



## The Composition of Byzantine Glass Mosaic Tesserae

Leverhulme International  
Network



**First meeting, 11<sup>th</sup> and 12<sup>th</sup> September, 2007, Lewes.**

### **11<sup>th</sup> September: Meeting of Steering Committee:**

Bente Bjornholt (Sussex) – Network Facilitator  
Chris Entwistle (British Museum)  
Ian Freestone (Cardiff)  
Julian Henderson (Nottingham)  
Liz James (Sussex) – Director  
Marie-Dominique Nenna (Lyon)  
Nadine Schibille (Getty)  
Mariangela Vandini (Ravenna)  
Maria Vassilaki (Athens and Thessaly)  
Marco Verità (Murano, Venice)

The Steering Committee identified five key research issues:

- What are the colourants in mosaic tesserae? (including questions of sources of raw glass, sources of colourants and opacifiers, patterns and changes of colour use in mosaics – technical or aesthetic?)
- What does a comparison with contemporary window and vessel glass reveal?
- What can be said about re-use and restoration of Byzantine mosaic glass? (both relative to the medieval world eg re-use of Roman glass and tesserae – why is such glass re-used? Spread of tesserae and use in other areas eg Scandinavian beads. And in terms of conservation issues)
- Where does the glass for tesserae come from?
- What can be said about the making of mosaics? (making coloured and metal foil slabs tesserae; volume of production; issues about making mosaics; regional questions; issues of supply; what would a Byzantine mosaicist look for in a glass factory? Why are there no mosaics in Egypt? What is happening in Rome in the middle ages? Is it possible to develop a production model for tesserae?)

Arising from these, the Network will put together

- A database/bibliography of research and analysis of Byzantine glass mosaic tesserae (available from the first on the Network's website). This should include copies of papers/PDF references to facilitate exchange of information
- A database of sites from which glass mosaics are known/recorded (including mosaic icons and Scandinavian beads, and including any relevant written sources) (available from the first on the Network's website)

- A database of Byzantine, Western and Arabic primary sources that mention mosaics and mosaic making
- A glossary of key terms used by scientists, archaeologists and art historians (ideally as a PDF downloadable handbook)
- A list of those interested in/working in the field who could then be invited to be on a mailing list for the network
- The Network website to be linked to other organisations who will also be asked to list the Network on their sites. The website will include member contact details, and a calendar of events in the glass mosaic research world.

Two other areas were also identified as potentially useful to develop:

- Best Practice Sampling Document. It was suggested that such a document would be very useful. What might go into such a document is something to be considered at future meetings.
- Colour Chart. Is it possible to define a common colour vocabulary – based on basic shades, opaque/translucent definitions?

### **12<sup>th</sup> September: Workshop**

#### ***Speakers, titles and brief synopsis:***

Liz James: *A medieval mystery? The composition of Byzantine glass mosaic tesserae* discussed the ways in which art historians have studied mosaics, focusing above all on style and hands of different artists, and suggested that the findings of art historians have been influenced by implicit assumptions about the nature of mosaics and their manufacture – the assumption that mosaic = Byzantine.

Mariangela Vandini: *Byzantine mosaic glass composition from sixth to eleventh century* raised the question of whether the classification and comparison of glass from mosaics was possible and suggested, using material from Ravenna, Dafni and Hosios Loukas in particular, that it was – that patterns were visible. She also argued the case for a better way of describing colours.

Fatma Marii: *Glass cakes and tesserae from the Petra Church, Jordan* compared the analysis of glass tesserae with glass cakes and glass vessels from the Petra church to show similarities and differences in composition (including the use of bone ash) and to suggest reasons for the heaps of glass found at the site.

Marie-Dominique Nenna: *First and second century primary glass furnaces at Wadi Natrun in Egypt* discussed the findings from her excavations of tank furnaces at Wadi Natrun, especially in the context of other excavated tank furnaces and issues about the construction of such furnaces; she also raised crucial questions about the use of the glass made at Wadi Natrun, and the relationship between Egyptian and Levantine glass.

Marco Verità: *The evolution of glass composition and opacifiers in Italy from the Roman period to the Renaissance* considered the changes in the making of raw glass in analysed Italian finds and the changing use of different opacifiers, setting these into the context of specific sites, including Torcello, Monreale and Sta Maria in Trastevere (Rome).

Ian Freestone: *The coloured glass of Byzantine enamelwork and its origins* argued on the basis of analysis that Byzantine enamels reused old Roman tesserae rather than contemporary glass or tesserae, and raised questions about techniques and trade.

Julian Henderson: *Glass mosaics from the West Wall of Torcello's basilica: implications from compositional analysis* looked at samples of tesserae from Torcello from the eleventh and twelfth centuries and the eighteenth and nineteenth centuries which clearly revealed compositional differences. He found that the eleventh century was a key point of transition, that plant ash glass, probably Middle Eastern, natron glass and mixed glass were all used and raised questions about the origin of the mixed coloured glass.

There was considerable discussion around all the papers (in fact, next time, there will be fewer papers and more discussion). Recurrent issues included the need for some means of describing colour to a general format and whether, how far, and in what ways material could be used comparatively. The need for a basic body of information about work already carried out was heavily underlined.

#### **DELEGATES:**

Bente Bjornholt (Sussex)  
Chris Entwistle (British Museum)  
Ian Freestone (Cardiff)  
Julian Henderson (Nottingham)  
Daniel Howells (Sussex and British Museum)  
Liz James (Sussex)  
Sarah Jennings (English Heritage)  
Simon Lane (Sussex)  
Marie-Dominique Nenna (Lyon)  
Fatma Marii (London)  
Michelle O'Malley (Sussex)  
Sarah Paynter (English Heritage)  
Sue Poll (London)  
Stefan Roehrs (British Museum)  
Nadine Schibille (Getty)  
Mariangela Vandini (Ravenna)  
Maria Vassilaki (Athens and Thessaly)  
Marco Verità (Murano, Venice)  
Will Wootton (London)

If you have any interest in any of these themes, if you have other research questions, if you can contribute to the databases of research and analysis or sites or if you would like to be added to our mailing list, if you have any views on colour charts and best practice documents, please don't hesitate to get involved. The Network welcomes contributions from all interested parties.

Contact Liz James ([E.James@sussex.ac.uk](mailto:E.James@sussex.ac.uk)) or Bente Bjornholt ([b.k.bjornholt@sussex.ac.uk](mailto:b.k.bjornholt@sussex.ac.uk))

Pictures from a jolly time at the workshop:



From left to right: Marco Verità, Ian Freestone, Maria Vassilaki, Liz James, Chris Entwistle, Marie-Dominique Nenna, Julian Henderson, Daniel Howells, Nadine Schibille.



From left to right: Julian Henderson, Daniel Howells, Nadine Schibille, Stefano Annis, Marco Verità, Ian Freestone, Maria Vassilaki, Liz James.