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STUDY DAYS
ON VENETIAN GLASS
Moulding and Applying
Hot Glass



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ISTITUTO VENETO DI SCIENZE, LETTERE ED ARTI

STUDY DAYS ON VENETIAN GLASS
MOULDING AND APPLYING HOT GLASS
THROUGH THE CENTURIES

edited by

ROSA BAROVIER MENTASTI and CRISTINA TONINI

VENEZIA
2019

Si raccolgono qui alcuni dei contributi presentati dal 10 al 12 settembre 2018
al Corso di alta formazione organizzato dall'Istituto Veneto sul tema:

Higher Education Course. Study Days on Venetian Glass.

Moulding and Applying Hot Glass through the Centuries

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INDICE DEL FASCICOLO SECONDO-TERZO

ROSA BAROVIER MENTASTI AND CRISTINA TONINI, <i>Venetian Renaissance Vessels: Mould Decorations and Applied Bosses</i>	Pag.	1
PAOLO ZECCHIN, <i>The Moulds of the Murano Glassmakers</i> »		75
MARCO VERITÀ, SANDRO ZECCHIN AND ELENA TESSER, <i>The Production of Prunted Beakers in Venice: an Archaeometric Assessment</i> »		87
OLGA IVLIEVA, <i>Soviet Moulding Glass from the Collection of the Museum of Ceramics (Moscow)</i> »		105
ROBERTA D'ADDA, <i>The Camillo Brozzoni Glasswork Collection Now at Musei Civici di Brescia: a «Novel of Industry» Reflective of European Models</i> »		113
SILVIA FERUCCI, <i>The Renaissance Vessels from Padoa Santa Chiara Monastery, Problem-Solving During the Conservation Treatment</i> »		131
ANDREIA RUIVO, ANTÓNIO PIRES DE MATOS, CATERINA TOSO, CRISTIANO FERRO, FERNANDO ESPERANÇA, LOK KWAN TSE, ROBERT WILEY, <i>From Historical Murrinel/Millefiori Glasses, Moulded Glasses and Prunted Glasses to XXI Century Glasses Using the Same Techniques</i> »		139
Affiliations »		147

ROSA BAROVIER MENTASTI AND CRISTINA TONINI

VENETIAN RENAISSANCE VESSELS: MOULD DECORATIONS AND APPLIED BOSSES

Murano blowers regularly used moulds, both dip moulds and full-size moulds, the former to obtain relief patterns on the surface of glass vessels and the latter to shape vessels defining their final size. Surviving pieces and documents evidence that dipmoulds, generally in bronze, and full-size moulds, generally made of two hinged wood parts, opened and closed by an assistant of the master, were adopted in Venetian glassworks since late Medieval times. They are also listed in glassworks inventories. However free blowing and shaping was the most frequent technique, for which Muranese masters were and are universally renowned.

1. *Meza stampaura moulding*

The most successful kind of moulding was the so called *meza stampaura*, a quite recent locution which probably goes back to the 19th century. *Meza stampaura* ribs can be obtained on blown vessels with a quick operation, which does not entail blowing. The master gathers an additional glass layer on the paraison and, immediately, presses it in a dip mould, which shapes the hot coating to form solid ribs. In Renaissance period, such ribs were very frequently emphasized by gilding. Old Murano documents mention *Goti doradi da costa* (gilt beakers with ribs) in 1485; *cope con coste d'oro* (bowls with gold ribs) in 1496; *goti cum coste dorade* (beakers with gilt ribs), *goti cum coste d'oro* (beakers with gold ribs), *coppe cum le coste dorade* (bowls with gilt ribs) in 1508. As we do not know glass vessels decorated with *meza*

stampaura ribs, dated before the 15th century, probably the *incostati* (ribbed) beakers mentioned in 1313 were mould-blown or, perhaps, with applied vertical threads¹.

Meza stampaura technique might be inspired by the solid ribbing of Roman bowls (Fig. 1), very frequently found in Italian archaeological sites, which look quite similar to ribbed vessels, produced at Murano in the Renaissance. Indeed, interest in archaeological works of art and artefacts began in Italy and also in Venice early in the 15th century or before. Actually, in Roman times such bowls were not blown and ribbing was obtained with a different process than Venetian *meza stampaura* one². Therefore, Venetian blowers only imitated the appearance of Roman pieces and they devised a new technique to get the same effect.

Archive documents cannot help to state the year when *meza stampaura* technique was conceived, likely by Murano glassblowers, but we can propose the year 1463 as a *terminus ante quem*. Indeed, as far as we know, the earliest *meza stampaura* ribbed glass vessel, found in the region of Venice, is the covered beaker kept in the so-called tomb of St. Luke the Evangelist in the Santa Giustina Church in Padua (Fig. 2). A lead coffin, in which was kept the skeleton, supposed to be the one of the Evangelist, was found in the church cemetery in 1177. The lead coffin was placed in a carved marble sarcophagus in 1313. Afterwards, two inspections occurred, the first in 1463, when the covered *meza stampaura* ribbed beaker was put in the lead coffin. The beaker contained a Venetian silver coin (minted since 1429) on which the date 1463 is engraved. The sarcophagus was opened in 1998 and the beaker was found there, together with the coin and other objects put inside of it. Therefore, the Padua ribbed cylindrical beaker is dated 1463 or a little earlier. It has a pincer foot-ring and a high kick and its cover, too, is decorated by *meza stampaura* ribs³.

Such covered beakers were used during Italian lavish banquets of the 15th century. Their covers mostly had the function of keeping the flavor of wine. On the banquet table of the *Wedding of Teodolinda*

¹ Zecchin 1987: 13, 60; 1989: 212; 1990: 59, 64.

² Stern 2015: 83-84.

³ Zampieri 2003: 229, 313-325, ff. 146a-b, 148a-c. In the lead coffin also a small glass *albarello* or apothecary jar was put, probably in 1562. Gorini 2003: 581, 589.

(1444), a fresco painting by Franceschino Zavattari and his sons, in the Monza Duomo, a ribbed beaker with high kick and cover (Fig. 3) is depicted among other simple beakers and gilt metal standing bowls, full of sugared almonds. Still today, a light vertical ribbing on the wall of this beaker can be seen.

The *meza stampaura* ribbed cylindrical beaker, generally with a pincer foot-ring, was a long-lasting type, which was depicted in works of art between the late 15th century and the early 16th century. It often shows a gilt decoration along its rim, such as the beaker depicted in a wooden inlay of the choir in the Santa Maria in Organo Church, Verona. It is a work, dated 1494-1499, by Brother Giovanni da Verona, renowned wood artist (Fig. 4). Similar, but shorter, beakers are shown in the *Annunciation* (1506-1508) by Benvenuto Tisi, called Garofalo, kept in the Cini Foundation, Venice, and in the *Last Supper* (1514), fresco painted by Francesco di Cristofano, called Franciabigio, in the refectory of San Giovanni Battista della Calza Convent in Florence.

As far as we know, the earliest *meza stampaura* ribbed vessel of the Venetian Renaissance, enamel and gold decorated, still surviving, is the famous blue goblet kept in the Museo Civico Medievale of Bologna (Fig. 5). This piece belonged to the Istituto delle Scienze in the Bologna University, Bologna *Alma Mater Studiorum*, considered the oldest university in the Western world, still existing. The museum of the University Istituto delle Scienze, housed in Poggi Palace, was founded in 1743, merging the collections of Ulisse Aldovrandi (16th century), Ferdinando Cospi (17th century) and Luigi Ferdinando Marsili (18th century). At the same time and afterwards, the collection was increased thanks to private donors. Among them, Giovanni Domenico Cattani, collector of antiquities, today little-known, who bequeathed the blue goblet to the Istituto delle Scienze. Cattani was Doctor in Canon and Civil Law and he held some offices in civil and religious institutions, such as the Gonfalonieri del Popolo court, the Bambino Gesù Congregation and the Monte di Pietà (Mount of Piety, an institutional pawnbroker run as a charity), where he was one of the presidents in the years 1736-1739⁴.

⁴ *Dei monti di pietà in generale* 1775: 129-130. Greco Grassilli, Bersani and Lorenzetti 2000: 93. *I Gonfalonieri* s. d. [1769?]: 175. Giovanni Domenico Cattani, as one of the presidents, might have purchased the goblet at the Monte di Pietà if it was a

Cattani's bequest occurred before 1780 because this glass vessel is mentioned in *Notizie dell'Origine, e Progetti dell'Istituto delle Scienze di Bologna*, published in 1780⁵. The whole collection was worthily displayed in 1810 and increased thanks to public and private donations and its guidebook, published in 1814, states the high quality of the goblet⁶. In 1881, the archaeological and Medieval collections were removed from Poggi Palace, to create the City Museum in Galvani Palace. A century later, while Galvani Palace was reserved to the archaeological collection, Ghisilardi Fava Palace was restored to house the Medieval and Renaissance artefacts and became the seat of the Museo Civico Medievale, founded in 1985. Here the blue goblet is kept.

The goblet has been published several times and frequently connected with the name of Angelo Barovier, as its maker and enameller, and his sons. Actually, the Barovier glassworks, as well as the most qualified Murano ones, produced also enameled glass vessels but, likely, the members of this family were not directly involved in enamelling⁷.

The blue goblet has unusual foot and stem, if compared with other Venetian goblets dated to the 15th century. Its foot is cone-shaped with an outer flat border. Its stem is a straight and plain rod with a solid knop in the middle. Therefore, the most evident features are the lack of ribbing on both the foot and the stem and their simple, almost geometrical, shape. This goblet was recently analysed using a portable X-ray fluorescence spectrometer (pXRF) by Angelo Agostino and Marco Verità⁸. This instrument can be easily transported in the museum and the related analytical method is non-invasive (no sampling is required) and non-destructive (no damage of the object during analysis). Nevertheless, this method is seriously limited when a glass is analysed (several elements cannot be detected; other elements are in too low concentration to be detected, etc.). Despite these critical limitations it was ascertained that:

collateral, auctioned because the related loan had not been repayed.

⁵ *Notizie Dell'Origine* 1780: 99-100.

⁶ Schiassi 1814: 108.

⁷ Schmidt 1911: 249-251. Zecchin 1989: 200, 230.

⁸ These analysis were made for the project «Cristallo» of the Louvre Museum.

- the X-ray spectra of the glass of the cup and the stem are similar;
- the X-ray spectrum of the foot differs from the spectra of the cup and the stem.

Unfortunately, the pXRF analysis cannot reveal:

- if the cup and the stem are made of genuine Renaissance Venetian glass, even if it does not provide elements inconsistent with Renaissance tradition;
- when the now existing foot was made and applied (shortly after the refiring of the enamel decoration of the cup or much later, because the original foot was damaged)⁹.

This possible restoration unlikely occurred in the 19th century, as the earlier books mentioning the goblet (in 1790 and 1814) do not touch on any damage, as well as the *Guida del Museo Civico di Bologna*, published in 1882¹⁰. Moreover, an archive period photo, dated 1900-1907, shows the goblet as it is today¹¹. Therefore, as far as we know, we think that the foot of the Bologna goblet was made and applied shortly after the refiring of the enamel decoration. May be in the future, new more precise analysis will change our opinion.

The bowl is decorated by twelve *meza stampaura* ribs on its lower part, while, above, its vertical wall shows a gorgeous enameled and gilt decoration, consisting of two Biblical figures and two Gospel scenes, which can be connected with Italian late Gothic painting of 1450 ca. Along the border of the cup runs a gilt geometrical band, obtained by scratching a gold leaf, and the background of the Biblical figures and Gospel scenes is 'abstract', being adorned by vegetal scrolls, gold painted, similar to the gilt scrolls painted as background of the scenes on the Barovier standing bowl in the Murano museum. Comparable decorations can be found as the background of scenes in illuminated manuscripts, such as the *Libro del Salvatore* made for Borso d'Este in 1469 (Modena, Biblioteca Estense, Ms. It. 353, f. 3r), where gilt scrolls are rendered on a blue ground. They recall also the gilt *pastiglia*

⁹ We thank Marco Verità for this important information.

¹⁰ Frati 1882: 6.

¹¹ <https://collezioni.genusbononiae.it/products/dettaglio/11375> (accessed September 15, 2019)

scrolls, which cover the background of some Italian paintings of the mid-15th century ca. An early example is the *Madonna of the Quail*, painted by Pisanello, Verona artist, in 1420 ca. (Verona, Museo di Castelvecchio).

The Gospel scenes, the *Flight to Egypt* and the *Adoration of the Magi*, painted on two opposite sides of the cup's wall, are separated by two medallions, each framing the bust of a Prophet. The composition of the *Adoration of the Magi* (Fig. 6) is arranged following a traditional scheme which goes back to early Medieval period, with the Virgin and Child on one side of the scene and the procession of the Magi moving from the opposite side and approaching them. Two of the Magi are depicted as modern kings, wearing gorgeous dresses in the style of the mid-15th century, different from the simple long tunic worn by the oldest one. On the background, one can recognize a gilt comet star among the scrolls.

In the opposite scene, the *Flight to Egypt* (Fig. 5), Mary with the Child is riding a donkey, led by a young man while St Joseph follows them holding a stick with a hanging flask (Fig. 7). Curiously, the flask, most probably made of glass, is straw coated. Indeed, also Murano factories, not only Tuscan ones, produced straw coated bottles, as documents evidence. For instance when, in 1439, Jacobello del Fiore, Venetian painter, died, his belongings were auctioned, and among them were sold *tre zucche de vero cum le casse de venchi* (three glass pumpkins with wicker coating)¹². Indeed, this peculiar flask with large globular body was called *zucca* (litt. pumpkin) and was a container useful to store or transport various liquids, such as water, wine, rosewater or ink. For example, the Venetian manuscript *Di l'artifitl memoria*, dated to the third quarter of the 15th century, which will be discussed in the following pages, shows a straw coated *zucca* (Fig. 27), identical to the flask enamelled on the blue goblet, depicted in one of the illuminations and called *cuca [zucca] d'inchostro* (pumpkin-shaped bottle of ink) in the text¹³. One of the inventories of Rimini, city not far from Venice, lists *una ampolla per tenere inchostro coperta*

¹² Zecchin 1987: 46.

¹³ *Di l'artifitl memoria* 2017: fol. 25.

(a coated flask fit to contain ink) in 1481¹⁴. Similar straw coated flasks with globular body are depicted in some scenes by Venetian painters, such as the *Adoration of the Shepherds* by Carlo Crivelli (1490-1492) in the Musée des Beaux-Arts, Strasbourg, and *Saint Jerome in his Study* (probably about 1510) by Vincenzo Catena in the National Gallery, London.

The presence of the youth, who accompanies the Holy Family in the *Flight to Egypt*, can connect this scene to Apocryphal Gospels, instead of the four canonical Gospels. Indeed, many painted or mosaic scenes of the Medieval and Renaissance period are inspired by Apocryphal Gospels, a title which applies to early Christian texts written in imitation of the genre gospel but rich of imaginary and captivating details which concern the life of Jesus and his immediate circle of family and disciples. In particular, the *Protoevangelium of James*, a Greek text written in 200 A.D. ca., tells that one of the sons of Joseph led the donkey of the Virgin while Joseph accompanied them, when they travelled to Bethlehem, while in the *Gospel of Pseudo-Matthew* dated to the 6th/7th century or 7th/8th century, the Holy Family is accompanied by three boys and a girl during the *Flight to Egypt*. Moreover, in some visual depictions of the *Flight to Egypt* the iconographic project of the scene is traced over the scene of the travel to Bethlehem recounted in the *Protoevangelium of James*¹⁵. So, both in the *Flight to Egypt* on the blue goblet and in the same scene included in the mosaic cycle of San Marco Church (Anti-Baptistery, mid-14th century), Venice, as well as in other works of art, the donkey is led by the son of Joseph in imitation of the travel to Bethlehem by James.

Therefore, the iconography of the *Flight to Egypt*, enamel painted on the Bologna goblet, is consistent with other works of art or artefacts, inspired from Apocryphal Gospels and frequently displayed in Medieval and Renaissance churches, and it was immediately comprehensible to Christian devotees. Similarly, also the combination of the depictions of two Gospel events with the portraits of two Old Testament prophets, seems fortuitous from a modern viewpoint but, on the contrary, it is not. Indeed, such peculiar combination is based

¹⁴ *Ibid.* Delucca 1998, pp. 283, 293.

¹⁵ Massara 2000: 184-185. *Apocriphi* 2009: 15, 18-19.

on a specific type of late Medieval handwritten and printed religious books: *Biblia Pauperum*. *Biblia Pauperum* provided elementary instruction about the Bible, showing how the principal events in the life of Christ were prefigured in the Old Testament, by means of pictures and short explanatory texts. The *Biblia Pauperum* type is thought to have originated in mid-13th century in Austria and Southern Germany. The earlier examples were handwritten but, just after the mid-15th century, woodblock printed (each page was carved from a single wood-block without recourse to movable types) editions appeared in German, Dutch and Flemish countries (Fig. 8). This new technique helped the diffusion of *Biblia Pauperum*. The Italian examples are rare. Among them, a North Italian handwritten book kept in the New York Library (Spenser Collection Ms. 031), dated 1460-1470. The sheets of another codex are kept in the Boston Public Library (Ms. q. Med. 164) and in the National Gallery of Washington (Rosenwald Collection 1964.8.36). This codex was recently attributed to Giovanni di Nicolò Bellini, Venetian painter and illuminator, brother of Jacopo and uncle of great Giovanni Bellini, and dated before the mid-15th century. Another codex of the *Biblia Pauperum* in the Marciana Library (Ms. Lat. Marc. I, 72), Venice, is Venetian, dated to the first half of the 15th century¹⁶.

Generally, the arrangement of the page in a *Biblia Pauperum* included the portrayal of a Gospel event in the center and, on each side, parallel scenes from the Old Testament. The top and bottom of the page were occupied by quotations from the Bible and busts of prophets who had prefigured that event.

One of the two prophets painted on the Bologna goblet (Fig. 9) is an old short-bearded man with a cap. Inside the medallion, which frames the bust, flutters the scroll inscribed: *ecce virgo concipiet et pariet* (behold, the virgin will conceive and bear...). This is a shorter version of Isaiah's verse: *Propter hoc dabit Dominus ipse vobis signum. Ecce virgo concipiet et pariet filium et vocabit nomen eius Emmanuel* (Therefore, the Lord himself will give you a sign. Behold, the Virgin will conceive and bear a son, and will call his name Immanuel) (Isaiah 7, 14). This verse identifies the old man of the goblet as the same Isaiah, who is

¹⁶ Rosenthal 1962: 353-370, esp. 364-367. Guerzi 2014: 31-46.

always connected with the *Flight to Egypt* in *Biblia Pauperum*, because of another verse of the Old Testament attributed to him: *Behold, the Lord is riding on a swift cloud and comes to Egypt* (Isaiah 19, 1). Consequently, this part of the goblet decoration (the *Flight to Egypt* and the just described prophet) is a synthesis of the page of *Biblia Pauperum* concerning the *Flight to Egypt*.

The other prophet portrayed in a medallion on the goblet (Fig. 7) is connected with the *Adoration of the Magi*. He is a long-bearded and long-haired old man, dressed in a classic sleeveless tunic and he is holding a fluttering scroll inscribed: *reges Tarsis et insule munera* (the kings of Tarshish and the isles... presents...). This is a shorter version of the Psalm's verse: *Reges Tharsis et insulae munera offerent, reges Arabum et Saba dona adducent* (The kings of Tarshish and of the isles will bring presents, the kings of Arabs and Sheba will offer gifts) (Psalm 72, 10). The bearded man wearing a tunic is most probably King David because the same Psalm is attributed to him, as it ends: *This concludes the prayers of David son of Jesse*. The verse *Reges of Tharsis ...* was considered a prefiguration of the *Adoration of the Magi*. Indeed, the *Adoration of the Magi* is the scene connected with the figure of King David in many editions of *Biblia Pauperum*.

Therefore, the blue goblet shows a decoration which summarises two pages, one with the scene of the *Flight to Egypt* and the bust of Isaiah, the other with the *Adoration of the Magi* and the bust of King David, of many editions of *Biblia Pauperum*, which was quite constant in the arrangement of the illustrations and short texts in each page.

The identification of the two prophets as Isaiah and King David is confirmed by two series of marble bas-reliefs, each housed in a Venetian church. The former series which includes the carved bust of King David overlays the choir precinct in the Frari Church (Pietro Lombardo workshop, 1475). Here too, King David, long bearded and long-haired, wears an antique style tunic. The latter series is the carved marble overlay of the Badoer Giustinian chapel in San Francesco della Vigna Church, which was originally the overlay of the choir precinct in the central nave (Lombardo workshop, 1491-1492). The crowned king (Fig. 10), *mezzo rilievo* carved, identified as David from the inscription «D REX», holds a fluttering scroll with the verse: *Reges Tarsis et insu mune of*. The prophet, *mezzo rilievo* carved, identified

as Isaiah from the inscription «ISA», holds two ribbons, each with a verse: *Ecce virgo concipiet et pariet filium* and *Parvulus enim natus est nobis* (Isaiah 9, 5). A low relief carved marble series of scenes from the life of Christ and the Virgin range over the series of prophets; among them the *Adoration of the Magi* and *the Flight to Egypt*. The *Adoration of Magi* is placed exactly over the bust of King David, so that the connection between this prophet and the Gospel scene is evident. Unlike the decoration of the blue goblet and some editions of *Biblia Pauperum*, here Isaiah is connected with the scenes of the *Annunciation* and the *Nativity*, which are prefigured by the verses inscribed in the two scrolls this prophet is holding. In the cycle of the Badoer Giustinian Chapel the prophet connected with the *Flight to Egypt* is Habbakuk on the base of a Bible verse (Habbakuk, 3: 6) and an episode of the *Gospel of Pseudo-Matthew*¹⁷.

We know the names of several enamel Muranese decorators, mentioned in archive documents, but we cannot attribute any surviving enamelled glass vessel of the 15th century to any individual decorator. Moreover, we do not know if the first decorators, active starting from the early sixties of that century, had any training in other fields of visual arts, such as miniature. However, we can find clear similarities between the decoration of the blue goblet and Venetian illuminations dated to the sixth – seventh decades of the 15th century. Some works attributed to Leonardo Bellini, painter and illuminator, one of the nephews of Jacopo Bellini, trained in his workshop, seem, for example, iconographically and stylistically, not far from the goblet¹⁸. Certainly, Leonardo Bellini and the unknown decorator of the blue goblet lived in the same artistic environment and period but, actually, the different techniques, used in illumination on parchment or paper and enamelling on glass, make a detailed comparison quite difficult.

¹⁷ Schulz 2003: 18-25, p. 82: n. 49-50, p. 84: n.77, ff. 3, 48-51, 54-55, 110-111, 115, 118.

¹⁸ Mariani Canova 1968: 9-20. Marcon 2001: vol. I, 106-108, 303: ff. 4-5.

2. *Stamped prunts and medallions*

Solid glass decorations of another kind applied to blown vessels were small stamped drops with a strawberry or raspberry pattern and larger medallions with a stamped lion, male human or medusa *protome*. Such medallions with heads as well as smaller stamped drops, were called *pronti*, a term which also meant the tool used by blowers (Fig. 11). This tool was a kind of seal or die, which was pressed on a molten glass drop applied on the walls of blown vessels or on a larger drop put on the marver and then applied after stamping¹⁹. A Murano document of 1572 mentions a vessel with gilt *pronti*, stolen in the glassworks of Giovanni Savonetti, while an inventory of Medea, widow of the same Giovanni, lists, among other tools, *pronti*, Medusas and small dies (*stampete*) in 1598²⁰. The inventory of the Zanchi dal Castello glassworks lists (1578): *1 stampeta da lioni* (a tool to stamp lions)²¹. Such decorations were inspired, as well as *meza stampauna* ribs, by ancient glass vessels. Indeed, in some museum collections are housed Roman glass jugs with similar applications, set below their handles, or fragments including stamped masks.

3. *Diamond mould blown vessels*

In 1540-1541, Domenico Bortolussi dalla Nave, one of the most renowned Muranese glass entrepreneurs of the Renaissance, sent eleven boxes containing different glass items to Milan. Among them, *bembi a diamante* (diamond *bembi*), *pifari nose a diamante* (diamond walnut [?] beakers, possibly funnel shaped) and *zotole a diamante* (diamond bowls) were included²². The word *bembo* or *bembi*, sometimes connected to the word *bacile* (basin), is mentioned in Muranese inventories from the mid-16th century until the first

¹⁹ The term *pronto* is connected with the verb *improntare* that is «to press» or «to print» ed the noun *impronta* that is print or impression.

²⁰ Zecchin 1990: 102, 104. Zecchin 2019: 203 mentions another Venetian inventory (1576) recording *pronti*.

²¹ Zecchin 1989: 206.

²² *Ibid.*: 188.

decades of the 18th century. *Bembo* means ewer, as recently discovered by the authors²³. Ten years later another Muranese archive paper, of Vincenzo Duro and Francesco Orlandino, documents other diamond mould blown vessels: *boteselle a diamante* (diamond barrels)²⁴. Probably, these were barrel shaped vessels, similar to a piece of 'ice-glass' and filigree, housed in the British Museum, dated to the second half of the 16th century²⁵, and to a piece kept in Ambras Castle, which has been dated 1568.

Another later document, dated 1586 and related to Venice and to the Gonzaga court in Mantua, which highly appreciated Venetian glass, quotes: *sei gotti di christallo rettinato a punta di diamante con i suoi coperti per servizio di sua altezza* (six diamond point networked crystal glass beakers with their covers for the service of His Highness). These were sent to the duke Guglielmo Gonzaga by his envoy in Venice, Gabriele Calzoni²⁶. All the glass items, quoted in the abovementioned papers, had a *diamante* (diamond) or *punta di diamante* (diamond point) pattern which may be linked to a particular ashlar of some Italian Renaissance buildings. This relief motif, in architecture, suggested the idea of strength and power, due to the direct reference of the hardness of the diamond. Its design begins to be conceived in late Medieval times as frames for windows and portals. Despite this, in the Renaissance period, some renowned architects considered it an antique Roman ashlar. During the 15th and the 16th centuries, palaces with diamond patterns were erected in Italy, including the Veneto region. One of them, Ca' del Duca (1457-1466), is located in Venice on the Grand Canal. It was first built by Bartolomeo Bon (1457-1461), architect and sculptor active in Venice, for the Cornaro family, who designed the façade with diamond ashlar as testified by a marble fragment in the lower part

²³ Barovier Mentasti, Tonini 2015: 3-15.

²⁴ We thank Paolo Zecchin who gave us the transcription of the following inventory: Inventario Vincenzo Duro e Francesco Orlandino, soci, PdM (Podestà Murano), b. 59. *Liber testicationum*. This inventory is mentioned by Luigi Zecchin, regarding filigree glass: Zecchin 1989: 184,186.

²⁵ Tait 1979: 98 no.150; Egg 1962: 54, Tav XII: fig. 24.

²⁶ Sogliani 2002: 421.

of the building²⁷. Then, the building, acquired by the Duke of Milan, Francesco Sforza, was redesigned (1461-1466) by Antonio Averlino, called il Filarete, who was unable to finish the project, probably, due to the death of his patron. Also, the Doge's Palace, which was built in Gothic style and underwent architectural renovations and interventions throughout the Renaissance, has a diamond ashlar ornamentation. This is displayed on the lower order of its façade overlooking the canal, Rio di Palazzo, and was designed, in 1484, by Antonio Rizzo, a Veronese sculptor and architect, active in Venice. This decorative pattern was probably seen by Biagio Rossetti during his visits to Venice in the years 1484-1488 and served as a source of inspiration for a palace that he constructed in Ferrara (1493-1503) for the Estes²⁸. The palace's name, Palazzo dei Diamanti (Diamonds Palace), comes from the diamond-shaped pattern that covers the façade. In the early 16th century, Sebastiano Serlio, the renowned mannerist architect, originally from Bologna but living in Venice for fourteen years (1527-1541) and entertaining relationships with Venetian patricians practicing architecture, published an architecture treaty, *I Sette libri d'Architettura* (1537-1575)²⁹. In his treaty he describes two types of diamond shaped patterns as a kind of ashlar for buildings that derive from Antiquity. In particular, in his *Libro Primo d'Architettura*, he edited two drawings, showing two different ashlar (*ornamento rustico*) resulting from the imitation of *diamanti lavorati* (cut diamonds): one is *ad imitation di diamante in tavola piana* (imitates a diamond with a flat top facet or table) and the other *comunemente si dice a punta di diamante* (is commonly called diamond point, which looks like a pyramid without any flat top facet) (Fig. 12)³⁰. The latter definition resonates with the *diamante* ewers and bowls, quoted in Bortolussi's list, and the crystal beakers sent from Murano to the duke Guglielmo Gonzaga. We think that these

²⁷ Ghisetti Giavarina 2007-2008: 10-17; Gallo 1962 :190-194.

²⁸ *Ibid.*: 15. Also in Verona a Palazzo dei Diamanti with similar ashlar is known: Palazzo Capella dei Diamanti (1582). Lodi 2004. Its owner, Camillo Capella, mentioned it as his palace *a punta di diamanti* in his will (1589).

²⁹ One of these aristocrats was Francesco Zen connected to the invention of the glass filigree: Barovier Mentasti, Tonini 2018: 19.

³⁰ Serlio 1556: 138. Table (*tavola*) table is the flat top face of the diamonds.

glass vessels were decorated with diamond shaped ashlar, obtained by mould blowing, and we may exclude that they were diamond-point engraved, because diamond-point engraved items are usually named differently in the Muranese inventories of the second half of the 16th century. Indeed, Vincenzo d'Anzolo dal Gallo received from the Venetian government, in 1549, a ten years patent for this technique which was mentioned as *lavorare de intaglio in vetro* (to work with engraving on glass) and he was the first glass master to apply it to blown vessels³¹. Moreover, Bortolo d'Alvise's inventories (1569 and 1570) and G. Antonio Zanchi's glass list (1577) quote several *intagiadi* vessels³². In these inventories the word *intagiadi* (engraved) is basic to name diamond point engraving. Significantly, an earlier list of glass items (1556), which were brought by the merchant Rinaldo Todesco to the Fondaco dei Tedeschi in Venice, at Rialto, mentions several glass vessels of different sort engraved with the diamond as *intagiadi con il diamante*³³. Only since the late 17th century, as far as we know, the locution *punta di diamante* is used specifically in connection with the engraving by diamond-point and this term is not referring anymore to any kind of blown mould blown vessels with diamond ashlar. For instance, the inventory of the Ettore Bigaglia glassworks (1714) lists: *due vasi grandi color di granata diamantati a punta* (two big garnet coloured vases diamond-decorated by point), *due sottocope una a punta di diamante* (two serving dishes, one diamond-point worked) and *ciotole granata intagliate a punta* (four bowls, garnet coloured, point engraved)³⁴.

