



INTORNO ALL'ADRIATICO

La diffusione e la produzione di vetro sulle sponde del mare Adriatico nell'Antichità

XIII Giornate Nazionali di Studio sul Vetro

30 maggio 2009 Trieste, Civico Museo Sartorio (ore 9 - 17)

31 maggio 2009 Pirano (Slovenia), Istituto per il Patrimonio Mediterraneo (ore 9 - 18)

NA OBALAH JADRANA

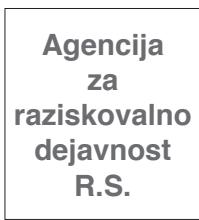
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30.05.2009 Trst (Italia), Muzej Sartorio (9.-17.)

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ABSTRACTS BOOK

con il contributo di



e in collaborazione con la Soprintendenza per i Beni Archeologici del Friuli Venezia Giulia

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Giuliana Maria Facchini

La diffusione dei vetri a mosaico sulle sponde del Mare Adriatico in età romana

Si intende presentare un quadro dei rinvenimenti di vetri a mosaico sulle sponde dell'Adriatico, nel tentativo di individuarne i centri di produzione o le importazioni da aree più lontane.

The paper considers the circulation of mosaic - glasses in Northern Italy, already edited by me (G.M.Facchini, *La diffusione del vetro a mosaico nell'Italia Settentrionale*, Milano 2007) delving into materials from the Eastern share of the Northern Adriatic, with the aim of recognizing the techniques of manufacture and suggesting hypotheses as to the provenance of the products.

Lucia Sartori

Diffusione di rhytā vitrei di epoca romana in Italia settentrionale e sulle sponde del mare Adriatico

Analisi della produzione e diffusione di rhytā vitrei nelle zone dell'Italia settentrionale e nei territori affacciati al Mare Adriatico.

The production of glass rhyton took inspiration from metal prototypes: they were cheaper than the one made of gold, silver or bronze. The rhyton form, or drinking horn, was not very common during the 1st century a.D. However, between the end of the 2nd and the beginning of the 3rd century a.D. its use and production increased considerably, especially in the Rhine area.

According to Isings we can identify two types of rhyton: the 73b, simple vessel without any special decoration, and the 73a, with the pointed end shaped as an animal's head.

The rhyton was used to drink wine: its use is documented also on a fresco at Herculaneum, showing a symposium scene. Anyway, it was probably used also as siphon or funnel, during funeral or ritual ceremonies.

The distribution map shows the collocation of rhytā in northern Italy and along the Adriatic shores.

Zrinka Buljević

Traces of Glassmakers from the province of Dalmatia

In the last decade in Dalmatia the fragments of three cups attributed to the famous 1st century glassblowers Ennion and Aristeas were found. Dalmatian Ennion's cups come from the military camp in Tilurium (Gardun near Trilj) and from the Augsteum in Narona (Vid). The Naronitan vessel is the fourth or fifth such vessel found on the route to Tremithus in Cyprus - Narona - Cavárezere near Adria - Romula - possibly Tarragona. Similar fragments are known from Mogador in Morocco as well as aforementioned fragment from Gardun in Croatia, which is too small to be attributed to some of Ennion's cups with one or two handles. There are traces of more Ennions' cups from Tilurium, Narona and Burnum. Aristeas, Ennion's follower, as a Cypriote signed the Naronitan cup from Augsteum and the cup in the Constable-Maxwell collection, and without the toponymic mark the cup in olive-green glass in the Strada Collection, Pavia.

The inscriptions on the flat horizontal tongues of two handles of scyphus from the Augsteum in Narona are worn and illegible so we don't know who of Sidonians signed it in the 1st century AD. The Naronitan glass cameo of Livia with the youthful appearance and hairstyle with nodus certainly originated in Rome during the period of Tiberius, and is possibly a work of one of Dioskourides' sons: Eutyches, Hyllus or Herophilos.

Only Salona in Dalmatia is proved to have been a glassworks centre not only by the remains of a glass furnace, but with certain epigraphic evidence - a sarcophagus fragment with the inscription of glassmaker Paschasius or Pascasius, and a marble mould for glass bottles with the inscription of glassmaker Miscenius Ampliatus.

Depictions of closed glass furnaces, and glassblowing scenes are preserved on three clay lamps from the 3rd quarter of 1st century AD, consistent with the spread of glassblowing technique, one from Prati di Monestirolo (Ferrara region, Italy), the one from Školarice (Slovenia: Regio X) and another from Asseria (Dalmatia). On the lamp from

Asseria the names of two depicted glassblowers, freedmen are inscribed: [Tre]llus and Athenio, his assistant whose name suggests Athenian origin, his or his ancestor's.

