty, Curator of European and Asian Glass, The Corning Museum of Glass, Corning, New York.

Covered goblet 17th century given by the Ruth Bryan Strauss Memorial Foundation, Corning's 79.3.363 (Fig. 3)

The great Venetian innovation in the use of *lattimo*, however, came with its incorporation into thin glass rods or canes. These could be attached to the surface of a *cristallo* vessel as it was formed, as in the lid and body of this cup. Alternatively, they could be fused together, side-by-side, to form a filigree sheet that was then formed into a bubble, and worked into any form of vessel, such as the stem and foot of this cup.

The Venini Cup exhibits two different types of cane and three different uses of the canes. The first type of cane is *vetro a fili* or plain white canes, while *vetro a retortoli* canes include several thin threads of white glass that form a spiral. The foot and stem of this cup were shaped from separate filigree bubbles. In each case, the filigree bubble started out as a sheet of fused canes consisting of pairs of *vetro a fili* canes separated from each other by single *vetro a fili* canes. The pairs of *vetro a fili* canes led to paired white stripes, often with a line of small bubbles between them. There are often small bubbles between the *vetro a fili* canes and their neighboring *vetro a retortoli* canes. One colorless *cristallo* cane appears to have been added to fill the plate on which the canes were fused, without overly disturbing the repeating pattern. Elsewhere, one *vetro a fili* cane reveals that it – and the other *vetro a fili* canes – consist of a thin layer of white coating an inner clear core, yet embedded in an outer colorless layer. At the foot's rim it appears as a solid white stripe, yet about one third of the way up it runs out of *lattimo* glass and continues as *cristallo*. The ragged ending of the white inner cane reveals its inner *cristallo.*

Glass with embedded canes of straight or twisted white *lattimo* glass are included in many selections of 'masterworks' from the world's great museums, including the Corning Museum of Glass, the British Museum, the Lehman collection at the Metropolitan Museum of Art and the J. Paul Getty Museum.

The most direct comparison found is with a covered cup in the British Museum (Accession Number: 1855,1201.122).

However, the form of this particular cup is taller (Height: 18.5 cm, diameter: 12.4 cm). This consists of a comparatively shallow bowl sitting on top of a comparatively tall stem. Its lid seems to be somewhat less well fitting than the Venini Cup. The canes on its lid and bowl are also less clearly matching than on the proposed example. The finial of this cup also has similar damage to the finial of the Venini Cup.

Another comparison may be made to work in the Corning Museum of Glass collection, 79.3.363 (Overall H: 28.6 cm). Although somewhat similar in technique, this is very different in form and later in date. Specifically, the canes at the base of the bowl are quite different in technique to the canes of the British Museum and Venini Cup, in which the canes are thoroughly marvered into the vessel. Unmarvered canes have been described as a sign of northern production.

In terms of the Corning Museum of Glass collection of *filigrana*, the Venini Cup is a hugely significant addition. At present there is an excellent display of *filigrana* glass in the museum's Venetian gallery, which consists of approximately eighteen exceptionally high quality examples of the genre from the 16th and 17th centuries (67.3.42, 64.3.9, 79.3.192, 64.3.20, 76.3.34, 54.3.14, 64.3.8, 2007.3.125, 61.3.139, 77.3.54, 57.3.47, 50.3.68, 79.3.173, 51.3.119, 53.3.40, 53.3.39, 79.3.458, 68.3.64). There are covered jars and goblets in this group, but no covered cups. Therefore, the acquisition of the Venini Cup was very welcome in increasing the comprehensiveness of the *filigrana* collection.

This acquisition is also important vis-à-vis the collecting history of the piece. It was formerly in the collection of Paolo Venini, and may serve to illustrate what styles influenced Venini, one of the leading glass designers of the 20th century. In that respect this acquisition can be linked to Corning's collection of 20th century Italian glass, and the wider modern glass collection. The history of ownership of this object, combined with the fact it displays the great virtuosity of *filigrana* glass, makes it a key addition to what is already arguably the world's finest public collection of historical Venetian glass.

In terms of other lidded Venetian vessels in the collection; among the eighteen examples of *filigrana* glass referred to briefly above, only four of these bear lids (64.3.9; 67.3.42; 54.3.14; 53.3.40), the lid of one object not being its original (64.3.9). All four of them are not covered cups, but rather covered goblets or covered jars. Therefore, the Venini Cup is a very significant complement in terms of object type to the Corning Museum of Glass collection. In addition any Venetian object of this date (second half of the 16th century) ties in very well with the museum's wider collection of façon de venise from such countries as Austria, Belgium, England, France, Germany, Spain and The Netherlands.

When the Venini Cup was first brought to the Corning Museum of Glass in August 2013, Bill Gudenrath examined it and shared his observations on its manufacture.

While Venetian glass was reproduced in the 19th century, there are relatively few close copies. Bill Gudenrath suggested that this is an 'easy' piece. It is clearly from the Renaissance.

There are vertical tooling marks in the upper bowl, known as start-stop marks. These appear in Renaissance vessels, but not in reproductions.

The thick white canes with a colorless glass core are a Renaissance feature. They were not copied in the 19th century.

The lid fits very well. It matches not only in design, but in fit. It is probably the original lid.

The lid's finial is missing, although this is not a huge problem. The lid was shaped while a pontil rod was attached to the place where the finial should be, it was then briefly transferred to a small pontil rod that held it in the center of the base of the lid, allowing a finial to cover the pontil scar at the top of the lid. That finial is now lost.

There is furnace matter on the surface of the goblet near where the horizontal canes are attached. These rings are technically more difficult to attach than either the vertical, nipped canes at the base of the bowl, and even more difficult than the creation of a hollow vessel consisting entirely of canes, such as the goblet's foot. The canes had to be extremely soft and sticky, so that they

could be picked up on, and rolled around the body of a vessel, while at the same time, not sticking to the plate upon which they rested. This was achieved using powdered furnace matter. When that matter touches the vessel near the canes, remnants are visible in the glass. Small dark specks in the glass may be fragments of iron from the blow pipe.

Reddish brown marks on the surface of the glass at points of heavy tooling, such as at the top of the stem, are oxidized iron deposits from the tool.

This is a superb example of high quality 16th century Venetian glass that did not have a comparable example in terms of object type in the Corning Museum of Glass collection. As a result it makes a most welcome and significant addition of *vetro a retortoli* and *vetro a fili* Venetian glass, and as such is an important inclusion in our display of same in the European galleries.

Pieces of this exceptional quality rarely come up at auction (apart from the recent Muhleib sale at Bonhams, May 2013), and as a result the necessity to acquire a Venetian covered cup of this kind, illustrating both the *vetro a retortoli* and *vetro a fili* techniques to such a stunning extent cannot be overestimated.

Provenance:

Formerly part of the Collection of Paolo Venini (1895-1959), Venice, Italy.

Collection of Laura Venini Hillyer (1926-2013), Beverly, Massachusetts. Presumably inherited from her father at the time of his death.

The provenance of this particular object is important in the history of design. Its one-time owner, Paolo Venini, was a leading Venetian glass designer from the 1920s up to the 1950s. His ownership of pieces such as this underlines the influence of the techniques and styles of Renaissance glassmaking upon his work. Venini's designs incorporate the best of the Venetian past, which includes filigree canes and mosaic techniques. To quote Attilia Dorigato, former director of the Murano Glass Museum: 'The Venini [glass]works would, in fact, become a sort of experimental workshop undertaking an almost systematic exploration of the techniques used by the Murano glass-makers of the past'.

REFERENCES

This covered cup has been published in the following auction catalog: http://northeastauctions.com/search/detail.php?l=639&a=may2013: Northeast Auctions, Memorial Day Weekend Auction, May 25-26, 2013, Lot 639: 'One of Six Italian Glass Objects: Comprising a covered jar with applied white decoration, two tumblers, a cruet, a perfume bottle and a wall votive'. It has also been published in the Corning Museum of Glass *Notable Acquisitions 2013*, p. 6.

Related References:

Dorigato, Attilia. 2003. *Murano, Island of Glass.* Venice: Arsenale Editrice.

Clarke, Timothy H. 1974. Lattimo – A Group of Venetian Glass Enameled on an Opaque-White Ground. *Journal of Glass Studies* 16: 22-56.

Tait, Hugh. 1979. *The Golden Age of Venetian Glass*. London: British Museum.

Hess, Catherine and Timothy Husband. 1997.*European Glass in the J. Paul Getty Museum*. Los Angeles: The J. Paul Getty Museum.

Buckley, Wilfred. 1926. *European glass, A brief outline of the History of Glass Making with Notes on various Methods of Glass Decoration*. Boston: Houghton Mifflin Company.

Three great centuries of Venetian glass: a special exhibition. 1958. New York: The Corning Museum of Glass.

Lameris, Frides and Kitty. 1991. *Venetiaans & Façon de Venise Glas: 1500-1700*. Amsterdam: Nationale Stichting Nieuwe Kerk.

Beyond Venice: Glass in Venetian Style, 1500-1750. Corning Museum of Glass, 2004.

Charleston, Robert. 1990. *Masterpieces of Glass: A World History From the Corning Museum Of Glass*. New York: Harry N. Abrams, Inc., Publishers.

Mariacher, Giovanni. 1961. *Italian Blown Glass, from Ancient Rome to Venice*. London: Thames and Hudson.

Walter, Spiegl. 1979. *Glas.* Munich: Battenberg Antiquitäten - Kataloge.

Fig. 1 - The Venini Covered Cup, Venice, second half of the 16th century (1550-1599 AD). Corning, New York, The Corning Museum of Glass.

Fig. 2 - Lattimo. British Museum Accession Number: 1855,1201.122. Height: 18.5cm; Diameter: 12.4cm.

Fig. 3 - Covered goblet 17th century given by the Ruth Bryan Strauss Memorial Foundation, Corning's 79.3.363.

Hedvika Sedláčková* and Dana Rohanová**

FROM RENAISSANCE TO BAROQUE: GLASS IN THE 2ND HALF OF THE 17TH CENTURY IN MORAVIA, CZECH REPUBLIC

Glassmaking in Central Europe experienced a new start and development after the end of the Thirty Years´ War. Renaissance-style glass with improved potassium-based composition continued to be made with traditional technologies but ca. from 1670s some efforts appeared in glassworks in Bohemia to produce new Baroque glass that resembled mountain crystal. The glass was more convenient for new decorating techniques, such as cutting and engraving[1].

Glass items from the Baroque period which have been preserved in museum collections are mostly products of high quality, however, they do not represent the glass commonly used. Those exhibits are premium items which can hardly demonstrate changes in shape and introduction of new technological procedures. A more realistic picture is provided by items found during archeological surveys which include pieces of substandard quality used by common consumers[2].

---

* Archaia Brno o.p.s., Bezručova 78/15, 602 00 Brno, CZ.

** University of Chemistry Technology, Prague, Department of Glass and Ceramics, Technická 5,166 28 Prague 6, CZ.

[1] Drahotová *et al.* 2005: 195-197.

[2] Description of all aspects of glass transformations from the Renaissance period to the Baroque one has become one of the objectives of the project focusing on a little known situation in the Central Danube Region, i.e. in the regions of South Moravia, Western Slovakia and Lower Austria. Supported by the grant: GAČR: P405/12/1411: Renaissance glass and beginnings of Baroque glassmaking in archaeological finds from the Central Danube Region.

So far, the situation has been documented best with glass findings from towns in the south of Moravia, specifically Kroměříž and Brno. Glass from a potter´s house in Kroměříž was very well dated to the 2nd half of the 17th century based on related written documents. The house with a workshop inside the town fortification was bought in 1644 but in the early 18th century the workshop was moved outside the town walls.

With only a few exceptions, the set of several tens of vessels was obviously made in one glassworks. It includes shapes like ewers, smooth beakers and mugs that did not occur before the middle of the 17th century (Fig. 1). Its specific features include thick fibers at the bottom, several times indented, and strips on the bodies indented with a tracing wheel. The vessels were made of substandard quality greenish glass (a greenish shade of glass is caused by presence of Fe oxides introduced by ash).

Surface of most of the items was corroded – there was a brown transparent layer of corrosion products. However, this type of corrosion is more frequently seen on glass made in Bohemia during the Gothic period. Chemical analyses have confirmed that, based on the shape typology, this Baroque glass was made by means of an already obsolete technology, which was typical for the Gothic period in Bohemia (high content of K_2O and low content of SiO_2)[3] (Table 1, A1 and A2). The same products can be sporadically found also in other Moravian towns. Our last research shows, that this type of the glass was produced in an area of today's Hungary.

Several sets of glass from the 2nd half of the 17th century found in refuse pits in Brno were investigated. Changes in their style can be observed on all vessels with typical Renaissance shapes. Instead of **goblets** with cups of semi-ovoid and spindle shapes, which had been popular until the middle of the 17th century, there were goblets with chalice-like cups in the Renaissance style made of greenish glass but also goblets with massive stems made of Baroque glass, sometimes decorated with a wheel.

Another innovated shape were **beakers**. Cylinder shapes with optic decorations and fibers wound around the bottom were

[3] Sedláčková and Rohanová *et al.* 2014.

replaced with simple beakers without any treatment of the bottom, sporadically also on three legs. Some sets from Brno contained even several tens of such beakers. Other previously unknown decorative elements were nets from partly melted fibers or stamped prunts and also cutting. They were made of poor quality greenish glass and fewer of them from colorless glass. The same refuse pits included pieces with Renaissance decorations cut with a diamond point and also with Baroque decorations engraved with a wheel and sporadically also painted with *schwartzlot*.

Chemical analyses have confirmed that they were made using the (in Bohemia) typical Renaissance glassmaking technology. The ratio of alkaline components (K_2O/CaO) was close to one and the content of SiO_2 increased (up to 65 wt. %). The content of ca. 1 wt. % P_2O_5 suggested the use of ash.

The ultimate products of Renaissance glass are **goblets and lids** – with 'dragon heads', 'winged serpents' or 'rosettes'. Some of them have twisted stems with fibers of red or blue glass inside (Fig 2). This luxurious glass *à la façon de Venice* comes from the refuse pits at aristocratic palaces and in a Minorite monastery. Similar products had been produced by Buquoy glassworks in South Bohemia as early as in the middle of the 17th century[4].

An analysis of glass from the stem with a dragon head has shown that the chemical composition of glass is different from typical Czech Renaissance glass (Table 2, A1). The glass has a lower content of alkali and a higher content of SiO_2 (up to 69 wt. %) and small amount of Na_2O, which was probably added as NaCl. The twisted stem was made with an admixture of ash (presence of P_2O_5). The red color of the fiber inside the stem was achieved by copper (Cu) and iron (Fe) oxides (Table 2, A2). In this case copper (II) oxide was reduced by iron (II) oxide to produce clusters of atomic copper (0). A similar effect is known from the red stain glass panes.

Products from the late 17th century found in the refuse pits included typical Baroque beakers made of thick colorless glass with rich cut decorations. Some items also featured floral and guild

[4] Drahotová 2002: 13-17.

motifs and chinoiseries. This type started developing approximately in 1680/1690 in glassworks in Bohemia and it was used mainly on simple beakers[5]. The beakers must have been widespread as documented by numerous archeological finds in towns in Moravia, in Bratislava but also in Belgium and the Netherlands[6] (Fig. 3).

The chemical composition of glass indicates that the employed technology was more advanced (Baroque) as the glass batch contained no ash. The absence of ash made it possible to produce colorless crystal glass. As_2O_3 started to be used for refining of glass (and probably also for decoloration of residual Fe from the glass sand). Table 3 shows the composition of transparent glass from beakers faceted by cutting. Glasses of similar type and composition were found also in the east of Bohemia in the town of Chrudim[7].

Two jugs from the last decades of the 17th century have soft S-shaped profiles that distinguish them from shapes of Renaissance jugs. The new shape and new decoration technique (combed decoration from dark blue glass on light blue body of the vessels) was used on the two items which are similar in terms of size and appearance but their opaque glasses were made with slightly different technologies (Fig. 4).