The diamond point relief pattern was a common decoration found in several decorative arts of Italian Renaissance. Probably wooden diamond point patterns in relief, similar to the stone ashlar of the abovementioned palaces and the mould blown motifs of Venetian glass vessels, decorated also Italian pieces of furniture of the Renaissance. An example can be seen in two paintings by Marco

³¹ Zecchin 1990: 66. The same Vincenzo d'Anzolo dal Gallo had earlier, in 1534 or 1535, applied diamond point engraving to decorate mirrors borders or frames.

³² Zecchin 1989: 174; Zecchin 2009: 33-34.

³³ Zecchin 2019: 205.

³⁴ Zecchin 2015: 55, 59-60.

Palmezzano, artist active in Northern and Central Italy, where solid three-dimensional diamond point ashlar strongly adorn the base of the Virgin's throne: the *Virgin with Child and St Francis and St Catherine* (1501), an altarpiece in the San Francesco Church in Matelica (Macerata, Marche region), and the *Virgin and Child with St John the Baptist and St Filippo Benizzi* (1510 ca), in the collection of the Cassa di Risparmio Foundation in Cesena (Emilia Romagna region).

More frequently, the diamond point pattern is rendered on a flat surface thanks to an optical illusion. This design characterizes some Venetian marble floors such as the one displayed underneath St. Jerome altar in the San Salvador Church (1524) and another which covers the Sala dell'Albergo of the Scuola Grande di San Rocco (1576-1578)³⁵. A diamond pattern characterizes a walnut *tarsia* of a wooden *spalliera* housed in the sacristy of Santa Maria in Organo in Verona, made by Brother Giovanni da Verona, monk of the Olivetani order, in the years 1519-1523 (Fig. 13) and another of the wooden choir (1518-1523), made by Paolo Sacca from Cremona, in the church of San Giovanni in Monte Bologna. This pattern, also, decorates some Italian maiolicas, such as tiles by Andrea della Robbia, dated 1475-1481, and vessels from Faenza, dated around 1541-1545³⁶. Therefore, diamond point was a kind of motif so widespread, well-established and easily recognizable during Renaissance times, that confirms our hypothesis that diamond vessels of Bortolussi's glass list were mould blown with this design and not engraved.

In his letter (1586), Gabriele Calzoni, Guglielmo Gonzaga's envoy in Venice, does not give any information about the form of the diamond beakers he sent from Murano to his patron. An useful reference to know which shape might have diamond beakers and goblets, at that time, are four drawings of the *Bichierografia. Quattro Libri* (1604) sketched by Giovanni Maggi. In the first two books, Maggi designed glass vessels belonging to the collection of his patron, Cardinal Francesco Maria Bourbon del Monte. Among them, a beaker

³⁵ Lazzarini 2010: 66, fig. 14;73, figs. 30-31.

³⁶ Dressen 2008: 134-135, fig. 66; Gentilini and Fornasari 2009: 192; Ravanelli Guidotti 2016: no. 25.

and three goblets show a diamond ashlar pattern³⁷ (Fig. 14). These glass items were in fashion and in production in the last decades of the 16th century and are very likely of Venetian origin. As confirmed by an archaeological find, the conical cup of a goblet ornamented with a diamond blown mould pattern, which was recovered in the city of Venice, near the church of San Moisè, in an area with buildings belonging to the renowned noble family, Dandolo³⁸.

Mould blown vases with diamond motifs combined with gadroons are quite common, such as a piece kept in the Musei Civici of Brescia, another housed in Tesoro del Duomo Monza, which seems to be mentioned in an inventory of the Monza Duomo, dated 1602 (Fig. 15) and another vessel housed in the Miniscalchi Erizzo Foundation, Verona. The latter is totally gilded on the surface and shows a cold-painted gold frieze around its neck; underneath its ribbed knob has been applied a Renaissance baluster stem with foot which originally did not belong to the vase. Therefore this piece might be considered a hybrid vessel (Fig. 16). Two other gilt colourless vases, mould blown with masks and dragons, are housed in the same Foundation. The three Miniscalchi vases, probably, came from the collection of one of the oldest Venetian patrician families, Erizzo of San Martino³⁹.

A vessel, which has many similarities with the vase at the Musei Civici in Brescia and the one at Monza Duomo, is housed in the Paul Getty Museum (Malibu, Los Angeles). This vase is cold painted with a gilt frieze and two German coats of arms, belonging to the Volckamers and to the Harsdörfers, two Nuremberg families (Fig. 17). The recipients of this vessel have been identified with Hans Volckamer (1469-1536) and his second wife Anna Harsdörfer (1490-1560); they married in 1514⁴⁰. It has been dated quite early, to the years 1535-

³⁷ Maggi 1604: I, 381 II, 12,197; IV, 258. The latter, probably, is an invented goblet.

³⁸ Minini 2009: 173, fig. 2/1.

³⁹ Marchini 1990: 81; Barovier Mentasti, Tonini 2013, cat. nos. 33-35. The vase (fig.16) has to be considered a hybrid vessel. Repairs of glass vessels in the second half of 19th century in some case result as glass-hybrids see Navarro and Higgott 2014: 69-87.

⁴⁰ Hess, Husband 1997: 138-141. We thank Luciano Borrelli for his precious indications concerning heraldry and marriage of the recipients of Getty vase: Biedermann 1748, Tab.CXLVI, Tab. DXXIX.

'36 and has been attributed to the Wolfgang Vitl glassworks in Hall, Tyrol, by the authors of the Getty museum catalogue. Its attribution to Hall is based on the greyish tinge of the crystal vessel, and on the comparison with a dish, cold-painted with the coat of arms of Duke Ernst of Bavaria (1536), kept in the Bayerisches National museum. The latter piece has been strongly attributed to Venice by glass scholar Franz Adrian Dreier with very convincing arguments; on the other hand, some authors tentatively ascribed it either to a *Façon de Venise* glass center, especially Hall, or to Venice⁴¹. The question about the attribution of this category of cold-painted vessels is still discussed and it will require a separate and detailed study which is not the argument of this article.

As to the vase kept at the Getty museum, its attribution and its dating have to be rethought on the basis of the comparison with the one in Brescia Musei Civici and with two of the three mould blown vases in the Miniscalchi Erizzo Foundation (Fig. 18). The latter are ornamented with a cold-painted gold frieze on the neck which is very similar to the gilt decoration of the Getty's one. Moreover, attributions based on the tinge of the crystal or clear glass (slight amethyst, greyish, greenish...) are not consistent. During the Renaissance, more than twenty glassworks were active in Murano and slight differences in the preparation of the glass batch occurred⁴². Therefore, this might have influenced the colour of the crystal or clear glass. Indeed, these differences are also recorded by several Renaissance Venetian lagoon finds, which show a different range of crystal tinges. We have to underline that all Venetian Renaissance glasses have small bubbles and are slightly grey: the manganese, used as decolourizer, contrasts the yellow tinge of the iron present in the sand (quartzes pebbles of the Ticino river)⁴³. Other lagoon fragments are yellowish because there are still some iron traces and other are slightly amethyst, due to the presence of a larger proportion of manganese than average .

⁴¹ Dreier 1994: 147-149; Rückert 1982: cat. no. 130; Schommers 2017: 467-473.

⁴² In the *Descrittione di tutta l'Italia e le isole pertinenti* (1550) written by the Dominican monk Leandro Alberti is reported that at Murano were active 24 glassworks (*Sonvi in questa terra [Murano] 24 apoteche...*) see Zecchin 1989: 283.

⁴³ We thank Marco Verità oral communication July 2019.

Vases with diamond patterns were used as containers for flowers, as documented by three still-life paintings: two of them (1610-1615), were ascribed, in the past, to Giovan Battista Crescenzi (1577-1635) and, in recent years, to Pietro Paolo Bonzi, called il Gobbo dei Carracci (1573-1636)⁴⁴. These vases, completed by a cover, also had a different function: they were used as containers for liquids, probably wine, as depicted in a still-life, painted in 1626 by Juan van der Hamen, a Spanish painter of Flemish origin⁴⁵. He frequently depicted Venetian, Catalan and *façon de Venise* glass vessels.

Diamond patterns decorated, also, the blown stems of reliquaries or goblets. One example is the stem of a reliquary, housed in the Museo del Vetro, Murano, which clearly shows vertical series of small diamonds (Fig. 19). In the past, until the 19th century, it was housed in the San Pietro Martire Church at Murano⁴⁶. Therefore, this reliquary is, without doubt, a product of Murano's glassworks. Moreover, a similar stem has been found at Murano⁴⁷ (Fig. 20), other four were recovered at Gnalici (today, Croatia), from the wreck of a Venetian ship that was carrying goods to the Levant (1582-'83), one with traces of gold leaf was recently found in Ivrea, coming from the Episcopal palace, and one scattered find is housed in Pavia, Musei Civici⁴⁸. Some

⁴⁴ Frescobaldi Solinas 2004: 194; 303-306; Barovier Mentasti, Tonini 2013: 46; no. 33. Another still-life, dated later (1624-1650) and attributed to an anonymous painter, called Master of Glass vase, shows a colourless diamond point shaped vase see: <http://catalogo.fondazionezeri.unibo.it/scheda/opera/89022> visited July 2019.

⁴⁵ Jordan 2005/2006: 189. A diamond shaped vase with its cover was, formerly, in the Kunstgewerbemuseum in Berlin, before its destruction during the Second World War: Dreier 1989: fig. 11.

⁴⁶ The reliquary entered in the museum in the years 1861-1888: inventories De Gheltof 1888 Classe IV, no. 2; A. Levi, 1895, Divisione II D, no. 7. Inv. Classe IV, no. 1030.

⁴⁷ This stem is reproduced in a drawing, showing other finds at Murano, which was exhibited at the National Exhibition in Milan (1881), designed by Stefano Zanetti/School of Drawing Abate Zanetti at Murano possibly by Stefano Zanetti at Murano and it is now kept in Museo del Vetro Murano: Tonini 2019a: 15, fig. 3.

⁴⁸ Lazar, Willmott 2006: 38, fig. 34/S6a. Forthcoming publication Francesca Garanzini and Simone G. Lerma, *La mensa del vescovo di età medievale e moderna dagli scavi del palazzo Episcopale di Ivrea (TO)*, in Atti del Convegno held in Ravenna by AIHV Comitato Italiano, (May 2019). Another scattered find is housed in Pavia, Musei Civici. Diani, Tonini 2004: 131, no. 131.

authors has proposed an English origin for this type of stem which they call 'ladder stem'. Examples have been recovered in archaeological sites of England and one gilt goblet, attributed to Giacomo Verzelini (1590), a Venetian glassmaster working in London in the second half of the 16th century, shows the same stem⁴⁹. We think that this kind of stems have a diamond point ashlar pattern, smaller but identical to the mould pattern of vases and ewers aforementioned, which are of Venetian production. Therefore, we propose to call it 'diamond stem'. Probably, this pattern was, then, used to decorate also glass vessels produced elsewhere than Venice.

Bortolussi's document is particularly significant because attested a production of mould blown glass items with diamond point ashlar in the mid-16th century, earlier than the usual dating, late 16th century, of this kind of vessels. Nevertheless, mould blown vessels with diamond patterns continued to be in fashion and production in the late 16th and the early 17th century as, also, attested by some Italian still-life paintings.

4. *Human face-masks, festoons, lions' heads, dragons: mould blown vessels*

This kind of mould blown vessels were made with wooden full-size moulds, composed by two hinged parts. Generally, vases and ewers were completely refined by hand in their mouths and, in the final phase of their making, feet and handles were applied.

Fragmentary mould blown vases, decorated with human face-masks, were recovered among the glass finds of the Venetian shipwreck found near Gnalić. These two colourless glass items, which have been dated to the years 1582-1583⁵⁰, show human face-masks, similar to those ornamenting a mould blown gilt vase, housed in the Miniscalchi Erizzo collection in Verona (Fig. 18). All these vessels are characterized by human face-masks linked together with festoons or garlands. A Venetian origin for these artefacts is likely, despite some

⁴⁹ Charleston 1984: 53-59, pl. 14°; Willmott 2004: 291.

⁵⁰ Lazar and Willmott 2006: 51, 124.

recent assumptions claiming for Gnalić finds a different origin⁵¹. A find, made in *retortoli* filigree, recovered in the Venetian lagoon, shows some protruding bosses that might resemble a human head or a lion (Fig. 21). Besides, moulds with human heads and other patterns were in use in Murano glassworks in the second half of the 16th century. Significantly, *1 forma a teste* (a mould with a series of heads) is quoted in one inventory, dated 1569, which records glass goods of the renowned glass maker Bortolo d'Alvise, who left Murano in the same 1569 moving to the Medici's court in Florence⁵². Moreover, Giovan Antonio Zanchi's glassworks inventory (1578) reports *1 forma da vasi a macaroni [mascaroni]* (1 mould for vases with masks)⁵³. In the same inventory *una forma de fiaschi a meduse* (a mould for flasks with Medusa-heads) is mentioned⁵⁴. A blue glass vessel with this theme was formerly kept in the Biemann collection, and was attributed to Venice⁵⁵.

Festoons or garlands, decorating the Gnalić finds and the Miniscalchi vessel, are a widespread ornamentation in many Renaissance artefacts inspired by Antique and made in materials which are different from glass. This pattern is recorded among *all'antica* decorations. Sometimes, vessels are decorated only by festoons or garlands. Often, festoons or garlands are used to link other decorative motifs, sometimes various *all'antica* patterns, such as *bucrania (teste secche di vaca)*. The sculptor Vincenzo de' Grandi, called Vicentino (1493-1577), active mainly in Vicenza, Trent and Padua, wrote about these decorative elements, reflecting antique virtues, when referring to one of his works, an inkstand for Cristoforo Madruzzo, prince-bishop of Trent (1546)⁵⁶. Elsewhere, festoons serve as decorative patterns that links masks, as documented in some Italian Renaissance metal ware. For instance, a bucket made by the aforementioned sculptor, Vicentino, housed in the Castello del Buonconsiglio (Trent), shows

⁵¹ *Ibid.*: 73-78.

⁵² Zecchin 2019: Gli stampi dei vetrai muranesi.

⁵³ *Ibid.*

⁵⁴ Zecchin 1989: 206.

⁵⁵ *Mille anni* 1982: 142-143, no. 203. Dreier attributed this flask to Venice this flask and wrote that a similar flask is in the Louvre: *3000 Jahre* 1981: no. 662.

⁵⁶ Benedetti 1923: 35; Syson and Thornton 2001: 92-93.

this kind of ornamentation. Another Renaissance metal ware, a silver chiselled ewer with human head masks, encircled by naturalistic elements, which has been attributed to an Italian workshop and dated to the late 16th / early 17th century, is similar to the Miniscalchi vessel⁵⁷. Moreover, solely garlands or garlands with eagles are sculpted on some Renaissance Venetian buildings and artefacts such as Palazzo Contarini dal Zaffo or Polignac (second half of 15-16th century), the façade of San Zaccaria church (1480-1500) and the Contarini Chapel in Santi Apostoli Church (early 16th century).

We have to take into account a Venetian Renaissance painting as a remarkable reference for mould blown glass items decorated with garlands and heads: a painting by Leonardo Corona, the *Virgin of the Holy Belt with Saints Sebastian, Jerome, Catherine and Justina* (1577-1590), housed in Santa Anna Morosina Church near Padua. Corona portrayed a white vessel adorned with human head-masks and garlands. The painter, native of Murano, possibly reproduced a mould blown *lattimo* (or colorless, in this case its transparency is not perfectly rendered) glass item (Fig. 22). This is another useful reference for dating the artefacts aside the Gnalić vase.

Festoons, also, ornament mould blown stems with lion heads. An example, found in the Venetian lagoon (Fig. 23), shows garlands which have strong similarities to the Miniscalchi vase. Mould blown stems with lion heads, decorated either with festoons or shields, were a Venetian production, as attested by several finds recovered in the Venetian lagoon and in domains of the Venetian republic. Some were found in Murano, probably in the bottom of the Rio dei Vetrai, others were recovered in the Giudecca island and in the lagoon⁵⁸. Stems with lion heads were also found in a Venetian shipwreck at Gnalić and have

⁵⁷ The ewer is kept in the Museo Bagatti Valsecchi, Milan: Toesca 1918: 27, tav. CXV; Barovier Mentasti and Tonini 2013: 46.

⁵⁸ As to Murano finds see a drawing of the School of Drawing Abate Zanetti, 1881: Tonini 2019: 10, fig. 3; possibly they came from Rio dei Vetrai because the local fortnightly *La Voce di Murano* quoted some stems with masks and festoons coming from this site: *Avanzi di antichi vetri* 1870: 77. Several other lion stems are housed in the Museo del Vetro Murano, without inventory numbers, until now; Giudecca: Minini 2011, p. 149, fig. 3.

been dated to the years 1582-'83 ca⁵⁹. Similar finds were recovered in Friuli region, part of the Serenissima's domains. For instance, two stems with lions and festoons were excavated in Udine, in the site of the former residence of the powerful Friulian family Savorgnan. The Savorgnans belonged also to the Venetian aristocracy, since the year 1385. Their residence in Udine was destroyed by the Venetian Republic in 1549 when one of the members of the Savorgnan family, Tristano, killed three eminent Friulian personalities in the Venetian Grand Canal. Therefore, all the finds are surely earlier than 1549⁶⁰. Recent finds in Stradella (Pavia), brought to light two goblets with lion stems and gold leaf on the cups (traces). These artefacts probably came from the noble Palace Salerna and are considered of Venetian origin⁶¹.

One Venetian Renaissance archive paper records goblets with lion stems. This paper lists several glass items to be sold at the Fiera della Sensa, Christ Ascension Fair, in 1599. These were bought by Nicolò di Francesco Savonetti, descendant of a renowned family of glass entrepreneurs, from Vincenzo and Bastian Buselli brothers who owned a furnace at Murano with the sign of four lilies. Among the glass items, *15 goti con el lion diversi* (15 beakers or goblets with lions of different sort) are quoted⁶². A Venetian origin for this kind of mould blown stem is also confirmed by some Italian Renaissance paintings. For instance, a painting by Alessandro Allori, the *Last Supper* (1582), ordered for the Astino (Bergamo) convent of Vallombrosian order, today housed in the Palazzo della Ragione (Bergamo), shows a precious maiolica serving plate and refined Venetian colorless glasses decorated either with gilt rims or with bands of *retortoli* filigree. Among these vessels, a goblet with a gilt mould blown lion stem is depicted⁶³. Moreover, a painting, the *Last Supper* (1574) by the Friulian artist, Pomponio Amalteo, shows, among other Renaissance tableware on a refined table, a colorless goblet characterized by a gilt mould blown

⁵⁹ Petricioli 1973: 90, fig. 18; Lazar Willmott 2006: 38-39, nos. 35-39.

⁶⁰ *Ceramiche rinascimentali* 1993: 228.

⁶¹ Tonini 2019a: 28.

⁶² Zecchin 2003: 23-25.

⁶³ Barovier Mentasti and Tonini 2018: fig. 20a.

lion stem and by a gold decoration along the rim of both the bowl and the foot. The painting is housed in the Musei Civici, Udine, North-Eastern Italy. In another canvas, *San Donato and the miracle of the goblet*, housed in the church of San Donato in Milan, is also depicted a colorless goblet with a lion stem held by an angel. Unfortunately, the dating of the painting is unknown. The sole information regards its display in the apse of the church in 1676⁶⁴. Therefore, this date is a terminus *ante quem* for the painting.

The Venetian goblet with mould blown lion stem was also produced in Northern countries in glassworks working *à la Façon de Venise*⁶⁵ and is depicted in some 17th century figurative sources of this area, such as in a *Still-life* (1610) of the German artist, Georg Flegel and in two works by the Flemish artist Clara Peeters (one housed in the Prado museum, Madrid, dated 1610 and the other in the Mauritshuis museum, The Hague, dated 1615).

As far as we know, no glass item decorated solely with garlands is known. Despite this, some Venetian archive papers mention glasses decorated with this kind of pattern. Indeed, *1 forma a festoni* (a festoons mould) is quoted in Bortolo d'Alvise's inventory (1569)⁶⁶ and several *Vasi spessi a zogia de ogni sorte n. 150* (thick vases of different sort with *zogia* n. 150) are quoted in another inventory (1570), always in relation to him⁶⁷. *Zogia* or *zoia* in the Venetian language meant wreath, festoon or garland, as well as jewel. The term *zoia* with both its meanings of garland and jewel is used by Marin Sanudo, a main Venetian chronicler, when he records the marriage of patrician Zuan Francesco Loredan's daughter (18 February 1531). The bride wore a silk and gold woven dress (*vestita di restagno d'oro*) adorned by a silk garland with hanging jewels and pearls (*una zoia di seda con zoie e perle che picava*)⁶⁸. Moreover, this word is also used when referring to a branch of an old Venetian patrician family, Contarini dalla Zogia. They distinguish themselves from the members of the main branch,

⁶⁴ Tonini 2019: 16, fig. 4.

⁶⁵ For lions stems *à la Façon de Venise*: Lefrancq 2010: 375-390.

⁶⁶ Zecchin 2019 in this book.

⁶⁷ Zecchin 1989: 174. Here are also quoted *orinali da zogia*.

⁶⁸ Sanuto 1881, LIV: col. 304.

Contarini, by adding a wreath (*zogia*), shaped as a foliated roundel, to their coat of arms and in one Renaissance dictionary (1552), written by Ambrogio Calepino, it has the same meaning⁶⁹. We may suppose that the term *zogia* is used indifferently, as a simple curved garland or as a roundel garland, meanwhile the term *festone* is perfectly identified with a curved garland. When the two terms, *festone* and *zogia*, are reported together, in the same archive document concerning glass items, such as in Duro and Orlandino's inventory (1550), the difference is clear. For instance, in this inventory are mentioned: *19 mortaroli a zoia* (19 mortars with wreath) and *pereti con el pé el gropo doro a festoni* (pear-shaped bottles with foot and gilt knop with garlands)⁷⁰. The former indicates a roundel garland pattern and the latter a curved garland. Usually, Renaissance mortars are made in metal and they are decorated with festoons, such as a piece with festoons and griffins, housed in the Bagatti Valsecchi Museum, Milan, attributed to a north-Italian workshop, dated to the beginning of the 16th century, and another similar item kept in the Kunstgewerbemuseum, Berlin⁷¹.

Renaissance Muranese glassworks inventories record several other glass items decorated with garlands, which we are still unable to link to surviving glass items. For instance, *tabernacoli a zoia* (reliquaries with wreaths or garlands), *pifareti*⁷² *a zoia* (goblets, probably funnel shaped, with wreaths or garlands) *campaneli zoia... con coverchio* (bell-shaped items with wreaths or garlands... with cover) are among the

⁶⁹ Tassini 1872: 111; a well-head with Contarini dalla Zogia coat of arms made by Bartolomeo Bon is housed in the Victoria & Albert Museum (inv. no. 1842-1892), dated 1425-1430, coming from their palace close to Santi Pietro e Paolo Church. *Il Dittionario di Ambrogio Calepino* 1552: CXVII: *ghirlanda, è la corona, ouer zogia di fiori, o di lauro* (garland is a crown, that is *zogia* of flowers ,or laurel). The word *zogia* is, also, translated in the Venetian language as wreath see Boerio 1867: 819-820 and Cortellazzo 2007: 1534-1535.

⁷⁰ We thank Paolo Zecchin who gave us the complete transcription of this inventory. *Una terraza a zoia* (one *terrazza* with wreath) is also quoted in this inventory. See PdM, b. 59: *Liber testicationum*. This inventory is also mentioned by Luigi Zecchin in connection with *filigrana* vessels: Zecchin 1989: 184. The authors of this article identified *pereti* with pear shaped bottles see Barovier Mentasti Tonini 2018: 33-34.

⁷¹ *Museo Bagatti Valsecchi. Catalogo* 2003: no. 786.

⁷² *Pifari* and *pifareti* were probably goblets with elongated cups in the shape of Renaissance fifes see Barovier Mentasti, Borrelli, Tonini 2019: 185.

glass items brought by the merchant, Rinaldo Todesco, to the Fontego dei Tedeschi. Moreover, *cesendelli a zogia alla ceciliana* (hanging lamps with wreaths or garlands in Sicilian style) and *orinali a zogia* (urinals with wreaths or garlands) are recorded in Bortolo d'Alvise's inventory, dated 1569⁷³. A Venetian archive paper (1588), related to the glass master Vincenzo Zanon, lists a variety of glass vessels decorated with garlands: *gotti a stampeta d'oro con zogia et pecetti* (beakers with gilt prunt with wreath or garland and *pecetti* [?]) and *lavori a stampa granda si d'oro come schieta con la zogia* (big moulded (?) artefacts in both gilt and clear glass with wreath) are recorded⁷⁴. Moreover, *150 stampete d'oro con zogia* (gilt prunts with wreath), which were bought by Nicolò di Francesco Savonetti for sale at the Fiera della Sensa, are quoted in a glass list (1599) of Vincenzo and Bastian Buselli, glassmakers⁷⁵. In this case, *stampete* probably refers to gilt medallions with wreaths ready to be applied to blown vessel. The word *stampeta* also refers to a metal tool, a seal or a die, which was used to press a molten glass drop applied on the walls of blown vessels or on glass poured on the marver.

Some mould blown glass vessels were decorated with lions. Another kind of decoration documented by some examples housed in public collections. A vase with lions heads between swags of fruit is kept in the British Museum and has been dated to the mid-16th century⁷⁶. Moulds with lion motifs are quoted in a previously mentioned Muranese inventory (1578) belonging to the Zanchi glassworks: *1 stampa da lioni* (a mould with lions) and *1 stampa de sechieli a lioni* (mould for buckets with lions)⁷⁷. This decorative motif was in fashion also because of its symbolic importance, the lion being a figurative

⁷³ Zecchin 2009: 32.

⁷⁴ Zecchin 2003: 27. In the same glass list other vessels with *zogia*: *franzosini a zogia*; *scartoci con stampa granda doro et con la zogia*; *saltamartini a zogia*; *cesendelli da coeta a zogia*; *goti da corda con zogia*; *tace grosse con manichi si formade come onde a giazio schiete con doi zogie*. Other blown vessels decorated with wreaths are quoted in Zanchi's inventory: *terace* without lid with wreaths and colorless all of them n. 116 (*Terace senza coverchio... a zogia et schiete in tutto n.116*). Until now the word *pecetti* has not been identified.

⁷⁵ Zecchin 2003: 25.

⁷⁶ Tait 1979: 100 no. 154.

⁷⁷ Zecchin 2019 article in this book.

representation of the Venetian Republic and of St. Mark, protector of the city of Venice. Indeed, lions of St. Mark, also, adorned one of the most representative buildings of the powerful Venetian republic, as the Marciana Library.

Finally, we have to take into account vessels with mould-blown ornamentation of linked dragons. The same mould was probably used for several vases and ewers, in colourless glass, some gilt and some in filigree, housed in public and private collections. These vessels bear two pairs of winged dragons connected together at their necks and at their lower wings (Fig. 24)⁷⁸. The subject of dragons belongs to the decorative repertoire of the Mannerism. This artistic language reached Venice around the mid-16th century (1540-1560) thanks to the sojourn of some artists of other Italian regions, after the Rome Sack (1527). Indeed, some motifs of this artistic language, such as dragons, are carved on marbles in some Venetian buildings. Indeed, two addorsed dragons are sculpted in one of the *candelabra*, ornamenting the 'Scala d'Oro' of the Doge's Palace (Fig. 25). This 'Scala' (Stairs) was ordered by the doge Andrea Gritti and designed by Jacopo Sansovino; the gilt stuccoes, the marble reliefs and the statues were made by Alessandro Vittoria, in 1555-1557. Other addorsed dragons decorate the lower arches of the Marciana Library (1556-1557), one of the most remarkable monuments of the Venice Republic, also designed by Sansovino⁷⁹.

5. *Applied bosses: imperladi, gropolosi and teutonic beakers*

A capital of the Doge's Palace is decorated with a carved relief showing a personification of Gluttony (1341-1348), one of the seven Deadly Sins, holding a beaker with applied bosses (Fig. 26). By the way, the earliest Italian figurative source, known until today, showing

⁷⁸ Charleston 1977: 124-127; *The European Connoisseur* 2012: no. 141. Barovier Mentasti and Tonini 2013, cat. no. 35. Tonini 2019b: 236, fig. 2; Corning Museum of Glass, inv. no. 60.3.87.

⁷⁹ Romanelli 1981: 277-282. Dragons were also diamond point engraved on a crystal plate, dated 1560 ca, probably commissioned for Pope Pius IV. Tait 1979: 130-131, no. 224.

beakers with applied bosses, is a fresco, *Wedding at Cana* (1292), housed in the Basilica of Assisi, attributed to a Roman painter⁸⁰. It is unknown where these depicted beakers were produced in Italy. Nevertheless, we have to underline that some years later, in 1318, were made, at Murano, window panes for the Basilica of Assisi were made at Murano⁸¹.

The Venetian Doge's Palace capital might be a starting point to trace a history, only partially known, of these beakers in Venice and in the domains of the Serenissima, during Medieval and Renaissance times. Beakers with applied bosses were widespread all over Europe, including different Italian areas. Several of them have been recovered in archaeological sites, others are housed in public collections and have been widely published. Glass scholars have been discussing the possible origin of these medieval beakers, suggesting that they were produced in the Near East (10-11th century), in Syria, Palestine, Corinth and Western countries before 1220; in Venice the production is documented by archive papers in the years 1276-1280 which are a *terminus ante quem*⁸². Danièle Foy, scholar of Medieval glass, made a remarkable research and a resume concerning these beakers found in some European regions (France, Italy, Switzerland, Germany), which gives an interesting overview of different types, discussing also their provenance⁸³. Concerning finds in Italy, she mentions several beakers that were recovered mainly in Southern and Central Italy, nonetheless no remains of production sites were unearthed, in her opinion. These finds are more consistent in Southern Italy, from her point of view, than in Venice and in Northern Italy. For the Venetian area, she simply mentions glassworks records, retrieved from local archives, but not the archaeological finds in this area. Despite this, several beakers with

⁸⁰ Ciappi 1991: 278. The author published another iconographic source, a carved relief, the *Last Supper* on the portal of Santa Maria Assunta Cathedral at Altamura, (near Bari, Puglia- 13th century), showing, in her opinion, beakers with applied bosses. Unfortunately, the reading of this iconographic source is incorrect because these beakers, if made of glass, were mould blown with indented pattern: Ciappi 1991: 283, fig.1.