There is a possibility that the personal names on the bottoms of glass unguentaria and bottles are the names of glassmakers, so we relate the following names Rufinius, A(ntonius) Volumnius Ianuarius, Q. Dani Euhelpisti, L. Aemilius Blasius, C. Salvius Gratus, Cn. Pompeius Cassianus to Argyruntum (Starigrad), Iader (Zadar), Asseria (Podgrade near Benkovac), Volcera (Bakar) and Zaton. If they were glassmakers, their bottles were imported in Dalmatia from north Italy; note that there is a hypothesis about Blasius' and Pompeius' Dalmatian branch glass shop.

Bartul Šiljeg, Zoran Gregl

Mediterranean (Adriatic) Roman glass from the Archaeological museum in Zagreb

In the mid-19th century, during the Croatian national revival, the idea of collecting and safe-keeping cultural heritage from the Croatian lands surfaced, followed by the foundation of the National museum in Zagreb in 1846, a successor of which is also the Archaeological Museum in Zagreb. Owing much to this tradition the archaeological material from almost all parts of Croatia, but also neighbouring countries, remained here instead of finishing in the glass cases of some museum in Vienna, Budapest, Trieste, Murano etc. Among other archaeological material the Archaeological museum in Zagreb keeps and sometimes exhibits Roman glass material from 25 Mediterranean sites: Aquileia, Pula, Rijeka, Grobnik, Kostrena, Bakar, Sv. Jakov (Jadranovo), Crikvenica, Polje-Krk, Osor, Selce, Bribir, Novi Vinodolski, Senj, Vidovgrad kod Senja, Sv. Juraj kod Senja, Stinica, Posedarje, Gornji Seget-Trogir, Solin, Makarska, Starigrad-Hvar, Dubrovnik, Budva and Crete. In most cases these are chance finds, while only a small part originated from excavations. Chronologically, they can be dated from the 1st century BC to the 6th century AD. They came to the museum between 1854 and 1905.

Irena Lazar

Egyptian luxury glass from the Adriatic and its hinterland

Several groups of objects belonging to individual workshops in the Roman period can today be recognised and defined according to their cut figural and geometric ornamentation. Such workshops most probably operated through several generations, the most famous and quality products coming from the Roman, Egyptian and Rhineland workshops.

The Archaeological museum in Zagreb hold in its collection a shallow bowl with figural ornamentation from the Roman necropolis in Bakar (Volcera), upon which a male person is depicted in the central medallion, surrounded by fish swimming one after the other. Based on the ornamental detailing of the Bakar vessel, this product can easily be determined as belonging to a group E. M. Stern has defined as the Contour Groove Group', thus also determining the main characteristic of the ornamentation technique on these vessels. The closest analogy, according to the production technique, is from the Slovenian town of Ptuj (Poetovio), where a bottle with a typically Egyptian motif, i.e. the Alexandrian lighthouse, was found.

With regard to the homogeneity of the group, when considering the quality of the glass, the composition of the ornament and the characteristics of the engraving technique, it is possible to conclude that these are products of an Egyptian workshop, starting its production in the second half of the 2nd century and exporting its products to Italy, the Adriatic coast and also more westward.

Sofia Cingolani

Vetri romani dallo scavo e dal territorio di Urbs Salvia: note preliminari.

Attestazioni frammentarie dallo scavo dell'area urbana di *Urbs Salvia* (Marche) e dal suo territorio documentano la ricettività commerciale del centro antico pienamente inserito, a partire dall'età augustea, nei circuiti commerciali dell'Italia centrale e dell'area adriatica.

Roman Glass from the excavations and from territory of Urbs Salvia: preliminary notes.

Since 1995 the University of Macerata has been excavating the urban area of the Roman site of *Urbs Salvia*. The archaeological research is documenting the economic and commercial development of the ancient centre from the

III/II century BC to the VIII century AD and is finding considerable amounts of ceramics and a large number of glass fragments, the study of which is still in progress.

The analysis of the glass items is revealing a good presence of the most commonly used free-blown forms, especially those dating between the Flavian period and the II century AD for some of which it is possible to assume a local production (also due to the presence of few traces of production indicators), since glass furnaces have not yet been found.

This paper deals with some fragments from the early imperial period (mosaic glass with marble and floral pattern, cameo glass, ribbed bowls) which are from the more recent excavations in the urban area and from the surrounding territory. These finds, relatively rare at Urbs Salvia until now, provide a preliminary framework for the type of vessels which arrived in the markets of Urbs Salvia and for the shape in use during the first half of I century AD.

Roberto Caprara

I vetri nella ricerca archeologica degli ultimi trent'anni in Puglia e Basilicata

Ai vetri in Puglia e Basilicata si è dedicata in passato poca attenzione e solo in anni recenti sono apparsi studi significativi.

Dopo un breve sguardo ai vetri di età romana, si parla di studi e ricerche, alcune delle quali ancora in corso e addirittura inedite, riguardanti vetri dalla tarda antichità sino a tutto il Medioevo.

In the past, very few attention was paid to glasses in Puglia and Basilicata; significant studies have been conducted only in recent times.