The inner opaque glass on both the jugs was opacified with a substance with high phosphorous content (bone meal) (Table 4, A1 and A3) The torso of the other jug was additionally opacified with SnO_2 which had been used to produce white (lead - silica) *filigrana* glass. The blue color of the both jugs (Table 4. A2 and A4) was achieved with a raw material containing cobalt (Co is known as an intense, the so-called 'ionic' colorant). The use of As_2O_3 in the case of the blue glass jug torso (Table 4, A4) classifies the glass as more advanced Baroque technology.

Conclusion

A small set of glass finds of typically Baroque shapes from Kroměříž has shown that an obsolete Gothic glassmaking

---

[5] Strasser and Baumgärtner 2002: 242-243, cat. No. 138.

[6] Kotmann 1999: 943, cat. No. 9-18; Henkes and Veekman 1999: 66-67, cat. No. 48-50.

[7] Rohanová 2012: unpublished results.

technology was still used in the 2nd half of the 17th century in Hungary. At the same time, Renaissance technologies were used which culminated with products *à la façon de Venice* were used in South Moravia and Bohemia. A modified technology started to be used at that time to produce colorless glass, without admixture of beech ash. The glass crystal made by that new technology was colorless and its properties made it ideal for decorations with engraving and cutting. A turning point came approximately in 1680/1690 and the glass made thereafter was only Baroque, both in terms of composition and style.

REFERENCES

Drahotová, Olga. 2002. Vznik buquoyského křišťálového skla v poslední čtvrtině 17. Století. *In Buquoyské sklo v Čechách - Buquoy Glass in Bohemia, 1620-1851, s. 13-17, Katalog výstavy*. Praha.

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

Henkes, Harold and Johan Veekman. 1999. Schitterende scherven. Het glas uit een afvalput op de Antwerpse Eiermarkt. *In Berichten en Rapporten over het Antwerps Bodemonderzoek en Monumentenzorg* 3, edited by J. Veeckman, 11-86, zde zvl. 66-67, č. kat. 48-50. Antwerpen.

Kottman, Jaap. 1999. *Glas/Glass*. In Bartles, Michael, *Steden in Scherven 2 – Cities in Sherds 2 Catalogue. Vondsten uit beerputten in Deventer, Dordrecht, Nijmegen en Tiel (1250-1900) – Finds from cesspits in Deventer, Dordrecht, Nijmegen and Tiel (1250-1900)*, Amersfoort: 939-1028; 943, cat. No. 16 and 18.

Sedláčková Hedvika and Rohanová Dana, Lesák Branislav, Koóšová-Šimončičová Petra. 2014. *Medieval Glass from Bratislava (ca 1200-1450) in the Context of Contemporaneous Glass Production and Trade Contacts*. Prague: Památky Archeologické CV: 215-264.

Strasser, Rudolf v. and Sabine Baumgärtner. 2002. *Licht und Farbe. Dekoriertes Glas Renaissance, Barock, Biedermeier Die Sammlung Rudolf von Strasser*. Wien: Schrifter des Kunsthistorischen Museums Band 7.

Tab. 1 - Chemical composition of glass found in Kroměříž [wt %], measured with XRF (A1) and SEM/EDS (A2).

	SiO_2	Al_2O_3	K_2O	CaO	Na_2O	MgO	P_2O_5	MnO	FeO*(Fe_2O_3)
A1	57.2	1.7	23.1	14.0	0.1	1.9	0.4	0.6	0.2
A2	55.7	2.1	23.2	13.7	0.4	1.3	0.9	0.3	0.5*

Tab. 2 - Chemical composition of twisted stem with a red fiber (Brno, Mečová 2) [wt%], measured with SEM/EDS.

Glass	SiO_2	Al_2O_3	K_2O	CaO	Na_2O	MgO	P_2O_5	MnO	FeO	CuO
A1	64.9	0.7	14.7	9.9	1.8	1.9	0.9	0.5	0.4	n.d.
A2 red	61.5	1.1	14.0	11.6	2.3	2.2	1.2	0.6	2.0	4.5

Tab. 3 - Chemical composition of faceted crystal glass (Brno, Mečová 2), [wt%], measured with XRF.

	SiO_2	Al_2O_3	K_2O	CaO	Na_2O	MgO	P_2O_5	MnO	FeO	As_2O_3
[wt%]	70.5	0.2	17.9	8.7	0.6	0.1	0.1	0.1	0.1	1.2

Tab. 4 - Chemical composition of opaque jugs with blue combed decoration (the whole jug A1 and A2, jug torso A3 and A4), (Brno, Jakubské náměstí) [wt%], measured with SEM/EDS.

	SiO_2	Al_2O_3	K_2O	CaO	Na_2O	MgO	P_2O_5	MnO	FeO	CoO	SnO_2	As_2O_3
A1	62.4	1.9	14.5	9.8	2.6	3.5	**4.6**	n.d.	0.4	n.d.	n.d.	n.d.
A2 blue	71.4	2.1	12.2	6.6	1.7	2.3	1.4	n.d.	1.5	0.6	n.d.	n.d.
A3	59.6	2.0	16.7	8.3	2.8	3.2	**4.6**	0.3	0.6	n.d.	1.7	n.d.
A4 blue	74.5	1.9	13.3	2.1	2.6	0.7	0.6	n.d.	1.0	0.5	n.d.	2.4

Fig. 1 - Ewer made of greenish corroded glass in Hungary, after 1644. Kroměříž, Riegrovo náměstí (Photo by Hedvika Sedláčková).

Fig. 2 - Twisted stem of a goblet with dragon heads and red fiber inside, after ca 1670. Brno, Mečová Str. 2 (Photo by Miloš Strnad).

Fig. 3 - Beaker with cut decoration, crystal glass, after 1680/1690. Brno, Mečová 2 (sun flower) (Photo by Miloš Strnad).

Fig. 4 - Jug and jug torso made of white opaque glass covered with a layer of blue glass and combed decoration, end of the 17th century. Brno, Jakubské náměstí restoration: M. Špačkova (Photo by Miloš Strnad).

Valeria Mamczynski

«CONSERVATION OF GLASS OBJECTS IN THE JAMES JACKSON JARVES COLLECTION», AN ANDREW W. MELLON RESEARCH FELLOWSHIP AT THE METROPOLITAN MUSEUM OF ART

I am a conservator specialized in glass conservation. I attended several courses in glass manufacturing techniques prior to my degree in Conservation in 2008.

During the course of 2010/2011 I had the privilege of receiving an Andrew Mellon Research Fellowship at the Sherman Fairchild Center for Objects Conservation at The Metropolitan Museum of Art to specialize in glass conservation. I had the opportunity to work with the James Jackson Jarves glass objects collection.

The aim of my fellowship was to refine my skills as a glass conservator. It was important for me to pursue this goal at The Metropolitan Museum of Art because it houses one of the most important collections of glass and because some innovative techniques of glass conservation were being developed by conservators Lisa Pilosi and Karen Stamm with whom I had been working with.

The collection comprises nearly 300 pieces donated to the Museum in 1881 by James Jackson Jarves, who collected the objects all throughout Europe. It includes examples of many different styles and manufacturing techniques dating from the 16th through 19th centuries – is centered mainly on Venetian production and on glass made elsewhere in Europe, «in the Venetian style» or «*à la façon de Venise*».

Although the majority of the collection was in a good state of conservation I worked on some of the objects which were in

most need of conservation treatment. I had undertaken treatments mostly common in glass objects as: joining broken fragments, filling missing areas (loss compensation), mold making for recreating missing parts, resin color matching, etc.

The conservation of glass is a time consuming process and requires a lot of patience, but is particularly challenging due to the transparency of glass. So the materials used in this field must not only satisfy the basic requirements of appropriate strength, stability, and reversibility, as in any other conservation treatment but they must also match the color, transparency, and refractive index of the glass itself. As its translucency requires, if the interior of a fill is visible, it must also be finished to the same degree of perfection as the exterior.

Although the main focus of my Fellowship was to perform conservation treatments this has been a daily learning experience which has given me the opportunity to develop skills that are not widely available. It has been my privilege to work with this remarkable collection of glass objects and to contribute towards making it possible to study and exhibit them. The complexity of the treatments I have undertaken is a reminder of how much work goes on behind the scenes in a museum before the visitor can appreciate the exhibitions.

As a result of this experience I've been able to improve the condition of some of the Museum's objects most in need of conservation, while gaining new knowledge and practical skills to apply in future works.

Fig. 1 - Glass vase, Murano Venice, c. 19th century, during treatment. The Metropolitan Museum of Art, Gift of James Jackson Jarves, 1881 (81.8.214) (Photo by author).

Fig. 2 - Glass vase, Murano Venice, c. 19th century, before and after treatment. The Metropolitan Museum of Art, Gift of James Jackson Jarves, 1881 (81.8.214) (Photo by author).

Giulia Musso

THE GLASS MUSEUM OF ALTARE AND ITS ACTIVITIES: THE RESTORATION OF TWO 17TH-18TH CENTURY FURNACES

The Glass Museum of Altare, located in Liguria, Northern Italy, preserves an exceptional heritage. Though its collection is essentially limited to items from a period a little over a century – glass exhibits from 1650 to the present day –, the museum provides an invaluable continuation to a very old tradition.

Villa Rosa, a beautiful Liberty Style building dating back to 1906, hosts it. It is one of the many Art Nouveau buildings built in Altare at the beginning of the 20th century that can still be admired. It is the most homogeneous Art Nouveau building in the town and stylistically it represents quite an achievement.

Its pastel colours and graceful lines accompany the visitors throughout their visits and sometimes almost overshadow the glass collection itself, as most of the exhibits are objects in transparent glass.

In the gardens of Villa Rosa is located a small furnace used for demonstration and production of blown glass. It stands in a 70 sq. m. area including two blast furnaces, a hardening furnace and several tools necessary to blow glass.

The Glass Museum organises events and exhibitions in a constant effort of self-renewal thanks to the contributions of internationally renowned artisans, artists, designers as well as some of the most important museums of the sector.

A Foundation, the Institute for the Study of glass, runs it and

its aims are the promotion of historical and scientific study of glass and its art, with special attention to the tradition of Altare, along with the promotion of the knowledge on how glass is produced by providing young people with opportunities of advanced learning.

The furnaces, object of this article, fall within the goals the Institute aims to achieve.

They date back to the 17th and 18th centuries and have been neglected for 20 years. The Institute has been seeking funds for their restoration for several years.

Discovered in 1991 in the factory area of the Racchetti's family, they currently represent the best-preserved evidence of glass production in the town of Altare.

The museum contains just few items from the 17th and 18th centuries – most of them, in fact, are from the 19th and 20th centuries –. Only five baskets, made from white open-worked glass and dating back to the end of the 18th century can be admired.

Not much from that period has reached the present day, as the 18th century was very rather difficult for Altare and its production.

In the 18th Century, in fact, the Kings of the House of Savoy made several decisions that seriously damaged the glassware production and economy of Altare.

In 1723, King Victor Amadeus II started the production of crystal in Turin, i.e. not far from Altare, thus starting a strong competition in the production of white glass.

Some decades later, in 1759, such plants moved to Chiusa Pesio, even closer in nearby Piedmont, and an agreement was made with the local monks for the exploitation of woods while people from Altare were forbidden to trade in areas close to their town. As the production largely focussed on simple objects for everyday use very little has reached the present day.

The two furnaces are the most significant evidence of glass production during the 18th century.

They are located in a long building consisting of two parts. One has retained its cover. The other is without roof, with a large

brick wall containing two old kilns. Only one of the two kilns is well preserved and still clearly visible.

This furnace has the shape of two halves of a melon; either of each could produce 30 Kg of glass.

It had three sections. In the lower one wood was burnt. In the middle one, the melting process took place. In the upper one, the annealing was carried out. Central openings connected the three levels. Still intact are the parts where wood was burnt and the top.

The furnace has a circumference of 10.50 m. A 2m high corridor runs around it and in the past it led where wood was dried, on one side, and to another furnace, a few feet away, and currently in bad condition. The area where wood was burnt still presents four clearly visible square openings that allowed air to reach the wood for combustion.

It is difficult to date it precisely. It would take extensive studies on glass archaeological finds.

From records of the same period, we may infer that it dates back to the 18th century.

We know that the first acts of the Racchetti's factory dates back to the 16th century, but reliable data on the existence of the factory site can only be found in 1618.

Towards the middle of the 19th century in a nearby area other furnaces with new technical characteristics existed that followed new and innovative criteria. The old furnaces were then abandoned though, luckily, not destroyed.

The period of activity of the two furnaces can be therefore placed towards the end of 17th and the beginning of 19th century.

They may also help dating two paintings in the main churches of Altare.

These are two 16th and 18th century paintings, now visible in Saint Roch's and Saint Eugene's churches respectively, where we can see Saint Philibert (glassmakers' patron) and a glass furnace very similar to the found ones.

Its rescue and conservation require financial help that the Institute for the Study of glass has not received yet. Their decline

over a period of twenty years becomes evident when comparing the photographic surveys carried out at the time of their discovery and a recent one. Alas, so far, they have endured twenty years of abandonment.

An urgent intervention is now essential. Only one of the two furnaces presents some undamaged parts. It is the last existing furnace, listed by the Italian Archaeological Superintendent Authority, much admired by French and Italian archaeologists as an important element for the understanding of glass making.

The Institute for the Study of glass is trying to find the financial resources to restore these two XVII Century furnaces; is therefore seeking funds for a research project, archaeological excavations, conservation plans and enhancement of the site.

In fact, it is possible that more evidence of considerable historical interest lies buried.

REFERENCES

Brondi Badano, Maria and Luigi Bormioli. 2014. *Ricette vetrarie altaresi.* Genova: SAGEP, 2014.

Chirico, Mariateresa. 2009. *Il Museo dell'Arte Vetraria Altarese*. Albenga: Tipografia Bacchetta.

Orsini, André. 2009. Le vieux four à verre d'Altare. *La Route Européenne Des Verriers. GenVerre* 6: 130-134.

Saroldi, Ernesto. 1994. Antiche strutture vetrarie localizzate ad Altare e Montenotte. *Alte Vitrie* 1: 18-21.

Fig. 1 - Villa Rosa, home of the Glass museum of Altare (© Museo dell'Arte Vetraria Altarese).

Fig. 2 - Villa Rosa, home of the Glass museum of Altare, detail of the interior (© Museo dell'Arte Vetraria Altarese).

Fig. 3 - Outside of the antique furnace of the old glass factory Racchetti (Photo by Vinicio Saroldi, 1992).

Fig. 4 - Antique furnace of the old glass factory Racchetti (Photo by Alberto Saroldi, 2012).

Fig. 5 - Altarpiece with San Filiberto, Oratory of San Rocco. Altare, 1590 around.

Anna Awad-Konrad

GLASSWORKS HALL IN TIROL 1534-1635

In 1534, with the support of King Ferdinand I, the Glassworks Hall started with the intention to create clear glass à la *façon de Venise*. Over a period of 100 years the glassworks then produced not only glass vessels, but also glass sheets and window panes.

The extensive work of archeologists in Hall in Tirol during December 2008 and the summer of 2009 had brought to light the remains of the Glassworks Hall and a vast number of glass artefacts, melting pots, raw materials, half products and tools. Although the existence of the glassworks is well reported in the archives, even lists of items produced and sold to the court or exported to southern German towns are well preserved, glass goblets, fragile and less respected than gold or silver tableware, are rarely found in collections or museums. In 1962, Egg, the director of the Tiroler Landesmuseum, published a book on the glassworks of Innsbruck and Hall – the objects he assigned to the glassworks of Hall were never proved to be produced there really, but just being allocated by art history and by their discovering in monasteries, castles or privately owned nearby Hall.