⁸¹ Zecchin 1990: 169.

⁸² Foy 2014: 30. On the possible area of provenance of this type of beaker see also Whitehouse 2010: 36-40 and Sedláčková 2019: 97-99.

⁸³ Foy 2014: 125-154.

applied bosses have been recovered in Venice and in the territories of the Venetian republic. Furthermore, some Venetian iconographic sources attest the local use and production of beakers with applied bosses, not just in Medieval times but also during the Renaissance.

The sculpted beaker on the capital of the Doge's Palace shows small bosses applied regularly in two ranges and, above them, a horizontal thread. Beakers bearing an identical decorative element are mentioned in Medieval and Renaissance Venetian documents. These have been deeply explored by one of the major scholars of Venetian glass, Luigi Zecchin, who published several archival papers, dating from the 13th until the 15th century, regarding beakers with applied bosses. The oldest known document (1280) concerns the consignment of glass items to a client by the glassmaker Antonio da Stra in 1276. Among them, *moiolis de girlanda et imperlatos* (beakers with garland [pincered foot ring] and beaded) are recorded⁸⁴. Another document from the same year (1280) quotes *mogolis cum perlis*⁸⁵: beakers decorated with small bosses similar to beads.

The word *imperladi*, in relation to beakers, continued to be used in Venetian archive documents during the 15th century, attesting a continuity in this kind of production. Indeed, four Murano archive papers of the 15th century mention beaded beakers: *ciatis imperlatis* (1406); *moioli averti, grossi, imperladi* (1446); *moioli imperladi* (1446); *cieti imperlati* (1457); *Gothi imperladi grandi, per 16 ducati, gothi pizoli imperladi, per 10 ducati* (1476); *mizuoli imperladi* (1476)⁸⁶. *Moioli, mizuoli, gothi, ciati* are different denominations for beakers. Among the tools to work in Murano glassworks, is recorded, in an archive paper (1410), a *spetum de imperlare*, a thin iron tool, used to apply small quantities of glass on blown vessels or on beads⁸⁷. Therefore, this tool was, also, used to apply bosses on beakers.

Therefore, a long-lasting and substantial production of this kind of beakers, mostly for daily use, is attested in glassworks archives. A

⁸⁴ Zecchin 1987: 6; 1990:158

⁸⁵ Zecchin 1990: 157-158.

⁸⁶ Zecchin 1990: 142;144; 35,145, 48; 152.

⁸⁷ Zecchin: 1987, p. 39; 1990: 144 note 8. *Spetum* (modern Italian *spiedo* litt. means spit) it is a straight rod, called *speo* in Murano glassworks..

Venetian illuminated manuscript, a treatise for the art of memory, *Di L'artifitial memoria*, confirms the everyday use of beakers with applied bosses. This anonymous manuscript, kept in the Library of Saint Geneviève (Ms. 3368), Paris, was probably ordered by a Venetian patrician, identified with a judge of the Serenissima republic (Bartolomeo di Matteo Vitturi, Giudice di Petizion). It has been dated after 1453, in the third quarter of the 15th century, on the basis of the text and the late Gothic style of the illuminations, attributed to an anonymous Venetian workshop⁸⁸. The treatise suggests exercises to improve one's memory, with examples referring to a Venetian context. For instance, objects displayed in daily spaces, such as a wardrobe, are useful items to practice it. Indeed, an illumination shows a sideboard and its contents with nine artefacts. Among these, a beaker with a regular arrangement of small applied bosses on five rows, is named *minzuol gropoloxo* (Fig. 27). *Minzuol* is a variant of *mizuol*. The term *gropoloxo* or *gropoloso* means knotty and is also mentioned in a Venetian archive paper, a customs duty registers of goods (1457) that were to be sent to Friuli, in North-Eastern Italy. Among such goods *100 cietos gropolosos* (100 knotty beakers) are recorded and their value is «6 lire» for all of them⁸⁹. Another Murano custom register of the same year quotes: *100 cieti perlati* (100 beaded beakers) to be sent to Treviso, in Veneto. The estimated value of the latter is the same of the *cietos gropolosos*⁹⁰.

As far as we know, the term *gropoloso* appeared in the 15th century, as another noun to indicate beakers with applied bosses. Probably, *gropolosi* and *imperladi* were beakers with the same kind of small applied bosses, as shown in the Doge's Palace capital and in the illumination of *Di L'artifitial memoria*⁹¹. This type of beaker is also recorded in some 15th century *post mortem* inventories of the élites of Rimini, a north-eastern Italian town on the Adriatic Sea, ruled from Medieval times to 1509 by the Malatesta's lordship. *Uno bichiero gropoloso* (a knotty

⁸⁸ *Di l'artifitial memoria* 2017: 127-132; 183-199.

⁸⁹ Zecchin 1990: 145.

⁹⁰ *Ibid.*

⁹¹ Zecchin 1987: 51. He wrote, too, that *gropolosi* were probably not very different from the *imperladi*.

beaker) is mentioned in an inventory dated 1468 and *tri bechieri dui de cristalino et uno de vidrio gropoloso* (three beakers, two of the three made of crystal glass and one knotty glass beaker) are reported in a later inventory (1479)⁹². It is highly likely that these knotty beakers were of Murano origin, due to the proximity of Rimini to Venice.

Goti gropolosi were appreciated especially in Northern countries. Some Murano archive papers attest purchases by German merchants, of this kind of beakers, to be exported through the 'Fondaco dei Tedeschi' (1483-1484)⁹³. During the 14th and the 15th centuries, purchases of beakers with applied bosses are mentioned with a different name: *vetri teutonici* (Teutonic [German] glasses): such as the twenty thousand *teutonic* glasses, a huge quantity, purchased by a German merchant from Pietro Paiarin's glassworks (1404-1407)⁹⁴. These beakers, characterized by big glass drops with pulled points, were different from the *imperladi* and the *gropolosi*. *Gropolosi* beakers were in demand, also, along the Eastern coast of the Adriatic Sea and in the Balcan mainland, as many findings evidence. In Trieste, Italian city, then under the Austrian rule, beakers *con gropi* (with knots) are in use in a tavern in 1491⁹⁵. These has to be identified with beakers with applied bosses, due to the dating of the document. On the contrary, in a later Murano glassworks paper, Bortolussi's list of glass items to be shipped to Milan (1540-1541), are mentioned *pifari* and *pifareti* with *gropo d'oro* that are goblets, probably funnel shaped, with with gilded knops between their feet and cups⁹⁶.

The *goti gropolosi*, listed in the inventory of a shop (*apotheca*), were still in fashion in Fiume (Rijeka, Croatia), belonging to the

⁹² Delucca 1998: 458,461. Ciappi 2008: 84 mentions a Gonzaga's archive document (1340) where are reported: 155 *ingrestaroli* and she interprets them, incorrectly, as beakers with applied bosses. But they are bottles as, also reported in Venturelli 2016: 24, 34 note 72.

⁹³ Zecchin 1987: 59.

⁹⁴ Zecchin 1987: 37; 1989: 37-38. In the 14th century "*Laborerium vitrium theotonicum*" are, also, recorded. These were bought in 1348 by two merchants from Salzburg to be exported: Zecchin 1987: 22.

⁹⁵ Cavalli 1910: 386. Finds of glasses with bosses have been recovered in excavations in the city of Trieste: *Trieste antica* 2007: 407-408.

⁹⁶ Zecchin 1989: 188; Barovier Mentasti, Borrelli, Tonini 2019: 185.

Hapsburg Empire, in 1526⁹⁷. We do not know if such beakers were produced locally or imported from Venice or from German countries. In 1513 Johannes Tambalin from Murano produced *gotti gropolosi*, and other typical Venetian vessels, as *ingastare* (decanters) *inzoiate* (decorated with *zoie*, garlands?), in Ragusa (Dubrovnik, Croatia), independent republic, which had important cultural and commercial relations with Venice⁹⁸. This city was also used to import common glass and crystal glass ware from Venice, as the *Tariffa de pexi e mesure* by Bartolomeo de Pasi, published in 1503, evidences⁹⁹. The same Bartolomeo mentions Corfu in the Ionian Sea as a good market for large and small knotty beakers (*goti grepolosi grandi e picholi*) from Venice¹⁰⁰. Moreover, several beakers with applied bosses have been recovered in Brno, Moravia, and some of them, dated to the 14th until the 16th century, were probably imported from Italy with other kinds of vessels¹⁰¹.

6. Venice city and lagoon finds

The Venetian production of these beakers is attested not only by archive documents, but also by several finds recovered from the lagoon, in the city and in the territories of the Venetian republic. Some of them are not yet published, such as some scattered glass fragments which were recovered in the lagoon (Figs. 28-29-30). These pieces show a variety of glass drops, in terms of form and dimensions, which belong to *imperladi* or *gropolosi* and *teutonici* beakers. Moreover, some are colorless and others are characterized by different glass colours and tinges: yellowish, slight amethyst, light blue and green. Scientific analyses made on several fragments of common glass (*vetro comune*)

⁹⁷ *Inventarium apotheca ser Antonii Pasquini* (1526) where are recorded: 54 *Goti gropolosi dogni sorta*, 54 knotty beakers of different types: Fest 1913 : 157.

⁹⁸ Topić 2017: 29.

⁹⁹ De Pasi 1503, s.p. This book was a guide for merchants containing tables of weights and measures used in the principal Mediterranean markets and lists of traded commodities.

¹⁰⁰ *Ibid.*: s.p.

¹⁰¹ Sedláčková 2019, II: 178-181.

coming from the Venetian lagoon and territories of the Serenissima have demonstrated that different tinges and colours, yellow, green and light blue, of transparent glass, were deliberately researched by Muranese glassmakers, avoiding to add manganese as decolorizer¹⁰². This variety of colours of Venetian lagoon glass finds opens new perspectives on the provenance of some beakers with applied bosses kept in several collections, outside Italy, which have been attributed to countries other than Venice. Some doubts, about the provenance of these beakers with applied bosses, found and housed in Switzerland and Germany¹⁰³, have been expressed by Danièle Foy, in her aforementioned article. She, correctly, suggests to rethink their provenance, particularly of the colourless glass beakers found in these countries taking, also, into account the commercial routes between Venice and the North of the Alps¹⁰⁴. Possibly, the origin of some colorless, bluish and greenish beakers with glass drops has to be rethought in light of Venetian finds recovered in all territories of the Serenissima.

Some of the beakers, recovered in Venice city and in the lagoon, have been published in the past. For instance, fragments of two *imperladi beakers* (*Nuppengläser* in German), one colourless and the other clear green, with a pincered foot-ring, have been found at Rialto market site and dated to the 15th century¹⁰⁵. Another *imperlado*, probably recovered in the lagoon, with a thread under the mouth, is housed in Museo del Vetro, Murano¹⁰⁶, and another was recovered in S. Croce quarter, palazzo Carminati, dated to the 15th or 16th centuries¹⁰⁷. A colorless fragment is housed in Chioggia, S. Francesco Museo della Laguna Sud¹⁰⁸. Other Venice finds consist of beakers with big glass drops, named *teutonici* in Venetian papers, that were

¹⁰² Verità and Zecchin 2009: 246.

¹⁰³ Forty pieces found in Switzerland and Germany have been published by Baumgartner, Krueger 1988: 167-204.

¹⁰⁴ Foy 2014: 17.

¹⁰⁵ Minini 2003: 72-73, fig. 2: she published a drawing of one of two finds recovered. <http://www.insula.it/index.php/quaderni/113-il-mercato-di-rialto-7-2001> visit 28/6/2019.

¹⁰⁶ Barovier Mentasti 1982: 23, fig. 6.

¹⁰⁷ Minini, Verità, Zecchin 2008: 19.

¹⁰⁸ Calaon 2014: 265.

particularly appreciated by German clientele and were exported from Venice to Northern and Central European countries. They resemble German beakers named 'Krautstrunk' (litt. cabbage stalk) because of their big glass drops. *Teutonici* beakers were recovered in Venice in several sites: an intact green beaker at S. Croce area (site called: Ex Manifattura Tabacchi), dated to the 15th century (Fig. 31)¹⁰⁹; a fragmentary transparent green beaker at St. Alvise area, Cannaregio, dated to the 15th century¹¹⁰; a big glass drop at Fusina/Marghera, housed in the Giorgio Franchetti Gallery at Ca' d'Oro¹¹¹; a big green glass drop at Giudecca island with other glass finds which have been dated to the 16th-17th centuries¹¹²; a big green glass drop, kept at S. Francesco Museo della Laguna Sud, Chioggia¹¹³. Many similar fragments kept in private collections have been found in the lagoon (Figs. 28-29-30).

7. *Padua finds*

Beakers with applied bosses were discovered in two archaeological sites of Padua. From the site of the *Canonici* cloister, adjacent to the Cathedral, only one vessel with this decoration was found¹¹⁴. On the contrary, in the former site of the Santa Chiara convent, several beakers with applied bosses showing a certain variety of forms, decorations and dimensions, were recovered. These excavations were exceptional, as they unearthed a substantial number of Renaissance high quality ceramic and glass items, most of which are still unpublished. These were found in an icehouse inside the area of the convent, transformed into a waste pit during the mid-15th century and used as such until the mid-16th century. All the glass findings are fragments of Murano glassware and are probably dated 1480-1530: just before the diffusion of the *retortoli* filigree whose technique was invented in Murano in

¹⁰⁹ Minini 2008: 19, fig. 5.

¹¹⁰ Minini 2011: 277, fig. I.9.

¹¹¹ *Mille anni* 1982: 71, fig. 57.

¹¹² Minini 2011: 150, fig. 4/4.

¹¹³ Calzon 2014: 265.

¹¹⁴ Marcante 2013: 160.

the year 1527. Indeed, the latest possible dating for Santa Chiara fragments is 1530, due to the absence of filigree finds. We have to underline that Padua was an important city, thirty-five kilometres from Venice, under the rule of the Venetian republic since 1405.

The first consideration regards both the variety of glass tinges and the forms of the glass drops that ornament beakers found in this archaeological site. The glass tinges recorded are yellowish, greyish and greenish¹¹⁵. Moreover, small yellowish olive shaped drops are recorded in one example (Fig. 32): the small colourless small oviform drops, applied horizontally and displayed regularly on the wall, belong to a beaker which still shows an applied pincer foot-ring (Fig. 33). This regular arrangement of glass drops finds some comparisons with contemporary figurative sources. For instance, with a wooden carved *spalliera* of the sacristy of Santa Maria in Organo Church, in Verona. The town, following the Scaligeri's lordship, was ruled by the Venetian republic from 1405 until the fall of Venice (1797) under Napoleon Bonaparte dominion, except from 1509-1517 (Hapsburg Imperial rule). The *spalliera* of the sacristy is ascribed to the Benedictine-Olivetian monk, Brother Giovanni da Verona, coming from Monteoliveto (Siena) abbey, and is dated to the years 1519-1523¹¹⁶. One of the wooden columns of the sacristy is carved with several everyday items. Among them is depicted, a cylindrical beaker with applied drops, displayed regularly on the wall, with an applied circular foot or a *siambola cavada*, by folding the lower part of the vessel's wall (Fig. 34).

The fragments of a colourless beaker, found at the Santa Chiara convent, decorated with glass drops linked with a glass thread, has, as far as we know, no comparisons with existing examples (Fig. 35). These glass fragments are an example of the variety of beakers produced in Murano glassworks. Various were also the refined belongings of the nuns of S. Chiara, whose families were part of the town's elite. Indeed, other fragmentary beakers with applied drops are different and more precious, due to their enamelling and gilding. One is decorated with

¹¹⁵ This subject is discussed by the authors in paragraph concerning diamond mould blown vessels.

¹¹⁶ Rognini 1985: 40.

applied bosses and a colourless crystal thread, which separates the upper part of the beaker painted with coloured enamel dots (Fig. 36); the other, unpublished, is the upper part of a beaker, which shows small glass drops on its wall, each drop enamel painted, an applied glass thread above them and, along its rim, a band with gilded imbrications of blue and red enamel dots (Fig. 37). For the latter, a comparison can be made with a goblet housed in the Paul Getty Museum that has very similar decorations (Fig. 38). The analogy with the item from the Padua convent is very consistent up to the point where we propose an attribution of the Getty museum goblet to Venice instead of Bohemia. The attribution to Bohemia was suggested by the authors of the Getty museum's catalogue of glass¹¹⁷. Moreover, other details confirm a Venetian production for this goblet. The Getty museum beaker shows an enamelled pattern, at the bottom, which recalls Islamic patterns. Arabesque decorations are recorded in Murano Renaissance glassworks inventories. For instance, in a glassworks list (1508), amongst top quality glass items, some vessels ornamented with Islamic patterns, *acchanini grandi et mezzani lavoradi a la damaschina n. XII* (twelve sprinklers of large and medium sizes decorated in damascene style) are quoted; also one of the inventories of Rimini, an Adriatic city not far from Venice, lists *quattro ampolle de vetro azurro da tenere aque odorifere, lavorate a la damaschina* (four blue glass flasks fit to contain scented waters, with damascene decoration) in 1529-30¹¹⁸. Such flasks certainly were Venetian. These patterns decorated many Venetian Renaissance artefacts of the period, including Murano glass items. For example, a goblet, originating from one of the grandest residencies of Henry VIII, Nonsuch Palace in Surrey (1538-1541)¹¹⁹, which was recovered with other Venetian glass fragments, and an ewer kept in Ashmolean museum, Oxford¹²⁰. Both of them show links with the pattern painted at the bottom of the Getty museum goblet, a small flower between tiny leaves. Similar patterns are, also, found in some

¹¹⁷ Hess and Husband 1997: 134-136. On the vessel there is also a diamond point engraved decoration, probably later.

¹¹⁸ Zecchin 1990: 59. Delucca 1998: 452. See for flasks of scented waters Barovier Mentasti and Tonini 2014: 5-9; Barovier Mentasti and Tonini 2013, no. 26.

¹¹⁹ Biddle 2005: 238, no. 1.

¹²⁰ Newby 2000: 44, no. 33.

Venetian artefacts such as gilt leather bindings in Islamic style¹²¹. A portion of the naturalistic pattern of Getty goblet, just the small flower, is also found in an engraving, ornamenting a Venetian illustrated book, *Uberto e Philomena*, dated to the first quarter of the 16th century¹²². The frame, which shows an episode of the story, is decorated with the same motif as the Getty museum goblet's one (Fig. 39).

Other enameled patterns that decorate vessels with applied bosses are found, once again, in some engravings of 16th century Venetian illustrated books. A case in point is a beaker with small glass drops, *imperlado*, housed in a private collection (Fig. 40), and ascribed to Venice, which shows an enameled decoration at the bottom of the beaker, similar to a string of beads¹²³. This pattern finds some echoes in Venetian marble reliefs and decorations of printed books such as an engraving (Fig. 41) in the 1520 edition of *Innamoramento de Florio e Biancifiore* by the renowned writer Boccaccio¹²⁴. These comparisons are useful references also for dating these Venetian beakers.

Among refined enameled goblets with glass drops, a piece, housed in Museo del Vetro, Murano, shows a gilt and enameled scale decoration on the foot, common in several vessels of the first decades of the 16th century and a gilt frieze, like a plait, along the rim of the bowl (Fig. 42). The latter decoration has many similarities with one of the reliquaries of San Polo church in Venice. This reliquary was most likely kept in the church from the 16th century onwards, as other reliquaries in several Venetian churches, and was, recently, moved to the Museo Diocesano, Venice. The Murano goblet might be dated to the mid-16th century, based on the comparison with a colourless goblet painted in the *Last Supper* (1540-1550) by Girolamo di Santacroce, kept in Bassano (Museo Civico, Library)¹²⁵. This artist belonged to an established family of painters, originally from Bergamo, who settled in Venice between the 15th and the 16th century. He undertook his artistic apprenticeship in Venice, probably

¹²¹ Grube 2007: 258, cat. 104; Contadini 2014 : 68-71, figg. 9, 14, 16.

¹²² Prince d'Essling 1909, seconde partie: 396.

¹²³ Baumgartner 1995: no. 156.

¹²⁴ Prince d'Essling 1909, seconde partie: 395-396.

¹²⁵ *Trasparenze e riflessi* 2006: 112, fig. 47.

in Gentile Bellini's workshop. The goblet of the Museo del Vetro attests a continuity in the production of vessels with applied bosses in the mid-16th century. As far as we know, this is the sole known example of a goblet of this shape decorated with applied bosses. Refined decorations, with enamel and gold, changed the function of this object, from everyday use to a luxury item.

Beakers with applied bosses probably continued to be in fashion during the second half of the 16th and 17th centuries, as documented in one of the drawings of a Codex (ms 1417) housed in the Casanatense Library, Rome (Fig. 43). This codex includes 1624 drawings of glass vessels, some of which might be dated to the last decades of the 16th century, others to the 17th century or the beginning of the 18th century. In the first page of the codex an inscription quotes: *8 febbraio 1740 comprato il presente codice di bicchieri numero MDLXXIV* (8th February 1740 I bought this codex of glasses number MDLXXIV): the inscription reports the dating in which the codex was acquired.

8. *Friuli Venezia Giulia finds*

In Udine, in Venerio Square, fragments of beakers with applied bosses were recovered together with other fragments of Venetian glass, some of which belonged to every day vessels, others to luxury artefacts such as filigree vessels. This site, excavated in 1989, was the residence of the powerful Friulian family Savorgnan. All the finds are surely prior to 1549, year in which the palace was destroyed by the Venetian Republic, as explained above. Some big glass drops belonging to a beaker were recovered and published¹²⁶. Other finds are unpublished, such as a clear beaker with blue and colourless bosses (Fig. 44) and other fragments with smaller glass drops, such as *imperladi*.

Other beakers with applied bosses have been recovered in Friuli: a fragmentary transparent green beaker with big glass drops, similar to the *teutonici* type, in Udine, «residenza Palladio», dated to the 15th-16th centuries¹²⁷; a yellowish glass drop and clear green glass beaker

¹²⁶ *Ceramiche rinascimentali* 1993: 95.

¹²⁷ Zuech 1996: 282-283, no. V.3.

with big glass drops with a pincer ring-foot, found at Palazzo Ottelio, Udine¹²⁸; a colourless fragmentary beaker with big glass drops recovered in Udine, Casa della Confraternita, dated to the second half of the 15th century¹²⁹; blue glass drops, used as filling materials, recovered from some Medieval and Renaissance tombs in the church of San Mauro in Cividale¹³⁰; five pieces in green and colourless glass have been found in the late Medieval-Renaissance Ricchieri Palace in Pordenone¹³¹; a fragmentary beaker with glass drops recovered at Grado¹³²; three colourless fragments of an *imperlado* beaker with pincer ring-foot found in Cividale del Friuli (today housed in Cividale Museo Archeologico Nazionale)¹³³; an aquamarine beaker with applied bosses excavated near the Cathedral of Concordia Sagittaria (Venice), a town which, in the past, was part of Friuli¹³⁴.

The diffusion of beakers with applied bosses in this area, is also attested by a fresco, the *Last Supper* (1496), painted by Gianfrancesco del Zotto, called Gianfrancesco da Tolmezzo (1450- post 1510?) in Santi Leonardo and Tommaso Apostolo Church in Provesano di San Giorgio della Richinvelda (Pordenone). This artist is considered a «Veneto» painter but the iconography of the cycle in Santi Leonardo and Tommaso Church was influenced by a German engraver, Martin Schongauer, especially by his series of engravings on the Passion of Christ. As none of the engravings, housed in public collections depicts the *Last Supper*, the painter, possibly, had not a model to emulate for this specific subject. Consequently, we may suppose that Gianfrancesco da Tolmezzo was inspired by local tableware when painting his *Last Supper*. Among the tableware, he depicted two beakers with regular applied bosses, embellished by gilt rims (Fig. 45). A Venetian origin for these beakers is likely. It is to be noted that *cietos gropolosos* were imported from Murano to Friuli, as recorded by one of the the aforementioned 15th century archive papers.

¹²⁸ Zuech 2000: 152.

¹²⁹ Piorico 2003: 134; 145, no. 33.

¹³⁰ *La collina di san Mauro* 2010: 276.

¹³¹ Zuech 1997: 73, figs. 4-9.

¹³² Marcante 2012: 97, fig. 12.

¹³³ Barovier Mentasti 1982: 23, fig. 7.

¹³⁴ Cozza 1985: 318, no. 19, fig. 19.

9. *Finds from other Venetian territories and neighbouring areas*

At Torretta (Verona), an important archaeological site, aforementioned, glass and ceramic artefacts have been discovered. Among these finds, a beaker in aquamarine glass, decorated with big glass drops, dated to the mid -15th century. This has been analysed with other glass fragments and all of them have the same chemical composition as the Venetian *vetro commune*, common glass¹³⁵. Several glass bosses of *imperlado* type have been recovered in Ferrara, a city not far from Venice, under the Este's lordship¹³⁶. Also, in peripheral territories, in the mountains of the Valcamonica (Vione-Brescia), a colourless *imperlado* or *gropoloso* beaker has been recovered in a fortress dated to the 13th or 14th century.¹³⁷ This area was under the Visconti lordship from 1337 until 1428 and from that year onwards under the Venetian republic, until its fall in 1797. Moreover, a beaker with applied glass drops has been found in Castel Romano (Trento), which was owned in the 15th century by the Lodron family who was an ally of Venice and later (since 1487) of the Trent prince-bishops. This find has been analysed with the Torretta one, and this too belongs to the Venetian production of common glass¹³⁸. In Trent region, this kind of beaker is, also, attested by some figurative sources. For instance, Cristoforo Baschenis depicted a lively *Last Supper* (towards the end of the 15th-beginning of the 16th century) in the church of Santi Sebastiano and Rocco at Pergnano (Giudicarie Valleys) where he portrayed tableware, a cooked kid on a high metal-standing bowl and big red shrimps, coming from local rivers (Fig. 46). Among glass vessels, some undecorated wine bottles (*inghistere*), colorless glasses and few glasses decorated with big applied bosses and pincer ring-feet are depicted. Cristoforo Baschenis belonged to a renowned family of painters coming from Averaria Valley (Bergamo) and worked in Lombardy and in some valleys of Trentino, such as the Giudicarie Valleys. Another member of this family of painters, Simone Baschenis,

¹³⁵ Ericani 1996: 244; Verità and Zecchin 2009: 239-240, fig.2.

¹³⁶ Visser Travagli 1998: 269-270.

¹³⁷ Ubaldi 2017: 195, fig. 1.

¹³⁸ Verità and Zecchin 2009: 239, 241, fig. 2.

depicted, in 1534, a fresco with the *Last Supper* in Santo Stefano Church in Carisolo (Trento-Giudicarie Valleys), showing a table set with similar objects and food: red shrimps, fishes, bread, cooked kid and also glass vessels. Among the latter, saltcellars, bottles for wine (*inghistere*), some undecorated beakers and some beakers with big glass drops¹³⁹. It is highly likely that both artists portrayed food and tableware that were commonly used in this area.

10. *Conclusions*

Several kinds of mould blown vessels were in production in Venetian Renaissance glassworks. Among them, the ones with the *meza stampaura* technique, which most probably was invented in Murano just after the mid-15th century, were made in a large amount and for a long period. Refined mould blown glass vessels with Renaissance and Mannerism decorations attests a primacy in the invention of their design and pattern by Murano glassmasters. The consistent number of beakers with applied bosses, widespread in Venice and in the Venetian republic domains, shows a relevant and unexpected production in this area which was not so well-known.

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¹³⁹ *Trasparenze e riflessi* 2006: 62-65, figs. 10-11.

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APPENDIX

Finds of beakers with applied bosses 13th-to 16th century North and North-East Italy. A work in progress.

Locations and number of sites: **Venice and area**: 14 sites; **Padua**: 2 sites; **Verona area (Torretta)**: 1 site; **Udine, Trieste and Pordenone area**: 10 sites ; **Ferrara**:1 site; **Brescia area-Valcamonica** 1 site; **Trento area (Castel Romano)** 1 site.

Totally 30 sites.



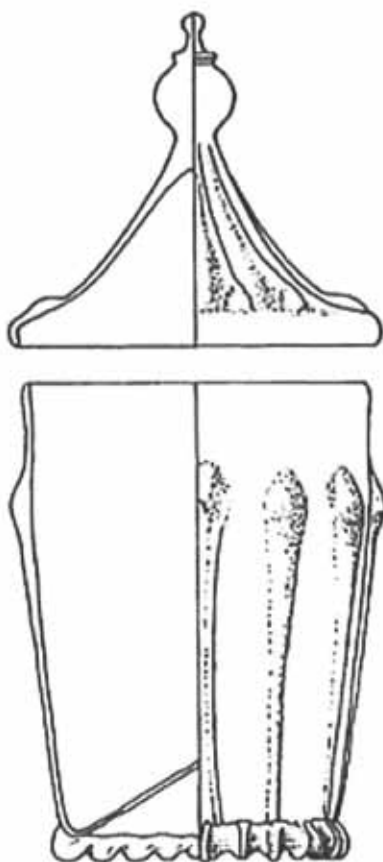


Fig. 1 - *Ribbed bowl*, end of 1st B.C.- 1st A.D. Altino, Museo Archeologico.

Fig. 2 - Meza stampaura *ribbed beaker with cover*. Venice, 1463 or earlier. Padua, Santa Giustina Church, tomb of St. Luke the Evangelist.



Fig. 3 - Franceschino Zavattari, *Wedding of Teodolinda*, fresco painting, 1444. Monza, Duomo.

Fig. 4 - Brother Giovanni da Verona, tarsia, 1494-1499. Verona, S. Maria in Organo, Choir.



Fig. 5 - *Blue goblet with the Flight to Egypt*, H. 55 cm. Venice, 1460 ca. Bologna, Museo Civico Medievale, inv. no 1363.



Fig. 6 - *Blue goblet*, Venice, 1460 ca. Bologna, Museo Medievale, inv. no. 1363, detail of *Adoration of Magi*.