After a brief glance to Roman Age glasses, studies and researches (some of which in act or unpublished) on glasses since Late Antiquity to the whole Middle Age are treated.

Anna Larese, Claudia Casagrande

I vetri di Montebelluna: analisi delle forme in rapporto alle associazioni di corredo

The speech examine the glass vessels and objects found in the necropolis of Montebelluna (TV), especially of Posmon. Will be considered the relationship between glass and pottery in the graves.

Smiljan Gluščević

The Glass from the Zadar necropolis

During the last twenty years several Roman period necropoleis have been excavated in the suburban area of antique Iader, with more than 2000 graves.

In the graves of the Iader necropolis was a huge amount of typologically most diverse glass shapes. In most cases these are common forms, but some are also very rare and some examples can even be characterised as unique.

The provenance of the material should be sought in the glass centres of the Middle East, Egypt, Greece and Italy, but local manufacture should not be ignored either. The chronology of the finds shows that these specific grave goods from the Zadar necropolis appear during the first three centuries AD. At the end of the 3rd and during the 4th century AD its effect is nearly venial due to changed political and religious circumstances.

Sime Perović

Tazza di vetro a forma di pigna da Zadar - Pine cone-shaped glass cup from Zadar

Nel contributo si elabora un vaso soffiato a stampo con forma di un motivo fitomorpho insolito, databile al I secolo d.C. Si tratta di una tazza monoansata a forma di pigna in vetro opaco bianco, che proviene dalla necropoli romana di Jader. L'autore analizza la tipologia degli oggetti soffiati a stampo a forma di pigna, e degli oggetti solo con elementi di decorazione a forma di pigna. Alla base di diffuzione di questi oggetti vitrei ed il ritrovamento di un esemplare in Jader (Zadar), un centro sulla sponda Adriatica orientale, presume anche le possibili vie di distribuzione.

Kornelija A. Junio*Glass jewellery from the Zadar (lader) necropolis*

Jewellery is used by people as a form of personal decoration and has been around for ages. In addition to this ornamental function, it also often has erotic and magic functions, and can, in certain cases, also symbolize the social status of individuals.

A considerable amount of jewellery made of glass and glass paste was found at the Roman necropolis of Zadar (lader), i.e. various necklaces made of coloured pearls, bracelets, rings, amulet-pendants etc.

Timka Alihodžić*Sticks and needles made of glass in the Archaeological Museum of Zadar*

There are approximately 5500 glass items in the Archaeological Museum of Zadar. Among them are numerous recipients of various shapes, needles and sticks. The latter are elongated objects with tapered ends or a panelled thickening, depending on their application in pharmacy or in cosmetics. They could have also been used as hairpins or sewing needles. Twenty of them were found in the area of Zadar.

Helga Zglav Martinac*Bottiglie rinvenute nelle sepolture tardoantiche del Monastero Dominicano di Spalato 2007 / 2008*

La campagna di scavo archeologico 2007/2008 nel monastero Dominicano a Spalato ha messo in luce sedici sepolture di età tardoantica, in prevalenza ben conservate. Si tratta di tre tipi principali di sepolture di gente povera (nelle anfore, tombe „a capanna“ e sepolture semplici coperte con le lastre di pietra), genericamente databili fra IV e V secolo, ciò che coincide con il periodo iniziale della trasformazione del Palazzo di Diocleziano nella città di Spalato. Nell'ambito dei corredi funerari di alcuni tra di essi sono stati rinvenuti, sempre in coppia, alcuni esemplari di bottiglie a corpo globulare, collo alto, cilindrico ed orlo svasato. Oltre l'elaborazione scientifica riguardo gli elementi dello stile e della tipologia, è necessario anche chiarire il significato e le origini di tale tipo di corredo.

Lucina Vattuone*Produzioni altoadriatiche antiche e moderne di vetri dorati*

Esaminando i vetri decorati con foglia d'oro ritenuti antichi presenti o di cui si ha memoria nelle diverse collezioni internazionali, si può rilevare che - anche se poco conosciuti - in realtà sono numerosi i vetri dorati relativi alle collezioni dei territori italiani e non italiani gravitanti intorno alla parte settentrionale del Mare Adriatico.

Il discorso si sviluppa in maniera interessante se notiamo che esistono pure molti vetri dorati moderni prodotti da officine altoadriatiche ma conservati in collezioni di paesi e continenti diversi.

Confrontando complessivamente con attenzione tutti i dati, si possono ottenere nuovi risultati per quanto concerne vari tipi di indagine: ipotizzare anche produzioni altoadriatiche di vetri dorati in epoca antica; identificare come moderni alcuni vetri dorati finora ritenuti antichi; confermare che sono moderni alcuni vetri dorati di cui precedentemente si è ipotizzata la non antichità; definire meglio le produzioni moderne altoadriatiche di vetri dorati.