Although the cleaning, sorting out and restoring of the huge amount of glass finds is still going on, one can already give some information on forms, quality and colors produced in Hall. Once finished, this spectrum will also help to relate other glass findings in western Austria as well as to find out more about the true origin of several large goblets and glass vessels accredited to Hall.

The plot, in 2008 still enclosed by its wall dating back to the sixteenth century, covered more than 7700 square meters. After 8 months of archeological research 6500 square meters were reviewed

and documented. The glassworks changed its appearance a bunch of times as to be seen on contemporaneous pictures – this could be proved by excavating the foundations of walls. Adjacent to them or nearby several pits and latrines were discovered, filled with raw materials as quartz, minerals, raw glass, half products and glass fragments. Pottery and bones concentrated in latrines, whereas ceramic tiles and parts of the furnace' cover, crucibles thickly covered with solidified glass as well as some small finds like coins and knifes and other household goods were scattered beyond the buildings. Unfortunately and probably due to several modifications and rebuilding during the last five hundred years, the furnace could not be located.

Some glass vessels as small bottles were found intact, others could be reconstructed from fragments. However the main findings are raw glass, blasts from the blowpipe, thousands of broken, even colored window panes and fragments of glass vessels in various colors, plain or with optical decoration. There are a lot of red and wine opaque glass fragments, as well as almost dark black opaque and red lucid ones. A few fragments are decorated with filigrana a fili, filigrana a retortoli, enamel or engraved with diamond point.

Already in the sixteenth century the collection of waste glass and transport to Hall was ordered by law in the Tyrol. This helped to lower the costs of raw material, but makes it difficult to distinguish between glass collected and glass produced. Glass analyses could probably help to do that, first analyses by Dana Rohanova, Prague, found a majority of alkali-mixed Glass.

As for the forms, there are bottles in all sort of shapes and sizes, even pilgrimage flasks, simple beakers, dark and turquoise green Nuppen beakers, Berkemeyers, Krautstrunk, beakers with spiralwinded foot, goblets and cups also with various mould blown stems (lion masks, ripped or plain balustrade), a wide variation of optical decoration of cups, beakers, also cups with stem folded from one optical moulded balloon, goblets, jugs, plates and covers, pharmaceutical vessels and glass strings and sticks to melt on or form decorations.

Since special decorated and extralarge goblets were probably

only produced 'on demand' they were not found until now. The spectrum of Hall is related to the findings in Reichenau and especially the optical mould blown glass to Nymburk.

REFERENCES

Tarcsay, Kinga. 2009. Frühneuzeitliche Glasproduktion in der Herrschaft Reichenau am Freiwald, Niederösterreich. *Fundberichte aus Österreich – Materialhefte, Bundesdenkmalamt*, *Reihe A, Band 19, Wien 2008.*

Sedláčková, Hedvika. No date. *Renaissance glass and other archeological finds from Nymburk.* Lybice nad Cidlinou, VEGA-L Publishing House.

Figs. 1-2 - Some glass forms from the Glassworks Hall (1534-1635).

Fig. 3 - A small selection of colors and forms from the Glassworks Hall (1534-1635).

Maria João Burnay

MURANO GLASS AT NATIONAL PALACE OF AJUDA

The political turmoil experienced during the second half of the 19th century caused great transformations in Venice. Following the fall of the Republic in 1797 and the foreign invasions that relied and ended the Austrian ruling, Venice joined the Italian kingdom in 1866, the year in wich it was observed a clear rebirth of the economical activities, namely the glass industry that was affected by the competitive Bohemian and Austrian (glass industry) which was stimulated during the Habsburgs period.

In this political and economic context a few years before in 1862, the princess of Savoy Maria Pia (1847-1911) daughter of King Vitor Emanuel of Italy married with King D. Louis I of Portugal (1838-1889) and moved to the Palace of Ajuda, one of the royal residences until 1910, the year of the proclamation of the Portuguese Republic.

Ajuda became the official royal residence of the Portuguese monarchs and Queen Maria Pia made the renovation of interiors following the fashion of the day. Balls and several ceremonies were held in the palace rooms which became the center of the Portuguese Court in the 19th century. The palace was closed after the proclamation of the Republic in 1910 and reopened to the public in 1968 as a museum gathering important collections from the 15th to the 20th century, mainly of decorative arts. Glass collection plays a significant role with about 12.500 objects from the leading European manufacturers.

Murano glass collection amounts 592 objects[1] of utilitarian and

[1] It can be found on Palácio Nacional da Ajuda Database: http://www.matriznet.dgpc.pt/matriznet/home.aspx.

decorative glass. The mayority of the pieces were acquired when the palace was the residence of the King D. Louis I and the Queen D. Maria Pia (1862-1910), precisely the period in which there was a reappearance in the Venetian Glass industry. Mostly dated between the second half of the nineteen century and the beginning of the twentieth century, the ensemble reveals the characteristics of this period production: the Historicist revival, eclectic tastes, color and fantasy appeal and various techniques, such as filigree and the imitation of semi-precious stones.

Fortunately, a good percentage of Venetian glass keeps some labels that allow us to identify the manufactures. The invoices found on the historical archives of the Royal Family in Lisbon tell us about what was bought, when and where. The inventories are also an important source. This research will continue to be made, namely in the Portuguese National Archives. In the study of this collection, we also give a special attention to the pieces of the Murano Glass Museum, mainly those acquired during nineteenth century some of them have a rigorous date and author.

During her time in Portugal, Queen Maria Pia went on thirteen trips around Europe and always returned to Italy, where she was born. She visited Venice in 1888, 1900 and 1901 and probably entered in the Salviati/Compagnia Venezia Murano and other stores, from whence the majority of the Ajuda's pieces are. Nevertheless, the collection also includes objects from the Fratelli Toso, Testolini and Pauly Gregoretti & Cº manufactures.

In Paris, Queen Maria Pia visited the Salviati store at Avenue de l'Opéra and A. La Paix, probably a retail store in the same avenue.

D. Louis and D. Maria Pia of Portugal among other foreign sovereigns were invited by Napoleon III to the sumptuous opening ceremonies of the Universal Exhibition of Paris in 1867 where the Salviati firm had a showroom highlighted by the eclecticism of about 500 blown glass showed models, some inspired by the fifteenth and early sixteenth century pieces kept at the Murano museum collection[2]. Fantasy, vibrant colors, design and model variety became its trademark: glasses, chalices, amphoras, *tazzas*

[2] Dorigato 2006: 69.

and vases modeled with mastery using an applier, delicately colored and decorated with new combinations of filigree and reticello. Other pieces dazzled people for their forms: dauphins, swans, snakes and masks were the result of a healthy competition between the Murano blowers[3]. This variety can be found in the Ajuda collection.

We highlight on the *Regina Margherita* meal service (Inv. 22889) (Fig. 1), which includes 437 pieces of the Compagnia Venezia Murano, dated to 1875-1901. It used to belong to the Queen D. Maria Pia and it was named «service number 17»[4]. It would serve 47 people and features water and wine glasses (Reno, Bordeaux, Madeira, Porto and liquor), Champagne tazzas, finger balls, plates, decanters and jars. The historicist type pieces in blown clear glass with cold gilding and white enamel have the coat of arms of Portugal and Savoy.

It distinguished itself by its originality, fantasy and color the bowl with dragoon (Inv. 3730) (Fig. 2) in blown glass, pink and clear with opaline threads and gilding, possibly by Fratelli Toso factory dated to about 1880. There is a similar piece in *murrine* at the Rossella Junck collection[5].

Finally the two glasses (Inv. 3817 e 3835) (Fig. 3) in blown clear glass with opaline threads and colored flowers, dated to the end of the seventeenth century-beginning of the eighteenth century, probably from the period of production for Rosenborg castle[6]. These objects deserve a more detailed study. It's possible they could be from the collection of King Luis I father, King Ferdinand of Saxe Coburg Gotha that is currently divided among the National Museum of Ancient Art, the Palace of Ajuda in Lisbon and Pena National Palace in Sintra.

---

[3] Barr 1998: 27.

[4] APNA Inventário de louças e pratas, 5.II.1 (b)

[5] Dorigato 2002: 141.

[6] According to Rosa Barovier Mentasti that observed the pieces.

REFERENCES

APNA (Arquivo do Palácio Nacional da Ajuda), Inventário de louças e pratas, 5.II.1(b).

AAVV. 2011. *National Palace of Ajuda*, Instituto dos Museus e da Conservação (IMC) and Scala publishers, London.

Barr, Sheldon. 1998. *Venetian Glass, Confections in glass 1855-1914.* Hong Kong.

Dorigato, Attilia. 2002. *L'arte del vetro a Murano.* Verona: Arsenale editrice.

Dorigato, Attilia. 2006. *Museu del vetro; il salone:vetri dell'Otto e del Novecento.* Venezia Marsilio, Musei Civici Veneziani.

Mentasti, Rosa Barovier and Cristina Tonini. 2013. *Murano, chef's oeuvre de verre de la Renaissance au XXIe siècle*. Paris: Gallimard, Musée Maiol.

Fig. 1 - Meal service, Compagnia Venezia Murano, Venice, 1875-1901. Lisbon, National Palace of Ajuda, Inv. 22889 (Photo: Luísa Oliveira, Direção-Geral do Património Cultural / Arquivo de Documentação Fotográfica, DGPC/ADF).

Fig. 2 - Bowl with dragoon, Frateli Toso?, Murano, Venice, c. 1880. Lisbon, National Palace of Ajuda, Inv. 3730 (Photo: Luísa Oliveira, Direção-Geral do Património Cultural / Arquivo de Documentação Fotográfica, DGPC/ADF).

Fig. 3 - Glasses, Murano, Venice, late seventeenth century-beginning of the eighteenth century. Lisbon, National Palace of Ajuda, Inv. 3817 and 3835 (Photo: Luísa Oliveira, Direção-Geral do Património Cultural / Arquivo de Documentação Fotográfica, DGPC/ADF).

Brigitta Maria Kürtösi*

ARCHAEOMETRIC INVESTIGATION OF MEDIEVAL WALL MOSAIC FRAGMENTS OF SZÉKESFEHÉRVÁR, HUNGARY

Introduction

The present theme is a significant part of a current research dealing with the analysis of floor and wall mosaic findings brought to light by archaeological excavations from the Roman period and from the medieval times in Hungary. Each examined site has different characteristics retaining imprint of a historical era as well. The aim is not only the examination and comparison of the findings and phenomena of similar ages, but with more perspective, to keep track of changes in the use of materials and techniques, as well as the continuity of their preparation. The mosaic findings closely link to their original architectural environment; in aesthetics and in materials they carry information of temporal and local fingerprints. The *tesserae*, the mortars, and preparation methods are equally under investigation. The systematic research of these characteristics can give help to fit the small, but particular Hungarian mosaic heritage into the international context.

Background

Székesfehérvár was a significant pilgrim station towards the Holy Land. The basilica was built in the beginning of eleventh

* Doctoral School of the Hungarian University of Fine Arts, Budapest, Hungary.

century by King Stephen the first, after his successful Bulgarian offence. This basilica became the prestigious burial place of Hungarian kings through the centuries. The excavation of the site began in the second half of the 19th century. According to the findings, probably the apse of the basilica was decorated by sumptuous figural mosaics dated back round the eleventh century.

The exact time of the creation of this mosaic remained only in fragments is unknown. The kings followed each other on the throne in these centuries. Almost all of these rulers had some Venetian and Byzantine ties, and Székesfehérvár was a highlighted city along the most important trade routes. The basilica was burnt several times. During the Ottoman conquest the basilica was destroyed. Nowadays only its ruins indicate the former, large-scale presence.

Painted mortars

The role of the painted mortars has a paramount importance among the wall mosaic preparation methods. One of these is the *sinopia* painted on the basic mortar layer, which can be properly equivalent with *arriccio* in the fresco glossary. And the painted bedding mortar *intonaco*, which directly supports the *tesserae*. In the most cases we can calculate with some quick drawing, sketch, or guidelines the composition painted to help the mosaicist during the work.

Details of the red and the dark grey-hued outlines can be observed on the surface of the remained fragments, and there is no connection between the hue of the lines and the colours of the tesserae. The basic mortar generally contained a large amount of vegetal elements; the imprints of those are well-preserved on the backside of the fragments. The average thickness of the setting bed applied could be around 2 cm. The lime-based mixture consists of limestone particles too.

Aims

The aims of this work are: to provide a chemical characterization

of the mosaic *tesserae* from the apse of the Basilica; to determine the opacifiers and colouring agents employed for their production; to compare the chemical data of the samples from Székesfehérvár with other well-known examples from the mentioned period, in order to understand whether the material of the Hungarian decoration could be the result of its production technology, similar to that of one-or-other glass-making centre.

Investigation of the tesserae

X-ray diffraction experiments were performed on the opaque samples to detect and identify crystalline phases dispersed in the glass matrix. The crystalline phases determined in the samples were: metallic copper in the red opaque *tessera*, quartz and cristobalite in green-grey, blue, and deep purple *tesserae*. Their chemical characteristics are far more similar with those of some Venetian medieval glass *tesserae*. The main opacifier used in the production of the *tesserae* from Hosios Loukas was also quartz beside the presence of cristobalite (the higher temperature polymorph of silica).

The red coloration of the sample from Székesfehérvár was obtained by a colloidal dispersion of metallic copper. The optical properties were analysed under polarized light using the thin section prepared from this sample. Colloidal particles dispersed in the glass matrix result the red colour and opacity. The colouring agent occurs streaked in the basic glass matrix (Fig. 1). These chromophore metallic copper particles show high-birefringence. High-refractive index and highly visible reflectance pleochroism, the so-called bi-reflexion could be observed.

The flesh tones of the human figures were made of stone *tesserae*, according to the preserved fragment. We could distinguish a whitish, red, and brown types. A kind of white *tessera* from the finds of Székesfehérvár is a very specific and unique one. It is pure magnesite ($MgCO_3$) measured by X-ray diffraction investigation. According to the natural appearance magnesite is white, microcrystalline, porous, dull material, it looks like unglazed porcelain. Among the excavated *tesserae* there are round-shaped

pieces. Magnesite is quite rare raw material to use as white *tessera*; it can be a useful finding for the further investigation to determine the source and the date of this mosaic.

We can differentiate two main kinds of gold leaf *tessera*. The hue of the translucent glass support of the first type tends to yellow. Its *cartellina* is totally colourless. The other main component of the apse mosaic is a translucent, light purple hued glass. Most of them lost the metal leaf and/or the *cartellina* as well. A remained geometrical motif (Fig. 2) contains also both types of *tessera* above mentioned. The metal foil can be observed only in small traces on the surface of the slightly purple translucent glass *tesserae*.

This observation raises some interesting questions: why this type is more sensitive, what are the causes of their quite distinct damage processes, what are the essential differences between the two types of metal leaf *tesserae*. We found the answers by the examination of their chemical properties.

The X-ray diffraction examination proved that the gold layers of the two types of metal foiled *tessera* has different crystallographic orientation[1]. After this result, during the handheld XRF examination the presence of mercury was detected in the gold derives from the sample Szfv 14, while the other sample (Szfv6) showed the almost pure gold content. We could diagnose that a different preparation technique could lead to the different degradation process and the general state of the *tesserae*. The presence of the mercury can be the result of two types of gilding technique. During one of the cases the mercury is used as an adhesive. This technique is mentioned in the literature as cold mercury gilding. The other possible method is the amalgam gilding, when the gold powder is firstly mixed with liquid mercury to gain an amalgam, than it was heated to a temperature high enough to eliminate most of the mercury by evaporation. It is important to note that this way to produce metal leaf *tesserae* was not usual; it was used more on metals.

---

[1] The direction of the orientation of gold from the sample Szfv6 is 1-0-0, what is the preferred orientation of gold leaf, while the gold from the sample Szfv14 orients 1-1-1. This orientation is not typical for metal leaf.