Fig. 7 - *Blue goblet*, Venice. Bologna, Museo Civico Medievale, inv. no. 1363, detail of *King David and St. Joseph holding a flask*.



Fig. 9 - *Blue gobelet*, Venice. Bologna, Museo Civico Medievale, inv. no. 1363. Detail of *Isaiah*.
 Fig. 10 - *Half-reliefs with Isaiah and King David*, Lombardo workshop, 1491-1492. Venice, San Francesco della Vigna, Cappella Badoer.

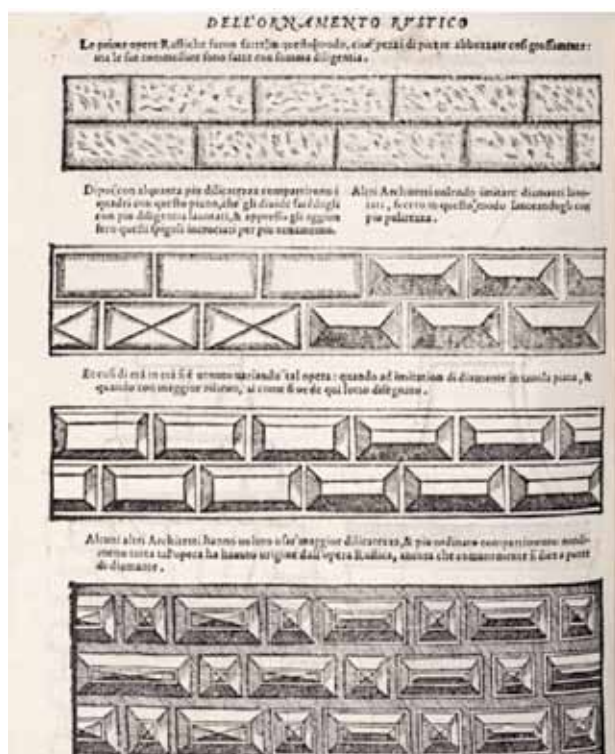


Fig. 11 - *Mask pronto*, Venice. Murano, Museo del Vetro. Inv. no. Sopelsa, S. 257.

Fig. 12 - Sebastiano Serlio, *I Sette libri d'Architettura* (1537-1575), *Libro Primo*, p. 138v.



Fig. 13 - Brother Giovanni da Verona, Tarsia of the *spalliera*, 1519-'23. Verona, Santa Maria in Organo Church, Sacrestia.

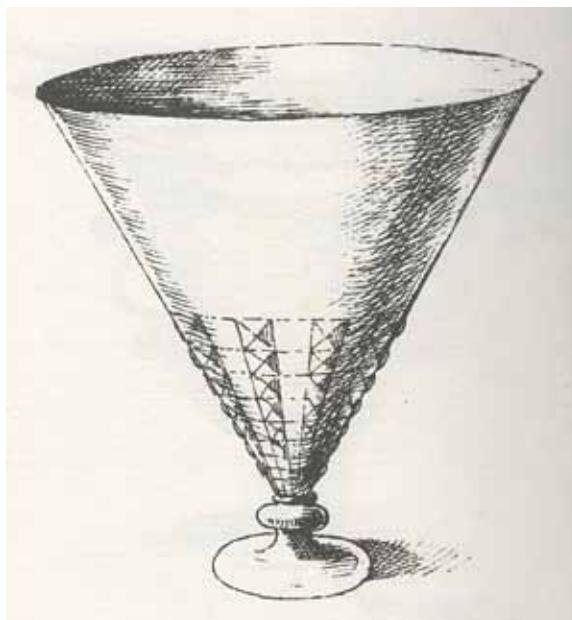


Fig. 14 - Drawing of 'a diamante' goblet. Giovanni Maggi, *Bichie-rografia*, 1604, II, 12.

Fig. 15 - Diamond ('a diamante') vase with cover, Venice, 1540-1600: Monza, Tesoro del Duomo. Inv. no. MG 0173 (courtesy)





Fig. 16 - *Diamond ('a diamante') vase*, underneath its ribbed knob has been applied a Renaissance baluster stem with foot which originally did not belong to the vase, Venice, 1540-1600. Verona Fondazione Miniscalchi Erizzo (courtesy of). Inv. 768.

Fig. 17 - *Diamond ('a diamante') vase with Volckamer and Harsdörfer coats of arms*, Venice, 1536-1560. Los Angeles, The J. Paul Getty Museum (photo from *European Glass in the J. Paul Getty Museum*, Los Angeles, 1997). Inv. no. 84.DK.546.



Fig. 18 - *Mould blown vase with masks and garlands*, Venice, last two decades of the 16th century. Verona, Fondazione Miniscalchi Erizzo (courtesy of). Inv. no. 748.

Fig. 19 - *Reliquary or goblet with diamond ('a diamante') stem*, Venice, second half of the 16th century. Murano, Museo del Vetro, housed in San Pietro Martire church at Murano until the entrance in the museum (1861-1888) (courtesy of). Inv. Classe VI no. 1030.



Fig. 20 - *Diamond* (a diamante) stem. Venice, second half of the 16th century. Murano, Museo del Vetro (archaeological find recovered at Murano in the second half of the 19th century) (courtesy of). Inv. no. Sopelsa. 1-1737.

Fig. 21 - *Mould blown retortoli filigree* find from the Venetian lagoon. Private collection.



Fig. 22 - Leonardo Corona, *Virgin of the Holy Belt with the saints Sebastian, Jerome, Catherine and Justina*, detail, 1577-1590. Padua, Church of Santa Anna Morosina (© Diocesi di Padova, Ufficio beni culturali, Archivio fotografico).

Fig. 23 - *Mould blown stem with garland or festoon (zoia)*, find from the Venetian lagoon. Private collection.



Fig. 24 - *Mould blown vase*, Venice, second half of the 16th century. Verona Fondazione Miniscalchi Erizzo (courtesy of). Inv. no. 817.

Fig. 25 - *Candelabra relief*, 1555-1557. Venice, Doge's Palace, 'Scala d'Oro'.

Fig. 26 - *Capital with Gluttony*,
1342-48. Venice, Doge's Palace,
Museo dell'Opera.

Fig. 27 - *L'Artifstia Memoria*,
Venice, third quarter of 15th
century. Paris, Library Saint
Geneviève, ms. 3368, paper 25.





Figg. 28, 29, 30 - *Finds from Venetian lagoon.* Private collection.



Fig. 31 - *Beaker with applied bosses archaeological find from Venice, Santa Croce, 15th century.* Soprintendenza Archeologia, Belle Arti e Paesaggio per l'area metropolitana di Venezia e le province di Belluno, Padova e Treviso. Venice (storage)

Fig. 32 - *Padua finds S. Chiara convent.* Soprintendenza Archeologia, Belle Arti e Paesaggio per l'area metropolitana di Venezia e le province di Belluno, Padova e Treviso. Padua (storage).

Fig. 33 - *Padua finds S. Chiara convent.* Soprintendenza Archeologia, Belle Arti e Paesaggio per l'area metropolitana di Venezia e le province di Belluno, Padova e Treviso. Padua (storage).



Fig. 34 - Brother Giovanni da Verona, *Relief carved wooden columns*, 1519-23. Verona, Santa Maria in Organo, Sacresty.



Fig. 35 - *Padua finds S. Chiara convent.*
Soprintendenza Archeologia, Belle Arti
e Paesaggio per l'area metropolitana di
Venezia e le province di Belluno, Padova
e Treviso. Padua (storage).

Fig. 36 - *Padua finds S. Chiara convent.*
Soprintendenza Archeologia, Belle Arti
e Paesaggio per l'area metropolitana di
Venezia e le province di Belluno, Padova
e Treviso. Padua (storage).

Fig. 37 - *Padua finds S. Chiara convent.*
Soprintendenza Archeologia, Belle Arti
e Paesaggio per l'area metropolitana di
Venezia e le province di Belluno, Padova
e Treviso. Padua (storage).





Fig. 38 - *Goblet with applied bosses and enamels*. Venice, first quarter of the 16th century. Los Angeles, Paul Getty Museum. Inv. no. 84 DK 547 (Photo from *European Glass in the J. Paul Getty Museum*, Los Angeles, 1997).



Fig. 39 - *Ubertò e Philomena*, woodcut. Venice, early 16th century (photo from Prince d'Essling, 1909).

Fig. 40 - *Beaker with applied bosses and enamels*, Venice, 1500-1520. Private collection.





Fig. 41 - Giovanni Boccaccio, *Innamoramento de Florio e Biancifiore*, woodcut. Venice, 1520. (photo from Prince d'Essling, 1909).

Fig. 42 - Goblet with applied bosses and enamels and gilt decoration. Venice, 1540-1550. Murano, Museo del Vetro, inv. no. Cl. VI 0478 (courtesy of).

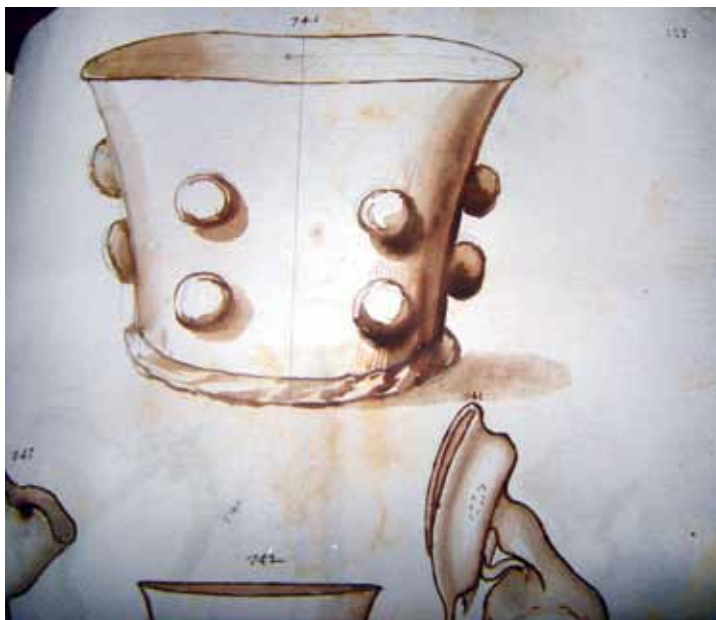


Fig. 43 - Drawing from Codex (ms 1417). Rome, Casanatense Library.

Fig. 44 - Archaeological find from Savorgnan residence site, Udine. Venice, ante 1549. Udine, Musei Civici, inv. no. AQ 276023.



Fig. 45 - Gianfrancesco del Zotto, called Gianfrancesco da Tolmezzo, *Last Supper*, detail, 1496. Church of Saints Leonardo and Tommaso Apostolo in Provesano di San Giorgio della Richinvelda (Pordenone).

Fig. 46 - Cristoforo Baschenis, *Last Supper*, detail, end of the 15th-beginning of the 16th century. Church of Saints Sebastian and Rocco at Pergnano (Giudicarie Valley s- Trent).

PAOLO ZECCHIN

THE MOULDS OF THE MURANO GLASSMAKERS

Murano glassmakers have always worked «a mano volante», as was said in the nineteenth century, but very often they were assisted by moulds for shaping the blown products or imprinting decorative reliefs on their surfaces.

The term «forma», by which these were often indicated, appears perhaps for the first time in the Murano papers of a payment order of 17 May 1313¹. On 23 September 1363 «formas III a ciatis»² are cited; that is, three moulds for glasses, and on 5 September «1 formam a fialis cum pede», a mould for bottles³.

A list of work equipment drawn up in Treviso on 11 June 1386 cites nine «formas de brondo»⁴.

An inventory of 1 December 1405⁵ contains a «forma da cristalini» and one «da fiorentini». The «cristallini» are (probably faceted) glasses (the word was to change meaning after 1450, with the introduction of Murano «cristallo») and likewise the «fiorentini»; so the moulds used for them were dip moulds. The same inventory also names a «forma d'angestare da pé» (a mould for bottles with foot), one «da bochali da zembola» (for tankards da zembola) (zembola, now known as a siambola: base ring of glass items without foot) and two «de botazo» (small barrel). These moulds are made of two hinged wood parts which can be opened.

¹ Archivio di Stato di Venezia (ASVe), Podestà di Murano (PdM), b. 4.

² PdM, b. 7.

³ PdM, b. 10.

⁴ Zecchin, Luigi. Vetrerie trevigiane fra il XIII ed il XV secolo. In *Vetro e Vetrai di Murano*, Vol. II. Venezia: Arsenale Editrice: 324.

⁵ PdM, b. 13.

The first testimony of the use of the latter moulds is perhaps of 13 August 1405, when a witness in a trial refers to a *garzonetto* who «vertebat quandam formam a vitris sicut moris est in dicta arte»⁶.

A list of glass tools of 3 October 1410 includes «formas florentinorum, bochalorum de zemola (zembola), bochalorum a pede, spinapesse, cristalinorum» (moulds for Florence-style beakers, tankards with base ring, tankards with foot, herring-bone, cristalini beakers). Among these «forme» there is also a «pichum», which is thus a kind of mould⁷.

The order to repossess «unam formam de brondo a ciatis», carried out on 19 March 1411, indicates the material with which the dip moulds used for glasses were made⁸. But a few decades later, on 27 January 1450, there is mention of «unum picum cupri a vitreis»⁹.

On 10-4-1424 forme «d'angestare da pé, da bochali da zembola, da cristalini, da chopaele, da botazo» (for botthes with foot, tankards with base ring, cristalini beakers, chopaele [?], small barrels)¹⁰ appear.

A list of tools of 5 February 1440 includes some fairly interesting «forme per el mestier»¹¹:

2 forme a spinapesse	herring-bone moulds
1 forma dal dado	die mould
1 forma a la retorta	twist mould
2 forme a la spina	?
4 forme da bochali da pé	moulds for tankards with foot
3 forme da cristalini	moulds for "cristalini" beakers
3 forme da mioli de meza	moulds for medium size beakers
3 forme da fiorentini	moulds for Florence-style beakers
2 forme da gambasini	moulds for Gambassi-style beakers,
de le qual una al pé de piombo	among which one with lead foot
3 forme da bochali de zembola	moulds for tankards with base-ring
1 forma da botazi	mould for barrels
1 forma da muioli de mostra a la spina	mould for beakers a la spina [?] for show

⁶ Turned a glass mould (PdM, b. 9).

⁷ PdM, b. 10.

⁸ PdM, b. 11. *Brondo* meant bronze.

⁹ PdM, b. 20. Latin *cupri*: made of copper.

¹⁰ PdM, b. 13.

¹¹ PdM, b. 27.

In the glassworks of Giovanni Ballarin, «forme de bronzo grande e pizole e mezane» (big, small and medium size bronze moulds) were found after his death in «magazin de feri» (tool room), which are worth mentioning because of their number: 110¹².

In the glassworks of the deceased Nicolò de Biasio, on 23 August 1512 there was «una forma a la menuda e una a zellosia grande» (a mould a la menuda [?] and a large one with crossed grille pattern)¹³, «sete forme tra pizole e mezane» (seven small and medium size moulds), «una forma alla menuda de bronzo tachada in una piera» (an alla menuda [?] bronze mould attached to a stone)¹⁴.

The Bortolo q. Alvise inventory of 10 November 1569 is very detailed¹⁵

1 forma granda a pigna	large pine-cone mould
3 forme a pigna piccole	small pine-cone moulds
3 forme alla dretta da far lavori de doi pezzi	alla dretta [?] moulds for works in two pieces
2 forme alla dretta una granda e una piccola	alla dretta [?] moulds, one large and one small
2 forme pizole da gropi	small moulds for knops
1 forma a teste	mould with human masks
1 forma a festoni	mould with festoons
2 forme a ruose	mould with roses
1 forma a scagioni	mould with large steps
1 forma a zelosia	crossed grille mould
1 forma alla menuda da far carafine	alla menuda [?] mould for decanters
2 forme all'acqua menuda	?
1 forma a coste grossa	thick ribbed mould
1 forma granda a ochi de paon	large mould with peacock eyes
1 forma ditta mezana	medium size mould with peacock eyes
2 forme dette pizole	small moulds with peacock eyes
1 forma da mastelleti	mould for buckets

¹² PdM, b. 46. 16-8-1512.

¹³ A wooden grating that was kept on the window so as to see without being seen was known as a «gelosia». In Murano today certain borselle, or pincers, which leave a grating imprint, are called «a gelosia», which does not rule out their having once been called moulds.

¹⁴ PdM, b. 46. An inventory of the same glassworks made some months earlier (11-5-1512) defines the latter «una forma de bronzo ligada in una piera» (PdM, b. 45).

¹⁵ PdM, b. 207.

1 forma alla perosina
1 forma a spine pesse

Perugia-style mould
herring-bone mould

Six «forme de zeso» (plaster moulds?)¹⁶ appear in the inventory of Pietro Bellonato, who ran the glassworks with the sign of two lilies, on 6 January 1571. On 8 June 1573 «forme 4 di bronzo per l'arte di vetri, vz. una zelosia, una alla pigna granda, una alla dretta di noce, una all'acqua pizola»¹⁷ are cited.

The inventory of the assets of q. Gasparo Brunoro made on 24 December 1576 is also fairly detailed¹⁸:

1 stampeta granda	large stamp
1 lioncin	small lion mask
1 forma alla dretta de do peci	alla dretta [?] mould in two pieces
1 stampeta pizola	small stamp
1 picho	?
2 pronti	prunts
mezo rigarin	half striped [mould ?]
2 formete da gropi	small moulds for knops
1 canon alla dretta	alla dretta [?] cannon
1 forma alla pigna	pine-cone mould
1 forma all'acqua menua	small all'acqua [?] mould
2 forme alla dretta grande	large alla dretta [?] mould
3 forme alla dretta mezane	medium size alla dretta [?] moulds
1 forma da vasi a capa	mould for seashell vases

The «pronti» appear in this period. Drops of vitreous paste were placed as ornaments on the glass being worked, to which special «impronte» were given using metal seals. The term «pronti» indicated these metal seals and also, by extension, the shaped drops left on the glass. In 1572 Salvatore Savonetti stated that he had seen «saliere con pronti et oro» (saltcellars with gilt prunts) in Milan, in the glassworks of an expatriate Muranese¹⁹.

Two special kinds of «pronti» are indicated in the inventory of the

¹⁶ *Ibid.*

¹⁷ PdM, b. 215.

¹⁸ PdM, b. 207.

¹⁹ PdM, b. 77. Among the «robe di Salvador Savonetto» on 24 March 1590 there was also «una forma da padovani» (PdM, b. 216).

Zanchi dal Castello glassworks of 22 January 1578: «un dall'Anzolo e un dal iesu», which certainly reproduced the sign of the glassworks from which they came²⁰. This inventory lists many kinds of mould²¹:

1 picho ponto	?
1 altro da inghistere	picho [?] for bottles
1 forma a ochij de paon	mould with peacock eyes
1 forma alla dreta	alla dreta [?] mould
2 formete alla dreta	small alla dreta [?] moulds
2 forme all'acqua menua	small all'acqua [?] moulds
2 formete alla menua da gropo	alla menua [?] moulds for knops
3 forme alla pigna do mezane e una granda large	pine-cone moulds, two medium size and one large
1 altra forma a ochij de paon	another mould with peacock eyes
1 forma alla tacha grossa	?
1 forma a onde e riose	mould with waves and roses
1 forma alla menua e a riose	alla menua [?] mould with roses
1 forma a fogiame in fondi	mould with foliages at the bottom
1 forma alla dreta da gropi	alla dreta [?] mould for knops
1 stampa de sechieli a lioni	mould for small buckets with lions
1 forma da vasi a macaroni (mascaroni?)	mould for vases with masks
1 forma da fiaschi a meduse	mould for bottles with Medusa heads
1 bollo dall'anzolo	angel stamp
1 stampa da pereti a boccole	mould for small pear-shaped bottles with buttons
1 stampa in triangolo	triangle [?] stamp
1 stampa alla damaschina	damascene-style stamp
1 stampa da dolfini piccola	small dolphin stamp
1 stampa da lioni	lion mask stamp
1 zata da lioni	lion paw
1 stampeta da lioni	small lion mask stamp
1 stampeta alla damaschina con zii	damascene style stamp with lilies
8 pronti diversi	different prunt tools
forme diverse antiche n.50	various old moulds

In a «cameroto in fornasa», a room of the glassworks, of Francesco Pizzocaro, on 7 December 1675 there were²²:

²⁰ PdM, b. 207, c. 539 v.

²¹ PdM, b. 207, c. 540 r.

²² PdM, b. 205. We recall that the (silver) ducat was made up of 24 grossi and was worth 6 lire and 4 soldi (the lira was divided into 20 soldi and the soldo into 12 danari).

12 pezzi tra pronti e meduse	prunts and Medusa stamps		
1 rigarin	striped [mould?]		
3 stampete	small stamps		
2 raspi d'uva	grape-stalks		
1 pigna	pine-cone		
2 lioni	lions		
2 termini	?	15 grossi - (in tutto)	
2 squarabelle	?	" 6 "	-
2 square	?	" 5 "	-
1 pico	?	" - "	12
2 stampete in piera	small stone stamps	" 1 "	-
2 forme dal doi pezzi taglià	cut moulds of two pieces	" 1 "	-
1 detta da gropi	mould for knops	" - "	8
1 detta a giazio mezana	middle size ice mould	" - "	16
1 detta alla dretta	alla dretta [?] mould	" - "	16
1 detta a balloton	balloton mould	" 1 "	-
1 detta alla todesca a pigna	pine-cone mould in German style	" 1 "	-
1 mezo canoncin	small half cannon	" 1 "	12
1 canon grando	large cannon	" 3 "	-
1 forma a zelosia	crossed grille mould	" - "	16
1 detta a pigna da bozze	pine-cone mould for big bottles	" 3 "	-
1 detta a giazio piccola	small ice mould	" - "	18
1 detta alla dretta	alla dretta [?] mould	" 1 "	-
1 canon grando	large cannon	" 3 "	-
1 detta formagiela	formagiela [?] mould	" - "	16
1 detta granda a zelosia	large crossed grille mould	" 2 "	-
1 detta da vasi	mould for vases	" 3 "	-
1 detta da mastelletti	mould for small buckets	" - "	16
1 detta da zelosia	crossed grille mould	" - "	16

The inventory of the deceased Priamo dell'Acqua made on 28 September 1682 also provides some interesting information²³. There were:

28 forme di bronzo in piera e senza, compreso un stampo di lion, pico e stampeta
 28 bronze moulds on stone and not, included a lion stamp, pico [?] and small stamp

1 pronto

1 prunt

²³ PdM, b. 161.

40 stampi di legno da bozze diversi
 40 various wood mould for big bottles

On 2 April 1714 the registrar of the Murano community went to the home of «Andriana Zanon relicta del q. Ettore Bigaglia» and found there, amongst other things²⁴:

6 stampi di bronzo, cioè lion, mezza capasanta, stampeta e piumin
 6 bronze moulds, thats lion, half scallop, small stamp and feather [?]

4 formette di bronzo
 4 small bronze moulds

1 canon grando de bronzo a zelosia
 1 big bronze cannon with crossed grille pattern

Acknowledgments

Thanks to my wife Gabriella Toso who photographed the tools of today's Murano glassmakers and suggested the captions.

²⁴ PdM, b. 209.



Fig. 1a,b - *Pinze a gelosia* - Crossed grille crimps, full and detail.



Fig. 2a,b - *Pinze a Rigadin* - Ribbed crimps, full and detail.



Fig. 3a - *Pronti a fragola e a leone* - Strawberry and lion prunts.

Fig. 3b - *Pronto a leone* - Lion prunt.



Fig. 4 - *Stampo a rigadin di bronzo* - Optic ribbed bronze dip mould.



Fig. 5 - *Stampo a balloton di bronzo* - Optic honeycomb bronze dip mould.



Fig. 6 - *Stampo apribile di legno per bicchieri* - Wood mould which can be opened for beakers.

Fig. 7 - *Stampo di legno apribile da uva* - Wood mould which can be opened for bunch of grapes.



Fig. 8 - *A balloton beaker*, 17th century, Murano, Museo del Vetro, inv. no. Cl. VI 1011 (courtesy).



Fig. 9 - *A pigna goblet*, half-second half 16th century, Pargue, decorative Arts Museum, inv. no. 3900 (courtesy).

MARCO VERITÀ, SANDRO ZECCHIN AND ELENA TESSER

THE PRODUCTION OF PRUNTED BEAKERS IN VENICE: AN ARCHAEOOMETRIC ASSESSMENT

1. *Introduction*

Printed beakers (known by archaeologists also as *Nuppenbecher*) are vessels decorated with «prunts», that are small blobs of glass attached to the wall of a beaker. To this type of vessels belong many kinds of printed beakers, very different in shape and decoration. There are small or large vessels and the applied blobs can be small or large, few or many, with or without points, regularly or irregularly placed, etc.¹.

The glass used to make printed beakers shows specific features: it is transparent, colourless (that is, more or less gray) or coloured in a variety of *natural* colours. The glass of the prunts applied on the vessels is the same as the body, only rarely cobalt blue prunts were applied.

Printed vessels were mainly in use in Germany, Switzerland, France and Italy, as well as in Asia Minor and in the Levant, in the Byzantine and Islamic areas of influence². Other finds have been discovered in Austria, Czech Republic, Spain, England, Low Countries and Baltic countries³.

As to the origin of these vessels, the most reliable hypothesis suggests that their production began in the Near East in the 11th century and continued in the western areas from the second half of the 13th c. to a date as late as the 16th c.⁴. The discovery of printed beakers in the ruins

¹ Baumgartner and Krüger 1988: 192-217, nos 166-204; 296-298, nos 339-342; 336-367, nos 403-453. Foy and Bailly-Maitre 2014.

² Foy and Bailly-Maitre 2014. Baumgartner and Krüger 1988.

³ Baumgartner 2019.

⁴ Ricke 2005. Foy and Bailly-Maitre 2014. Baumgartner 2019.

of a furnace in Corinth (Greece), that was initially dated 11-12th c.⁵ and in more recent times postponed to the 13th c.⁶, testified the progressive moving of this production from the Near East to Venice and then to other European regions⁷.

Modern scholars agree on the fact that most pruned vessels were made in several production sites: southern France, southern Germany, Italy, different areas in the Near East, etc. In the past, some scholars affirmed that the pruned vessels made with glass of «highest quality», i.e., colourless glass, were made exclusively in Venice⁸. This claim is no longer accepted and scholars affirm the existence of furnaces able to produce colourless glass also in other European regions, for instance in southern France⁹. However, it is generally accepted that if the glass used for the production of pruned vessels is of «low quality», which means naturally coloured, these items were probably produced in glass workshops other than the prestigious Venetian furnaces.

Several aspects discovered and highlighted by Luigi Zecchin and later by other scholars, indicate that pruned beakers were made also in Venice. Among them, the representation of pruned vessels in a number of paintings in the Venetian area, the Venetian documents referring to vessels «imperlati» (with applied beads) or «gropolosi» (with applied prunts), and the finding of pruned glass fragments in archaeological excavations in the Venetian lagoon and in areas of influence of the Venetian Republic. These points are briefly outlined below.

In a fresco painting by Giusto de' Menabuoi in the Baptistery of the Padua Cathedral (1375-1378), pruned beakers are represented on the table of the Wedding in Cana (Fig. 1 a-b). Padua is located 30 km far from Venice and at the beginning of the 15th c. it became part of the Venetian Republic. Another example is the Last Supper painted by Gianfrancesco da Tolmezzo around 1496 in the church of San Leonardo at Provesano, a small village near Pordenone (Fig. 2 a-b). In this case, it must be taken into account that Gianfrancesco da Tolmezzo took

⁵ Davidson 1940: 299.

⁶ Whitehouse 1993: 661.

⁷ Foy and Bailly-Maître 2014.

⁸ Gasparetto 1979: 86.

⁹ Foy and Bailly-Maître 2014. Baumgartner and Krüger 1988.

inspiration also from the nordic iconography spread in the south of the Alps by means of black and white prints of paintings, among others of the painter Martin Schongauer and the engraver I.A.M. van Zwolle. A third example is in the Doge's Palace in Venice where, in a low relief of the *capitello* on the ninth column from south (middle 14th c.), the vice of gluttony is represented by a woman holding in her right hand a pruned glass (Fig. 3)¹⁰.

Available Venetian documents referring to pruned vessels are listed in Table 1. These documents are very important since they provide information on the Venetian glassmaking of the 13th-14th c., a period for which only scanty documents and archaeological finds are available. These documents attest that the production of pruned beakers was typical of the Venetian glassmaking at least between the 13th and 15th c.

Table 1 - Venetian documents referring to pruned beakers; References are given as date and pages of Luigi Zecchin's volumes¹¹.

DATE	Ref.
1280	Two documents of the <i>Atti del Podestà di Murano</i> . In the first one <i>moiolos de girlanda et imperlatos</i> (pruned beakers decorated at the base with small glassy ledges and with glass blobs on the wall) are mentioned, which were sold by the Muranese glassmaker Antonio de Strata in 1276. The second one refers to <i>mogolis cum perlis</i> (pruned beakers), sold in 1277 1990; 158
1406	A document attesting that almost 7000 glass objects, including <i>ciatis imperlatis</i> (pruned beakers), were sized in Murano 1987; 36
1410	Among the tools of the Muranese glassmaker Salvatore da Galliera, there was a <i>spetum de imperlare</i> (a pontil to apply prunts) 1987; 39
1446	<i>Moioli imperladi</i> (pruned beakers) are mentioned among the items made in the furnace of Angelo Negro in Murano 1987; 48

¹⁰ Ohira 1994: 24.

¹¹ Zecchin 1987 and 1990.

- | | | |
|------|--|-----------|
| 1457 | 100 <i>cietos perlatos</i> (prunted beakers) and 100 <i>cietos gropolosos</i> * from Murano were sold in Friuli | 1987; 51 |
| 1460 | 1000 <i>gotti gropoloxi</i> were assessed 11 ducats. | 1990; 146 |
| 1478 | <i>Goti imperladi grandi e goti pizoli imperladi</i> (large and small pruned beakers) were found in the furnace of Francesco da Mure in Murano | 1987; 57 |
| 1483 | <i>Goti gropolosi</i> from Murano furnaces were sold to German merchants | 1987; 59 |

(*) *Perlatos* and *gropolosos* are ancient Venetian terms used to indicate pruned vessels. For some scholars, *gropolosos* refers to large prunts, for others to pruned beakers of various shapes.