Anastassios Antonaras*Glass Doves and Globes from Thessaloniki. North Italian Imports or Local Products?*

The lecture will focus on two relatively widely known forms of 1st c. glass unguentaria; the bird-shaped ones (Isings Form 11) and the small globes (Isings Form 10), which are usually found accompanying them.

Both forms are considered to be (at least mainly) products of the North Italian and South Swiss regions. They are found more frequently in cemeteries of the central European provinces, while in the Eastern Mediterranean region their occurrence is only sporadic. Thessaloniki presents a striking exception to this statement with more than 40 examples of bird-shaped unguentaria and more than 30 examples of globular ones. Also, it should be noted that both forms are usually far bigger than their western counterparts, and are made of glass of an entirely different quality, more transparent and less colourful glass. The content of the vessels is identical to the one that is attested in western

examples, consisting of red, blue or white powder. These observations, along with the well attested presence of active Italian Negotiatores in the early 1st c. Thessaloniki, lead us to the hypothesis that these two forms might possibly be associated with them. They might be local products, originally meant to continue a tradition of their homeland and cover the personal needs of their women. Or, they could also be products of a Western centre, which were specially altered to meet the needs of a different form of commerce conducted by that group of newcomers in the society of Thessaloniki, i.e. long distance trade, which demanded more contents.

Elena Basso, Margherita Ferri, Bruno Messiga, Maria Pia Riccardi

Rinvenimenti vitrei di Comacchio altomedievale

Gli scavi archeologici condotti presso Piazza XX Settembre nell'abitato di Comacchio hanno permesso di ricostruire la storia di una porzione di un'insula di centrale importanza per l'abitato, interessata dall'impianto di una struttura produttiva per la lavorazione dei metalli e, immediatamente dopo, del vetro (VII secolo).

Il contributo si propone come un'analisi interdisciplinare di studio dei rinvenimenti vitrei relativi alle fasi altomedievali nel loro contesto di rinvenimento e nel più ampio contesto degli insediamenti altomedievali dell'alto Adriatico. In particolare saranno presentati dati relativi alla struttura produttiva per il vetro, alla composizione dei reperti in vetro (indicatori e frammenti di manufatti) e prime considerazioni sulla produzione.

Vitreous findings from the early medieval Comacchio

Archaeological excavations carried out at Comacchio village (Ferrara, Emilia-Romagna), in Piazza XX Settembre, allowed to reconstruct the history of a very important part of an "insula" that formed this village. A furnace used for metal working first, and for glass working then (VII century), has been found here.

This contribution present an interdisciplinary approach for the study of glass findings dating back to the Early Medieval Ages, in their discovery context as well as in the context of coeval settlements located in the North Adriatic sea.

In particular, preliminary data about the glass furnace, the chemical composition of glass findings æboth indicators and artefactsæ and the whole production will be shown.

Luigi Fozzati

Vetri dagli scavi urbani di Venezia

Martina Minini

Vetri da uno scavo archeologico presso Piazza San Marco a Venezia: l'ex Cinema San Marco

A pochi passi da Piazza San Marco, presso la chiesa di San Moisè, un intervento edilizio che ha interessato tra il 1999 e il 2000 il complesso dell'ex Cinema San Marco ha implicato un contestuale scavo archeologico d'emergenza nell'area dove dovevano essere realizzate la vasca antincendio e quella per la depurazione delle acque.

Lo scavo, che è arrivato ad individuare livelli di VI secolo d. C., ha messo in luce nelle fasi più tarde un fognolo con materiale ceramico e vitreo databile tra XVI e XVII secolo. Per quanto riguarda i vetri, sono stati individuati reperti di particolare interesse, alcuni ricomposti nella loro interezza, tra cui si evidenzia del materiale pertinente ad una farmacia, la cui esistenza in loco è comprovata dalla parallela documentazione storica.

Adele Coscarella

Aspetti formali e periodizzazione dei prodotti vitrei nella Calabria medievale

L'analisi estetico-funzionale di tutti i prodotti vitrei di età medievale, recuperati in campagne di scavo stratigrafiche, consente di fornire un quadro nuovo e diacronico, su base regionale, delle diverse attestazioni, cui si associa la carta di distribuzione dei recuperi effettuati e dei relativi contesti di appartenenza (urbano, rurale, ecclesiastico).

Ciò costituisce il presupposto di un'analisi appropriata di questa particolare classe di materiali in un territorio che ha visto il succedersi di dominazioni differenti (normanno, sveva e angioina), consentendo di cogliere aspetti produttivi e scelte diversificate nel tempo.

The esthetic and functional analysis of all the glasses products of the medieval age, recovered in stratigraphic excavations, provides a new regional diachrony, which is associated with distribution maps (contexts: urban, rural, priest).

This is a precondition for an appropriate analysis of this particular class of materials in an area that has seen a succession of different rulers (Byzantines, Normans, Suabians and Angevins), allowing you to capture aspects of production and different choices in the time.