Among the stored *tesserae* we could find quite a lot of *cartelline* detached, so the manufacture of these kind of metal leaf *tesserae* is really differing. The possibility of an early restoration was incurred, but the structure of some other *tesserae* is in contradiction with this premise. In these cases we can see the rounded edge of the *piastra*, where the thin layer of molten glass, the *cartellina*, bent over the original glass support wearing the metal layer (Fig. 3). These cases can be likely the evidences of the complexity and originality of the complete body of the *tesserae*, and the re-gilding of the original support can be probably excluded.

The supervisor of the author's doctoral program is István Bóna (Hungarian University of Fine Arts, Budapest).

The XRD and the XRF examinations were performed by István Sajó (Environmental, Analytical and Geoanalytical Research Group, Szentágothai Research Centre, University of Pécs).

The examinated samples belong to the King Saint Stephen Museum, Székesfehérvár. They became available by courtesy of Gabriella Nádorfi.

REFERENCES

Arletti, Rosella and Cesare Fiori, Mariangela Vandini. 2010. A Study of glass tesserae from mosaics in Monasteries of Daphni and Hosios Loukas (Greece). *Archaeometry* 52, 5: 796-815.

Darque-Ceretti, Evelyne and Eric Felder, Marc Aucouturier. 2011. Foil and leaf gilding on cultural artifacts; forming and adhésion. *Revista Matéria* 16.1: 540-559.

Dercsényi, Dezső. 1943. *A székesfehérvári királyi bazilika*. Budapest: Műemlékek Országos Bizottsága.

Freestone, Ian C. 1987. Composition and microstructure of Early Opaque Red Glass. *Early Vitreous Materials, British Museum Occasional paper* 56: 173-191.

Harding, Catherine. 1989. The production of Medieval Mosaics: The Orvieto Evidence. *Dumbarton Oaks Papers*, 43: 73-102.

James, Liz. 2006. Byzantine glass mosaic tesserae: some material considerations. *Byzantine and Modern Greek Studies* 30.1: 29-47.

Neri, Elisabetta and Marco Verità. 2013. Glass and metal analyses of gold leaf

tesserae from 1st to 9th century mosaics. A contribution to technological and chronological knowledge. *Journal of Archaeological Science* 40: 4596-4606.
Scott, David, A. 1997. Copper Compounds in Metals and Colorants: Oxides and hydroxides. *Studies In Conservation* 42.2: 93-100.
Terteriatnikov, Natalia B. 1998. Mosaics of Hagia Sophia, Istanbul: The Fossati Restoration and the Work of the Byzantine Institute. Washington D.C.: Dumbarton Oaks Trustees for Harvard University.
Tóth, Melinda. 1974. *Árpádkori falfestészet. Művészettörténeti füzetek 9*. Budapest: Akadémiai Kiadó.
Verità, Marco. 2004. Technology of Italian Glass Mosaics. *Conservation of the Last Judgement Mosaic, St. Vitus Cathedral, Prague.* ch.9. 123-134. Los Angeles: The Getty Conservation Institute.
Verità, Marco and Alessandro Reiner, Sandro Zecchin. 2002. Chemical analyses of ancient glass findings excavated in the Venetian lagoon. *Journal of Cultural Heritage* 3: 261-271.

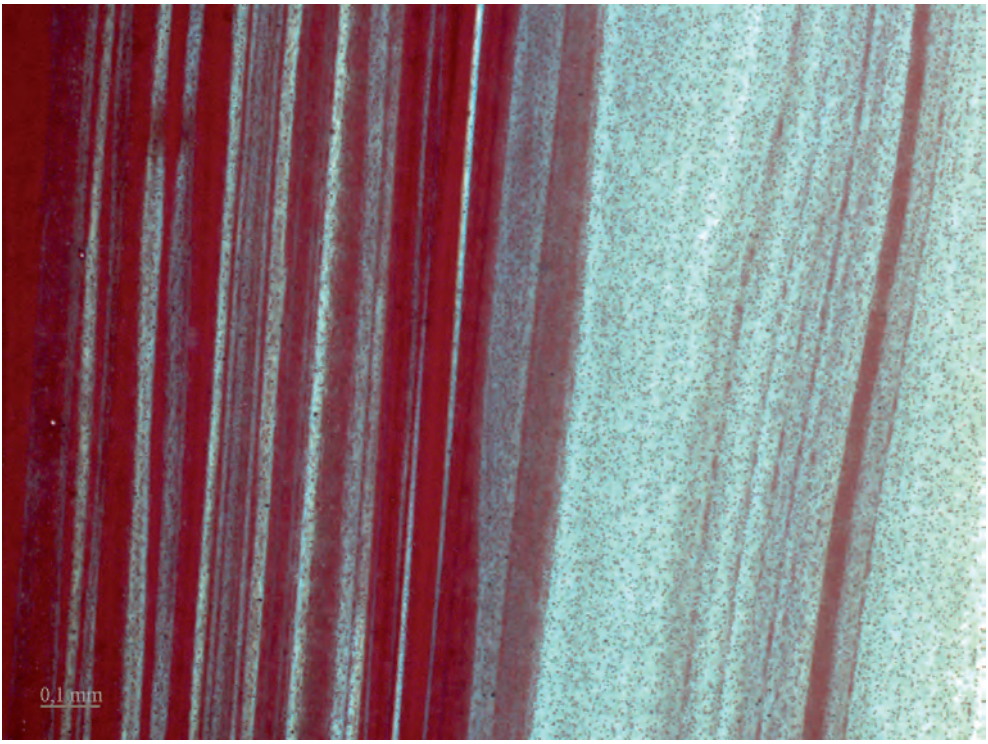


Fig. 1 - Colloidal metallic copper particles dispersed in the glass matrix result the red colour and opacity of the tessera.

Fig. 2 - The remained geometrical motif from the former Royal Basilica of Székesfehérvár. In the background only the translucent purple glass supports have remained, almost without metal layer and cartellina. In the central part the other type of gold leaf tesserae are intact.

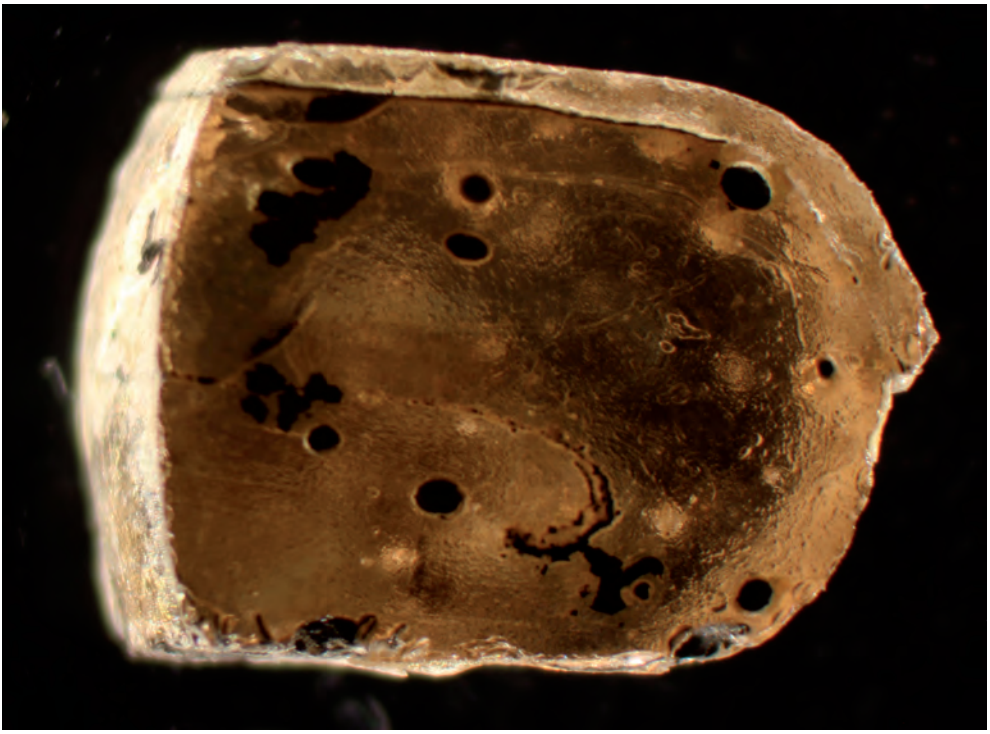


Fig. 3 - Stereomicrograph of a translucent purple glass based tessera with gold, and with original cartellina from the findings of the Royal Basilica of Székesfehérvár (Szfv13).

Kitty Laméris

DIFFERENCES BETWEEN EARLY FILIGRANA GLASS AND ROSENBORG CASTLE TYPE FILIGRANA GLASS

There are many differences between the early filigrana glasses (Fig. 1) and the type of filigrana glasses given to the King of Denmark in 1709 in Venice, still exhibited in the Rosenborg castle in Copenhagen (Denmark)[1]. In this article I will call the group of later glasses 'Rosenborg castle glasses', even though many glasses of the same type are in collections all over the world (Fig. 2).

It is still difficult to understand when exactly they started making these glasses. In recent publications glass specialists suggest several different dates. Baumgartner[2] for example compares the models of Rosenborg castle glasses with models of glasses made in the seventeenth century and calls them second half of the seventeenth, early eighteenth century, others like Theuerkauff-Liederwald[3] date them around 1700 while for example Bova[4] dates a glass like this even more precisely 1700-1710.

For the moment I will date the Rosenborg castle glasses around 1700.

Most glass experts will immediately recognize these glasses. Especially if they have the same form as the glass now in the Rosenborg castle. Only when the form is different from the examples in Rosenborg castle, it becomes more difficult.

In these cases it can be useful to know the exact difference between the two types. The following list is based on the results

---

[1] Boesen 1960.

[2] Baumgartner 2003: 108, 109; fig. 50.

[3] Theuerkauff-Liederwald 1994: 155; fig. 131.

[4] Bova 2010: 358; fig. III. 36.

of my study of filigrana glass executed in 2012[5] and of some later observations.

Nine differences between early filigrana glasses and the Rosenborg castle glasses:

1. *Two layers versus one layer*
   The earlier glass has two layers, the Rosenborg castle glass has only one layer.
   This is a result of the way they were made. The earlier glass is made with a pick up on a bubble technique[6] or with the sbruffetto technique[7], the Rosenborg castle glasses are made with the pick up on a collar technique[8].
   The glasses made with two layers have a layer of canes on the ouside and a layer of cristallo on the inside. The glasses with one layer consist only of canes.
   Looking closely at the edge of the glass it is possible to see the difference (fig.1.1). It is easier to feel it: a glass with two layers is smooth on the inside and has relief on the outside. A glass with only one layer has relief on both sides.
   (N.B. Rosenborg castle glasses do have two layers when they are very large).
2. *One set-up versus two or more set-ups*
   The early glasses are made of one set-up. The same bubble or parison is used for the bowl and the foot or for the bowl, the stem and the foot.
   Therefore the amount of canes is the same in the bowl as in the stem or foot.
   The tazza of figure 1 has an extra feature that makes it easy to illustrate this (1.2): because of a mistake in the pattern with alternating a fili and a retortoli canes, at one point one of the *a fili canes* is missing. Because of this two a retortoli canes are next to each other. This mistake occurs in the bowl, the stem and the

[5] Laméris 2012.
[6] Laméris 2012: 30, 31.
[7] Laméris 2012: 34.
[8] Laméris 2012: 34, 35.

foot, which makes it obvious that the same bubble was used. The Rosenborg glasses are mostly made of different set-ups: the amount of canes used in the bowl and foot differ from each other (Fig. 2.2).

One group of glasses is an exception to this rule: Saxon footed beakers. These glasses usually have different amounts of canes in bowl and foot, like the Rosenborg castle glasses.

3 *Canes with external decoration versus canes with internal decoration: ballotini*

One can date a glass, only by looking at the canes. The early glasses were only made with a retortoli canes with external decorations: most of the time a rete canes (Fig. 1.3). The Rosenborg castle glasses are also made with a rete canes, but in combination with a new type of cane: canes with ballotini (Fig. 2.3).

4 *Mixed canes with a fili and external decoration versus mixed canes with ballotini and external decoration*

Sometimes one finds mixed canes used in early glasses: combinations of the then existing canes: a fili canes with an external decoration. For example a cane with one thread in the centre and two groups of five threads around it (see for an example used in Rosenborg castle glass Fig. 2). The thread in the cane can be put in the centre for a straight line or a bit off centre for a wavering effect.

Since the discovery of the ballotini cane, many more combinations can be and are made of canes with ballotini inside and an external decoration around it (Fig. 3).

5 *One or two versus three or more types of canes*

The early glasses are mostly made with only one or two types of canes (Fig. 1.5). The result of the possibility to make so many different types of canes, is that the Rosenborg castle type glasses are usually made with more types of canes: two or three (Fig. 2.5), rarely even four.

The use of a fili canes becomes very rare.

6 *Thin versus thick canes*

In glasses of comparable sizes, the canes of the earlier glasses are thinner than the canes of the Rosenborg castle type (Fig. 1.6 versus Fig. 2.6).

7 *A rete canes with 5, 6 or 8 threads versus more and thinner threads: 10 to 24 threads*
The white threads are much thinner in the later canes and the canes themselves are wider, therefor there can be more threads in each cane. The a rete canes of the glass in Fig. 1 (1.7) are made with five threads, the a rete canes of the glass in Fig. 2 are made with twelve threads, the cane of the enlargement, taken from another Rosenborg castle glass (Fig. 2.7), with ten threads.

8 *White versus whiter*
The white of the Rosenborg castle glasses is of a clearer white than the white used in the older glasses.

9 *Blown foot versus applied solid foot*
Sometimes an applied cristallo solid foot is added to the Rosenborg castle type glasses.

These differences between the two types of filigrana glasses were found studying hundreds of glasses in different collections. I have found some exceptions to these 'rules'. I found for example one exception to point 1: a pilgrim flask held in the Wallace collection, appears to have only one layer of glass, a feature of the later Rosenborg castle glasses, even though the model is typical for the sixteenth century[9].

I also found one exception to point number 2: an early glass which was made with two bubbles instead of one. However, the lid of that glass had the same amount of threads. Bill Gudenrath came with a beautiful explanation for this exception.

I hope to describe these exceptions (including the comment of mister Gudenrath) and other thoughts about filigrana glass in a future publication. In most cases, however, these nine points can be applied to date filigrana glasses.

[9] Higgott 2011: 78, 79; fig. 13.

REFERENCES

Baumgartner, Erwin. 2003. *Venise et Façon de Venise, verres renaissance du musée des arts décoratifs*, Paris.

Boesen, Gudmund. 1960. *Venetian glass at Rosenborg castle*, Kopenhagen.

Bova, Aldo. 2010. *L´avventuro del vetro, dal Rinascimento al Novecento tra Venezia e mondi lontani,* Milan.

Higgott, Susanne. 2011. *Catalogue of Glass and Limoges Painted Enamels*, London.

Laméris, Kitty. 2012. *A collection of filigrana glass*, Frides Laméris Art and Antiques, Amsterdam.

Theuerkauff-Liederwald, Anna-Elisabeth. 1994. *Venezianisches Glas der Kunstsammlungen der Veste Coburg, Die Sammlung Herzog Alfreds von Sachsen-Coburg und Gotha (1844-1900), Venedig, A la façon de Venise, Spanien, Mitteleuropa*, Veste Coburg.