Archaeological finds of pruned vessels in the area of influence of the Venetian Republic are reported in Cividale (Udine), Montereale Valcellina (Pordenone), Castello di Soffumbergo (Udine)¹², and in other locations that will be further discussed in the following paragraphs. A number of pruned fragments uncovered in the Venetian lagoon are described in¹³. The earliest fragment seems to be the one found in Torcello in 1962 in a layer dated initially 7th-12th c.¹⁴ and then revised 10th-12th c.¹⁵. Other more recent findings were published only in part¹⁶ (Fig. 4).

The aim of this work is to investigate the chemical composition of glass of a number of pruned glass fragments excavated in the Venetian lagoon and in other areas of influence of the Venetian Republic. These results compared with the available compositional database on Venetian glass demonstrate a clear correspondence.

¹² Pause 1996: 48.

¹³ Pause 1996: 47.

¹⁴ Gasparetto 1982: 60-61.

¹⁵ Leciejwicz 2000.

¹⁶ Minini 2008: 19.

2. *Analysed samples*

A number of pruned glass fragments from archaeological excavations were analysed. To ascertain their Venetian origin, their chemical composition was compared with the available compositional database of genuine 15th-16th c. glass¹⁷. The following is a brief description of the considered archaeological sites.

Venetian lagoon (S. Arian; Fusina) - S. Arian (sample AR-15.4 in Table 2) is an island not far from Torcello. Since the second half of the 12th c., a monastery of Benedictine nuns, which left during the 15th c., was located here. In the first half of the 16th c., the island was completely abandoned¹⁸ and for this reason the date of the sample remains not well defined. Fusina is an area where the Brenta riverbanks built in the 14th c. to change the river path, were strengthened during the 15th-late 16th c., using waste materials from furnaces producing ceramics and glass¹⁹, including pruned beakers (an example is reported in Fig. 5). Five fragments were analysed (samples FUS).

Palazzo Richieri, Pordenone – More than 3000 glass fragments were uncovered in two *butti* inside the Richieri palace, Pordenone (Italy)²⁰. From these, five pruned beakers were reconstructed and three of them were analyzed (samples PN).

Torretta di Legnago (Verona) – The materials excavated in a Venetian military settlement include 277 transparent glass fragments, mostly colourless or slightly coloured in natural hues attributed to a Muranese production of the 15th-16th c.²¹. Among them, a number of pruned beakers were found (an example is reported in Fig. 6) and six of them were analysed (samples RO).

Castel Romano, Pieve di Bono (Trento) – In the archaeological dig of the castle, a large number of artefacts were discovered that can be connected to the Venetian artisan workshops of the 16th c.²². They

¹⁷ Verità 2013.

¹⁸ Busato, Rosso and Sfameni 2007.

¹⁹ Verità 1985.

²⁰ Zuech 1997.

²¹ Gasparetto 1986.

²² Verità and Zecchin 2009a.

include a number of transparent glass fragments of pruned beakers. The three analysed samples were labelled TN.

3. *Analytical methods*

Small fragments (few mm³) were cut from archaeological samples, embedded in acrylic resin and polished down to a diamond paste of 1 micrometer. Before analyses, the samples were carbon coated under vacuum.

The quantitative chemical composition of the samples was determined by X-ray microanalysis at Stazione Sperimentale del Vetro (Murano, Venice, Italy). A microprobe (Cameca SX-50) equipped with three wavelength-dispersive X-ray spectrometers (PET, LiF and TAP crystals) was used. Elements were quantified: X-ray K α -lines were used except for Pb (M α -line), Sb, As and Sn (L α -lines). Operating conditions were: accelerating potential 15 kV, beam current 20 nA (major and minor components) or 100 nA (trace elements). A 40 μ m x 50 μ m scanning electron beam and limited counting time (10 s for major and minor elements, 20 to 30 s for trace elements) were employed to minimize alkali drift during the irradiation. Three distinct areas were analysed on each sample and the mean taken. The net X-ray intensities were quantified by means of a PAP correction program supplied by Cameca. Reference glasses of certified composition (B and D Corning, NIST-620) were measured under the same analytical conditions as the glass samples to verify the accuracy of the method and low limits of detection. The accuracy for SiO₂, Na₂O and CaO is below 1% and for the remaining oxides, K₂O, MgO, Al₂O₃, SO₃, P₂O₅, Cl, TiO₂, Fe₂O₃, MnO and Sb₂O₃ is below 5%. Low limits of detection in the range of 0.03% - 0.05% for most of the oxides were calculated. For the oxides of As, Sb and Pb a LLD of 0.08% was estimated. Further details of the analytical method are reported in Verità *et al.* 1994²³.

²³ Verità, Basso, Wypyski and Köstler 1994.

4. Results

The compositions of the analysed samples are reported in Table 2. All the samples belong to the soda-lime-silica glass type. The concentrations of potassium, magnesium and phosphorous oxides are typical of glass made by melting a batch of a silica source and soda plant ash. No potash-lime-silica samples were found.

Three groups of products are distinguished in the Venetian glassmaking depending on the optical quality of glass. Transparent glass slightly coloured in natural hues, from yellow to green to light blue-green was termed *vetro comune* (common glass); the well decolorized, slightly grey glass was *vitrum blanchum*, and the perfectly decolorized glass free of any hue was termed *cristallo* (crystal, since mid-15th c.) because of its resemblance to rock crystal²⁴.

In the K/Na diagram in Fig. 7, the concentrations of genuine 15th-16th c. Venetian *vitrum blanchum* samples (grey circles), *cristallo* samples (open circles) and common glass samples (green circles) analysed in previous papers²⁵ are reported for comparison. The concentrations of these elements found in the analyses of the pruned samples are reported in red. It is evident that most of the pruned samples fall in an area where both common glass and *vitrum blanchum* glass are located. The same occurs for calcium and magnesium (Fig. 8, Ca/Mg) and for other elements (aluminium, silica, phosphorous, etc.) not reported in the diagrams. No samples corresponding to the *cristallo* glass composition were found among the analysed pruned samples.

Without a deliberately added colourant the colour of transparent glass depends largely upon the amount and oxidation state of any iron present (a contaminant of raw materials). Glasses contain iron in both oxidation states (Fe^{2+} and Fe^{3+}), generating a range of yellow, green, bluish-green tinges ('natural' colours). Decolorizing refers to minimizing the appearance of the colour imparted to glass by iron by addition of manganese or other oxidisers.

The colour of the glass of the analysed pruned samples ranges between colourless (five samples) to slightly coloured in yellow (three

²⁴ Verità 2013.

²⁵ Verità and Zecchin 2009a,b.

samples indicated as pale yellow in Table 2) or green (four samples, pale green in Table 2) and green (five samples, indicated as green in Table 2) or blue-green (one sample). Green is the prevailing colour of pruned glass fragments found in the Venetian lagoon (Fig. 9 a-b).

In the Fe/Mn diagram of Fig. 10, the concentrations of the two oxides that determine the final colour of pruned samples are compared with reference Venetian glass groups. We observe that one group of the analysed samples corresponds to *vitrum blanchum*, with a low iron content (use of relatively pure silica source, such as the Ticino pebbles), well decolourized with manganese added in a Mn/Fe ratio in the range 1/1 to 2/1. This group is formed by samples indicated as colourless or pale yellow in Table 2. Three pale yellow or pale green samples correspond to the common glass group with a higher amount of iron (Fe_2O_3 0.75-0.95%) and manganese (MnO 1.35-1.95%). The third group includes eight samples showing deep natural hues. To obtain this colour, a low quality silica source was used (Fe_2O_3 0.6-1.1%) and the glass was not or just slightly decolourised with manganese (MnO 0.08-0.28%). These results indicate that the glass colour of the pruned glass samples was controlled according to the Venetian glassmaking tradition.

5. Conclusions

Many 'legends' on Venetian glass have been reconsidered and amended in Luigi Zecchin's studies. Other legends die hard, like this: «When a high quality, well decolorized glass item is found in a Medieval archaeological context, it was probably made in Venice. Instead, when an item of low quality glass (greenish) is found, certainly it was not produced in Venice». This very common prejudice is disproved by the analytical results of this study.

A compositional correspondence has been demonstrated between the pruned glass samples excavated in the Venetian lagoon and in the areas near Venice, and the contemporary genuine Venetian common glass and *vitrum blanchum* glass. No potash-lime-silica pruned fragments were found.

This correspondence provides further evidence of a Venetian production of pruned glass vessels. The study of the colouring technique attests that Venetian glassmakers produced pruned items in a variety of

hues from deep natural colours like blue-green, to the almost colourless (slight grey) *vitrum blanchum*.

The export of pruned vessels from Murano to German countries is attested by ancient documents. The analyses reported in this work constitute a first database useful to verify the possible Muranese origin of beakers excavated in European sites.

In conclusion, these results confirm that the Venetian glassmakers produced all kinds of transparent glass according to demand. They made not only the high quality, well decolourised glass of famous masterpieces, but also items with glass coloured in natural hues.

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Fig. 1 a,b - Fresco painting by Giusto de' Menabuoi in the Baptistery of the Padua Cathedral (1375-1378) representing the *Wedding in Cana*; bottom a detail with printed beakers.



Fig. 2 a,b - *Last Supper* painted by Gianfrancesco da Tolmezzo, 1496, church of San Leonardo at Provesano, Pordenone; bottom a detail with printed beakers.



Fig. 3 - The vice of gluttony is represented by a woman holding a prunted glass, low relief of the *capitello* of the ninth column from south. Venice, Doge's Palace, middle 14th c.

Fig. 4 - The largest sample of prunted glass beaker excavated in Venice (15th c.), in an area near Piazzale Roma.

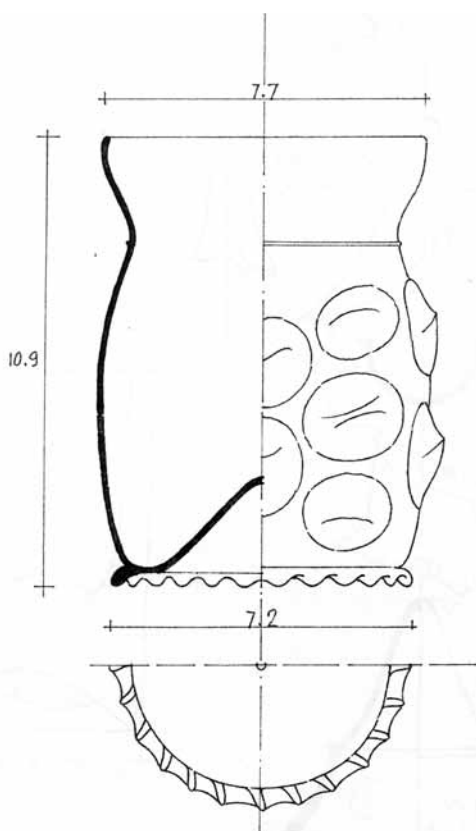
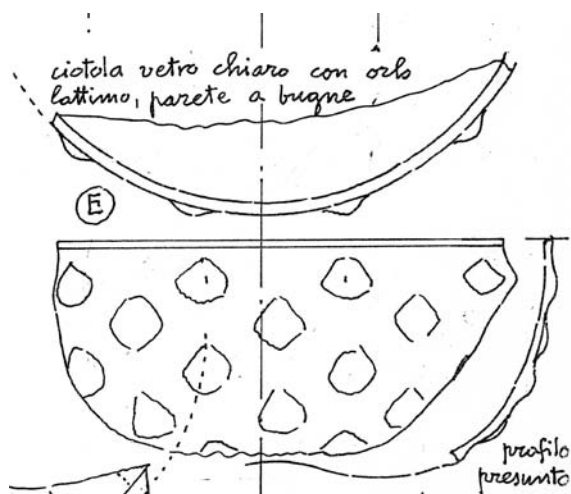


Fig. 5 - Example of prunted glass from archaeological excavations in Fusina (drawing by Luigi Zecchin).

Fig. 6 - Example of prunted beaker from archaeological excavations in Torretta di Legnago, Italy (drawing by Luigi Zecchin).

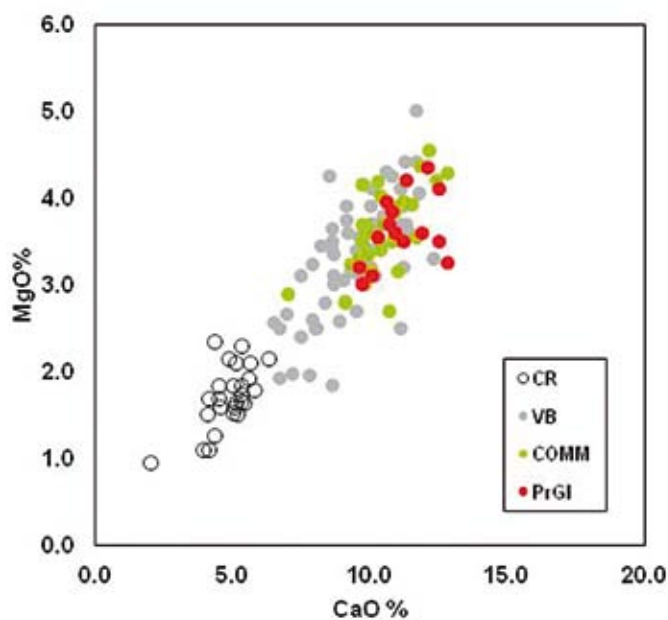
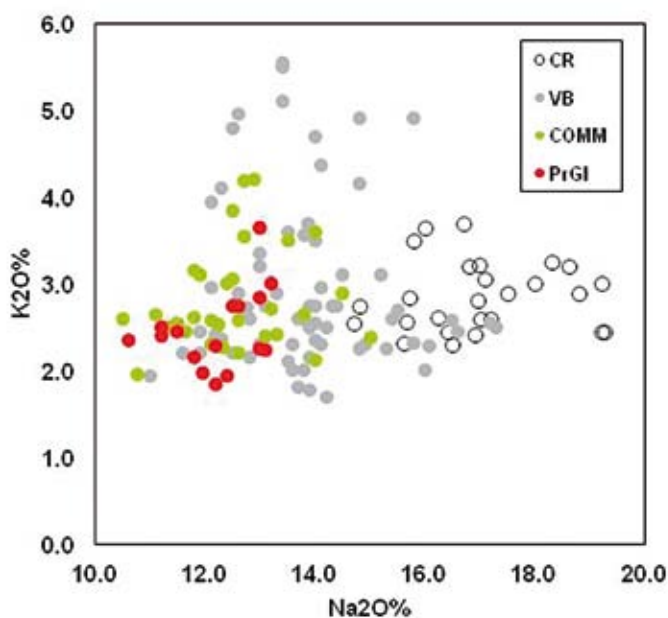
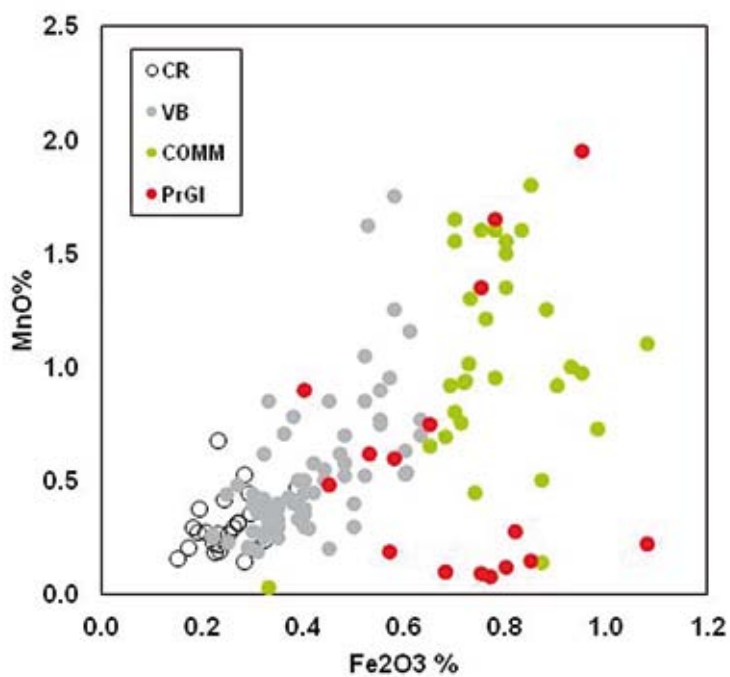


Fig. 7 - Diagram of potassium versus sodium oxides concentration. Genuine 15th-16th c. Venetian *vitrum blanchum* samples (gray circles), *cristallo* samples (open circles), common glass (green circles) samples and pruned samples (red circles) are reported.

Fig. 8 - Diagram of calcium versus magnesium oxides concentration. Symbols as in Fig. 7.



Fig. 9 a,b - Examples of fragments of printed vessels from Fusina in different colours (samples not analysed).



Tab. 2 - Chemical composition in wt% of the oxides of the analysed glass samples. Searched for and not found: As, Ba, Co, Ni, Sn, Sb, Cu, Zn, Pb. Traces of lead (PbO 0.10%) and tin (SnO₂ 0.30%) were found in sample FUS-RBM4. Dating of samples and glass colour are also reported.

Period	Sample	Colour	SiO ₂	Al ₂ O ₃	Na ₂ O	K ₂ O	CaO	MgO	SO ₃	P ₂ O ₅	Cl	TiO ₂	Fe ₂ O ₃	MnO
12 th -15 th	AR-15.4	colourless	69.2	1.20	14.7	2.60	7.8	2.40	0.25	0.30	0.80	0.05	0.35	0.35
14 th -15 th	PN-59	green	66.6	0.95	12.0	1.98	12.8	3.25	0.18	0.40	0.90	0.13	0.77	0.08
14 th -15 th	PN-171	colourless	69.2	0.72	12.5	1.95	9.7	3.00	0.17	0.35	1.00	0.12	0.40	0.90
14 th -15 th	PN-241	pale green	66.6	0.80	12.2	1.85	12.5	3.50	0.23	0.40	1.00	0.15	0.57	0.19
15 th -16 th	RO-4A	pale yellow	66.3	1.82	11.2	2.50	10.3	3.55	0.18	0.35	0.80	0.11	0.95	1.95
15 th -16 th	RO-4B	blue green	65.7	2.05	12.2	2.28	11.9	3.60	0.15	0.28	0.83	0.08	0.80	0.12
15 th -16 th	RO-4C	pale green	67.3	1.65	10.6	2.35	10.7	3.70	0.17	0.28	0.75	0.10	0.78	1.65
15 th -16 th	RO-5Ba	colourless	66.2	1.27	13.0	2.25	10.8	3.85	0.30	0.27	0.80	0.07	0.52	0.62
15 th -16 th	RO-5Bc	pale yellow	66.0	1.38	13.4	2.35	10.6	3.70	0.29	0.23	0.75	0.07	0.60	0.60
15 th -16 th	RO-244	green	62.6	2.60	13.0	2.85	12.5	4.10	0.15	0.28	0.84	0.09	0.85	0.15
15 th -16 th	TN-4	pale green	65.7	1.50	12.5	2.75	11.3	4.20	0.06	0.28	0.85	0.08	0.68	0.10
15 th -16 th	TN-6	green	63.3	2.45	12.6	2.75	12.1	4.35	0.15	0.29	0.80	0.10	0.82	0.28
15 th -16 th	TN-7	green	66.5	2.25	11.8	2.15	10.9	3.60	0.10	0.35	0.87	0.14	1.08	0.22
15 th -16 th	FUS-ZEC1	green	69.0	1.75	11.3	2.40	10.2	3.05	0.15	0.40	0.80	0.06	0.75	0.09
15 th -16 th	FUS-ZEC7	colourless	67.5	1.55	11.5	2.00	10.9	3.60	0.28	0.35	0.75	0.07	0.55	0.92
15 th -16 th	FUS-RBM1C	pale green	67.2	1.65	11.6	2.45	11.2	3.50	0.16	0.36	0.45	0.07	0.65	0.75
15 th -16 th	FUS-RBM2E	colourless	66.3	1.30	13.2	3.00	10.5	3.30	0.18	0.45	0.80	0.07	0.45	0.48
15 th -16 th	FUS-RBM4	pale yellow	64.8	1.40	13.0	3.70	10.0	3.60	0.25	0.38	0.75	0.06	0.75	1.35

OLGA IVLIEVA

SOVIET MOULDING GLASS FROM THE COLLECTION OF THE MUSEUM OF CERAMICS (MOSCOW)

The collection of Soviet and Modern Russian Art Glass of the State Museum of Ceramics in Kuskovo is one of the largest and most significant in Russia. It reflects the main stages of artistic glassmaking development. There are unique author pieces and samples of mass production, reflecting the tastes and aesthetic preferences of the time.

The report is devoted to the pieces which were made in the technique of molding glass by artists, for whom this way of working with material has become an important stage in their practice or formed the creative method. This is a small part of our museum's collection, but it is very indicative in the context of the glassmaking development and experiments in the Soviet period.

The earliest artistic works, in which glass casting was used to create a glass sculpture were made by Vera Mukhina. She is the Soviet sculptor-monumentalist, author of psychological portraits, monumental-decorative works, people's artist of the USSR – one of the main figure in the history of the Soviet art. Creation of the sculptural group «Worker and Kolkhoz Woman» brought her the greatest fame¹. Also she together, with the professor of glass technology Kachalov N.N. and the cultural figure and writer A. Tolstoy, took part in the creation of experimental workshop and a research laboratory for making samples of art glass on the Leningrad mirror factory². Later it would be known as Leningrad plant of artistic glass and its production

¹ It was installed on the roof of the Soviet pavilion at the world exhibition in Paris in 1937.

² Tolstoy 1984: 126-128.

determined the development of Soviet glassmaking in many ways in the second half of the twentieth century.

The Mukhina's passion for glass began in her youth. As one of her biographers wrote, she was fascinated by its abilities when she admired the stained glass of the Sainte Chapelle and pieces of Murano glassblowers. Then her fascination broke out again in 1928, in Paris when she saw the Lalique's glass sculptures³. In the late 1930s Mukhina made some glass and crystal items of table service and at the same time she decided to create glass sculpture⁴. Making of large sculptures and bas-reliefs with complicated configuration, whose weight reached several tens of kilograms, caused a number of difficulties. The widely used method of pressing molten glass in metallic solid or folding shapes was possible only for simple small-size shapes. During a year all difficulties were overcome, and casting of monolithic glass objects weighing up to 100 kg became to produce.

For making technologists decided to use disposable forms that were destroyed when the cast item was removed. This process had several stages: a plaster or gelatinous form was made using a plaster or plasticine original. Then a model from a fusible composition, which consisted of wax with an admixture of paraffin, ceresin and some other components, was cast into this form. For getting a thin-walled mold masters took the received wax copy (of the original) and covered it with a layer of plastic mass from refractory clay mixed with chamotte, asbestos flour and graphite. This thin-walled mold was capable of withstanding high temperatures. Then the lower part of this mold was complemented by forms like funnels from the same refractory mass. After that the wax was melted and the mold was dried and fired at 800°C. Then the mold was placed in the furnace and one or more large pieces of glass were laid in the funnel in the right amount to fill the whole mold entirely. The temperature was gradually raised to 900°C. The displaced air exited through the holes of the porous wall and allowed the glass to fill the entire mold. After the casting form was cooled, using a hammer and simple tools, the outer refractory mold

³ Voronova 1976: ch.12.

⁴ Partly that was due to the need to make decor for the Palace of Soviets that was being built in Moscow.

was detached and the surface was treated with sandblasting, emery blocks or an abrasive wheel. The main difficulty in the development of that method was the selection of the refractory mass composition. It should have being enough strong not to break from the weight of large mass of glass, and at the same time it should have being brittle to be easily detached from the casting. In addition, it had to be dense to give a clear imprint in details, and at the same time porous, so that air could freely escape⁵.

By 1940-1941 Mukhina created one of her most famous works – the sculpture «Wind» (or «Partisan»). Further she planned to begin casting torsos. But experiments were interrupted by the World War Second. Only in 1945, when preparation for the exhibition dedicated to the Victory began, Mukhina returned to the idea of making voluminous glasswares, as stated in her letter to Professor Kachalov: «It is so important to show at this Exhibition our achievement [...] At least one copy shows that the glass is a sculptural material [...] and to prove to everyone that the “magic crystal” is not only plates, decorative vases, goblets»⁶. She also proposed to make a casting of the sculptural portrait of Kachalov N.N. It was made for the All-Union Exhibition of 1947 and now it is in our museum's collection (Fig.1). Taking into account the transparency of glass and reconsidering the traditional methods of working with sculpture, Mukhina refused from sharp of edges, overlapping the sides, what created a sense of counter-relief, increase and distortion of volumes due to their optical refraction. The forms were simplified and had some smoothness of the silhouettes.

Although the technology was not widely used, the creation of monumental sculptures cast from solid glass became the achievement and pride of the Soviet technologists and became one of the stages of the art glass development in the USSR.

A new tendency has emerged in the work of glass artists since the mid-1960s. It was a departure from utilitarian functionalism of applied items toward the expanding sphere of unique decorative solutions with the development of a figurative and plastic language.

For some artists the moulding technique became the basis of the

⁵ Kachalov 1959: 319-320.

⁶ Mukhina 1960: vol. 1.

creative method. One of them is Svetlana Ryazanova, the author of sculptural compositions. Some of them are in our museum collection. It is the composition «Tanais» consists of five sculptures figuratively interpreted antique women carrying vessels with water; the composition «At dawn, at dawn», depicting women in flying, fluttering dresses. And the composition «Creation», consist of three forms: «Flying in the clouds» (Fig. 2), «Standing on the ground», «Running on the waves». This is a poetic depiction of three muses, three creative states and an appeal to the eternal theme of art. For all, there is a generalized imagery, lyricism, smoothness of lines and attention to the color. Although the works are heavy, visually they give a feeling of lightness, soaring in the air. Ryazanova's sculptures were created by blowing into plaster molds, which were made according to the author's model. The composition of the glasses was complex with a variety of inclusions to create a complicated color. Often she used multilayered glass, while the top layer was from opaline-colored sulphide glass. With different lighting, such sculptures acquired different shades, it seemed that they were illuminated from inside. The texture of the works was created in contrast, with alternating matte and shiny surfaces.

Ryazanova did not immediately turn to the creation of sculptural objects. The artist began her first plastic experiments, making vessels decorated with reliefs on the surface⁷. The collection of our museum has the early set of Ryazanova called «Moscow». It consists of two bottles. Their stoppers are made in the form of church domes, and there is the image of a horseman with a spear on a raised horse on the body of each of them. It's the reference to the coat of arms of the capital.

In the 1960-1970's interesting experiments took place at the Belarusian glass plant «Neman», where Vladimir Murakhver was the leading artist. Many achievements of the Belarusian school of art glass are associated with his name. He worked a lot for technology that enriches the pictorial means of textured glass. In the second half of the 1960s he began to make light shields reinforced with metal. This method assumed casting into a mold with relief pattern. This idea came to him after Murakhver met Lithuanian artists produced stained-glasses. When it was required to produce wares with sides or

⁷ Kramarenko 1988: 20-24.

walls, the method was changed: cooling glass or crystal in a viscous state was transferred to the harvested form with a spatula. Then it remained until it cooled down completely. In this case, glass could be applied with different thickness, its difference subsequently gave a variety of decorative effects: a game of color, light and texture. In the museum's collection there is Murakhver's monumental ware «Steklovoduvy» (or «Glass-blowers») done in this way in 1967. Later he changed the form with an iron sheet with a picture in the counter-relief. According to his author's method, red-hot glass was poured to the sheet and rolled by a roller. This method assumed the possibility of free forming of edges like flounces, folds, protrusions. This technique became known as «casting rolling moulding»⁸. Murakhver received a gold medal for pieces created in this technique at the international exhibition «Jablonec-1979». And the technology was introduced into mass production from that year. There are several pieces by V. Murakhver in the collection of the State Museum of Ceramics in Kuskovo which were made by author's method of «casting rolling moulding». It is a decorative object «Face» from colored glass with metal shavings inclusions (Fig. 3). And the decorative vases from the composition «Pereleski», which have textured surface and a freely molded edge in the shape like a volant.

It is impossible to present all the artists who worked in the molding glass technique during the Soviet time. But for these artists this technique took an important part in their creativity and it became actually innovative method of working with glass for their time. Their works have entered the history of the Soviet decorative art.

⁸ Yanitskaya 1989: 78-89.

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Fig. 1 - V. Mukhina, *Sculptural portrait of N.Kachalov*, USSR, Leningrad plant of artistic glass, 1947. Moscow, The State Museum of Ceramics and the Kuskovo 18th Century Estate, inv. CT 1587.



Fig. 2 - S. Ryazanova, «*Flying in the clouds*» (from the decorative composition «*Creation*»), Ukraine, Lviv Experimental Ceramics Sculpture Factory, 1987. Moscow, The State Museum of Ceramics and the Kuskovo 18th Century Estate, inv. CT 4540.

Fig. 3 - V. Murakhver, *Decorative object «Face»*, Belarus. Glass plant «Neman», 1989. Moscow, The State Museum of Ceramics and the Kuskovo 18th Century Estate, inv. CT 4766.

ROBERTA D'ADDA

THE CAMILLO BROZZONI GLASSWORK
COLLECTION NOW AT MUSEI CIVICI DI BRESCIA:
A «NOVEL OF INDUSTRY» REFLECTIVE
OF EUROPEAN MODELS

The Venetian glassware collection of the Musei Civici di Brescia includes about 280 pieces. Most of these objects, over 210, come from Camillo Brozzoni's collection that was bequeathed to the city of Brescia in 1863. Some of the most outstanding pieces have long been known, at least since the 1960s, thanks to Giovanni Mariacher's studies and the great 1982 exhibition entitled *Mille anni di arte del vetro a Venezia*. In 2012, a publication on the applied arts collections of the Brescian museums featured a contribution by Rosa Barovier and Cristina Tonini studying a wide selection of pieces belonging to this collection¹. This contribution led to a more widespread knowledge of the collection, providing useful tools for its immediate promotion – an objective the Musei Civici have always shared and promptly committed to, to the best of their ability and possibilities.

An interesting starting point for this study could be a particular notion expressed in the recent contribution by the two scholars: the early date of the formation of this collection could be guarantee for the undisputed authenticity of its pieces, all dating between the late-fifteenth and late-eighteenth century². Therefore, the focus of the present contribution will be the historical and cultural context in which this collection came about, a context that had its centre in Brescia certainly, but that was also characterised, as we will see, by a European outreach.