Rosa Barovier Mentasti

Due reliquiari veneziani del Rinascimento

Chiara Guarneri

Vetri da contesti postclassici di Faenza (XIV- XVIII secolo)

Una recentissima revisione dei materiali provenienti da scavi urbani, nella maggioranza butti, ha consentito il recupero di un notevole quantitativo di vetri, databili tra il XIV e il XVIII secolo. Questo nucleo di materiali, provenienti da contesti di sicura datazione, ci consente di iniziare a definire le tipologie in circolazione a Faenza in età postantica.

Mateja Kos

A project of non-destructive analysis

The Jožef Stefan Institute and the National Museum of Slovenia performed three joint research projects dealing with non-destructive analysis of movable cultural heritage objects. Among them, analyses of mediaeval glass from Ljubljana and elsewhere in Slovenia revealed some intriguing results. They generated a serious problem concerning the chemical structure of the glass. It was very similar to Venetian glass. We performed additional measurements to establish whether there were any differences at all. These additional analyses enabled us to establish the difference among 16th and 17th century glass. This difference is based on profound technological changes in the early 17th century.

With an analysis of trace elements we managed to shed some additional light on 16th century glass from Ljubljana. Using written sources from that time, along with comparative research and the interpretation of the results, we managed to solve the mystery of glass from Ljubljana.

Marco Verità, Sandro Zecchin

Approfondimenti sulla tecnologia vetraria veneziana del XV-XVI secolo attraverso le analisi di reperti in vetro d'uso comune

Le conoscenze della tecnologia vetraria veneziana nel periodo di suo massimo splendore, tra XV e XVII secolo, sono state notevolmente approfondite attraverso le analisi chimiche di reperti vitrei. Queste indagini hanno in genere privilegiato il vetro di lusso, individuando nell'invenzione e perfezionamento del *cristallo muranese* uno dei segreti del predominio veneziano nella vetraria dell'epoca. È stato invece poco approfondito lo studio di vetri di uso quotidiano, il cosiddetto *vetro comune*, caratterizzato da una purezza minore e da leggere tonalità di colore.

Il presente studio ha lo scopo di fornire un contributo alla conoscenza di questa produzione più modesta ma importante, attraverso le analisi di ritrovamenti di reperti perlopiù in vetro trasparente databili al XV-XVI secolo avvenuti sia in terraferma (Torretta di Legnago, Verona e Castel Romano di Pieve di Bono, Trento) che nella laguna veneziana.

An in-depth study of the Venetian glassmaking technology in the 15th-16th centuries centered on the analysis of common glass samples

The technology of Venetian glassmaking in the time of its greatest splendour between the 15th and 17th centuries has been thoroughly investigated by chemical analyses of glass finds. Generally these studies concentrate on luxury glass, for the invention and improvement of the Muranese cristallo are considered to be one of the secrets of the Venetian supremacy in the contemporary glassmaking. Conversely, less attention has been given to the study of daily use objects in the so called common glass, of lower purity and with slight colour hues.

The present paper aims at improving the knowledge of this ordinary, yet important material by reporting on the analyses of glass finds (clear glass fragments dating to the 15th-16th centuries) excavated both in the mainland (Torretta di Legnago, Verona, and Castel Romano di Pieve di Bono, Trento) and in the Venetian Lagoon.

Žiga Šmit

Analysis of Venetian-type glass from Lezha, Albania

A series of glass vessels from Lezha (ancient Lissos) was analyzed by the combined PIXE-PIGE method and the source-excited XRF. The analysis revealed two types of glass, one being typical Venetian-type glass produced with flux from halophytic plants; the flux composition was identical to that used in the Venetian glassworks and in the glassmaking centres following their tradition. The other type of glass was made of more refined agents, such as pure silica and potash, and it was discoloured by the addition of arsenic. It is suggested that this glass represents a later glassmaking phase, probably subsequent to façon de Venise glass.

Maurizio Buora, Luciana Mandruzzato, Marco Verità

Vecchie e nuove evidenze di fornaci romane ad Aquileia / Old and new evidence of the presence of roman glass kilns in Aquileia

In the Indice delle antichità within the Ichnographia Aquileiae Romanae et patriarchalis by Carlo Baubela (1864), under n. 42 “large glass slags” are mentioned. The site is placed in the northern part of Aquileia, a little northward of the “House of the clipeus mosaic” and we don't have any further mention of it. Carina Calvi, in 1968, refers of “shapeless chunks of glass, found in large amounts, and two pieces of stone with many bits of greenish glass incorporated”, but complains about the fact that “this production debris and refractory material fragments, both stored in the museum deposits for a very long time, don't have any reference to the place of finding” (p. 14).

Many times in the excavation reports glass threads and bits of glass deformed by the action of fire have been considered as a possible evidence for the presence of a furnace, rather than being simply referred to fires (a last example in Murgia 2008).

