

Enamelled and gilded glass between Byzantium and the East

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Glass production in the Eastern Mediterranean

Glass has been, similarly as pottery, manufactured for millenia and archaeological material shows its first application as glass beads and pendants as early as the late third millennium BC. Glass vessels are reported from Bronze Age onwards, starting to appear first in the regions of northern Syria and Mesopotamia, as well as in Egypt. In the second millennium BC glass seems to be a rare item, but by the ninth to eighth centuries glass vessels are again produced in bigger quantities in Egypt and Mesopotamia. The great break in glass production came with the adoption of glass blowing in the first century BC and its rapid spread in areas of the Levant, particularly in Syria and Palestine.

Eastern Mediterranean is usual name referring to the countries of Eastern part of the Roman empire that were still connected into one union under the capital of Constantinople, the site of ancient Byzantium; hence the description of glass as 'early Byzantine' when produced between fifth to seventh centuries. The changes in glassmaking in Eastern Mediterranean around 400AD show there is still predominant common style across the whole region and the situation will not change up till seventh century. The innovation of glass blowing introduced for the first time in the history of glass offered the chance of mass production of glass objects.

Transparent glass started to take the leading role and became the common and inexpensive trading commodity. The style of produced vessels was remarkably international in this period and so conservative was its evolution that in the case of kitchen ware one can observe only slight changes in the shapes developed through centuries well into the Islamic period.

Glass was traditionally made by mixing and melting of two materials, silica (sand or quartz pebbles) and alkali (soda). To get a substance that would be workable and would, when fired, also be stable one needs to add a stabilizer, which in ancient, as well in Islamic glass usually was lime (calcium oxide). Such substance was generally already a component of either sand or soda and was not added separately. These soda-lime-silica glasses were produced from antiquity onwards and only the percentages of each component used vary according to the regions where glass was produced. Such are medieval European glasses which have higher percentage of lime and lower percentage of soda, while Mediterranean areas show soda-rich glasses. Islamic glass is soda-lime in composition with relatively high potassium and magnesia levels, while Byzantine glasses contain higher alumina levels and generally also higher calcium oxide levels. In other words, a similar alkali source was probably used for both glass productions, but the sand source was rather different.

The technique of enamelling and gilding on glass

During the 13th and 14th centuries AD the glassmaking flourished in the areas of Syria and Egypt. Lavishly decorated glass beakers and cups, together with lamps and bowls form a group of objects known today as gilded and enamelled glass. Mastery of these two techniques has been known in Roman period, but it was under Ayyubids (ca. 1171-1260) and later Mamluk (1250-1517) rulers that the production really took off and received high prize and admiration as far as China. These glass pieces were not only exported to the Far East, but were also cherished as high value commodity objects in Middle East and Europe. Crusaders and pilgrims to the Holy Land admired them for their skilful craftsmanship and lavish decoration. A great number of enamelled glass objects found way to European church treasuries and private collections.



London, British Museum, WB. 53

Decorated with a brush or a pen in a painterly manner on a smooth surface enamel, just as lustre, was applied on already finished glass object. After painted, glass was re-fired at temperatures to stabilize them on the surface and enable the ornament to be permanent. Unlike lustre, where metallic elements are fused together to give a shine on the surface, enamel does not involve any chemical process; the added materials are merely bonded to the surface of the object. Enamel is namely glass itself; coloured pigments are formed from coloured glass, made to fuse at lower temperatures by the suitable addition of fluxes (usually lead). Such coloured enamel is grounded into a fine powder and mixed with a liquid to hold together.



Corning, New York, Corning Museum of Glass, 79.1.341

Problems of the interpretation – Islamic vs Byzantine

Two elements can be crucial in transmission of enamelling technique through history: cloisonné enamelling and mina'i pottery. The technique of enamelling in metal was well established in the Byzantine Empire and it reached its peak under the rulers of the Comnene dynasty from AD 1057 onwards. Enamelling on metal was well known in Fatimid Egypt, but it is unsure whether the objects were produced in Egypt and therefore show clear Byzantine influence on Fatimid craftsmanship or they have been part of the royal gifts Byzantine emperors regularly sent to the court of al-Mustansir bi-Allah.