¹ Barovier Mentasti and Tonini 2012: 37-106.

² Barovier Mentasti and Tonini 2012: 38: «The formation of the [Brozzoni's] gathering foreruns the venetian glass-making revival, which occurred in the 1860's, after an exhausting crisis. So the masterful copies of ancient glassware (which were made by the eighteen-century glassmakers), luckily for us, couldn't be part of this collection».

Camillo Brozzoni was born in Brescia in 1798 and has been the subject of several studies that tried to elude the severe impediment of total lack of documentation regarding his life and the formation of his collection³. The little information we do have on Camillo Brozzoni's biography derives from the accounts made for the commemorations following his death in 1863⁴. Brozzoni's family was originally involved in the trade of colonial goods, an activity Camillo undertook only during his youth. Between the end of the first decade of the century and the beginning of the second, a very young Camillo Brozzoni enjoyed a long sojourn in Rome. This experience was crucial in determining his interest for the arts. Later, during the first half of the 1820s, he travelled to France. After that (the exact dates are still unknown), he made further trips to other European countries. England was certainly one of his destinations. One of the reasons he took these trips were the Universal Exhibitions: he was almost certainly in London in 1851 and in Paris in 1855. We cannot exclude he was also in Manchester in 1857 and in Paris in 1860. We have no further testimonies about these journeys, but scholars agree in affirming that such experiences were key in directing his interests as a collector.

In the 1830s, Brozzoni started collecting paintings, via commissions and buying them directly from the artists (Brozzoni enjoyed their acquaintance) and at exhibitions, especially those held in Brera, Milan. The Brozzoni painting collection, put together following the example of other important Brescian collections, is mentioned in contemporary guidebooks because of its highly selected paintings by important artists of the time⁵. The presence of a few Old Master paintings appears almost incidental and not particularly meaningful, since the modern paintings of Camillo Brozzoni's collection included works by artists of the calibre of Francesco Hayez, Giuseppe Canella,

³ For a complete presentation of Camillo Brozzoni, see: Peroni 2003: 25-54; Lucchesi Ragni and Mondini 2004: 11-21, in part. 15; Peroni 2007: 95-122; Gianfranceschi 2009: 33-42; Rapaggi 2011: 118-122; Mondini 2012: 19-33, in part. 25-30; D'Adda 2013: 301-316; D'Adda 2015a: 51-161, in part. 150-161.

⁴ Schivardi 1863.

⁵ Odorici 1853: 194-197.

Luigi Migliara, Giuseppe Bisi and Massimo D'Azeglio⁶. The clear predominance of living artists made Brozzoni's collection scarcely interesting to the eyes of Otto Mündler who visited the collector's house in 1857⁷. However, in his brief note on Camillo Brozzoni's house in Brescia, Mündler mentioned the existence of «a collection of articles of virtue» that many contemporaries considered to be the real highpoint of the Brozzoni museum: this collection was the selection of *objets d'art* that in a contemporary *Guida di Brescia* guidebook were described as «oggetti svariati di antichità e manifatture del medioevo» (various antique objects and medieval artifacts)⁸.

Besides glass objects, the collection included small bronze figures, maiolica, goldwork, cameos, medals, ivory objects, antique arms, tobacco boxes, all arranged in specifically designed display cases in the «sala prima» (first room) of Brozzoni's city residence along with his collection of prints. Particularly interesting is a commemorative article that was published in Milan in 1863 in «Il Politecnico. Repertorio mensile di studi applicati alla prosperità e alla cultura sociale» («The Polytechnic. Monthly publication of studies applied to social prosperity and culture»), a periodical directed by the politician and economist Carlo Cattaneo, traditionally in favour of progress and development in an openly European framework. The article described the Brozzoni museum as follows:

Especially [Camillo Brozzoni] engaged in collecting objects that could reflect the domestic life of the Middle Ages in Italy, outlining the novel of industry, so to speak. He therefore collected maiolica objects from various Italian manufacturers, most notable are those by *Mastro Giorgio da Gubbio*, some of them signed, some of them anonymous but nonetheless skilfully classified, alongside Etruscan vases and artifacts unearthed in Ercolano and Pompeii. He had a

⁶ Compare: Mondini 1989: 104, *passim*.

⁷ «S.r Camillo Brozzoni, the actual proprietor of the numismatic treasures of the Museo Mazzuchelliano has, besides, a collection of articles of virtù; antiquities; prints; modern paintings – some ancient ones – indifferent. I obtained a sight of the (2 or 3 different) medals of Isotta da Rimini, whose supposed likeness is among the Lombardi pictures»: Togneri Dowd 1985: 190.

⁸ Odorici 1853: 195.

beautiful collection of ivory objects sent to him from France; a small compensation for our many collections going beyond the Alps. He also collected bronze figures, damascened pieces, inlay work and carving, enamel objects, niello ware and various types of curiosities; always guided by his good instinct⁹.

The presence of this tribute on the pages of «Il Politecnico» becomes even more meaningful if we consider, besides the periodical's previously mentioned European vocation, also this magazine's interest in applied arts¹⁰. An interest that was based not only on the conviction that industrial production – and therefore progress – could benefit from the knowledge of traditional techniques, shapes and decorative solutions such as those represented in artifacts from the past, but also on the awareness that it was necessary to «timely train the people towards a sense of beauty, almost planting its seeds in their imagination». In the tribute published in «Il Politecnico», the incisive reference to the «novel of industry» effectively evokes the general trend that was manifesting throughout Europe based on the appreciation of decorative arts. A circumstance that led, among other things, to the creation of public collections, the publication of specialised texts, such as catalogues and repertoires, and – most importantly – to the creation of museums and public collections, often matched with the institution of art schools and great industrial exhibitions. Paris and London, two destinations of Brozzoni's journeys of which we have more or less direct documentation, were of course pivotal centres in this context: in 1843, the Museum of the Middle Ages at the Hotel de Cluny opened in Paris, where Edmond du Sommerard's collection of *objets d'art* was displayed together with other later additions, including the 1851 acquisition of the Jean d'Huyvetter collection with its numerous pieces of Venetian glassware. In 1852, the South Kensington Museum (later named Victoria and Albert Museum) opened in London, and that same year Royal collections were moved to Marlborough House, a residence that in 1853 became the seat of the National Art Training School, the future Royal College of Art. While mentioning these

⁹ Guastalla 1863: 142-144.

¹⁰ Compare: Lacaita 2001: 63-72; Mazzocca 2001: 129-138.

examples (and without considering other European ambits and the Italian context, where for instance there was Museo Correr in Venice) it is important to underline how Camillo Brozzoni conceived his idea of donating his collections to the museums of the city rather early on (prior to 1853) and how in Brescia there had been schools working for the promotion of artistic artisanship since the 1820s¹¹.

This particular aspect of the collection, places Camillo Brozzoni against an international backdrop, with which he certainly enjoyed a fruitful and productive exchange. We are not only referring to the collector's supposed trips to London and Paris, where besides the public collections there were also several and important private collections of decorative arts and glassware. We believe there are other aspects of interest, such as for instance the reference the author of the «Il Politecnico» article made to the «beautiful collection of ivory objects sent to him from France». This information, that unfortunately at present cannot be further examined, attests the existence of acquisitions made on the international market during a period of years (decades) that we know saw the dispersal of important collections, including glass collections. In addition, the presence of very few Brescian artifacts in Brozzoni's collection, supports the idea that his purchases were mainly made outside Brescia (although we cannot rule out the possibility that at that stage of great economic changes there might have been great aristocratic households in Brescia selling precious objects from their centuries-old family collections).

¹¹ Odorici 1853: 194 refers to the collector's «magnanimous purposes». For the schools and the arts and crafts promotion in Brescia in the first half of the 19th century, see: D'Adda 2013: 275-276. In particular, we can mention the school for stonemasons founded by Rodolfo Vantini in Rezzato (Rapaggi 2011: 164-165; Sala 2015: 155-186, in part. 155-156) and the school for typographers and chalcographers founded by Ludovico Pavoni in the St Barnabas' cloisters in Brescia, where were taught also the art of luxurious ligature, the art of the silversmith «for every kind of sacred ornaments» and the art of the carpenter «for frames as well as for splendid furnitures» (Cantù 1996: 283-328, in part. 301-302). For the «Moretto» school of arts and crafts, see: Ferrari 2009: 273-371, in part. 289-317, and Boccingher 2017. Finally, it is appropriate to mention the publication of *Ragionamento intorno la istruzione specialmente del popolo e le sue condizioni richieste dalla età nostra* («Reasoning about the people education and the qualification required by our Age»), written by Giuseppe Saleri, who was the President of the Athenaeum of Brescia and honorary member of the Academy of Fine Arts of Wien.

In particular, our studies have found several elements that support the hypothesis of a strong connection between Brozzoni and the London context. It is worth underlining how Brozzoni's adhesion to the European trends – English trends in particular – had its most spectacular and manifest expression in the creation of a large and lush English style garden, with many greenhouses for the cultivation of cacti, camellias and rare essences¹². The park was donated to the city alongside the art collections. Brozzoni's bequest also included the institution of a scholarship for young artists¹³.

With specific reference to the art collection ambit, the research that has been carried out in these years on the Brescian art enthusiasts milieu has provided clear proof of the connection between Camillo Brozzoni and a key figure of the Victorian London art scene: the German engraver Ludwig Grüner¹⁴. Originally from Dresden, Grüner was in Brescia for one year – 1826 – during his long formative travels across Italy, where he then decided to permanently reside, in Milan and Rome.

Grüner's connections with Brescian collectors are documented in his correspondence, mainly with Paolo Tosio, who was responsible for the important bequest that gave origin to Brescia's Pinacoteca. The letters tell us that Grüner worked as an art advisor and agent for several Brescian collectors, including Brozzoni: his main field of expertise was prints, but nonetheless the German artist also specialised in other acquisitions, making the most of his many international connections with artists, merchants and connoisseurs. His correspondence with Tosio stopped at the time of the Count's death: Grüner wrote his last letter to him from London where he had moved to in 1841, and where he soon had the opportunity to meet Prince Albert and Queen Victoria, presenting them some of his drawings of the Cathedral of Orvieto. It might be that his acquaintance with the Prince dated to his

¹² For the particular issue of the garden, see: Finazzi 2017: 19-31, with previous bibliography.

¹³ De Leonardis 2009: 11-20.

¹⁴ For the presence of Grüner in Brescia, see: D'Adda 2013: 284-293, 309-312; D'Adda 2015b: 64-73, in part. 69-73; D'Adda 2018: 103-112, in part. 111-112. For a general knowledge of Grüner see: Böckmann 2009, *ad vocem*; Marsden 2010, *passim*, and in part. 18-19; Marsden 2012.

trip to Rome in 1839, guided by Emil Braun, with whom Grüner had close commercial and personal relations. Also with him on his journey to England was sculptor Emil Wolff (1802-1879), who made a bust of Prince Albert in Rome in 1839 and another one in London in 1841.

In 1843 Grüner began working for the British Royals, and in 1845 he was given the title of Adviser in Art to the Queen (a title that had never and would never be assigned to anyone else), paired with an annual allowance. His duty at Court was to provide artistic advice and select painting acquisition. He was also put in charge of decoration, for the planning and coordination of great projects for the extension of the Royal residencies, and for the designing and realization of single objects, the most famous of which is certainly Queen Victoria's jewel cabinet¹⁵.

First, he was entrusted with the direction of the works for the Buckingham Palace Garden Pavilion, whose erection was celebrated in 1845 with the publication of a series of illustrated plates based on his own drawings; then, again in Buckingham Palace, he realized the Ball Room and Concert Room. But there is no doubt that among his most important works is his series of eighty plates published in 1850 under the heading *Specimens of ornamental art selected from the best models of the classical epochs* with captions by Emil Braun. Many of the artistic specimens of the series refer to north Italian monuments and there is even an antique Roman mosaic found in Brescia. Another Brescian artistic testimony – a hall inside a palazzo with frescoes by painter Alessandro Moretto – had also been included in a previous illustrated publication about decoration, entitled *Fresco decorations and stuccoes of churches and palaces in Italy*, published in 1844 with comments by Ludwig Grüner and an essay expanding on a comparison between antique and Renaissance *grottesche*.

Even in his role of royal art agent, the German artist must have profited from his Brescian experience: between 1854 and 1856 in Brescia he bought eight frescoes by Lattanzio Gambara now at the Palace of Holyrood House in Edinburgh¹⁶; a later and more important acquisition dates to 1861, when thanks to his mediation, the South

¹⁵ Marsden 2010: 256-257.

¹⁶ Lucchesi Ragni and Stradiotti 2008: 50-61, in part. 57.

Kensington Museum could include in its collections Floriano Ferramola's famous *Giostra* (*Tournament*), removed years before from a Brescian palace.

It is most likely that Brozzoni's personal acquaintance with Ludwig Grüner (who has recently been defined «an outstanding networker»¹⁷) allowed him to have direct access to the milieu where the English decorative arts revival was developing. Grüner might also have been Brozzoni's ticket to the most important English collections of the time. In particular, there exists a document testifying a possible exchange between Camillo Brozzoni and English collector Richard Ford (1796-1858), an esteemed Italian maiolica, Old Master painting, and prints connoisseur and enthusiast, whom Brozzoni might have met through Henry Wellesley. The latter had in fact come to Brescia in 1825 for a brief yet significant sojourn¹⁸. Among Camillo Brozzoni's prints there is one engraving by Ignace-Joseph de Claussin (1766-1844) that bears the mark of the Ford collection and has the collector's signature on the back: the information we have about the dispersal of Ford's print collection suggests that this specific work was not an acquisition but rather a gift the English collector made to his Brescian peer¹⁹.

Among the London-based glass collectors there was Felix Slade (1790-1868), a figure in many ways similar to Brozzoni. Slade has gone down in history for his will and its bequests. He bequeathed a considerable fund endowing three professorships of fine art and six scholarships at University College London to train youths in the art of drawing, painting and sculpture «to confer a benefit on society». Slade also left his extraordinary modern and old glass collection, alongside his ceramics and Japanese ivories to the British Museum.

There is a possibility that part of the over-two-hundred glass items of the Brozzoni collection was bought outside Italy, perhaps on the occasion of a great sale, such as for instance that of Ralph Bernal's collection comprising over two hundred pieces and that was sold in

¹⁷ Marsden 2012.

¹⁸ D'Adda 2013, 297-301: some letters attest the strong bond between Wellesley and Rodolfo Vantini, who was both Brozzoni's brother-in-law and advisor, and also the rapport between Wellesley and Grüner, who moved to London in 1841.

¹⁹ Lugt 1921: n. 485; Griffiths 1996: 113-133.

London at an auction in 1855. Among the buyers, we know there was the South Kensington Museum and the British Museum. So far, we do not know the provenance of Brozzoni's glass collection: what we do know, however, is that for the ivories the Brescian collector had a «bella raccolta» (a «beautiful collection») sent to him from France and that the glass collection was put together sparing «no care and no expense to make it all the richer»²⁰.

Besides the Murano glass, the Brozzoni collection also included other antique glass: this is the case for example of a small remarkable amphora with a spruzzo decoration that contained another colourless miniature amphora that was unearthed in 1853 during an excavation in the province of Brescia (Fig. 1)²¹. Most of the collection however, was made up of Murano glass pieces, including a great variety of techniques and shapes. Among the most ancient glass items, most notable are the marmorino glass cup, the famous light blue cup and goblet with enamel decoration (Fig. 2), and two rare oil lamps. The collection also includes several examples of filigree and reticello glassware. Also important are the examples of calcedonio glass (including the tulip vase), the aventurine and a number of pieces featuring the so-called «a penne» festoon-like decoration. Also of note are the examples of ice-glass, and of opalescent and etched glass, including a beautiful bowl with a lid and an elegant grotesque motif, and a mould-blown bowl dating to the late sixteenth, early seventeenth century²².

Originally displayed in the rooms of the Museo Patrio (whose seat was at the excavation of the ancient Roman temple, unearthed in 1826), the glass objects and the other valuable pieces of the Brozzoni collection found their ideal collocation in 1883, when the Museo dell'Età Cristiana (Museum of the Christian Age) was inaugurated, a few decades after Brozzoni's bequest, crowning the cultural project he had initiated (Figg. 3 e 4)²³. The museum, however, was closed down after World War II, and the glassware and the other pieces of

²⁰ Schivardi 1863.

²¹ Stella and Stradiotti 1987: 46 and 56, cat. 76a.

²² For an overview of the most important pieces of the collection, see: Barovier Mentasti and Tonini 2012.

²³ Boschi and Gianfranceschi Vettori 1985: 307-322, in part. 309-312.

the Brozzoni collection were displayed for a short period at the Museo della Città (Museum of the City) in the San Salvatore and Santa Giulia complex²⁴. This setup, dedicated to art collecting understood as a distinctive feature of Brescia's cultural history, was short-lived, since it was taken down in 2004, only five years after its opening.

It was only natural that in working at the reorganization of the city's main art museum – Pinacoteca Tosio Martinengo – we felt the need to return these treasures to public fruition, re-establishing their connection to the painting collections – a circumstance that complies with the founders' vision. The permanent display of the new Pinacoteca Tosio Martinengo includes goldwork, enamels, ivories, plaquettes, maiolica, small bronze figures and one entire room dedicated to Camillo Brozzoni's glassware collection (Fig. 5). This set-up isn't imagined to enhance the artworks either as individual pieces, or due to their technical and stylish characteristics; in fact, neither they're shown in a chronological order. The aim of the current display is to add value to the whole Brozzoni's gathering, referring to its opulence and variety, and in this very way the glassware collection is harmoniously integrated in the overall path of the Museum, where particular attention is paid to the History of Taste and Collecting occurred in Brescia in the 19th century.

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²⁴ Gianfranceschi and Lucchesi Ragni 2004: 145-163.

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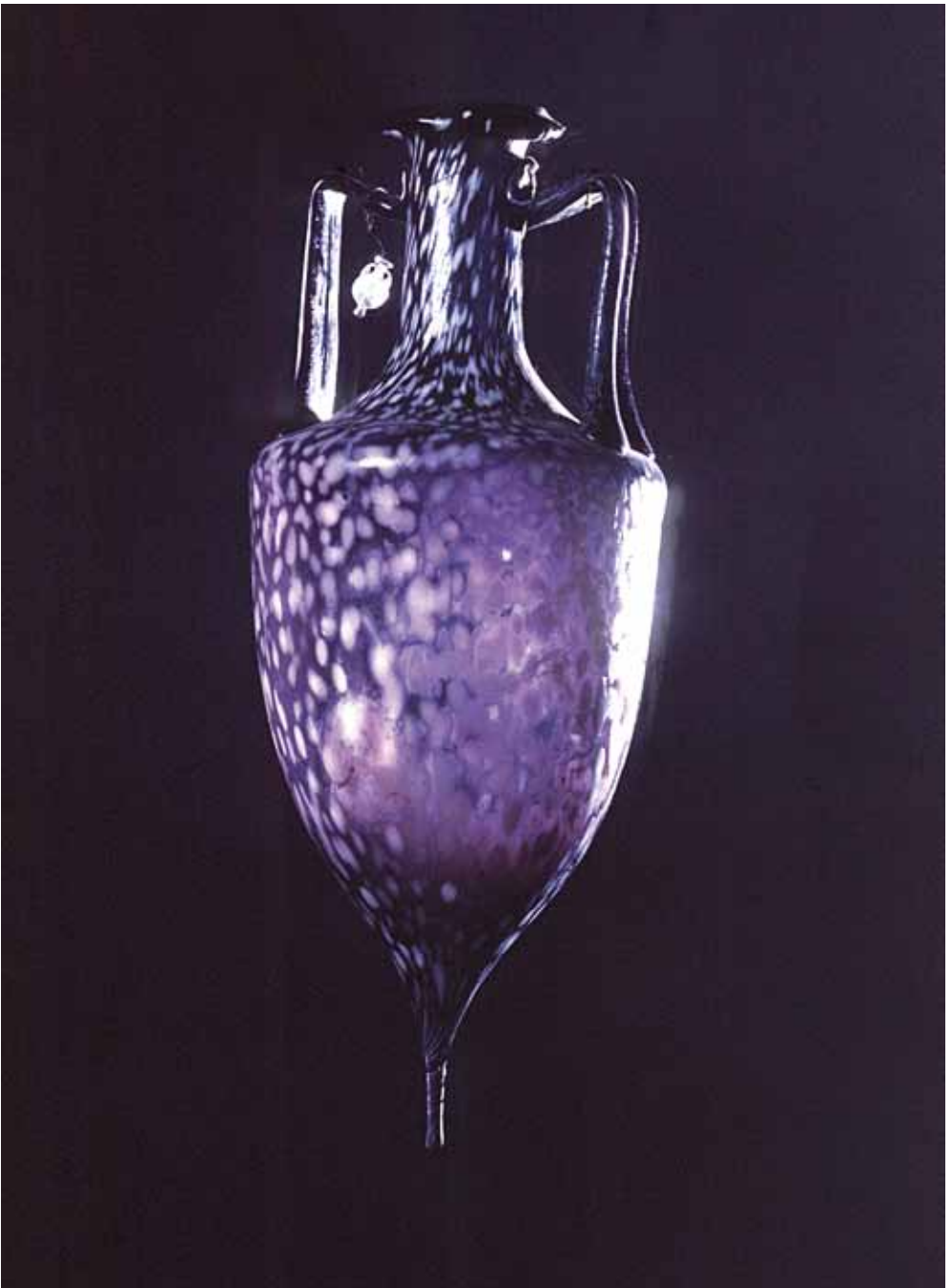


Fig. 1 - *Small speckled glass amphora*, first century AD, h cm 26.5. Brescia, Museo di Santa Giulia.



Fig. 2 - *Footed cup and goblet with a lid in blue glass with Gold Leaf and Enamel Decoration*, early 16th century, h cm 13.8 and 29.7. Brescia, Pinacoteca Tosio Martinengo.



Fig. 3 - *Boquetière*, chalcedony glass, late 16th - early 17th century. Brescia, Pinacoteca Tosio Martinengo.



Fig. 4 a,b - Old showcases with glasses at the Museo dell'Età Cristiana, second half of 19th century.





Fig. 5 - *Permanent glass collection displayed at the renovated Pinacoteca Tosio Martinengo.*

SILVIA FERUCCI

THE RENAISSANCE VESSELS FROM PADOA
SANTA CHIARA MONASTERY, PROBLEM-SOLVING
DURING THE CONSERVATION TREATMENT

The renaissance vessels found in 2000 during the archaeological excavation of the foundation of Santa Chiara monastery in Padua¹ were remains of what is now left of it, the religious building active between the 14th and 18th century was in fact demolished in the 1960s for new construction projects². The vessels found inside a midden were the remains of the domestic waste of the nuns, in Italian a *butto*³. The midden is where the food is disposed of, crockery and other exhausted tools and domestic materials are thrown away. The vessel's high level of manufacture and the refined and elaborated decoration showed that the nuns came from very wealthy families⁴. The vessels were mould-blown shaped and decorated with glass applications as well as enamelled and gilded ones. As soon as the glass fragments came to light it was clear that they needed urgent conservation treatment to guarantee their survival. Many of them showed a heavily degraded and altered surface with loose and lifted weathering. The superintendence conservators went on site for a first aid intervention⁵. The glass portions were cleaned and pre-consolidated in order to stabilize the most degraded situations. Two groups of vessels were selected to be displayed at Restituzioni⁶ exhibition, firstly in 2002

¹ Cozza 2011: 29-35.

² Cozza 2011: 9-16.

³ Cozza 2010: 84-88.

⁴ Cozza 2002: 136.

⁵ Cozza 2002: 144.

⁶ Restituzioni is a two-year program of conservation and restoration of Italian

and again in 2016. The first step of every conservation treatment is a detailed analysis of the state of preservation of the objects in order to find the most suitable conservation strategy. During this process the stereo-microscope is a very helpful tool and very important and precious information can be gathered and recorded⁷. The most striking feature of the glass finds was that some fragments were very well preserved, including the body and enamel decoration, but others showed strong degradation, iridescence, opalescence and partial loss of the enamelled decoration and of the glass body as well. The causes of this variety in the glass fragments accumulated in the monastery midden were the following: different level of temperature, humidity, aerobic or anaerobic conditions and adverse pH levels. The number of fragments, portion and shreds was very vast and, in order to find connections, all the pieces were examined for a long time on a wide surface just as a really big puzzle but with many missing pieces. It was soon clear that this phase was not easy, especially because portions belonging to the same vessel could have had a completely different appearance: enamel and gilded decoration could have been utterly lost leaving just a ghostly-evanescent trace, and transparent clear glass could have become entirely opaque. This research was time-consuming and it needed well trained eyes. The first group of objects selected for the Restituzioni 2002⁸ exhibition was the first choice, so most of the vessels were in quite good condition, with a complete profile, having just small losses, although some of them showed an altered surface with strong iridescence. The conservation treatment of this first group applied a *minimum* intervention approach thanks to the quite good conditions of the vessels; it mainly focused on the search of other fragments belonging to the selected shapes, assembling, gluing and very limited gap filling.

During the whole process, particular care was given to the decorated and very fragile surface, planning every step in order to interfere as less as possible with it. The complete removal of the few deposits left on the surface was carried on under the microscope,

works of art promoted and curated by Intesa Sanpaolo bank.

⁷ Pilosi, *et al*: 2001.

⁸ Cozza 2002:142.

focusing on the fracture surfaces. The removal of any deposits left was carried on under the microscope with cotton swabs and a mixture of deionized water, ethanol and acetone. In fact, even a tiny deposit along fractures could have led to the imperfect alignment of the junctures during the next reassembling phase. The fragments were joined together with tiny strips of adhesive tape put across the junctures, applied on the inside surface of the vessel in order to not interfere with the enamelled and gilded decoration on the external surface. The definitive adhesive used was Araldite 2020® Hutsman, an epoxy resin applied along the junctions from the inside where it penetrated by capillarity. Although this resin has a medium ageing resistance it has a short curing time and is easily found in Italy. Cyanoacrylate adhesive was applied, to support the fragments in the right position until the epoxy had completely cured, just one bowl could be supported with the metal bridge method⁹. Gap-filling is an invasive phase in glass conservation for its complexity and the necessity to manipulate the objects, so it was applied just where the objects needed support¹⁰. Using the direct method, the missing parts were filled with the same epoxy used as adhesive adding pigments. Two-sided moulds with the outer wall made of dentist wax and the inside one made of high definition dental silicones were created, using straws to pour resin inside from the lower side¹¹. The hole in which the resin penetrated inside the mould was just half of a millimetre in diameter¹². The direct method is often considered too invasive but if it follows very definite and precise steps it gives a good aesthetic result with the need of just minimal refinement after the resin has completely cured¹³. After fourteen years the second group of vessels was selected for the exhibition, they were in a worse preservation state with many losses, so a complete reconstruction was requested. A new search among all the glass finds was carried on focusing on the second group of items, in this way many fragments connecting

⁹ Davison 2003: 276.

¹⁰ Martínez, Betlem Pasíes Trinidad and Amparo Peiró Maria: 2011: 41-54.

¹¹ Eckmann 1995.

¹² Ferucci 2014: 55-61.

¹³ Ousset 2005.

to the vessels enabled the conservation team to rebuild the complete profile of most of the vessels and proceed with their reconstruction. Only one object belonged to both groups, a prunted beaker, with a trailed and pincer foot-rim decorated with a gilded band and enamelled dots; it was assembled during the first treatment in 2002, and it was chosen again, to be completely reconstructed during the second treatment. The large missing parts in the upper side and some rim portions without connection with the body made the gap filling quite complicated. The choice of methods and materials to use during the various phases of the conservation treatment was the real challenge while projecting the reconstruction. The degraded surface, when examined under the microscope, highlighted that further cleaning was needed just in very limited areas. Among the problems faced, the main one was stabilizing the fragile surface to allow to proceed with the successive steps that forcedly implicate manipulation. The application of an acetone solution of Paraloid B72® gave the best results while tests implying the use of protective nano-silica treatments based on sol-gel technologies didn't appear to have enough cohesive strength to increase the surface's stability. The same acrylic resin, but at a higher concentration, was chosen as an adhesive for some of the vessel¹⁴. This choice gave some advantages, the most important one being the complete reversibility and the minimal use of strips of adhesive tape during the reassembling phase that could have interfered with the fragile surface¹⁵. For the blue honeycomb moulded bowl with one handle, Hxthal NYL resin was more suitable as an adhesive because the surface was more stable to bear the use of adhesive tape, and in some parts the wall was very thin. Another challenge was again loss compensation: when possible a detachable resin fill was created and then assembled as a fragment applying indirect method¹⁶. In situ compensation was also implied, with just one external mould wall made of dental wax or with two-sided moulds made of high precision dental silicone. In the first option, glass microballoons were added to the epoxy in order to make it opaque and dense enough to be applied

¹⁴ Koob 2006: 57-64.

¹⁵ Ferucci 2016.

¹⁶ Koob 2006: 95-102.

vertically. To resemble the original glass appearance micro-pigments were also used¹⁷. A minimal refinement to the rim and the bottom with no decoration was performed after the resin had completely cured. Other indirect methods were taken into account, but extensive manipulation of the objects and the particular shape of the missing parts made them unsuitable. The conservation projects involving these two groups of renaissance vessels showed the importance of planning in advance glass conservation treatments in order to create tailored solutions for each case.

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Fig. 1 - *Nipt-diamond-waies* bowl with trailed and pincer foot, rim with enamel and gilded decoration before conservation in the first group (© SABAP Padua).



Fig. 2 - *During the examination with the digital microscope* (© SABAP Padua).
 Fig. 3 - *The second group after conservation* (© SABAP Padua).

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FROM HISTORICAL MURRINE/MILLEFIORI GLASSES, MOULDED GLASSES AND PRUNTED GLASSES TO XXI CENTURY GLASSES USING THE SAME TECHNIQUES

Glass making in the arts and crafts community frequently utilizes time honoured techniques as a point of departure. Whether replicating Roman forms that only exist today as drawings, referencing centuries old Venetian traditions, or looking to «Art Nouveau» practices, we regularly see examples of history being made contemporary in glass. One can find vases made with Venetian filigree technique and lustered glass using the techniques developed by Arthur Nash and Leslie Nash¹ for Tiffany. The old is often made new in locations that circle the globe!