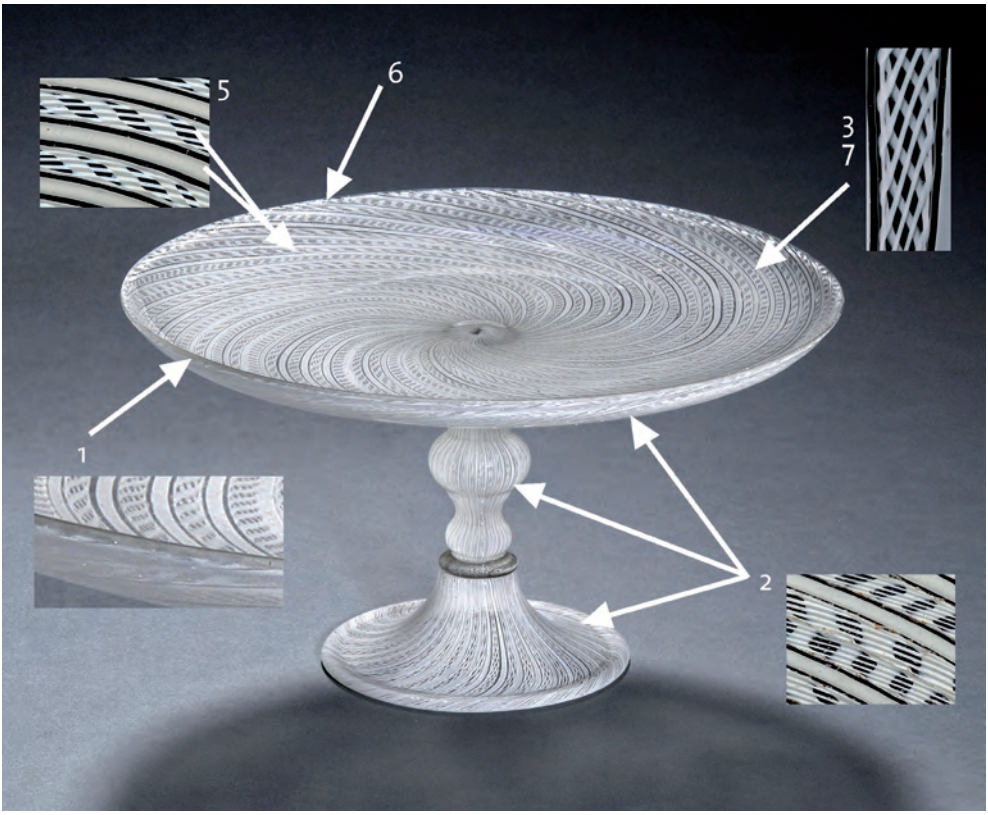


Fig. 1 - Early filigrana glass: wineglass (alzata), Venice or façon de Venise, late sixteenth century. Height: 10,3 cm, diameter bowl: 18,8 cm, diameter foot: 8,1 cm.

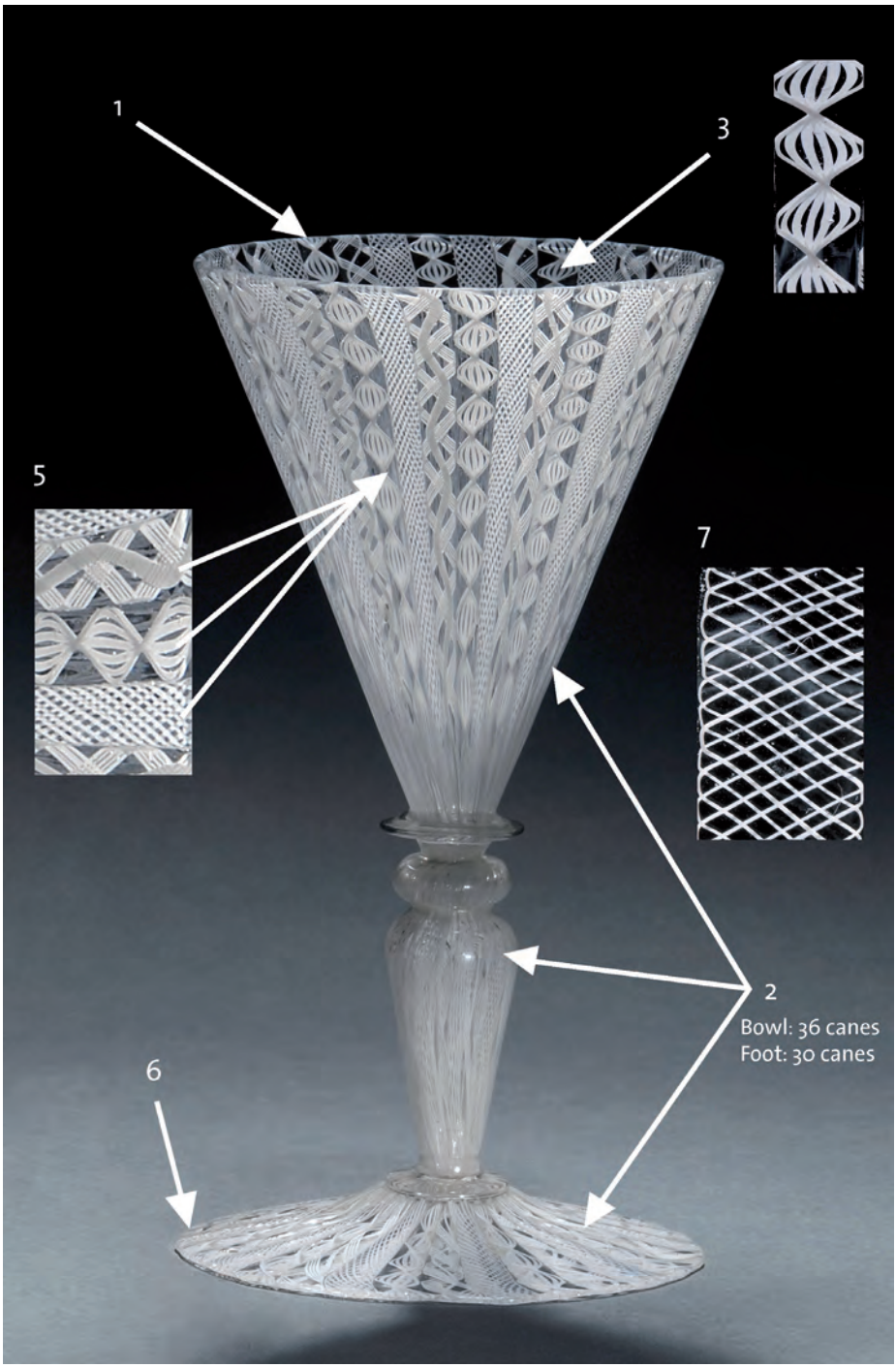


Fig. 2 - Rosenborg castle glass: wineglass, Venice, around 1700. Height: 16,9 cm, diameter bowl: 8,9 cm, diameter foot: 8,8 cm.

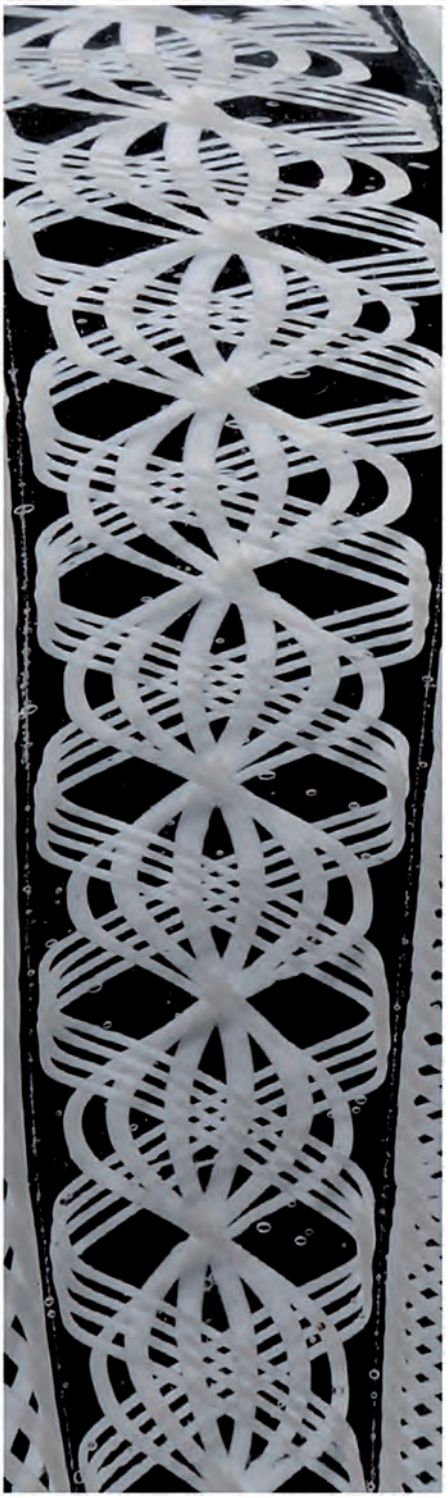


Fig. 3 - Canne miste B.

Higher Education Course
Study Days on Venetian Glass
Approximately 1700's

Istituto Veneto di Scienze, Lettere ed Arti
2nd- 4th April 2014

IstitutoVeneto
diScienzeLettere
edArti

Venice Office
Corning Museum of Glass
Ecole du Louvre
MUVE Fondazione Musei Civici Veneziani
inp Institut national du patrimoine
V&A

glass in venice

Agreement between the Istituto Veneto di Scienze, Lettere ed Arti and the Fondazione Musei Civici di Venezia in relation to glass and the Muranese glass production Glass in Venice Prize, Study Days on Venetian Glass, Website, Exhibitions.

Glass in Venice is the important convention between the Istituto Veneto di Scienze, Lettere ed Arti and the Fondazione Musei Civici di Venezia presented last November on the occasion of the first edition of the Glass in Venice Prize. The pact is the expression of the two Venetian institutions' decision to launch a close collaboration for a series of events promoting the legacy of glass art on an international level. The aim is to sustain the lagoon city in its own intrinsic role as a cosmopolitan laboratory of culture and a meeting place for the masters of the exquisite Muranese art, artists, and institutions.
The agreement, signed by Gian Antonio Danieli, President of the Istituto Veneto, and Walter Hartsarish, President of the Fondazione Musei Civici di Venezia, entails joint action regarding the Prize, the Study Days and the creation of a website that should become an authoritative source of information and documentation on Venetian glass and international glass production, up-todate on the most important exhibitions and events.
For the Istituto Veneto today, Glass in Venice is the natural outgrowth of its commitment to the art and technique of glass ever since the 19th Century. Among the Istituto's cultural activities, especially in the past ten years, exhibitions, lectures, and since last year seminars for specialists have focused on the glass arts.
The Fondazione Musei Civici di Venezia, directed by Gabriella Belli, and the Glass Museum of Murano play an essential role in promoting the preserved art heritage and diffusing knowledge about this ancient artistic expression. Founded in 1861, first as an archive, and now recognised as one of the most interesting exhibition venues of the international circuit, the Murano museum will soon benefit by an important extension and consequently a new museological design.

IstitutoVeneto diScienzeLettere edArti

MUVE Fondazione Musei Civici Venezia

The Study Days on Venetian Glass 2014, in its third edition, register the presence of thirty or so glass experts from all over Europe and the United States, including museum curators, scholars, collectors, restorers, glass artists. In the three Study Days a rich programme features seminary lessons, visits and practical demonstrations of the ancient techniques, with reports and communications by professors and participants, all specialists in the field, making this event one of the most important of its kind organised on an international level.

Our aim is again to offer the scholars of Venetian glass, but also glass of the most varied traditions, an opportunity for in-depth study and encounters, with an ample exchange of knowledge and experience. In addition we hope that, again with this event, Venice may become more than ever the world centre for the study of ancient glass, but also that Venice be reconfirmed as one of the outstanding meeting places for scholars, artists, collectors of ancient and contemporary glass in its most diverse expressions and schools.
This substantial and high-profile programme, particularly significant for the city, is undertaken by the Istituto within our agreement with the Fondazione Musei Civici di Venezia for various activities and events in the field of art glass.

The President of the Istituto Veneto
di Scienze, Lettere ed Arti

Gian Antonio Danieli

Higher Education Course
Study Days on Venetian Glass
Approximately 1700's

Istituto Veneto di Scienze, Lettere ed Arti
2nd- 4th April 2014

With the support of
Corning Museum of Glass
Ecole du Louvre
Fondazione Musei Civici di Venezia
Institut national du patrimoine
Venice International Foundation
Victoria & Albert Museum

With the participation of
UNESCO Regional Bureau for Science and Culture in Europe
Venice (Italy)

Organised with the collaboration of
AIHV – Association Internationale pour l'Histoire du Verre – National Italian Committee
LAMA – Laboratorio Analisi Materiali Antichi dell'Università IUAV, Venezia
Museo del Vetro, Fondazione Musei Civici di Venezia

Our acknowledgements go to the Regione del Veneto and Scuola Abate Zanetti

The "Study Days on Venetian Glass" are an opportunity for in-depth study on Venetian glass and are tuned to an audience of Museum conservators, collectors and experts.
The programme includes lessons by experts who, after a general overview, will guide participants through the direct study of methods and pieces, encouraging participants to actively take part, also through presentations.
Lessons and discussions will be held in English; contributions in Italian will be translated into English by the seminar curators.
The topics that will be touched upon will include:
General overview of the history and art history of glass; Raw materials and casting/processing techniques; Archaeometrics; Conservation and Restoration.

The seminars will be completed by a tour of the Murano Glass Museum and by practical demonstrations in glassmaking studios

Scientific and Organizing Committee
Rosa Barovier Mentasti, Glass historian
Sandro Franchini, Cancelliere Emerito Istituto Veneto di Scienze, Lettere ed Arti
William Guidenrath, Resident advisor for the Studio of the Corning
Lorenzo Lazzarini, LAMA- IUAV University of Venice
Sandro Pezzoli, Collector
Lino Tagliapietra, Artist and glass master
Marco Verità, LAMA- IUAV University of Venice

Secretariat
Laura Padoan ivsla@istitutoveneto.it

WEDNESDAY 2ND OF APRIL

SESSION 1 CHAIRPERSON **ROSA BAROVIER MENTASTI**

9.30 a.m. **ROSA BAROVIER MENTASTI**
Opening remarks

10.00 a.m. **MARTINA FRANK**
Decoration, glass and mirrors in Eighteenth Century Venice.
Abstract - The paper aims to illustrate, on the background of an historical analysis, some fundamental aspects of Venetian culture during the last decades of the Seventeenth and the Eighteenth Century. In particular, it will investigate the role and the status Venetian society attributed to glass and mirrors and how those objects were used and exposed in the residential buildings of the Venetian patriciate. The discourse will consider topics as the form and the function of the spaces in Venetian palaces, decoration typologies and art collecting, Venetian historiography and their relation to descriptions made by foreign visitors.

11.00 a.m. **COFFEE BREAK**

11.30 a.m. **MARCO VERITÀ**
Raw materials and glassmaking technology in the Murano glasshouses of the 18th century.
Abstract - Chemical analyses and ancient recipes are compared to reconstruct the main features and innovations of Venetian glass compositions during the 18th century.

12.30 a.m. **LUNCH**

SESSION 2 CHAIRPERSON **MARCO VERITÀ**

2.30 p.m. **ROSA BAROVIER MENTASTI, CRISTINA TONINI**
Tools for studying ancient glass: paintings and graphic works, inventories.
Abstract - Venetian glass of XVII and beginning of XVIII century: shapes and decorations related to dated inventories from Murano, Italy and Europe, and to figurative sources of the period. Both are used to suggest dating strategies, identify specific glass products and terminological references.

WILLIAM GUDENRATH

The collection of Venetian glass given to King Fredrich IV of Denmark by the Doge during the King's Visit to Venice in 1709.

Co-author Kitty Lameris.

Abstract - On New Year's Day 1709, the Republic of Venice officially gifted the King over two hundred pieces of 'the finest Venetian glass'. A small room just off the throne-room in Rosenborg Castle (Copenhagen) was fully outfitted with elaborately decorated shelves and the glass installed in 1714. Fully restored in the 1990s, the collection remains a unique 'standard reference' for scholars studying Venetian glass of about 1700. Exploration of typology, parallels, and variations on Rosenborg objects will be the focus of this presentation.