Thanks to the indications of Irma Folla, an excellent connoisseur of Aquileia and its surroundings, some bits of this material have been collected from an area westwards of the late antique fortifications, close to the site of the Canale Anfora and not very far from the so called Villa delle Marignane. All this area is likely to have been used in roman age as the site of an artisan district displayed on the two banks of the channel. Some of these fragments made of glass adhering to stone material have been analysed to determine the chemical composition and the nature of the materials. The results demonstrate that the samples are made of a natron-type Roman glass adhering to a Mg-Ca silicate stone (diopside), compatible with the firing-resisting materials used in Roman time for the production of pots used in glass melting.

These elements contribute to consolidate the fame of glass production centre, so far based mainly on the peculiarity of shape and colour and the limited distribution area of some forms of glass vessel, but also supported by the presence in the museum collection of a stone mould for glass bottles recently exposed in the renewed glass room.

Caroline Jackson, Irena Lazar

Glass from the Gnalic Shipwreck

In the 1580s a merchant ship sank off the Croatian coast at Gnalic, close to the modern day town of Biograd. On board was a rich cargo; to date over 4000 glass vessels, as well as crates containing windowpanes and mirror plates have been recovered. The dating of the ship, the location of the wreck on the Adriatic coast, and the types of material being carried, including the large contingent of glass, indicate an Italian provenance, possibly Venetian.

Of the glass vessels recovered, some were stylistically of Italian origin, thus agreeing with this initial assessment. However, the majority of the recovered vessels were plain beakers and goblets of a very simple design, which have no characteristic features to indicate where they were produced. Other vessels could have originated from Central Europe or the Islamic world; their inclusion in the cargo might have been a result of orders for specific markets. The window and mirror glass have no characteristics which would indicate their provenance. Such a mixed assemblage indicates a complex trade pattern for the vessel. With this in mind, chemical analyses of a sample of glasses from the wreck were conducted to establish whether the stylistic groups were compositionally different or had a similar

composition indicative of a common manufacturing location, and whether a potential provenance could be assigned to the glass vessels which may provide clues to the direction and trade routes of the ship.

Irena Radić Rossi

The raw glass and other raw material cargo from the Roman shipwreck at the island of Mljet

The Roman period ship sunk in the 1st century off of Glavat Point near the island of Mljet. The main concentration of cargo lay at a depth of 36 to 42 meters, but fragments of pottery vessels were scattered throughout a broad area of the surrounding sandy and rocky sea bed. Rescue excavations of the site were organized from 1988 to 1991. Along with the usual cargo of amphorae and mass produced pottery vessels, a large quantity of raw glass, lead minerals and semi-finished products came to light, packed in pottery vessels of various sizes.

The central place in the cargo hold was occupied by lead minerals and semi-finished products. Oviform vessels with a flat base contained lead oxide powder (Pb_3O_4), even today called "red lead". The white and grey cubes that lay scattered about in the sand or were found in large compact groups, were found to be lead carbonate ($PbCO_3$), also known as cerussite, and lead sulphide (PbS), i.e. galena.

The stern section of the cargo hold was loaded with a large quantity of amorphous glass of a beautiful green-blue colour, which was most probably dumped there without any special packaging. Analyses of glass led to the idea that it originated from the primary workshops for producing glass located in the Near East. Sand from the mouth of the River Belus and natron (soda) from the western delta of the Nile represented exclusive raw materials, which were transformed into immense blocks of glass weighing up to 7-9 tons in specially built structures. Such blocks were then broken up with hammers into smaller pieces, which ships loaded as cargo, but also used as ballast.

Maria Grazia Maioli

I rinvenimenti vitrei dalla barca rinvenuta nel Parco del Mausoleo di Teodorico a Ravenna

Nel Parco di Teodorico a Ravenna è stato individuato il relitto di una barca, con reperti importanti per la datazione dello scafo alla fine del V secolo d.C.

Fra il materiale rinvenuto vi erano alcuni utensili destinati al commercio, come tre lucerne in vetro a forma di cestello con manico, di produzione siro-palestinese, e altri vetri di diversa provenienza.

The glasses from Theodoric Park's boat

In Theodoric Park, Ravenna, pieces of wreckage of a boat were found out. There were important objects that date the scafo on the end of 5th century A.D. Some objects were for trade, like three glass lamps with cestus shape with handle, produced in Palestinian area; there were also some other glasses from different Mediterranean places.

Anastassios Antonaras, Despina Ignatiadou

Modern Greek Terminology for Ancient and Medieval Glassworking

The poster will present the newly published work by the Centre of Greek Language, the Greek-English, English-Greek Dictionary Glassworking Ancient and Medieval; Terminology, technology, and typology.

This is the first attempt to produce a thorough terminology of glassworking. Ancient Greek terms were systematically examined and interpreted according to the relevant archaeological finds and the modern understanding of the techniques. Imprecise or misleading terms were overturned, misunderstandings were explained and new, more precise terms, were proposed. Foreign terms, mainly English, but also French, German and Italian, that have prevailed internationally are rendered accurately in Greek. Great effort was expended in making the entries compatible with terms in the physical sciences.