In this exploration, traditional techniques were employed with a novel aim. That is, to use techniques such as murrina/millefiori, prunted decoration, and vessels with mascerons in combination with luminescent glasses, where colours are only manifested under UV light, and to explore moulding within these parameters. The special nature of luminescent glasses would become an increasingly important part of this study. Under ultraviolet light sources, the traditional way of seeing the decorations on glass could be «inverted» in such a way as to rethink their decorative role. For instance, by making murrina from varying layers of opaque white glass, a nearly invisible pattern under visible light could be revealed in vivid contrast under ultraviolet light

* Presenting authors.

¹ Nash and Nash 1896-1910.

display. A «white on white» murrina under UV thus transforms into a previously unexpected pattern. In addition to the initial colour effects, the contemporary artist might also be drawn to the deeper scientific and philosophical implications of the material. The fact remains that the visible light involved in the luminescent glasses is birthed within the piece.

As a studio-laboratory investigation, a joint effort by both scientists and artists was needed in order to proceed, involving collaborations between Italy and Portugal. A number of the examples from this project were made with Effetre white opaque glass doped with terbium and europium lanthanide oxides which give rise to orange-red and green luminescent colours, respectively. Some others involved transparent glass doped with the same oxides, produced at CENCAL. The idea of working mainly with white opaque glass doped with these lanthanides was based on the higher intensity of the luminescence obtained when compared with the transparent glasses also doped with the same oxides. The luminescent white opaque glasses were made by milling Effetre white opaque glass and adding europium or terbium oxides depending on the desired luminescent colour. The mixture was agitated for one hour in a powder shaker (TURBULA®). Afterwards the batch was heated in a crucible and left at 1400 °C for two hours. The glass melt with europium was left to cool in the furnace and the one with terbium was poured on a metal plate and further annealed. The studio team also employed a practice referred to as the *VICARTE Method*. This approach, regularly used to replicate ancient glass compositions for study, involves pouring glass from a laboratory crucible directly onto the glass blowing pipe. This «upside down gathering» technique allows the investigator to produce much smaller quantities of glass than normally required for traditional off-hand glass making, allowing for rapid changes of colour and composition with relatively low overheads. After retrieving the needed material, the glass blower then returns to the reheat furnace and follows tradition, pulling and stretching canes, applying overlays of non-doped colours, pick-ups, etc. Based on traditional murrina/millefiori glasses, moulded glasses, pruned glasses and vessels with maskeron, a series of glass objects were made, which under ultraviolet light reveal interesting effects. In the following text a short description of each technique is made.

Traditional glass murrina vases are generally blown freehand without using moulds. Small moulds are often used to make the individual murrina millefiori. Fratelli Toso glass-factory produced a wide variety of murrina throughout its long history (1854-1980). Between the end of 1800s and 1920/1925 they produced a large number of traditional murrina millefiori with many different shapes, colours and sizes. A few examples of the collection of Fratelli Toso millefiori glasses are shown in Fig. 1 including the moulds used for making the murrina canes. Contemporary glass works made in the Venini Studio by slumping of millefiori glass are also shown in Fig. 2. *Canna a fili* of a luminescent white opaque glass either with one colour (using also no luminescent glass) or with two different colours were made at VICARTE and used in some murrina/millefiori pieces. *Canna a fili* with two transparent luminescent colours were also made. The created objects are shown in Fig. 2 as well as their application in one vessel. As a completely new process experiment, at the very least to the members of this international research group, some interesting surprises were observed. For instance, in the two murrine millefiori images shown (Fig. 2 g and h), one with white colour under natural light and the other green under UV-light, the contact between the individual canes became quite transparent. Whether the lost opacity owes to heating when making the canes, surface tensions during cooling, or some yet unknown cause, these border areas did not form the crystals to opacify. Additionally, as these glass formulations were created specifically for this investigation, data observed within the process holds potential for contemporary problems in formulating opaque white glasses in general.

Other traditional techniques consists in prunts application in to glass objects. Accordingly to Marco Verità *et al.*², «Vessels decorated with “prunts” (small blobs of glass applied to the wall of a beaker) were in used in southern Germany, Switzerland and in parts of Italy during late Medieval and Renaissance periods». Two important papers were published about these type of vessels³. Accordingly to Cristina Tonini «bosses or prunts were also applied to glasses in Venice»⁴. Examples

² Verità, Zecchin and Tesser 2018.

³ Baumgartner and Krüger 1988; Foy and Bailly-Maître 2014.

⁴ Tonini 2018; Zecchin 1987.

of prunted vessels from the Corning Museum of Glass are shown in Figure 3, as well as prunted glasses made in this work using transparent luminescent glasses.

Maskerons have also been widely used in glass vessels. The vases shown in Fig. 4 were made by Compagnia di Venezia e Murano (1866-1888) and are now in Palácio Nacional da Ajuda in Portugal. In this work several vases with lion masks were pressed with a mould using opaque white glass without and with terbium oxide. One example is shown in Fig. 4 where a lion mask with a green luminescent colour is observed.

As a conclusion this work aimed to demonstrate the continued possibilities and creative richness still to be explored from the starting point ancient or archived glass object. By choosing this point of departure, it is possible to create novel and perhaps interesting glass pieces. The obvious need for adequate light controls notwithstanding, there seems a new pathway for contemporary decorative arts awaiting further exploration.

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Fig. 1 - a) Vaso Millefiori Fratelli Toso; b) Murrina Millefiori Fratelli Toso; c) Two ancient moulds Fratelli Toso; d) Fratelli Toso catalogue, 1925 ca.

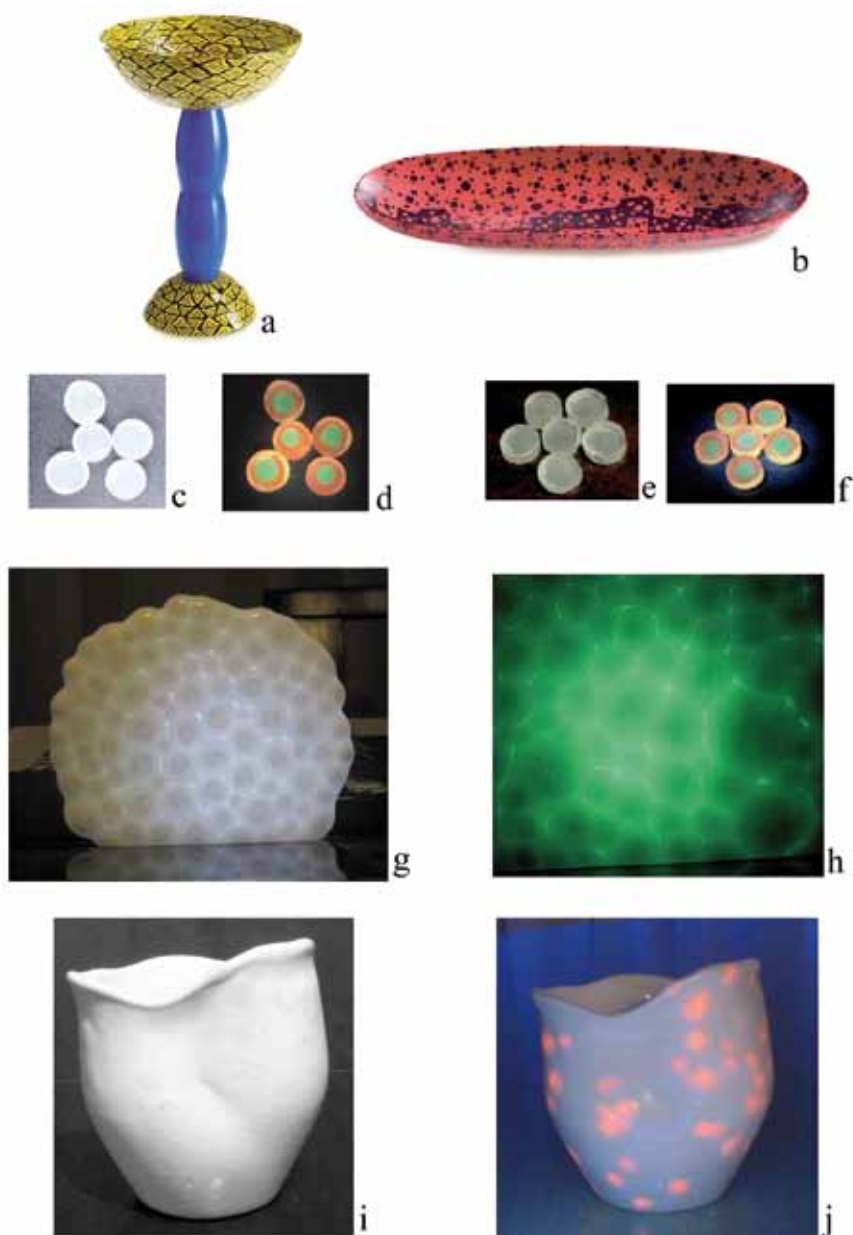


Fig. 2 - a) Grande Alzata, VENINI; b) Murrina opaca canoetta, VENINI; c and d) Murrina made with two layers of white opaque glass doped with europium and terbium using the traditional technique (c) under natural light (d) under UV light; e and f) Murrina made with two layers of transparent luminescent glass doped with europium and terbium, using the torch (e) under natural light (f) under UV light; g) Flat glass of murrina/millefiori with white opaque glass illuminated from behind with white light; h) Flat glass of murrina/millefiori doped with terbium under UV light; i and j) Vase made with opaque white glass, with murrina/millefiori doped with europium; (i) under natural light and (j) under UV light.



Fig. 3 - a) Prunted beaker; made in Germany, 1400-1599, collection of the Corning Museum of glass 50.3.38; b) Prunted beaker, probably made in Germany, 1401-1600, collection of the Corning Museum of Glass 54.3.105; c) Prunted beaker, made in Central Europe, 1200-1394, collection of the Corning Museum of Glass 2009.3.50; d, e, f) Prunted beakers under natural light, Marinha Grande, Portugal 2018; g, h, i) Prunted beakers under ultraviolet light, Marinha Grande, Portugal, 2018. In the Marinha Grande glasses the prunts were made with transparent glasses doped with europium or terbium.

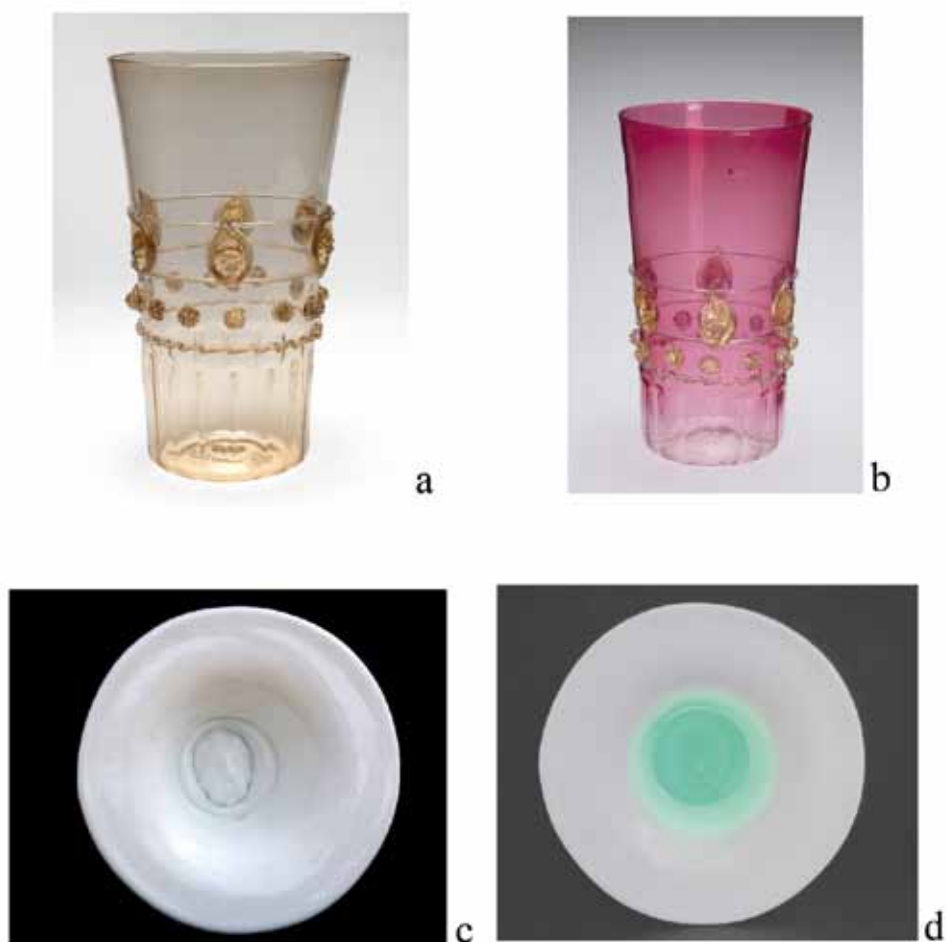


Fig. 4 - a and b) Two beakers with lion masks, Compagnia di Venezia e Murano, 1866-1888, *Ricordo di Venezia*, Exhibition Catalogue, 2015, Palácio Nacional da Ajuda; c and d) Small vase with a pressed maskeron (lion head). (c) under natural light and (d) under ultraviolet light. The maskeron was made with white opaque glass doped with terbium (Photos, a- João Paulo Rua, b- Luisa Oliveira, Direção-Geral do Património Cultural / Arquivo de Documentação Fotográfica (DGPC/ADF)).

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Higher Education
Course
Study Days
on Venetian Glass
Moulding
and Applying
Hot Glass
through
the Centuries

Istituto Veneto di Scienze,
Lettere ed Arti
10, 11, 12 September 2018



Istituto Veneto
di Scienze Lettere
ed Arti



the **Venice**
GlassWeek
9-16 September 2018



The Venice Glass Week

Venice, 9-16 September 2018

PROMOTING COMMITTEE

Fondazione Musei Civici Veneziani
Stanze del Vetro – Fondazione Cini
Istituto Veneto di Scienze, Lettere ed Arti
Consorzio Promovetro
Comune di Venezia

Fondazione MUVE, Stanze del Vetro - Fondazione Cini, Istituto Veneto di Scienze, Lettere ed Arti, Consorzio Promovetro Murano and Comune di Venezia, are promoting the first international festival devoted to Murano glassmaking. All the major institutions of Venice are invited to take part. The aim of the festival is to revive and promote the most important artistic and industrial activity of Venice.



Istituto Veneto
di Scienze Lettere
ed Arti

The program of the festival will include exhibitions, conferences, seminars, screenings and open-days of furnaces.

A new far-reaching program of events devoted to glass – the main artistic and economic driver in Venice known throughout the world – is scheduled to take place in Venice from 9th to 16th September 2018.

The main promoters of the festival are important city institutions that already have experience in this field: Fondazione Musei Civici di Venezia, Stanze del Vetro – Fondazione Giorgio Cini, Istituto Veneto di Scienze, Lettere ed Arti, Comune di Venezia and Consorzio Promovetro Murano the most important association in the glass sector, which also manages the Vetro Artistico Murano trademark of the Veneto Region.

The Venice Glass Week will feature exhibitions, conferences, seminars, educational activities, screenings, events, the opening of the furnaces to the public and other happenings all linked to artistic glass. Besides the initiatives organized by the five main promoters, the program envisages to include events promoted by all those who wish to participate in the festival. About a hundred partners, including foundations, art galleries, glassworks, museums, cultural institutions, universities, training centers and private collectors have already confirmed their participation in the festival.

The Study Days on Venetian Glass 2018, in its seventh edition, take place in the context of The Venice Glass Week and 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 three Study Days a rich programme features seminars, lessons, visits and practical demonstrations of the ancient techniques, with papers and communications by scholars, 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 an opportunity for in-depth study and encounters, with an ample exchange of knowledge and experience to glass historian.

Thanks to this initiative, started in 2012, Venice may become the world centre for the study of old and contemporary glass and also an outstanding meeting place for scholars, artists and collectors.

Higher Education Course

Study Days on Venetian Glass

Moulding and Applying Hot Glass through the Centuries

Istituto Veneto di Scienze, Lettere ed Arti
September 10-12, 2018

**CORNING
MUSEUM
OF GLASS**

Ecole du Louvre



LE STANZE DEL VETRO



We would like to thank Fiorella De Boos Smith and her husband Phillip De Boos Smith for the loan of some works of glass exhibited during the Study Days.

With the support of
Corning Museum of Glass
Ecole du Louvre
Fondazione Musei Civici Venezia
LE STANZE DEL VETRO
Venice Foundation
Victoria & Albert Museum

Organised with the collaboration of
AIHV- Association Internationale pour l'Histoire du Verre -
Comitato Nazionale Italiano
LAMA – Laboratorio Analisi Materiali Antichi dell'Università IUAV
Museo del Vetro-Fondazione Musei Civici Venezia

Co-financed by the Regione Veneto

Thanks to Riedel Crystal

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; Training and consistency of glassmaking in the Museums collections; Recovery techniques and ancient models during the nineteenth century.

The seminars will be completed by a tour of the Murano Glass Museum and by a practical demonstration in a Murano glassmaking studio.

Scientific Committee

ROSA BAROVIER MENTASTI, Glass historian

SANDRO FRANCHINI, Istituto Veneto di Scienze, Lettere ed Arti

WILLIAM GUDENRATH, Corning Museum of Glass

LORENZO LAZZARINI, The LAMA- Iuav University of Venice

SANDRO PEZZOLI, Collector

LINO TAGLIAPIETRA, Artist and glass master

CRISTINA TONINI, Glass historian

MARCO VERITÀ, The LAMA- Iuav University of Venice

Secretariat

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MONDAY, 10th SEPTEMBER

SESSION I

Chairperson **ROSA BAROVIER MENTASTI**

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

10.00 a.m. **BERND ROECK**
Beauty, Glass and Ideas - Cultural Exchange between Venice and Germany in the Renaissance.
Abstract - The lecture offers a broad overview of the main tendencies of cultural exchange between Venice and the north, particularly emphasising the importance of Venetian glass. In doing so, it will trace the contours of the debate surrounding the question as to why the Venetian high-quality glass was further used for the construction of technically sophisticated instruments, e. g. telescopes and microscopes. These inventions were made only in Europe, especially in Italy, Germany and the Netherlands, while in other countries such as China or India this was not the case. The issue is to underscore the world-historical significance of glass production, which seems to be currently under-represented in general debates about the causes of the "great divergence" between the West and the "rest".

11.00 a.m. **COFFEE BREAK**

11.30 a.m. **ROSA BAROVIER MENTASTI**
Mould shaping and mould blowing
Abstract - Venetian blowers of the Renaissance frequently made mould-shaped and mould-blown glass vessels and mould are listed in the inventories of Murano glassworks, but generally without any identification of their patterns. The most common mould was the ribbed dip mould, fit for meza stampaura decoration, which goes back to the middle of 15th century at least. It lasted for centuries. Other moulds were used for blown decorations, sometimes very simple, sometimes complex, similar to fresco decorations or the ones carved on marbles of the Italian Renaissance.

12.30 p.m. **LUNCH**

SESSION II

Chairperson **MARCO VERITÀ**

2.00 p.m.

CRISTINA TONINI

Renaissance Venetian vessels: moulded and with applied prunts.

Abstract - Renaissance glass vessels with mould blown bosses were made at Murano in the last decades of the 16th century. Some Venetian glass items show this type of decoration in addition to those with moulded gadroons, beasts and human heads. Bosses or prunts were also applied to glasses in Venice. Among these, *imperlati* and *gropolosi* glasses, mentioned in Venetian and Italian documents, were produced in the muranese glassworks during the Middle Ages and the Renaissance; therefore attesting to their enduring success over a long period of time. Some of these were also exported to German countries where they were in fashion and highly appreciated. Archive papers, figurative sources, glass vessels and archeologic findings from the Venetian area are useful references to document the spread of this type of vessel and the variations in form and decoration it witnessed throughout the centuries.

3.00 p.m.

MARCO VERITÀ¹, SANDRO ZECCHIN², ELENA TESSER¹

Were Late Medieval-Renaissance prunted beakers made also in Venice? An archaeometric investigation of archaeological findings.

1 –LAMA Laboratory, Iuav University, Venice (Italy)

2 – Independent scholar, Venice (Italy)

Abstract - Vessels decorated with "prunts" (small blobs of glass applied to the wall of a beaker) were in use in southern Germany, Switzerland and parts of Italy during late Medieval and Renaissance periods. Several circumstances intrigued Luigi Zecchin and other scholars about a production of this type of objects also in Venice:

- The appearance of these beakers in paintings depicting table settings in the Venetian area, and in the decoration of a capital of the Ducal Palace in Venice;
- Venetian documents (the earliest one dates to 1276) referring to *imperlati* (with applied beads) or *gropolosi* (with applied prunts) beakers;

- The finding in archaeological excavations of fragments of pruned beakers in the Venetian lagoon and in other areas of the Venetian Republic.

The aim of this work was to analyse some Late Medieval and Renaissance pruned glass fragments from archaeological excavation in the Venetian lagoon and in other areas of the Venetian Republic, and to compare their chemical composition with the available database on Venetian glass. A compositional correspondence has been demonstrated, which provides further evidence of a local production of this peculiar type of glass.

4.00 p.m.

COFFEE BREAK

4.30 p.m.

SPEECHES OR COMMENTS BY PARTICIPANTS

KAROL WIGHT

The ancient Roman origins of Mold-blown Glass.

Abstract - Venetian mold-blown glass had its origins in antiquity with the development of mold-blown glass in the first century A.D. Among the earliest, and finest, of these Roman works were elegant cups and ewers designed by Ennion and his contemporaries. A review of the shapes, designs, and manufacturing techniques used to make these works will be presented.

TUESDAY, 11th SEPTEMBER

SESSION III

Chairperson **ROSA BAROVIER MENTASTI**

9.30 a.m.

WILLIAM GUDENRATH

Of Moulds and Morise: a Survey of their types and processes in Renaissance-period Venetian Glass.

Abstract - Fundamental to the visual signature that instantly tells us that we are looking at a piece of Venetian (or Venetian-style) glass are the shapes and optical 'textures' created by a) the use of various moulds and forms, and b) applications, or 'detail-work' created by additions and manipulations of freshly-gathered bits of molten glass.

"Moulds" are used during the inflating of glass and are of two different types: Dip-moulds (often called 'optic-moulds' because with transparent glass they produce lens-like optical effects) are used early in the blowing process. Here, the bubble is always further inflated and shaped after the mould's use.

Distinctly different are full-size blow-moulds: These are used later in the glassblowing process, and almost instantly give the inflated glass its final size and shape. Optionally, decorative contours like ribbing, or lion-head portraits can be carved into the moulds.

By contrast, "forms" are typically used in the post-inflating stages of the glassworking process. Often, a form's use is the last procedure carried out by the glassblower.

Applications (often called 'bit-work' by English-speaking contemporary studio glass artists) of molten glass added to an object can be as simple as a trail or thread, or they can be as complicated as the various types of intricate chain-and scroll decorations seen on 17th and early 19th-century Venetian and Venetian-style glasses. In many cases, elaborate applications allow the artisan to display a degree of speed and dexterity unique to Muranese maestri—and Muranese-trained maestri. In the lecture, a great range of both moulding and application processes will be explored, in part with the aid of video illustrations.

10.30 a.m.

SPEECHES OR COMMENTS BY PARTICIPANTS

MICHEL HULST

The use of moulds in 17th century Amsterdam glasshouses, archaeological evidence from excavated façon de Venise glasshouse sites.

Abstract - From the early 17th century, Amsterdam had several glasshouses producing a high quality façon de Venise. There is archaeological evidence on the production waste of glass houses showing a chronological development of improving glass quality and different shapes. Moulds were used to a large extent. At the beginning of the 17th century, two-piece moulds were mainly applied for the production of lion stems while maskérons were mould-pressed. Later, on the use of optical moulds and moulds for shaping is becomes the dominant technique.

This paper will discuss the excavated material from the glasshouse of Soop (1601-ca 1625), the first glasshouse De Twee Rozen at Keizersgracht (1621-1660) and the second location of De Twee Rozen (1660-1679). On the basis of these finds a chronological overview will be presented of the development of glass making in Amsterdam and the use of moulds.

10.50 a.m.

COFFEE BREAK

11.30 a.m.

KITTY LAMERIS

Filigree glasses decorated with moulds and appliques.

Abstract - Filigree glasses are glasses made with the use of canes. Although the effect of the canes alone arrests the eyes devastating, sometimes these glasses have also been adorned with other techniques in combination with the filigree.

Right from the start, some filigree glasses have been decorated using a mould. In some cases it has a spectacular effect, in other cases the canes almost hide the pattern of the mould. Other glasses have been beautified with small appliques of, for example, lion heads.

In this talk I will discuss the different types of mould-blown filigree glasses and some of the appliques that were used on filigree glass, in the sixteenth, seventeenth and early eighteenth century.

11.50 a.m.

OLGA IVLIEVA

The soviet moulding glass from the collection of the State Museum of Ceramics (Moscow).

Abstract - The report is devoted to the Soviet glass items from the collection of the State Museum of Ceramics, which were made in the twentieth century in the molding technique. The examples of Soviet artists' objects demonstrate different ways of molding with a variety of methods of decoration, based on technological experiments and creative searches in work with the material. Some of those findings formed the basis for the artistic method of working with glass and founded the original manner of the artists.

12.10 p.m.

REINO LIEFKES

Pecten shells, bunches of grapes and stringed instruments.

Abstract - A comparative case-study of a 17th-century type of trick-glass, using rare surviving examples as well as pictorial and graphic sources, illustrates some of the most enduring mould-blown shapes in Venetian glass.

12.30 p.m.

LUNCH

SESSION IV

Chairperson

MARCO VERITÀ

2.00 p.m.

SPEECHES OR COMMENTS BY PARTICIPANTS

**ANDREIA RUIVO, ANTÓNIO PIRES DE MATOS*,
CATERINA TOSO*, CRISTIANO FERRO, FERNANDO ESPERANÇA,
ROBERT WILEY**

From historical murrine/millefiori glasses, moulded glasses and printed glasses to XXI century glasses using the same techniques.

Abstract - Traditional glass murrina vases are generally blown freehand without using moulds. Small moulds are often used to make the individual murrina millefiori.

Fratelli Toso glass-factory produced a wide variety of murrina throughout its long history (1854-1980). Between the end of 1800s and 1920/1925 they produced large numbers of traditional murrina millefiori with many different shapes, colours and sizes.

A few examples of the collection of Fratelli Toso millefiori glasses will be shown. In addition, newly crafted murrina in

luminescent glass as produced at VICARTE will be displayed, including vessels made by slumping. The luminescent glasses were made by doping both transparent and opaque white glasses with europium and terbium oxides.

Several glass pieces made with hot bit surface decoration will be shown, using not only conventional colours but also luminescent glasses.

*Presenting authors.

2.20 p.m.

DANA ROHANOVÁ and HEDVIKA SEDLÁČKOVÁ

Mold-blown and applied decoration on the glass produced in Czech lands.

Abstract - The coiled prunts were the main type of decor on the goblets produced in the Czech lands during the Gothic period (i.e. tall goblet - Bohemian style). Several hundred coiled prunts were applied on the goblet surface, and thus their production was time-consuming. Progressive reducing of their number ensured the availability of glass vessels for less wealthy citizens. From the second half of the 15th century, the, more effective decor of the crumpled fibers was made by a small stylus. A further way in the decoration of tall as well as low goblets were vertically applied glass fibers decorated with blue grains. Mold-blown (a shaping with a relief) objects appear in lesser extent and their production is confirmed by the wood forms from glass workshops. This way was used as the main decor on the goblets, beakers and jugs/ewers on the regional glass during the Renaissance period. It was cheap and quick processing of goods intended for the wide spectrum of customers. Very popular were the nodes have blown to the relief forms inspired by Venetian glass. In addition to favorite "lion mascarone" the new patterns appeared on domestic glass products. The applied decor is rare, mostly simple wrapped fibers separated parts of the glass vessel. Decor, taken from Venetian glass, such as "mezza stampaura", appears in the final period of the Renaissance period and at the beginning of the Baroque period. In the Czech lands, during the Gothic to the Baroque period, glass was produced using beech ash and potash (leached from the beech ash). The glass with applied prunts belongs to the potassium-calcium type. The mold-blown glass made during renaissance was produced from calcium-potassium glass. Blue grains applied to the fibers were colored by cobalt (Co).

2.40 p.m.

ROBERTA D'ADDA

The Camillo Brozzoni glasswork collection now at Musei Civici di Brescia: a "novel of industry" reflective of European models.

Abstract - The glasswork collection of the Musei Civici di Brescia was put together during the first half of the nineteenth century by upper middle class Brescian art enthusiast Camillo Brozzoni: a collection that contemporaries defined "a novel of industry" that was conceived in a cultural framework receptive to European trends and precociously ready to show appreciation of Renaissance craftsmanship techniques and typologies, regarding them as models to educate and perfect the skills of young artists.

The authenticity of the over two hundred pieces that form the collection dating from the end of the fifteenth century to the eighteenth century is guaranteed by the early date of its formation. Alongside a number of extraordinary well known masterpieces, the Musei Civici di Brescia collection documents with a wealth of examples a wide variety of techniques and typologies of Murano glassworks, as confirmed by the new recently presented display part of the permanent set up of Pinacoteca Tosio Martinengo.

3.00 p.m.

SILVIA FERUCCI

The renaissance vessels from Padua Santa Chiara monastery, problem-solving during the conservation treatment.

Abstract - In 2000 during the archaeological excavation of Padua Santa Chiara monastery foundations, active between the XIV and XVIII century, glass finds were part of what was left of it, but as soon as the glass fragments were found, conservation treatment was needed in order to guarantee their survival. The vessel's high level of manufacture, richly decorated also with applications and mould-blown shaped indicates that the nuns came from very wealthy families. Two groups, were selected to be displayed at Restituzioni in 2002 and 2016 exhibitions, and conservation strategies had to be found. The importance of planning in glass conservation is shown and the need to create tailored solutions for each case. The first step for all vessels was performing a detailed examination to find out the most suitable treatments. The unexpected difficulties faced during the process sometimes brought to choose different methods than the ones planned before. The conservation process was a

moment when very important and precious information about the objects were gathered and recorded while they were all examined in detail.

3.30 p.m.

COFFEE BREAK

4.00 p.m.

SVEN HAUSCHKE

The Venetian glass collection of Duke Alfred of Sax-Coburg and Gotha at the Veste Coburg – reopened in new light as a „glass treasury”.