4.30 p.m. **COFFEE BREAK**

4.45 p.m. **SPEECHES BY**

REINO LIEFKES

Victoria and Albert Museum

Venetian engraved glass of the 17th and early-18th century.

Abstract - In my paper for last year's Study Days I proposed the thesis that towards the end of the seventeenth century the emphasis in the output of the Murano glass-houses shifted from a greater diversity in shapes towards a smaller, more standardised, repertoire of forms. These standard forms became the vehicle for different decorative techniques. This time I will highlight diamond-point engraving as one of these decorative techniques. I will show some of the typical decorative elements that make up the engraved compositions and show how these are different from Netherlandish engraving of the seventeenth century.

SUZANNE HIGGOTT

Wallace Collection

Venetian and façon de Venise enameled, gilded and millefiori glass made c. 1500-1550 and excavated from reliably dated contexts in Great Britain.

Abstract - As part of the current research project into Venetian Renaissance enamelled glass being coordinated by Françoise

Barbe at the Louvre (Project CRISTALLO), I was asked to locate examples of enamelled and/or gilded Venetian Renaissance glass from reliably dated contexts in Britain. Selected examples would then be requested for analysis by Isabelle Biron or Marco Verità and the results would serve as references for the project. I will begin this paper by explaining how, last year, I located Venetian-style Renaissance glass finds from excavations. High status Venetian and façon de Venise enamelled and/or gilded glass, like the finds of millefiori glass that will also be discussed in this paper, are rare in British excavations. The glass finds will then be discussed, grouped according to their find sites, since these provide important information about the contexts in which these fragments occurred.

7.30 p.m. **RESERVED VISIT OF THE BASILICA OF SAINT MARC**

Saint Marc's Basilica is a monument made unique by both its wealth of history and the magnificence of its façade and interior. In essence, it is a splendid workshop, where, through the centuries, worked great Italian and European artists.
To understand the Basilica's role through the centuries, the full extent of artistic, iconographic and religious content, combined with the wealth and variety of historical influence are exhaustively presented here, within a range of searchable subject areas.

THURSDAY 3RD OF APRIL

SESSION 3 CHAIRPERSON **REINO LIEFKES**

9.30 a.m. **MARCO VERITÀ**

Venetian glass polychromy.

Abstract - The analytical investigations on Venetian coloured glass are scant and fragmentary, although studies in this field are of greatest interest because colour and polychromy are among the strongest factors that brought fame and fortune to the Venetian glass. In the 18th century Muranese glass workshops were able to obtain an exceptionally rich variety of colours. The technology of the main colours is discussed with reference to available Venetian sources and scientific analyses.

10.30 a.m. **COFFEE BREAK**

10.45 a.m. **WILLIAM GUDENRATH and LINO TAGLIAPIETRA**

Processing and decorating techniques.

Abstract - Close scrutiny of small technical details in historical objects can help us better characterize a style or type, and alert investigators to similarities—and differences—with comparison objects. Specially-made video segments showing reconstructed manufacturing processes will aid in better understanding Venetian glassworking techniques practiced in the early 18th century. The presentation will begin with a brief review of the findings presented at earlier Study Days symposiums (2012 and 2013) on the subjects of Venetian glass of about 1500 and 1600.

12.30 a.m. **LUNCH**

SESSION 4 CHAIRPERSON **ERWIN BAUMGARTNER**

2.30 p.m. **SPEECH BY**

ISABELLE BIRON

Laboratoire du Centre de Recherche et de Restauration des Musées de France

Introduction aux enjeux des analyses chimiques élémentaires dans l'étude des verres anciens – exemples des verres vénitiens.

Abstract - Dans l'étude scientifique des objets et fragments en verre du Patrimoine culturel, la composition chimique élémentaire du verre – obtenue par les analyses chimiques - occupe une place fondamentale.
Elle détermine en grande partie les propriétés du verre et permet d'étudier les recettes et les méthodes de fabrication employées par les verriers, avec en particulier la nature, les proportions et les modes de préparation des matières premières, mais aussi leurs provenances. La variation de ces paramètres selon les périodes et les régions, permet en outre de distinguer différents groupes de composition et par conséquent d'authentifier une production, voire de la dater. Les analyses chimiques enrichissent donc non seulement notre connaissance des technologies verrières, mais nous éclaire aussi sur les circuits d'approvisionnement en matières premières, les échanges commerciaux du produit brut et des objets manufacturés, les transferts technologiques, ainsi que les liens culturels existants entre les divers sites de par le monde. Parmi ces thématiques, quelques exemples seront proposés.

COMMENTS BY PARTICIPANTS

SYLVIE LHERMITE KING

Découvertes archéologiques dans la Montagne Noire . Réattribution des verreries dites « de Nevers » à la verrerie de Peyremoutou, Montagne Noire, Languedoc. Fin XVIe – début XVIIe siècle.

SARAH MALTONI

A *mosaic of colours. Comparing production technologies of Roman and Late-Roman glass tesserae from various sites of Northern-Eastern Italy.*

AUDREY WHITTY

The Venini Covered Cup, second half of the 16th century: a Recent Acquisition by The Corning Museum of Glass.

HEDVIKA SEDLACKOVA and DANA ROHANOVÁ

From Renaissance to the Baroque Glass in Moravia: ca 1650-1700.

VALERIA MAMCZYNSKI

Conservation of Glass Objects in the James Jackson Jarves Collection", an Andrew W. Mellon Research Fellowship at The Metropolitan Museum of Art.

GIULIA MUSSO

The Glass Museum of Altare and its activities. The restoration of two XVII-XVIII century furnaces.

6.00 p.m. **RESERVED VISIT AT PALAZZO MOCENIGO**

The visit of Palazzo Mocenigo, in the itinerary completely renewed and expanded at the end of 2013, winds its way through twenty rooms on the first piano nobile, therefore doubling the amount of exhibition area compared to when it opened in 1985. The layout was designed by Pier Luigi Pizzi, an internationally renowned set designer, whilst palazzo furnishings and paintings were integrated with a large number of works from different sectors and deposits of the Venice Civic Museums, thanks to the painstaking, intelligent process of restoring and valorizing canvases and pastels, furnishings and glass that had never been on display before.
http://www.visitmuve.it/it/musei/

FRIDAY 4TH OF APRIL

SESSION 5

9.30 a.m. **DEMONSTRATION OF WORKMANSHIP AT THE GLASSWORKS OF THE ABATE ZANETTI GLASS SCHOOL IN MURANO**
LINO TAGLIAPIETRA and WILLIAM GUDENRATH

12.15 a.m. **LUNCH**

2.00 p.m. **VISIT TO THE MURANO GLASS MUSEUM**
The museum is housed in the ancient Palazzo dei Vescovi of Torcello. Since 1923 is part of the Musei Civici Veneziani. The collections are chronologically ordered: in addition to an archaeological section, which includes notable Roman finds from between the first and third century AD, it boasts the largest historical collection of Murano glass, featuring important pieces from between the fifteenth and twentieth century, including world-renowned masterpieces. Particularly important are the collections of Renaissance glass in the seventeenth and eighteenth centuries. During the visit, which will be directed by Rosa Barovier Mentasti and guided by the Director of the Museum Dr. Chiara Squarcina, it will be possible to have access to the deposits of the Museum to study some of the most important pieces. **www.visitmuve.it/it/musei/**

6.00 p.m. **SESSIONE DI CHIUSURA DELLE GIORNATE DI STUDIO**

Istituto Veneto di Scienze, Lettere ed Arti, Palazzo Franchetti

Interventi di
GIAN ANTONIO DANIELI
Presidente dell'Istituto Veneto di Scienze, Lettere ed Arti
WALTER HARTSARICH
Presidente della Fondazione Musei Civici Veneziani
ROSA BAROVIER MENTASTI, *Comitato Scientifico delle Giornate di Studio*
KAROL WIGHT, *Director of the Corning Museum of Glass*
MARIA GIUSEPPINA MALFATTI
Presidente dell'AIHV-Association Internationale pour l'Histoire du Verre

Presentazione del libro *Vetri artistici. Il recupero dell'antico nel secondo Ottocento. Museo del Vetro di Murano*, a cura di Aldo Bova, Puccio Migliaccio, con la collaborazione di Vladimiro Rusca, Giovanni Sarpellon, edito da AIHV and Marsilio, Venezia 2013.

SATURDAY 5TH OF APRIL

RESERVED VISIT TO THE MUSEUM OF CA' REZZONICO (requested booking)

The Museum is housed in the palace of Ca' Rezzonico designed by Baldassare Longhena and completed by Giorgio Massari.
Since 1935 was sold to the Venice Town Council becoming the Museum of Ca' Rezzonico.
On the first floor, eleven rooms exhibit paintings, sculptures, frescoed ceilings, collections of 18th century furnishings and an important collection of Venetian chandeliers of XVIII century.
The second floor opens with a long central hall typical of Venetian palaces in which there are two early works by Canaletto; the rooms dedicated to the work of Pietro Longhi and the Giandomenico Tieopolo frescoes originally on the walls of Villa Zianigo are not to be missed.
The third floor contains not only the three rooms of the Ai Do San Marchi Pharmacy, but also the noteworthy collection of paintings bequeathed by Egidio Martini.

http://www.visitmuve.it/it/musei/

TEACHING STAFF

ROSA BAROVIER MENTASTI

Descending from one of Venice's ancient glass making families, Rosa Barovier Mentasti was awarded a degree in Ancient Literature by the University of Padua in 1973 with a thesis on antique glass. Since then, she has been dedicated to studying the history of both ancient and modern Venetian glass. In addition to many articles and publications, including *Il Vetro Veneziano dal Medioevo ad oggi* published in 1982, she has curated several international exhibitions of ancient and contemporary glass, including Vetri. Nel Mondo. Oggi, hosted by the Istituto Veneto di Scienze, Lettere ed Arti in Venice in 2004.

MARTINA FRANK

Martina Frank is currently professor for Art History at the Università Ca' Foscari in Venice. She has previous teaching and research experiences in several European universities (Vienna, Udine, Graz, Innsbruck) and in Canada (Montréal). Author of numerous essays concerning the history of art and architecture of the Republic of Venice from the 15th to the 19th Century. Among her books a study of the patronage of the Manin family (1996), a monograph on Baldassare Longhena (2004) and *Giardini dipinti* (2008). Editor of *Da Longhena a Selva. Un'idea di Venezia a dieci anni dalla scomparsa di Elena Bassi* (2010) and *Santa Maria di Nazareth. Arte e spiritualità dei Carmelitani Scalzi a Venezia*. Member of the scientific boards of «Carnets du Paysage» (Ecole Nationale Supérieure du Paysage, Versailles), «1800-MDCCC» (Università Ca' Foscari Venezia), «Intrecci» (Università di Bologna).

WILLIAM GUDENRATH

As resident advisor for the Studio of the Corning Museum of Glass, he teaches introductory and advanced courses in Venetian techniques. A glassblower, scholar, lecturer and teacher of glassblowing, he is an authority on historical hot glassworking techniques from ancient Egypt through the Renaissance and has presented lectures and demonstrations throughout the world. He demonstrates techniques he believes to have been employed by glassmakers of the past and these are described in a number of books and video segments including: *Chronicle: the Portland Vase, Five Thousand Year of Glass, Journey through Glass: A Tour of the Corning Museum Collection and MasterClass Series II: Introduction to Venetian Techniques, Glass Masters at Work: William Gudenrath, Glassworking Processes and Properties.*

LINO TAGLIAPIETRA

Exceptional glass master and well known world-round as glass artist. He was born in Murano and was just a young man when he first entered a glass makers shop: he became a glass *maestro* in the 1950's and has worked for some of the most prestigious glass makers in the island. Since the late sixties his creativity resulted in models of great quality, both from the point of view of technique and beauty, that were a clear success on the market. He has been an independent glass artist since 1990 and is now committed to creating unique pieces that are exhibited in the most prestigious private collections and museums worldwide. In 2009, the Tacoma Art Museum dedicated a retrospective to his works with an exhibition that was then lent to other US museums. In 2011, the Istituto Veneto dedicated to him the exhibition *Lino Tagliapietra, da Murano allo Studio Glass.*

CRISTINA TONINI

With a degree in History of Art awarded by the State University of Milan under the guidance of Prof. De Vecchi, from 1989 to 2004 she acted as Conservator for the classification and the new layout of the Bagatti Valsecchi Museum in Milano. Together with Rosa Barovier she published the catalogue of the museum's Venetian glass. She also curated the catalogues of the Medieval and Modern glass collections of the Civic Museums of Pavia, of the Pinacoteca Ambrosiana in Milano and the Pogliaghi Museum in Varese, the latter is about to be published. Other articles on Venetian and Medicaean glass have been published by Decart and the Journal Glass Studies of Corning Museum of Glass. She is part of the Board of Directors of the Italian section of the Association Internationale Histoire du Verre. She is professor of art in the Orsoline Artistic Liceo in Milano.

MARCO VERITÀ

Holding a degree in Chemistry, he worked for over thirty years in the Stazione Sperimentale del Vetro in Venice-Murano, performing research and assessments on glass materials, both modern and ancient, the latter for archeometric purposes and also to assess issues relating to conservation and restoration. Member of numerous international organisations, since 2009 he has been working with the Laboratory for the Assessment of Ancient Materials (LAMA) of the IUAV University of Venice.

LIST OF PARTICIPANTS

ISABELLE BIRON

Initiated the study of glass and enamel in the laboratory; all periods, all types of objects: glass elaboration, fabrication techniques of objects, material characterization, raw materials, authentication, dating, alterations of chemical and mechanical origins, conservation, establishment of a technical and analytical data-base, glass and enamel elaboration.
In charge of studies on Objets d'Art and Archaeological artefacts made of glass held by the French Museums, Historical Monuments, National Archaeological Institutions (DRAC) and foreign museums. In charge of the scientific research of «glass» material, mechanisms of chemical degradation, technologies of antimonate opacified glass and gilding techniques throughout History.

SUZANNE HIGGOTT

After completing her university studies, Suzanne Higgott joined the staff of the Wallace Collection, London, as the Museum Assistant. Since 1999 she has been Curator of Glass, Limoges Painted Enamels and Earthenwares. Her publications on glass include articles on French Renaissance enamelled glass and 19th _ century British glass associated with Sir Richard Wallace, as well as, most recently, *The Wallace Collection Catalogue of Glass and Limoges Painted Enamels* (2011). Suzanne Higgott is a long-serving member of the Board of the Association for the History of Glass (the British section of the AIHV) and a Fellow of the Society of Antiquaries of London.

REINO LIEFKES

Senior Curator and Head of Ceramics & Glass at the V&A Museum, London, Reino specialises in glass and European earthenware and was Lead Curator of the new V&A Ceramics Galleries which opened in 2009-10. Reino is the author/editor of *Glass* (V&A 1997) and contributed to many V&A exhibitions and catalogues including «At Home in Renaissance Italy» (2006). He is currently chairperson of the ICOM International Glass Committee.

ANNA-KATHARINA AWAD-KONRAD

Born 1957 in Innsbruck, Austria, after studying languages in Tunis and working abroad, earning ones living as a merchant, began to study archaeology at the university of Innsbruck in 2006 an to volunteer at Stadtarchaeology Hall.
2009 Bakkalaureat on glass beads in the Tyrol, found in tombs of the early middle ages. 2009 sharing in the 6 months excavation of the glasswork in Hall in Tirol (16th/17th century) and doing Master thesis on one record of it in 2012: a documentation on more than 800 kg of raw material, glass frit, half products and fragments of glass vessels, glass sheets and circular window panes. Since then organizing

app. 5 t glas materials in other records of the excavation to do my PhD on the glassworks in Hall in Tirol.