The mina'i pottery from Kashan, on the other hand, shows close technical resemblances with the enamelling on glass. It appears on pots from Kashan in Iran from twelfth century to the fourteenth century; similarly in Syria on glass during the same period. The mina'i potters used ceramic colorants and opacifiers for their enamels (cobalt blue, iron red, tin white and chromium black) and they would need a short second firing at temperatures close to those used to fire the underglaze, thus showing similarities to the technique of enamelling on glass.

Painted enamelled glass vessels attributed to the Byzantine production consist of a group of elongated bottles produced in translucent blue glass, translucent purple and opaque white. Their standard size is between 20 and 25 cm, with a small neck and globular body that flares inwards at the bottom. The question of what Paphos type of bottles were used for remains open, but what can be said are the common dominators that distinguish these bottles from others, such as perfume bottles and sprinklers. They are all decorated in a combination of gilding and enamelling and they all come in standardized size and shape. The decoration varies but the combination of gilded birds in red and/or yellow-green circles or gilded crosses with floral enamelled decoration can be seen on all examples.

The problems of research in Byzantine enamelled and gilded glass lies in the seemingly small quantity of such material found. Excavations and surveys do not include any reference to the glass workshops in Constantinople. Until recently it has been believed that no material has as yet come to light from the Byzantine capital, but the Marmary Sirkeci Salvaga excavation prove that since Roman times onwards a high quality glass production has been taking place in Constantinople.

Until recently the connection between Byzantine and Islamic enamelled glass production was not considered, but in 2004 a new blue bottle similar to the Paphos bottles, today in the Museum of Islamic Art in Doha, has come to light and prompted questions of the co-operation of both productions. Interesting correlations can be spotted not only in the techniques but also in the iconography applied on glass objects produced between 12th and 14th centuries.

Bibliography

Stefano Carboni. *Glass from Islamic Lands. The Al-Sabah Collection, Kuwait National Museum*. New York: Thames&Hudson, 2001.

Stefano Carboni and David Whitehouse (ed.). *Glass of the Sultans*. New Haven – London: Yale University Press, 2001.

Jörg Drauschke and Daniel Keller. *Glass in Byzantium: production, usage, analysis. International workshop organized by the Byzantine Archaeology Mainz, 17th – 18th of January 2008*. RGMZ Tagungen Band 8. Regensburg: Schnell&Steiner, 2010.

Julian Henderson and Marlia Mundell Mango. Glass at Medieval Constantinople. Preliminary Scientific Evidence. 333-356. In Mango, Cyril and Gilbert Dagron (ed.). *Constantinople and its Hinterland. Papers from the Twenty-seventh Spring Symposium of Byzantine Studies, Oxford, April 1993*. Society for the Promotion of Byzantine Studies, Publication 3. Aldershot: Ashgate, 1995.

Carl Johan Lamm. *Mittelalterliche Gläser und Steinschnittarbeiten aus dem nahen Osten*. Vol. 1,2. Berlin, 1930.

Marlia Mundell Mango(ed.). *Byzantine Trade, 4th-12th Centuries. The Archaeology of Local, Regional and International Exchange. Papers of the Thirty-eight Spring Symposium of Byzantine Studies, St John's College, University of Oxford, March 2004*. Society for the Promotion of Byzantine Studies, Publication 14. Farnham, Surrey-Burlington, VT: Ashgate, 2009.

Hugh Tait (ed.). *5000 Years of Glass*. London: The British Museum Press, 2012.

Rachel Ward (ed.). *Gilded and Enamelled Glass from the Middle East*. London: British Museum, 1998.



Doha, Museum of Islamic Art, GL. 378