Abstract - The talk will focus on the new permanent Historical Glass exhibition at the Veste Coburg. The valuable glass items of the Art Collections now shine more brightly than before. Following extensive renovation, the entrance to the former congress hall has been converted into a veritable treasury, housing glass from around five centuries.

The core of the display, which comprises some 700 items, consists of the large collection of glass amassed by Duke Alfred of Saxe-Coburg and Gotha (1844-1900).

It includes Venetian glass, including delicate winged glasses, enamel-painted bowls and vessels made of agate glass. The collection further includes a large number of Baroque cut-glass items. Some of the glasses have hot glass decorations with applied prunts, but actually there are no proper mould-blown pieces except the samples with the typical lion-mask stem.

4.20 p.m.

SARA EMANUELE and ELENA PETTENÒ

The Monastery of Santa Chiara in Padua: Transparent Memories. The glass.

Abstract - An archaeological survey was conducted in 2000 in the area occupied by the Monastery of Santa Chiara until it was demolished in the 1970's and which is now the courtyard of the Police Headquarters. The excavations revealed a hexagonal underground structure made of bricks bound with mortar. The lack of specific information in the archives and the absence of characterising architectural features hinder the definition of its original function. However, some plausible ideas have been put forward: for example, it has been suggested that it might have been an ice-house that was also used as a larder to conserve food also in the summer months, an idea that seems to be corroborated by some architectural elements. The sections revealed by the excavation lead one to suppose

that the structure was used for this purpose from the mid 1300's until the mid 1400's and was then used as a dumping ground until the 1560's. This interpretation arises from the amount and exceptional nature of the material found there. Indeed, it contained a remarkable number of ceramic wares, glass fragments in quantities in addition to numerous objects in iron and remains of other materials, including engraved bone, wood, leather and fabric that were thrown into the structure when it was converted to the monastery's dump. The restoration and the study of the materials under the supervision of Francesco Cozza, whom we thank for the title of this speech, have allowed the reconstruction of the vicissitudes of this religious complex within the broader context of Padua's history.

4.40 p.m.

RAINALD FRANZ

Moulding and Applying Hot Glass through the Centuries"
Mould glass and Hot Glass Decoration in Austrian Glass from the 16th to the 20th century and from Ambras to Vienna.

Rainald Franz, Curator of Glass and Ceramics, MAK-
Österreichisches Museum für angewandte Kunst /
Gegenwartskunst, Wien, Austria

Abstract - The glass decoration technique of hot glass application and the use of moulding forms have a long tradition in Austrian artistic glass, dating back to the Renaissance. Venetian glass objects imported for the noble courts and the Emperor made the techniques familiar. Moulding glass served as the alternative for glass forming instead of the Northern cutting techniques. From the 16th until the 20th century, moulding and hot glass decoration were taken up again and again in order to simulate Venetian glass and to compete with Venetian products. The lecture shows examples from the MAK-Collection and Austrian private collections.

WEDNESDAY, 12th SEPTEMBER

SESSION V

9.30 a.m.

Two demonstrations at the Studio of Davide Salvatore: William Gudenrath (moulding and applying techniques) and Mattia and Marco Salvatore (cane techniques)

DAVIDE SALVADORE is from a family of Venetian glassworkers. In 1987, he and two partners founded the studio Campagnol e Salvatore, where he works as a glass master. Salvatore is also a founding member of Centro Studio Vetro, in Murano, a nonprofit association that aims to promote the culture and art of glass.

MARCO and MATTIA SALVADORE (1983, 1979) are two Italian glass blowers who live and work in Murano. They are mostly known for their big works made with canes and 'murrine'. They started working as assistants at their father Davide's studio. In 2009 they started collaborating and making their own personal works. In 2012 they exhibited, as youngest artists, at Murano Glass Museum exhibition, 'Vetro Murrino, da Altino a Murano'. In the same year they exhibited at Hakone Museum in Japan. In the years they have been keeping different international collaborations in: USA (Traver Gallery and Pismo Gallery), in Netherlands (Etienne Gallery), in England (Vessel Gallery), in Sweden, France, Russia and other countries. Today Marco and Mattia work in their own studio where they make their own pieces and take courses for glassblowing.

11.30 a.m.

VISIT OF THE MUSEUM OF GLASS IN MURANO

The museum is housed in the ancient Palazzo dei Vescovi of Torcello. Since 1923 it 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.
<http://www.visitmuve.it/it/musei/>

LUNCH

5.30 p.m.

ISTITUTO VENETO DI SCIENZE LETTERE ED ARTI

The prize giving ceremony for the Glass in Venice Prize and the Riedel Award 2018

The first part of the paper discusses the importance of the research and the objectives of the study. It highlights the need for a comprehensive understanding of the subject matter and the role of the researcher in this process. The second part of the paper presents the methodology used in the study, including the data collection methods and the analysis techniques. The third part of the paper discusses the results of the study and the conclusions drawn from the findings. The final part of the paper provides a summary of the key points and offers suggestions for future research.

The research was conducted in a systematic and rigorous manner, following the principles of scientific inquiry. The data was collected from a representative sample of the population, and the analysis was performed using advanced statistical techniques. The results of the study indicate that there is a significant relationship between the variables under investigation, and this finding has important implications for the field of study.

In conclusion, the study has provided valuable insights into the subject matter and has contributed to the existing body of knowledge. The findings suggest that further research is needed to explore the underlying mechanisms and to test the generalizability of the results. The researcher hopes that this study will serve as a foundation for future work in this area.

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.

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*. Mr. Gudenrath's most recent major publication is *The Techniques of Renaissance Venetian Glassworking* available free of charge on the Corning Museum of Glass website, or renvenetian.cmog.org. His numerous glassworking videos have a world – wide audience with viewings currently well over 50 million in number. Mr. Gudenrath's next ebook, *The Techniques of Renaissance Venetian-Style Glassworking* will be released on February 1, 2019.

BERND ROECK



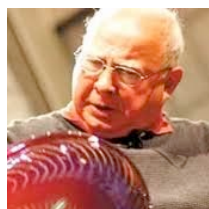
Bernd Roeck (*1953) is professor of modern history at the University of Zurich (Switzerland) and served as Dean of the Faculty of Arts from 2009 to 2011.

From 1986 to 1990 he was director of the "Centro Tedesco di Studi Veneziani", Venice, and from 1996 to 1999 Secretary General of the "Centro Italo-Tedesco Villa Vigoni", Lovenjo di Menaggio, Como.

Bernd Roeck specializes in cultural history of early modern Europe, notably Italy and the Holy Roman Empire, and the connections between history and the arts.

Prof. Roeck is the author of numerous books and articles, among them most recently: *Piero della Francesca e l'assassino* (2007, Italian translation); *Civic Culture and Every-Day Life in Early Modern Germany* (2006, 2nd German edition 2011); *Das historische Auge. Kunstwerke als Zeugen ihrer Zeit* (2004); *Florence 1900. The Search for Arcadia* (2009, English translation), *Ketzer, Künstler und Dämonen. Die Welten des Goldschmieds David Altenstetter* (2009), *Gelehrte Künstler. Maler, Bildbauer und Architekten der Renaissance über Kunst* (2013) and most recently *Der Morgen der Welt. Geschichte der Renaissance* (2017). Prof. Roeck is Cavaliere del merito della Repubblica Italiana and member of the Istituto Veneto di Scienze, Lettere ed Arti.

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



Degree in History of Art awarded by the State University of Milan. She acted as curator of the Bagatti Valsecchi Museum in Milan (1989-2004) where she was also in charge of projects of glass artists objects for the Art Shop, and she taught history of art in the Liceo Artistico Orsoline (Milan).

She is author of museums glass collections catalogues: Pavia Musei Civici; Pinacoteca Ambrosiana, Milan; Pogliaghi's Museum, Varese; Bagatti Valsecchi museum, Castel Thun, Trento. She published scientific papers on Venetian and Medici's glass in Journal of Glass Studies of the Corning Museum of Glass and Decart. She co-curated several exhibitions on Renaissance and contemporary glass: *Fragile: Murano, chefs d'oeuvre de verre de la Renaissance au XXI siècle*, Paris Musée Maillol (2013); *Artisti e Designer del Vetro, 1960-2010: La collezione Bellini Pezzoli and I Fiori di Murano. La collezione Bersellini (2010-2013)*, Milan, Bagatti Valsecchi museum; *Miniature di vetro. La Bomboniera d'Artista*, Venice, Palazzo Loredan (2012); *Vetri contemporanei. La collezione Bellini Pezzoli*, Milano, Castello Sforzesco di Milano (2017). She is editorial adviser of the Journal of Glass Studies of the Corning Museum of Glass. She is member of the committee on enamelled Venetian glass studies at the Louvre museum; of the Italian committee of the Association Internationale Histoire du Verre.

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 Luav University of Venice.

LIST OF PARTICIPANTS

FRANÇOIS ARNAUD

has been a glassblower for 23 years. For 7 years he learned and worked in several workshops in France. Then, he worked for 5 years in various countries including Italy, Canada, South Africa, Argentina, the Czech Republic, India and Syria.

After these 12 years of experiences he decided to create his own studio in a process of experimental archaeology, «Atelier PiVerre - Souffleur de Verre» at La Plaine-sur-Mer, France.

Today François Arnaud is a glassblower working alone "on his thighs" like Mesopotamian craftsmen.

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 17th century French ceramics, Renaissance Venetian enameled glasses (Cristallo project) and Italian enamels. She is publishing with the Fondazione Cini and the C2RMF the proceedings of the colloquium on the so-called "Venetian" enamels on copper from the Italian Renaissance, together with the corpus of the pieces conserved in public and private collection.

MARC BARREDA

is an American artist who has been working with glass for nearly 19 years. Marc's foundation as a glassmaker was formed in a studio heavily influenced

by mid 20th Century Venetian glass. He currently lives in Amsterdam where he completed his Master of Applied Art at the Sandberg Institute. 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 Boisbucet (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 BAUMGARTNER

He finished his studies in history of art at the Basel University with a master thesis on a private collection of medieval glass (the Amendt collection, exhibited in Düsseldorf, Rotterdam and Coburg 1987/88). Together with Ingeborg Krueger he wrote the catalogue «Phoenix aus Sand und Asche. Glas des Mittelalters» for the exhibition in Bonn and Basel 1988. While working for the Denkmalpflege Basel from 1989 to 2013 he published articles on European glass and several catalogues, mainly on Venetian and «Façon de Venise» glass (e.g. Musée Ariana, Genève, 1995, Musée des Arts décoratifs, Paris, 2003). His latest publication is the catalogue for the exhibition «Reflets de Venise» at the Vitromusée Romont, 2015. He has been a member of the

«Association Internationale pour l'Histoire du Verre» since 1979 and is presently member of the Executive Committee.

ROBERTA D'ADDA

Working since 1999 at the Civici Musei d'Arte e Storia of Brescia, she is currently conservator of the art collections and coordinator of the Collection and Research Department of Fondazione Brescia Musei. In this capacity, she recently participated in the project for the reopening of the new Pinacoteca Tosio Martinengo, working on the definition of the new collection organization and display. Her fields of expertise, besides history of painting and engraving, include history of nineteenth century artistic taste and art collecting.

SARA EMANUELE

Following her high-school diploma in art studies (Maturità Artistica), in 1994 Sara achieved a Diploma in Restoration of Cultural Heritage at the Villa Manin School of Restoration in Passariano (UD), specialising in the restoration of archaeological, wood and stone artefacts.

After some time spent between hands-on experience and training, in 1996 she starts working as a freelance consultant for conservation activities for the Archaeological Superintendence of Friuli Venezia Giulia, for numerous civic museums, firms and private clients.

In 2000 she started working as full-time employee in MIBAC (Ministry of Cultural Activities and

Heritage) as Technical Restoration Assistant, working in the Restoration Laboratory of the Veneto Region's Superintendence for Archaeological Heritage (now called SABAP-VE-MET), based in Padua.

In 2004 she worked as restorer for the excavation campaign in the framework of the Archaeological Mission of the University of Udine in Tell Mishrifeh (Siria).

She supports the organisation of archaeological exhibitions, displays, publications and didactic panels organised by Superintendents' Offices. She has published articles in magazines, monographs and catalogues, mainly focusing on technological and conservational issues associated to the recovery and restoration of artefacts brought to light during excavations.

She holds training courses, seminars and dissemination meetings for national Universities and Training Centres.

SILVIA FERUCCI

Specialized in glass conservation, she has been involved since 1990, in many important projects with the Superintendences and Museums of Piemonte, Lombardia, Emilia Romagna and Trentino, as a partner and technical director of her company Kriterion; among them the Ennion cup belonging to the Pavia Civic Museums for the Ennion expositions in 2015-2016 at Metropolitan Museum of Art in New York and the Corning Museum of Glass. Leading teacher at a training course on

conservation and restoration of glass organized by UNESCO Venice Office and ICSR Rome, in October 2012 in Tirana. Adjunct professor for glass conservation laboratory, at Bologna University in Ravenna campus since 2014. She is part of the Board of Directors of the Italian section of the Association Internationale Histoire du Verre.

RAINALD FRANZ

Art Historian, Studies in Vienna, Munich, Rome, London, Venice. Since 1992 working with the MAK- Austrian Museum of Applied Arts / Contemporary Art 1996-2011 Deputy Head Library and Works on Paper Collection, since 2000 Provenance Research officer, since October 2011 Head of the Glass and Ceramics Collection and in charge of EU-Projects. Various Exhibitions and publications, symposia e.g. "Gottfried Semper and Vienna", Vienna 2005 and "Leben mit Loos (Living with Loos)", Vienna 2008. "The Glass of the Architects. Vienna 1900-1937", Venice, Vienna 2016/2017, "Glasses from the Empire and Biedermeier Period. From the MAK Collection and the Glass Collection of Christian Kuhn.", Vienna 2017.

Assistant professor at the Vienna University and the University of Applied Arts: History of Ornament 2007-2013 Chair ICDAD-International Committee of Decorative Arts and Design, 2011-2013 Head of the Austrian Art Historians Association. Major topics of Research: History of Architecture,

History of Ornament, Decorative Arts and early Design.

SVEN HAUSCHKE

Has recently been appointed director of the Veste Coburg art collections, where he is in charge of the diverse collection of works of art since 2009. This section includes the famous historic glass collection as well as a substantial collection of Modern Glass, which is displayed at the European Museum of Modern Glass in nearby Rödentel. This museum was opened in 1989 and with its more than 1.000 objects of contemporary glass from Germany, Europe, Asia and America it is regarded as the foremost museum of its kind in central Europe. Sven Hauschke planned and organized the international Coburg Prize for Contemporary Glass 2014 and is responsible for around a dozen exhibitions on modern glass and ceramics. In April 2018 he opened the new gallery of historic glass at the Veste Coburg.

MICHEL HULST

Although Michel Hulst has a formal education in mechanical engineering, He was always fascinated by archaeology. When volunteering at excavations he developed a keen interest in glass. From 2000 he is part-time glass-specialist in Amsterdam at Monumenten en Archeologie (MenA) under prof dr Gawronski. Here he is researching glass found in cesspits as well as glass waste from several facon de Venise glasshouse which worked in

the city for the whole 17th century.

OLGA IVLIEVA

Art Historian with the master's degree in History of Art (Russian State University for the Humanities, Moscow), works as a researcher in the Department of Ceramics and Glass of the State Museum of Ceramics and the Kuskovo 18th Century Estate in Moscow. Her scientific and professional interests focus on the history of glass, soviet art glass, decorative and applied art of the 20-21 centuries. She is responsible for the Modern Russian Glass Collection in the State Museum of Ceramics composed of glass items from 1917 to present time.

KEITH KING

Early English lead-glass first caught his imagination when studying architecture. Its seemingly timeless design, in which form and function interchange through the transparency of the medium, became the grounding for a collection which has developed over several decades into a wider exploration of the aesthetics of 16th to 18th century European glass.

LOTHAR KNAUF

After his studies on the Technical University of Berlin, he developed gypsum industries in several countries. Also "Knauf Italia".

Glass collector since 49 years, especially for Spanish glass from 16th to 19th century, German engraved glass, façon de Venise and glasses from the beginning of the 20th century from

Vienna and Czechoslovakia.

Co-organized in 2011 and 2012 an exhibition over Spanish glass at the Curtius glass museum in Liège and also at the Knauf Museum in Bavaria. A catalogue was edited in French, German and Spanish.

Member of AIHV since more than 40 years and also member of Icom Glass.

KITTY LAMERIS

She 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 16th and 17th century.

In honor of the Amsterdam/Venice year in 1991, she organized together with her father Frides Laméris an exhibition and catalogue about Venetian and Façon de Venise glass in the church at the Dam Square de Nieuwe Kerk in Amsterdam. Kitty also teaches future restorers of glass at the University of Amsterdam (UVA), and gives lectures about the subject. In 2012 she wrote the catalogue *A collection of filigrana glass*, (Amsterdam 2012) where she proposed some new insights about filigree glass. Since then she continued studying filigree glass, published several articles about the subject and is preparing a publication on the history and techniques of filigree glass.

DAVID LANDAU

David Landau is an art historian but claims no scholarly knowledge in the history of glass. He is, however, a

passionate collector of glass made by Cappellin in the 1920s and by Venini, from 1921 up to about 1970. With his wife, Marie-Rose Kahane, he has set up a foundation in Switzerland, the Pentagram Stiftung, whose only purpose is to encourage research and appreciation of glass made in the last hundred years. It has set up, with the Fondazione Giorgio Cini, the Stanze del Vetro on the island of S. Giorgio, where two exhibitions about glass are shown every year. It has also started the Centro Studi del Vetro at the Manica Lunga, where a library and an archive of original material on glass manufacture are being built up, and where scholarships and bursarships have been established for research in the field.

SYLVIE LHERMITE KING

Italian Renaissance and façon de Venise glass of the 16th and 17th centuries have been important areas of Sylvie's professional and private interests for many years. In 2008, she organised an exhibition of French glass in her gallery presenting objects from 1550 to 1750, accompanied by a catalogue, *Cent Verres Français* and in 2013, she held a second exhibition, *Verres de la Renaissance, Origines et Influences*, once again with a catalogue raisonné.

REINO LIEFKES

He is Senior Curator in charge 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 *Masterpieces of World Ceramics* (V&A 2008) and contributed to many V&A exhibitions and catalogues including *At Home in Renaissance Italy* (2006). He is Chairman of the ICOM International Glass Committee.

GIOVANNI MARANI

Giovanni Marani graduated in Architecture at the University of Venice. Before graduating he has lived in the United States, where he had the opportunity to frequent design circles in Washington DC, New York, Miami, and San Francisco. After graduation Marani started his own studio in the Venice area. With over 18 years of experience in the international design community, Marani currently designs personalized furniture components in artistic glass, in collaboration with some of the most important Murano furnaces and famous masters like the Signoretto's, Bubacco, Cenedese, and others. The common thread underlying all of Marani's projects is the use of Murano glass artistic techniques to create contemporary, yet classic, furniture. Giovanni Marani's creations were exhibited and sold in Milan, Cologne, Miami, New York, Montreal, Verona, and Padova where he lives.

CHRISTOPHER LUKE MAXWELL

Christopher (Kit) Maxwell was appointed Curator of European Glass at The Corning Museum of Glass in 2016. A curator and scholar, Maxwell

has a varied background in the academic, museum, and gallery world. Maxwell graduated with a BA in History of Art from the University of Cambridge in 2001 and took a post at the Royal Collection, first in the Royal Library and Print Room at Windsor Castle, followed by the Publications Office at St James's Palace. In 2005, he completed his master's degree in Decorative Arts and Historic Interiors at the University of London, and became an assistant curator in the ceramics and glass section at the Victoria & Albert Museum. For five years, he worked on the reinterpretation of the museum's ceramics galleries, developing a specialty in 18th-century European ceramics, with a particular focus on French porcelain.

In 2010, Maxwell left the V&A to pursue his PhD at the University of Glasgow, which he completed in 2014. The topic of his dissertation research was the dispersal of the Hamilton Palace collection. Maxwell rejoined the Royal Collection as project curator during this time, and since 2013, worked with Travis Hansson Fine Art, a private art dealer based in Beverly Hills.

CELESTINE OUSSET

Célestine Ousset as a glass conservator have been currently in charge of conservation and care for glass collections of the majors french museums. She get specialized in the care of roman glasses (Musée du Louvre), venitian glasses (Musée national de la Renaissance, Ecouen)

and flameworked glasses (Musée des Arts décoratifs). As consultant in preventive conservation, she intervenes for storage reorganization, transfer, exhibition of glass collections. She also teaches glass conservation at the Sorbonne University for several years.

ELENA PETTENÒ

Elena Pettenò has a PhD in classical archaeology and has worked as Archaeologist in the Superintendence for Archaeological Heritage of the Veneto Region since 1999. Between 2002 and 2010 she directed the Museo Nazionale Concordiese in Portogruaro (Venice) and is currently involved in fostering the city of Padua and the southern part of its Provincial District.

She works with the University of Padua, Ca' Foscari University of Venice and the University of Udine as second supervisor for dissertations and for research and study projects.

Her interests in research focus on the assessment of the iconography of the classical figurative representations, especially of the Roman period (Augustan age), on issues relating to local protection activities, currently with special reference to the study and reconstruction of the ancient layout of Roman Padua. In 2017 the Superintendence appointed her to co-ordinate the Livius Noster project celebrating two-thousand years from the death of Padua's famous historian. She has published articles in scientific and, occasionally, popular science magazines on the findings from the

excavations that she managed as scientific director, in addition to texts and papers on specific materials for exhibition catalogues and conference minutes on various different topics. She has also published the book "Cruciamenta Acherunti. I dannati nell'Ade romano: una proposta interpretativa" (Rome 2004); she curated the publication of "Vasa Rubra. Marchi di fabbrica sulla terra sigillata di Iulia Concordia" (Padua 2007) for which she launched the studies on the historical collection of the Museo Nazionale Concordiese, which is recalled also in the book "Incise a perfezione". La collezione glittica del Museo Concordiese", (Portogruaro 2009). Finally, she has expanded her field of research to include also the study of archival documents as a source of knowledge to recommence the excavation surveys in areas that have been surveyed in the past and the study of collections of the classical and post-classical ages.

ANTÓNIO PIRES DE MATOS

Degree in Chemical Engineering, Technical University of Lisbon 1962. PhD 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.

DANA ROHANOVÁ

She is Associate Professor at the University of Chemistry and Technology, Prague (Department of Glass and Ceramics), Czech Republic. She studies archaeological glasses, mosaics and stained glass (chemical analysis and glass corrosion) as well as a glass technology.

HEDVIKA SEDLÁČKOVÁ

She is an archaeologist. Last three decades she was working and publishing about Moravian glass (Czech Republic). Her interest is focused on mediaeval and post-mediaeval glass finds from the archaeological excavations. She collaborates with the Museum of Decorative Arts, Prague from 2016. In this time, together with Helena Brožková they are preparing the reconstruction of collection of glass donated by Vojtech Lanna.

SUSIE J. SILBERT

She was appointed Curator of Modern and Contemporary Glass at The Corning Museum of Glass in 2016. In this role, she is responsible for acquiring, exhibiting, cataloguing, and researching the Museum's modern and contemporary collection, a period ranging from 1900 to the present day. Prior to joining the museum, Silbert was an independent curator as well as a lecturer on the History of Glass at the Rhode Island School of Design. Her recent exhibitions include #F*nked!, exploring the relationship between digital interfaces and

handmade objects, Concept:Process, at Parsons The New School for Design, and Material Location at UrbanGlass. Her writing has appeared in several exhibition catalogs, magazines, websites, and books, including the recent publication *Cast on casting* in all media. She holds an MA in Decorative Arts, Design History, and Material Culture from the Bard Graduate Center.

RODICA TANASESCU VANNI

She was awarded a degree by the Institute of Plastic Arts in Bucharest with a specialisation in monumental painting

She has participated in numerous exhibitions, including the United States Bicentennial in Washington in 1976, the 61st Rassegna dell'Opera Bevilacqua La Masa in Venice in 1977, and in 1987 in the Collective "Paris-Foyer International" VIII Biennale Europea C.E.I.C. Premio della Regione ; "Fidesarte" and "Verifica 8+1" Mestre; " La Schola" in Venezia ; Bologna Arte Fiera; Biennale Internazionale Dantesca Ravenna 1992/94/96.

In 1989 she was awarded the first prize of the Premio Murano for a glass sculpture.

She took part in the Fiera Internazionale dell'Arte di Padova in the years 2001/02/03/04/05 and the Museo Internazionale del Vetro in Montegrotto Terme exhibited five of her sculptures in 2013.

In 2010 she once again started attending the experimental graphic techniques at Atelier Aperto in

Venezia. In 2013 several of her pieces were exhibited in the Centro Candiani in Mestre (Venice).

CATERINA TOGNON

In 1988, she was awarded a degree by IUAV Venice with full marks for a dissertation entitled "Un Albergo sul Ring" in association with the Vienna Academy of Fine Arts and supervised by Prof. Arch. Gino Valle.

Until the mid 1990s she worked as an architect and designer, showing a special interest for Venetian blown glass.

1994 She opens D'arte & Divetro in Bergamo, the first art gallery in Italy to present the most important artists of the international Studio Glass movement.

2004 The gallery is renamed Caterina Tognon Arte Contemporanea and is transferred to Venice, opening a major exhibition space in the historical 18th Century Palazzo Doge da Ponte in Campo San Maurizio. The Venetian gallery expands its range of action to include all forms of visual art (sculpture, painting, photography, etc..). Nevertheless, its main focus has always been on European and US artists who use and experiment with glass as a material, using all the technical and formal options possible. The gallery has established a strong identity and a style that are easy to recognise and that have assured its success with the public, developing an international collection dedicated to contemporary glass sculptures.

In addition to running her gallery, Caterina Tognon has also curated and

organised exhibitions for major Italian and foreign institutions.

CATERINA TOSO

She was born in Murano into a glassmaking family and quickly learned to know and love the Murano glass world. After her marketing and business studies abroad, Toso came back to Murano to take care of the Fratelli Toso Gallery. She undertook a long term project to recover the historic archive of Fratelli Toso glass factory, which is now being re-ordered, studied and digitized. Toso also collects information and data regarding Murano families, glass factories and Murano glass production from the 19th century. In 2014, together with Elia and Emmanuel Toffolo, she founded the association InMurano, which is engaged in safeguarding and promoting local glass history and culture.

KAROL WIGHT

Karol Wight became executive director and curator of ancient and Islamic glass at The Corning Museum of Glass in August 2011. In January of 2015 she was promoted to the position of President and Executive Director of the Museum, following the retirement of Marie McKee. In addition to responsibility for all Museum activities, Wight oversees the Museum's extensive collections and exhibitions program, the Rakow Research Library, The Studio, the Museum's publications, its education programs, and conservation and scientific research for the collection.

Previously Wight was senior curator of antiquities at the J. Paul Getty Museum, located at the Getty Villa in Malibu, California. A specialist in ancient glass, she has curated or co-curated numerous exhibitions on ancient art and glass, including Ennion and his Legacy: Mold-Blown Glass from Ancient Rome (Corning Museum of Glass, 2015). Wight received her doctorate in Art History from the University of California, Los Angeles. She is a member of the Association of Art Museum Directors (AAMD) and holds a place on AAMD's Art and Archaeology Task Force. She is a Trustee of the International Association of the History of Glass (IAHV) as well as of the American Alliance of Museums (AAM). Wight was appointed to the Cultural Property Advisory Committee of the US Department of State in 2017.

SANDRO ZECCHIN

He was born in Murano in 1942. After obtaining the University degree in Chemistry, he worked for about 40 years as Researcher at Consiglio Nazionale delle Ricerche. Since 20 years he is interested in the study of the technology of Venetian glass. On this matter he published, in collaboration with Marco Verità, various articles of Archaeometry of vitreous finds of Venetian production in national and international scientific journals.

GLASS IN VENICE

Glass in Venice is based on an agreement between the Istituto Veneto di Scienze, Lettere ed Arti and the Fondazione Musei Civici di Venezia, presented on November 2012, on the occasion of the first edition of the Glass in Venice Prize.

This agreement 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 support the lagoon city in its 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 the President of the Istituto Veneto, and the President of the Fondazione Musei Civici di Venezia, entails joint action regarding the Prize, the Study Days and the creation of a website.

For the Istituto Veneto today, Glass in Venice is the natural outgrowth of its commitment to the art and technique of glass 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 and the Glass Museum of Murano play an essential role in promoting the preservation of this heritage and in 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 has recently benefited by an important extension and a new museological design.

glass
in
venice



Istituto Veneto
di Scienze Lettere
ed Arti



The first part of the paper discusses the importance of understanding the local context in which a project is implemented. This involves a thorough analysis of the social, cultural, and economic factors that may influence the success or failure of the intervention. It is essential to engage with the community from the outset, ensuring that their voices are heard and their needs are addressed. This participatory approach not only builds trust but also ensures that the project is tailored to the specific circumstances of the target population.

In addition, the paper highlights the need for clear communication and transparency throughout the project lifecycle. Regular updates and open dialogue with stakeholders are crucial for maintaining their interest and support. It is also important to establish realistic expectations from the beginning, acknowledging the challenges and uncertainties that may arise. By fostering a culture of openness and accountability, project managers can better navigate potential obstacles and ensure that the project remains on track.

Furthermore, the paper emphasizes the importance of monitoring and evaluation. While it is easy to get caught up in the day-to-day activities of a project, it is equally important to step back and assess progress regularly. This involves setting clear, measurable objectives and using a variety of methods to collect and analyze data. The findings from these evaluations should be used to inform decision-making and to make adjustments as needed. This iterative process allows for continuous learning and improvement, ultimately leading to more effective and sustainable outcomes.

Finally, the paper concludes by stressing the importance of sustainability. A project that is not designed to be self-sustaining is likely to fail once external support is withdrawn. Therefore, it is crucial to build local capacity and ensure that the community has the resources and skills needed to maintain the benefits of the intervention. This may involve providing training, establishing local organizations, or creating incentives that encourage ongoing participation. By focusing on long-term sustainability, project managers can ensure that the positive impacts of their work are lasting and meaningful.

The Istituto Veneto and Glass

Study Days on Venetian Glass

2018	Moulding and Applying Hot Glass through the Centuries
2017	Venetian Filigrana Glass through the Centuries
2016	THE ORIGINS OF MODERN GLASS ART IN VENICE AND EUROPE. ABOUT 1900.
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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.

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