FRANÇOISE BARBE

Curator in the Louvre Department of Decorative Arts, Françoise Barbe is responsible for the Renaissance ceramics, painted enamels and glasses. She is currently involved in several research projects with the Centre de recherche et de restauration des Musées de France, especially on Venetian enamels and glasses. She recently organised the exhibition «Majolique. La faïence au temps des Humanistes. 1480-1530» (Musée national de la Renaissance, Ecouen, 2011-12).

MARC BARREDA

Is an American artist who has been working with glass for nearly 14 years. He currently lives in Amsterdam where he completed his Master of Applied Art at the Sandberg Institute in 2012. Marc Barreda has studied and worked around the world with artists and craftsmen and at various institutions including: The Corning Museum of Glass (US), The Vrij Glas Foundation (NL), Fundacion Centro Nacional del Vidrio (ES), Domaine de Boisbuchet (FR) and the Creative Glass Center of America (US). Currently he is developing a project in the Netherlands focused on exploring and highlighting the extensive Dutch glass history through academic and practical approaches.

ERWIN BAUMGARTENER

studied art history at the Basel University. Master thesis on a private collection of medieval glass (Amendt collection, exhibited in Düsseldorf, Rotterdam and Coburg, 1987/88). 1988 together with Ingeborg Krueger catalogue and exhibition «Phoenix aus Sand und Asche. Glas des Mittelalters». Since 1989 work for the Denkmalpflege Basel. Several publications on European glass (mainly concerning Venetian and «façon de Venise» specimen, e.g. museum/exhibition catalogues Musée Ariana, Genève, 1995, Musée des Arts décoratifs, Paris, 2003).
Member of the «Association Internationale pour l'Histoire du Verre» since 1979, actually member of the Executive Committee and of the national Committee preparing the 2015 Congress in Switzerland.

CHIARA BERICHILLO

After graduating in 2003 in Classics with archaeology as her major, she earned her diploma at the School of Specialisation in Archaeology of the University of Padua. She operated in cultural popularisation and museums, working for several Umbrian firms active in museum management. She teaches in secondary schools and since 2009 is director of the Glass Museum of Piegaro (PG).

MARIA JOAO BURNAY

Since 1995 to 2010 was the Education Department coordenator at Palácio Nacional da Ajuda in Lisbon.
Got the graduating in a master degree, Arts, Heritage and Conservation Theory, from Instituto de História de Arte, Faculdade de Letras, Universidade de Lisboa with the thesis "Toilet and Hygiene at the Portuguese Court in the 18th and 19th centuries. Palácio Nacional da Ajuda traveling sets ".
Since 2010 is Curator of Glass and Civilian Objects of the Royal collections where she has been improving the cataloging files and developing of the historical knowledge of the over 19.000 glass objects the Palace owns, from Bohemia, Austria, France, Spain, Great-Britain, Portugal and including the about 600 Murano pieces (Salviati, Compagnia Venezia Murano, Fratelli Toso, Tostelini).

FRANCESCA DE MUNARI

She is graduating in a master degree, Art History and Conservation of cultural heritage, from Ca' Foscari in Venice, with a thesis in History of Modern Art Collection.
She worked for Vicenza Diocese for catalogation of ecclesiastical heritage, a project of the Italian Bishops' Conferenze and she collaborated with Vicenza Diocesan Museum from 2005 to 2009. Daughter of collectors and collecter herself, since 2009 she manages the family antiques store.
Since 2012 is registered as antiques and liturgical objects expert at Vicenza Chamber of Commerce.

FRANCESCA GIUBILEI

Graduated in Art and Economics at the Ca' Foscari University of Venice in 2007 and completed her education with post-graduated studies in Managment of Cultural Assets and Activities, she is currently completing a second degree in Contemporary Art History and Criticism.
From 2008 to 2013 she collaborated with Berengo Studio working on the development and organization of cultural projects such as Glasstress, a biennial event dedicated to contemporary art in glass.
She is actually a free-lance curator, partner of Valorizzazioni Culturali and Art-Events and an occasionaly writer about the art world.

ELENA GRANUZZO

Specialized in Art History and minor arts, PhD in History of artistic heritage, she has focused her attention on the history of architecture, particularly in the eighth and ninth century, and on some particular collections, always within the eighteenth century.
Her attention was focused on people of culture such as Giovanni Poleni, Carlo Lodoli, Tommaso Temanza, Leopoldo Cicognara, Simone Stratico, Giuseppe Jappelli.
Her research has appeared in

magazines such as "Studi veneziani", "Arte lombarda", "Arte veneta", "Horti Hesperidum","Paratesto", "La Bibliofilia", in volumes such as *I disegni di Andrea Palladio*, edited by M.E. Avagnina and G.C.F. Villa (Milano 2007) and in numerous publications at national and international conferences.

CLAUDIA HOLZHAMMER

Studied prehistoric and medieval/ modern archeology at the University of Innsbruck, did her Master's degree on glass from Hall in Tyrol and about the glass manufactory of Hall in Tyrol and helped Mag. Anni Awad picking through the ton of glass material from the very glass manufactory for her Master's degree.
She is part of a group bringing university science to school children, with whom she did some courses on glassmaking and the history of glass.

KEITH KING

In his youth, early English lead-glass captivated his imagination as an expression of good design, in which form and function are harmoniously unified. So grew the seeds of a glass collection. In more recent years, he and his wife, Sylvie, have significantly expanded that collection, notably with acquisitions of Italian Renaissance and 17th century French glass. He has been an active member of the AIHV, acting as General Secretary, and is a member of the Glass Circle in the UK.

BRIGITTA MARIA KÜRTÖSI

graduated as a painting-restorer at the Hungarian University of Fine Arts, Budapest, in 2010. She is carrying out her post-graduate studies on excavated mosaic finds at the Doctoral School of the same institute. She has participated in conservation-restoration works of Roman and late 19th - early 20th centuries mosaics and wall paintings as well. Her current research deals with archaeometrical investigation of Roman and medieval mosaic heritage from Hungary; focusing on glass, stone and mortar analyses, origin of the materials, preparation techniques; the copy and reconstruction problems are also under investigation.
Member of ICCM (International Committee for the Conservation of Mosaics), AIEMA (Association Internationale pour l'Étude de la Mosaïque Antique).

KITTY LAMERIS

With a degree in Italian language and literature Kitty Laméris is, together with her sister Anna and brother Willem, the owner of the antique shop Frides Laméris Art and Antiques, specialized in glass and ceramics. One of her specialties is Venetian and Façon de Venise glass of the sixteenth and seventeenth Century. In the past 20 years she has written different articles about the subject, together with her father Frides Laméris she made an exhibition and catalogue about Venetian and Façon de Venise glass

in the church at the Dam Square de Nieuwe Kerk. Kitty also teaches future restorers of glass at the University of Amsterdam (UVA), and gives lectures about the subject. In 2012 she wrote a catalogue about filigrana glass entitled: A Collection of Filigrana Glass. Together with Marc Barreda and Het Nederlands Glasmuseum, we are in the process of making a foundation to promote the study of old Dutch glass history and techniques, including the glass techniques 'a la façon de Venise', made in seventeenth century Holland.

SYLVIE LHERMITE-KING

Italian Renaissance and façon de Venise glass of the 16th and 17th Centuries has been the prime area of Sylvie's professional and private interests for over 30 years. As a well-established antique dealer in Paris, she has helped create several major private collections in France and advises a number of French and North American museums on their own public collections. She is a member of the leading antique dealers association in France and of the vetting committee of the Tefaf Fair in Maastricht, with responsibility for Renaissance and later European glass. Among her specialist subjects are French glass and her exhibition in 2008, presenting objects from 1550 to 1750, accompanied by a catalogue, Cent Verres Français, provided a unique opportunity to study the many facets of French glass production over that period.

SARAH MALTONI

After her studies in Art History she completed a Master's in Science and Technologies for Archaeological and Artistic Heritage. At present she is doing a PhD in Study and Conservation for Archaeological and Architectonical Heritage at the University of Padova (Italy) focused on the archaeometrical characterization of Roman and early-Medieval glass objects and mosaic tesserae. She is particularly interested in production technology and experimental replica of coloured opacified glass.

VALERIA MAMCZYNSKI

Born in Buenos Aires, Argentina, she received her degree in Conservation Studies in 2008 at the University of Barcelona, Spain, where she has lived since 2001. She first discovered her passion for glass while attending a stained glass workshop in Buenos Aires. Since then she has undertaken numerous courses in stained glass, glass sculpture (both at the Escola del Vidre in Barcelona) and casting technique (Real Fábrica de Cristales de La Granja, Segovia). In the summer of 2009 she received an Andrew W. Mellon Internship at The Sherman Fairchild Center for Objects Conservation at The Metropolitan Museum of Art in New York. In 2010-2011 she returned to The Metropolitan Museum of Art once again this time with an Andrew W. Mellon Research Fellowship to work

on the James Jackson Jarves collection of venetian and " façon de Venise" glass objects (XVI - XX c.) under the supervision of Conservator Lisa Pilosi and Karen Stamm. She has worked on the conservation project of the stained glass windows from the Hospital de Sant Pau i la Santa Creu in Barcelona (2010), on the stained glass windows from the Cathedral of Barcelona (XIX c., 2012) and most recently (Oct. 2013/ Jan. 2014) she has carried out the conservation project of a modernist stained glass window for the National Museum of Catalonia (XIX c.). She is a conservator in private practice looking forward to continuing her work and training in the conservation of glass objects.

GIULIA MUSSO

Graduated in History of Art and Heritage Development at the University of Genoa. Since 2008 she has been working for the Museo dell'Arte Vetraria Altarese, dealing with the management of the collection and the organisation of exhibitions. She is also dedicated to the promotion of the tradition of glass in Altare (SV). She has been working as a Curator since 2011.

ANTÓNIO PIRES DE MATOS

Degree in Chemical Engineering, Technical University of Lisbon 1962. Ph.D. in chemistry, Cambridge, U.K., 1970. Fellow of the Society of Glass Technology, U.K. since March 2009. Emeritus Invited Full Professor at the Universidade Nova de Lisboa. Current research activities at the *Research Unit Glass and Ceramics for the Arts*, VICARTE (www.vicarte.org): Provenance studies of Portuguese glass; Science applied to contemporary glass art.

ILEANA REDAELLI

Graduated in 2009 in Art History and Conservation of Cultural Heritage at Ca' Foscari University of Venice with a dissertation in Medieval Art.
She soon joined the staff of the Conservation department of FAI – Fondo Ambiente Italiano, an important not-for-profit trust dealing with the conservation and restoration of the Italian artistic and natural heritage. She is involved in the cataloguing, the study and the evaluation of the collections of all the FAI's properties located in the North of Italy, which include a huge number of glass objects from different ages and manufactures, planning the routine maintenance and the restoration.

DANA ROHANOVÀ

She is an assistant professor at the Department of Glass and Ceramics at the Institute of Chemical Technology Prague, where she teaches practical conservation and restoration of historical glasses. Her University study (at the Institute of Chemical Technology Prague) graduated with the diploma thesis named „Vitrification of the middle radioactive waste from

the nuclear power plant". Post gradual studies focused on glass-ceramics based biomaterials (PhD. thesis: "Interaction of glass-ceramics with Simulated Body Fluids"). In this time she cooperates with archaeologists on the characterization of excavated archaeological material by optical microscopy, SEM/RDS, XRF and XRD. She studies composition of excavated glass and the interactions of glass with environment (corrosion processes (weathering). This knowledge refills the gap of used glass technologies from 13.ct till 18.ct AD in the central Europe.

LARA SABBADIN

Art historian. She graduated in History of Art at the University of Padua with a thesis about Pietro Aretino's books of letters as a source of informations about 16th Century applied arts. Her Ph.D. thesis, discussed in 2013, enlarge the same analysis on all the other Aretino's texts, other books of letters and literary works from the same Century, comparing the results with contemporary paintings and archival materials. She wrote some articles to explore the theme of Venetian glass starting from these studies.

HEDVIKA SEDLACKOVA

She is, after studies on the Masaryk University in Brno (1964-1969), working as archaeologist. Since 1995 she is continuously working with the Glass-finds from archaeological excavations, at mostly from Moravia. She did published articles concerning with medieval glass and prepared the publication with the complete list of medieval Glass in Moravia, ca 1200-1550. Since 2010 she´s teaching on Masaryk University at Brno the course "History of Glass".
Since 2012 she is working, together with colleagues from Bratislava/ Slovakia (Petra Koóšová and Branislav Lesák), Vienna/Austria (Kinga Tarcsay), on the project focused on the renaissance and baroque Glass-finds from archaeological researches in Middle-Danube region with the participation of Dana Rohanová from The Institute of Chemical Technology, Prague (Analysis).

DORA THORNTON

Curator of Renaissance Europe at the British Museum, and the collections for which she is responsible include one of the world's most important collections of Venetian glass from the Felix Slade Bequest of 1868, and the Waddesdon Bequest. From her first book, The Scholar in His Study [New Haven and London 1997], through Objects of Virtue [co-written with Luke Syson] British Museum 2009, she has included research on Venetian glass in its wider intellectual and artistic context. She selected and catalogued Venetian glass for the exhibition «Art and Love in Renaissance Italy» at the Metropolitan Museum of Art in 2008, and published an article in Glass Studies on a single enamelled dish from the British

Museum's collection in 2009. She is now writing a book on the Waddesdon Bequest which will include new research on the important glasses in the collection.

AUDREY WHITTY

Dr. Audrey Whitty has been Curator of European and Asian Glass at the Corning Museum of Glass, Corning, New York since May 2013. Before that she was Curator of Ceramics, Glass and Asian collections at the National Museum of Ireland – Decorative Arts & History, Collins Barracks, Dublin, from 2001 to 2013. Whitty has curated several exhibitions, most notably 'A Dubliner's Collection of Asian Art: The Albert Bender Exhibition' and the National Museum of Ireland's visible storage facility which showcases some of that museum's most important collections of applied arts. A graduate (B.A.: History and Archaeology) and postgraduate (M.A.: Archaeology) of University College Dublin, she also has a doctorate from Trinity College Dublin in the History of Art as a result of her thesis, 'The Albert Bender (1866-1941) Donations of Far Eastern Art to the National Museum of Ireland in the context of his Cultural Interests in Ireland and California'. In addition to her roles at the Corning Museum of Glass and the National Museum of Ireland she has been appointed Irish Commissioner to both European Ceramic Context and European Glass Context (European Union-wide biennales of contemporary glass and ceramics) since 2006, which take place on the Danish island of Bornholm. In 2009 she became the first Irish woman to be elected to the International Academy of Ceramics based in Geneva. She has authored over fifty publications (on both historical and contemporary topics of material culture) and lectured to numerous institutions. She is author of the major publication, 'The Albert Bender Collection of Asian Art in the National Museum of Ireland', which was published by the National Museum of Ireland and Wordwell Books in 2011.

KAROL B. WIGHT

She became executive director of The Corning Museum of Glass in 2011, after 26 years at the J. Paul Getty Museum. Before joining the Corning Museum she was senior curator of antiquities at the Getty Villa. A specialist in ancient glass, Wight received her Ph.D. in Art History from the University of California, Los Angeles. She has curated numerous exhibitions on ancient art and glass, including «Molten Color: Glassmaking in Antiquity» (Getty Villa), «Athletes in Antiquity: Works from the Collection of the J. Paul Getty Museum» (Utah Museum of Fine Arts during the 2002 Winter Olympics). In 2007, she co-curated the exhibition, «Reflecting Antiquity», with David Whitehouse, which was shown both at the Getty Villa and The Corning Museum of Glass.

Wight now serves as both executive director of The Corning Museum of Glass and as curator of ancient and Islamic glass. She is responsible for overseeing the Museum's extensive collections, the Rakow Research Library, The Studio, publications, education programs, and conservation and scientific research.