Finally, impasses were also encountered and in some cases the foreign terms were kept, while in others more vernacular Greek ones were introduced.

All techniques and typology forms are illustrated with explanatory drawings. Forming and decorative techniques are accompanied by drawings presenting the stages of forming or decorating a vessel or object. Typological terms are accompanied with drawings of sets of objects for each term, as perceived throughout Antiquity and the Middle Ages, thus presenting the evolution of each type over this long period of time.

Maria Grazia Diani, Rosanina Invernizzi, Francesca Rebajoli*Recenti attestazioni di vetri in Lomellina: la necropoli di Garlasco (PV)– Cascina Solferina*

Le attestazioni di vetri di età romana in Lomellina (provincia di Pavia) sono numerose e molto significative. Tuttavia i rinvenimenti del passato sono spesso caratterizzati da metodi di ricerca non rigorosi, il che ha reso spesso parziale la possibilità di utilizzo scientifico dei dati. Diversamente, la necropoli di Cascina Solferina, a Garlasco –località che ha restituito un considerevole numero di necropoli dei primi 2 secoli della nostra era– è stata scavata nel 2003 dalla Soprintendenza per i Beni Archeologici della Lombardia, sotto la direzione di Rosanina Invernizzi. Sono state identificate in totale 20 tombe a incinerazione, ricche di vetri in buone condizioni di conservazione. Tra questi si segnalano numerosi balsamari in vetro colorato, due colombine, una brocca di grandi dimensioni, un piatto e una coppa bianchata in vetro giallo chiaro. Quest’ultima, la cui forma deriva evidentemente da modelli metallici, corrisponde a una tipologia già nota nella zona da contesti di Dorno e di Lomello e testimonia la presenza di contatti con l’area italica.

New Discoveries of Glass Vessels in the Lomellina: the cemetery of Garlasco (PV) – Cascina Solferina

The Roman-period glass vessels found on the territory of present-day Lomellina (province of Pavia-Lombardy) are in large quantity and very interesting. However, in the past, the archaeological research used to be not so strict; as result, the archaeological data aren't completely reliable.

On the other hand, the cemetery of Garlasco-Cascina Solferina was excavated in 2003 by Soprintendenza per i Beni Archeologici della Lombardia, with the Direction of Rosanina Invernizzi. 20 incineration burials were discovered (1st century b.C.), with a lot of glass vessels well preserved. It should be noted a lot of unguentaria in coloured glass, two bird-shaped unguentaria, a big flagon, a dish and a two-handled bowl in pale yellow glass. This bowl is very interesting because of the shape, which is reminiscent of metal bowls, found, for example, in Pompeii. There are two others specimens of these bowls, from the same territory of the province (Dorno and Lomello), now preserved in the Pavia's Museum.

Luciana Mandruzzato, Franca Maselli Scotti*Bottiglie in vetro con marchio da recenti scavi a Trieste e Aquileia*

Si presenta una rassegna dei recenti rinvenimenti di bottiglie Isings 50 in scavi della Soprintendenza del Friuli Venezia Giulia a Trieste e Aquileia; analizzando sia materiale già pubblicato sia alcuni inediti. L'attenzione viene incentrata prevalentemente sui marchi attestati e la loro diffusione.

Glass bottles with inscribed bases from recent excavations in Trieste and Aquileia

In these past few years the Soprintendenza per i Beni Archeologici del Friuli Venezia Giulia had the occasion of conduct many archaeological investigations in all the region, in most of the cases with the intent of verify the consistency of the archaeological deposit in prevision of new edification. The bottle form Isings 50 is one of the most frequent and easy to recognize glass finding, even if in many cases the fragments are too tiny to permit to identify the decoration impressed on the base.

Here we present a selection limited to the findings of two sites, Aquileia and Trieste, both important harbours on the northern Adriatic. Some fragments have already been published within their excavation context, but most of the bases, inscribed or decorated, are unpublished so far and contribute to widen our knowledge about their distribution in this area in antiquity.

Annalisa Giovannini*“Perle” di conoscenza. Alcuni tipi di ornamenti per il collo dalle collezioni del Museo Archeologico Nazionale di Aquileia e del Civico Museo di Storia ed Arte di Trieste*

Si presentano qui, in continuo dialogo, particolari tipi di perle e di pendenti, la cui presenza o compresenza a Aquileia e a Trieste appare per lo meno suggestiva. Si tratta di “Face-beads”, perle tipo “Adria”, pendenti a brocchetta “Openwork”, pendenti a sospensione orizzontale, verosimile indizio di pratiche superstiziose legate alla magia materiale.

As a continuous confrontation, particular kind of beads and pendants are shown here. Their presence or coexistence in Aquileia and Trieste looks at least charming. They are Face-beads, “Adria” type beads, Openwork juglets pendants, horizontal pendants or amulet cases, likely evidence of superstitious practices connected to magic.