RAINER ZIETZ

after studying History of Art at Heidelberg University, he started his own business in 1969 in Hannover, Germany and has been based in London since 1980. As an art dealer and adviser, he worked from the beginning with specialised collectors and museums in the field of European Decorative Arts and Sculpture. Amongst work in other fields, he particularly focused on Ancient and Modern Venetian Glass and Italian Renaissance Maiolica. His contributions led to the forming of some of the most prestigious private collections and their publication (Biemann Coll., Zurich, Hockemeyer Coll., Bremen, Kuckei Coll., Berlin, Steinberg Coll., Vaduz). Acquisitions from Rainer Zietz are represented in many of the world's leading museums. He is a member of the British Antiques Dealers' Association. He is also a patron of museums in England (V&A and The Wallace Collection); a member of The Friends of the German Cultural Foundation and The Green Vaults, Dresden. He is a fellow of the Corning Museum of Glass and The Ennion Society.

MAJA ZIVKOVIC

Graduated with a degree in History of Art at the University of Belgrade. Since 1999, she was an associate at the National Museum in Belgrade and earned conservation license in 2004. From 2005 to 2009 she worked at the National Museum in Belgrade on conservation of ceramics and glass objects from museum collections. In 2009 she joined the Central Institute for Conservation in Belgrade, as head of the studio for Conservation of Ceramics and Glass. In addition to her university studies, she has undergone conservation training in France, the United States, Italy and Croatia. She is currently active in the conservation of ceramics, glass and metals, and conservation surveys of museum collections. She is involved in the organization of courses and seminars in the field of conservation of cultural heritage, education and training of museum conservation professionals, as well as summer school programs for the study of the conservation of ceramics.

The Istituto Veneto and Glass

The sequence of events

Already in the 19th Century a great many Murano glassworks, with their capacity to innovate processing techniques, won the Industry Prizes the Istituto Veneto awarded to the leading manufacturers in the Veneto.
Glass came back to the fore in 2004 when the Istituto Veneto opened its new premises in Palazzo Franchetti with the great exhibition "Vetri. Nel mondo. Oggi" (Glass in the World. Today): a vast survey of art glass from all over the world with works by contemporary artists from Murano, America, Australia, Belgium, Bohemia, Finland, France, Germany, the Netherlands, Sweden.
In 2010 for the first time the Istituto opened the new ground floor rooms of Palazzo Loredan with the exhibition "Galanterie di Vetro" (Glass Galanteries). The Murano glass revival in the De Boos-Smith collection: 250 exquisite items, selected and arranged according to the different glass techniques attesting the ancient 19th Century 'working process' at Murano.
In 2011 the Istituto held a solo show in Palazzo Franchetti dedicated to the great artist Lino Tagliapietra: a large selection of one-offs of the past ten years including several impressive installations. In 2012 the Istituto presented the exhibition "Miniature di vetro" (Glass Miniatures) in Palazzo Loredan. Art bonbonnières: 400 small glass articles from private collections revealing great artists' technical prowess in the art of glass. In Palazzo Franchetti from September to November
2012 the Bertil Vallien exhibition: "Nine Rooms" produced and organised by Berengo Studio displayed to the Venetian public sixty glass works crafted by the Swedish master during his career in the Swedish Kosta Boda studios.
The Istituto Veneto is one of the partners of Glasstress, presented at Palazzo Franchetti in 2009 and 2011 by Berengo Studio during the International Art Exhibition of the Venice Biennale. 2013 schedules the third edition of this outstanding art exhibition which explores developments in international design with sculptures and installations specially created by leading international artists and designers vying with their use of glass.
As a commentary on the various exhibitions the Istituto Veneto organised for the general public many occasions for reflection, with lectures and conversations with the artists by scholars and collectors.
In 2012 the Istituto Veneto introduced and organised Study Days on Venetian Glass to gather each year scholars of Venetian glass but also glass of the most varied traditions: an occasion for further discussion and encounters, with broad

exchanges of information and experience, making this event one of the most important of its kind held on an international level.
Last, in 2012 the Glass in Venice Prize was created, awarded by the Istituto Veneto and the Musei Civici Veneziani in recognition of the glass artists and masters particularly outstanding for their work in the great Murano tradition, or else, all over the world, through different techniques and schools. The first Prize was awarded on 22 November 2012 to the master Pino Signoretto and the artist Bertil Vallien.

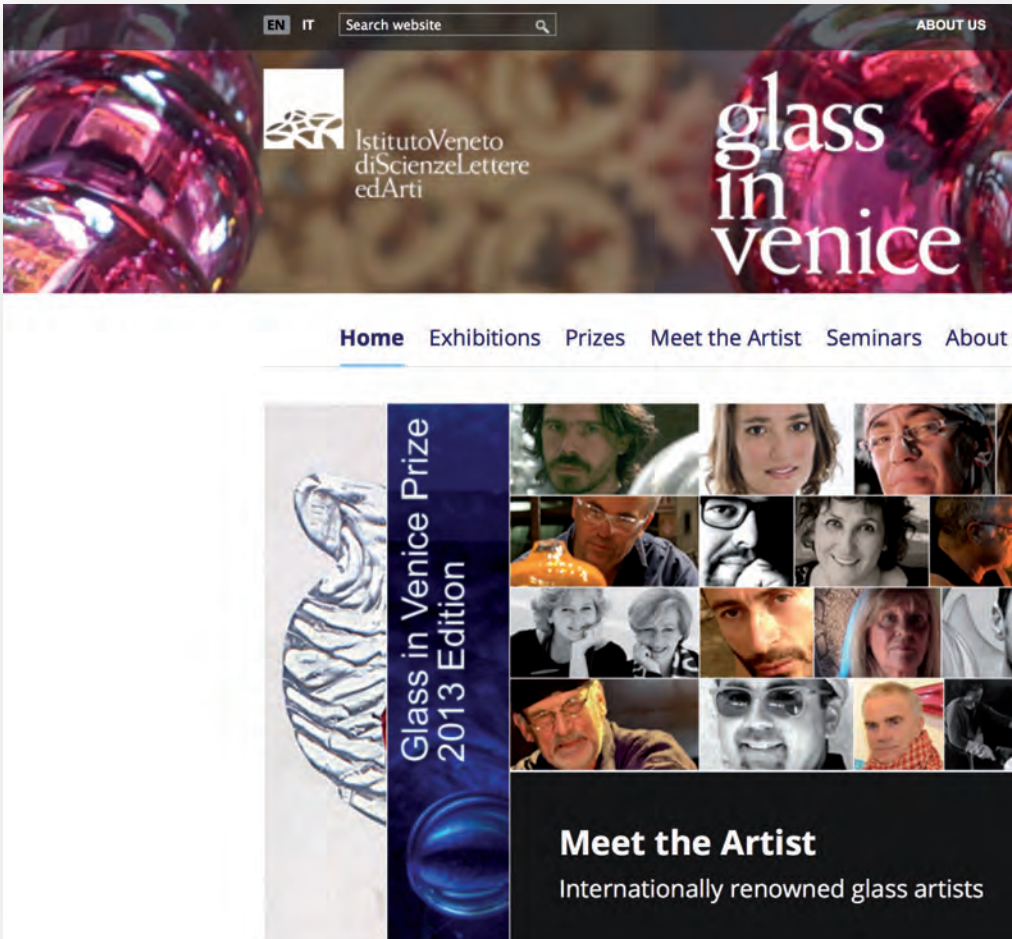
The Glass in Venice Prize

The Prize is a highly regarded tribute awarded to the glass artists or masters who outstandingly distinguished themselves with their work proceeding in the wake of the Muranese tradition or else, abroad, in different schools and techniques.
With this event we wish to show that Venice, thanks to Murano, is not only the famed and noble centre of a refined art and a prodigious glass technique which still lives in the work of outstanding masters and artists, but is also the city regarded with admiration and respect by many internationally acclaimed masters, even if their own works are executed in techniques other than Muranese.
The personal experiences of many world-famous artists and important contemporary art exhibitions held in the greatest capitals attest that the glass art world, infinitely variegated and different in its multiple forms and techniques, considers Venice and Murano an indispensable point of reference, a prestigious and challenging presence to confront and with which they can vie, even experimenting
with the most specific and intrinsic techniques of the Muranese tradition.
The Prize, awarded every year, is an essential part of Glass in Venice, the project arisen from the collaboration between the Istituto Veneto and the Fondazione Musei Civici di Venezia.

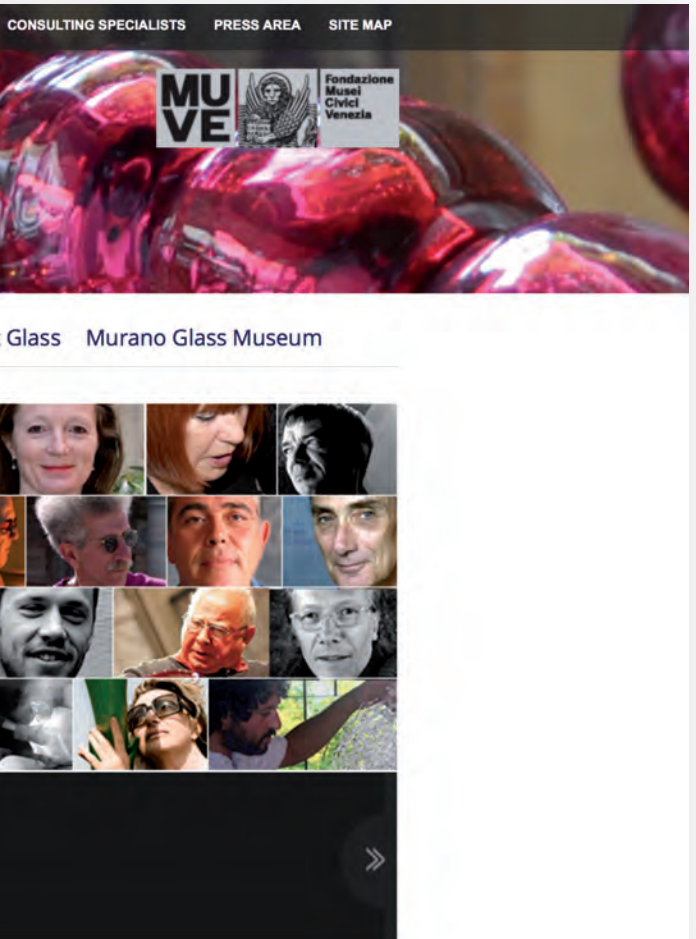
Glass in Venice Prize 2012 awarded to Pino Signoretto and Bertil Vallien
Glass in Venice Prize 2013 awarded to Andrea Zilio and Toots Zynsky

The Website

Since 2013 the website www.glassinvenice.it is on line. The website intends to become an authoritative hub of documentation on Venetian glass and glass art production worldwide: a functional, accessible, updated tool available to the broadest international public.
To achieve our project we formed alliances and partnerships with museums, research centres, industries and businesses reputed for their commitment to the promotion of glass.
The site is organised in several sections, enriched with material produced in the



course of the activities of the Istituto and the Murano Glass Museum, as well as texts, documents, interviews, announcements of exhibitions and events the world over. In addition a section will be created featuring the curriculums of glass artists from all over the world and recordings of the courses and lessons held by specialists during the Venetian Glass *Study Days*.
The contents of the site are supervised by a scientific committee whose members are: Rosa Barovier, Sandro Pezzoli, Chiara Squarcina, Lino Tagliapietra, Cristina Tonini, Marco Verità.



glass in venice

Coppa di cristallo con decoro a festoni di lattimo e bolla interna di vetro soffiato blu.
Venezia, fine del XVII secolo.
Murano, Museo del Vetro

Istituto Veneto di Scienze,
Lettere ed Arti
San Marco 2945
30124 Venezia
tel +39 0412407711
fax +39 0415210598
ivsla@istitutoveneto.it
www.istitutoveneto.it

ATTI

Gli ATTI rappresentano da oltre un secolo una delle voci più significative nel panorama italiano degli studi superiori e specialistici, fornendo ogni anno decine di saggi su temi di storia, letteratura, critica d'arte, filologia, diritto, filosofia e delle scienze umanistiche in genere, e nelle scienze naturali, fisiche e matematiche. Una attenzione particolare è data a temi relativi alla cultura veneta e veneziana. A partire dal 1993 gli Atti escono in fascicoli trimestrali ed è possibile sottoscriverne l'abbonamento, ricevendone i vari numeri non appena editi.

I volumi possono essere richiesti direttamente all'Istituto a mezzo telefax, o con lettera o mediante bollettino CCP indicando (nello spazio per la causale del versamento) i volumi richiesti. Il pagamento può essere effettuato contrassegno, o con assegno bancario non trasferibile intestato all'Istituto, o a mezzo versamento su CCP n. 19163302. Le spese di spedizione sono scontate e a carico dell'Istituto.

Sottoscrizione in abbonamento anno 2015:	
Classe di scienze fisiche	€ 20,00
Sottoscrizione in abbonamento anno 2015:	
Classe di scienze morali	€ 30,00
Abbonamento completo delle due parti	
(più la parte generale ed atti ufficiali)	€ 50,00
Prezzi dei singoli fascicoli:	
- fasc. classe scienze fisiche	€ 15,00
- fasc. classe scienze morali	€ 20,00

All'indirizzo internet www.istitutoveneto.it è consultabile il catalogo delle più recenti pubblicazioni dell'Istituto Veneto.

Allo stesso indirizzo possono essere scaricati gratuitamente alcuni volumi in formato PDF.

I volumi possono essere acquistati presso l'Istituto Veneto di Scienze, Lettere ed Arti (fax 041.5210598) oppure tramite il distributore CIERREVECCHI Srl (fax 049.8840277)

ROSA BAROVIER MENTASTI and CRISTINA TONINI,
Tools to Study Glass. Inventories, Paintings and Graphic Works of the 17th-18th Century 3

PAOLO ZECCHIN, *Ettore Bigaglia: the Inventory of the* Negozio alla Croce D'oro *Dated 1714 April 2nd* 53

SUZANNE HIGGOTT, *Survey of Venetian and* Façon de Venise *Enamelled and Gilded Glass Made c. 1500-1550 and Excavated from Reliably Dated Contexts in Great Britain* 69

AUDREY WHITTY, *The Venini Covered Cup, Venice, Second Half of the 16th Century (1550-1599 AD)* 91

HEDVIKA SEDLÁČKOVÁ and DANA ROHANOVÁ, *From Renaissance to Baroque: Glass in the 2nd Half of the 17th Century in Moravia, Czech Republic* 101

VALERIA MAMCZYNSKI, *«Conservation of Glass Objects in the James Jackson Jarves Collection», an Andrew W. Mellon Research Fellowship at The Metropolitan Museum of Art»* 111

GIULIA MUSSO, *The Glass Museum of Altare and its Activities: the Restoration of Two 17th-18th Century Furnaces* 115

ANNA AWAD-KONRAD, *Glassworks Hall in Tirol 1534- 1635* 123

MARIA JOÃO BURNAY, *Murano Glass at National Palace of Ajuda* 129

BRIGITTA MARIA KURTOSI, *Archaeometric Investigation of Medieval Wall Mosaic Fragments of Székesfehérvár, Hungary* 137

KITTY LAMÉRIS, *Differences Between Early Filigrana Glass and Rosenborg Castle Type Filigrana Glass* 147

IstitutoVeneto
diScienzeLettere
edArti

In copertina:
Coppa di cristallo con decoro a festoni di lattimo e bolla interna di vetro soffiato blu. Venezia, fine del XVII secolo. Particolare. Murano, Museo del vetro, Fondazione Musei Civici Venezia.

Progetto grafico della copertina:
Paolo Roggero design

The "Study Days on Venetian Glass" are an opportunity for in-depth study on Venetian glass and are tuned to an audience of Museum conservators, collectors and experts.
The programme includes lessons by experts who, after a general overview, will guide participants through the direct study of methods and pieces, encouraging participants to actively take part, also through presentations.