Giovanna Montevercchi

Un contenitore in vetro dal pozzo dell'area termale nella villa romana di Russi (Ravenna)

La villa romana di Russi, nel ravennate, è nota da tempo come tipologia insediativa urbano-rustica. Di recente sono state effettuate indagini stratigrafiche all'interno dei pozzi, fra cui quello situato nell'area termale: il riempimento ha restituito, fra gli altri materiali, un interessante contenitore vitreo.

A glass from a water well in the thermal area of the Roman villa in Russi (Ravenna)

The Roman villa in Russi, near Ravenna, is an important archaeological area to understand the roman type of the ‘urbano-rustica’ villa. During the last years a stratigraphic research took place in the water wells of the villa and in particular in the thermal area: there were inside different kinds of objects and also a particular glass.

Rosa Fiorillo

La produzione vetraria in età angioina

Marina Ubaldi

Lo sviluppo del calice altomedievale con elementi decorativi tra gambo e coppa. Dall'Alto Adriatico alla Padania Occidentale

Questi oggetti sono analizzati dal punto di vista formale, tecnologico e tipologico. Un riesame dei siti di rinvenimento vuole chiarirne la cronologia e lo sviluppo, anche con riferimento alla distribuzione, che copre tutta l'Italia settentrionale, con addensamenti in area aquileiese/istriana e lombarda.

The evolution of the early medieval stemmed goblet with trails between the cup and the stem. From the North Adriatic to the West Plain of the Po

Here are presented some data about a particular stemmed goblet, decorated with four trails, of an arch, between the cup and the stem. This particular goblet, that may be dated from the sixth to eighth centuries, is shaped with a sophisticated technique.

Specimen of this type of goblet are found in Aquileia, Capodistria, Monte Barro, S. Tomè di Carvico (Bergamo), Trino Vercellese and Noli (Savona).

At the moment, due to the vastity of the finding area, it is not possible to establish where a production area could be.

Alessandra Marcante, Michele Bueno, Marta Novello

Aquileia (Ud), Casa delle Bestie ferite. Il materiale vitreo. Rapporto preliminare

Nel biennio 2007-2009 la Università di Padova hanno dato avvio al progetto di indagine della Casa delle Bestie ferite ad Aquileia (p.c. 427/4, 6, 10, 11). L'edificio fu già in parte indagato da Luisa Bertacchi tra il 1961 e il 1962 in una situazione di emergenza, che consentì soltanto la realizzazione di una campagna fotografica e del rilievo delle strutture emerse, prima del completo reinterro dell'area. La domus, posta entro il ricco quartiere residenziale settentrionale sviluppato attorno al proseguimento urbano della via Annia, è caratterizzata da una serie di ambienti riccamente pavimentati in tessellato e opus sectile, disposti attorno ad una corte lastricata. Ulteriori evidenze emerse dalle recenti indagini danno conto delle numerose trasformazioni cui fu sottoposto l'edificio nella sua lunga continuità di vita, estesa almeno dal I sec. d.C. fino alla tarda Antichità.

Il materiale vitreo rinvenuto, ancorché molto frammentario, consta soprattutto di vasellame da mensa, con datazioni prevalenti attorno al III-V sec.d.C. Le tipologie presenti sono quelle già attestate largamente nel sito, e comprendono

bicchieri e coppe rifinite a mola, del tipo Isings 106, 116 e 117, bottiglie con filamento applicato sotto l'orlo tipo Isings 126, bicchieri su piede tipo Isings 109a/b e calici tipo Isings 111. I rinvenimenti comprendono anche qualche frammento di lastrine per rivestimento parietale. Si presenta una prima panoramica tipologica, quadro che verrà sicuramente mutato dalle acquisizioni successive derivanti da un'indagine ancora in corso.

Aquileia (Ud), Casa delle Bestie ferite. The glass material. First report.

In the last two years the university of Padova has started a Research Project over the "Casa delle bestie ferite" in Aquileia (p.c. 427/4, 6, 10, 11). The building was just studied in an emergency situation by Luisa Bertacchi, between 1961 and 1962. It was only possible to take some photographs and collect a few data from the structure before the area was completely buried.

The domus was located in the rich residential area, in the northern side of Aquileia, just on Annia road. It was characterized by many rooms located all around a paved courtyard with floors made in mosaic and opus sectile. Our research has given us the opportunity to study all the transformation of this building in his long life, from first sec. a.C. to late antiquity.

The glass material we had founded was very fragmented and it was mostly composed by late-antique tableware. All the finds are similar to well known types of glasses (Isings 106), cups (Isings 116,117), flasks (Isings 126), stemmed beaker (Isings 109 a/b, 111).

It was also founded some little mosaic plate glasses used perhaps for wall decoration.

Here we show a first study of the typological forms, knowing that it is only the first few data we collected from this site.