Adhesives for Parchment Repair

Survey and Results

To inform the treatment of the Account Ledger, research was undertaken in the form of a survey. This was advertised through the AHRC funded Research Network for Conservation, the conference programme as a poster, and through professional networks. It was advertised as anonymously to provide a neutral platform for participants. 43 unique individuals took part in the questionnaire having valid results. In two of the results, the responses were left blank. An outline of the survey is available on request. The survey consisted of three sections for the participants that focused on external repair, parchment repair, and specific preferences for materials, treatments, and adhesives, giving options to add more information where necessary.

The completed surveys were collated and inserted into charts, some of which were generated with the use of computer software in treatment, materials and adhesives for parchment repair.

The chart below left shows the most popular adhesives for parchment repair. 900°F, 98°F and liquid gelatine being the most popular. Single sheets of parchment were coated in the adhesive as to not specify percentage of the adhesives as to when it came to testing them; supplementing research was done to discover their adhesives strengths.

The chart below right shows the most popular repair materials. Unspecified jappan paper was the most popular followed by Gold Border Leaf and kozo paper. The third highly popular repair material was re-­‐moistenable tissue, but the adhesives weren’t specified, a different repair material was chosen. I had times along some precious parchments, it was felt that the adhesives weren't as important as the repair to the materials.

I wanted to do further research into kozo paper. I therefore used this as is the 4th material. Japanese paper was also sprayed with fresh gold Water. This gold, a very popular repair material was also sprayed with fresh gold Water. There were losses to the material of the binding, but not too much as to lose it’s shape. This material was scuffed and torn, and there was a split forming along tail edge of the spine. The parchment on the tail edge of the spine was re-­‐moistenable tissue, but as the adhesives weren’t specified, a different repair material was chosen. I had times along some precious parchments, it was felt that the adhesives weren't as important as the repair to the materials.

The graph below shows the tensile strengths of parchment paper, parchment clad with kozo, with the repair adhesives as a 5% gelatine mousse; Japanese paper in comparison to caecum lined with kozo, with the repair adhesive as a 5% gelatine mousse; and parchment lined and dyed caecum was also used to repair the corners of the boards, even though the repair itself didn’t need any tension.

The adhesive used here was chosen. I therefore used this as the 4th material. Japanese paper was also sprayed with fresh gold Water and a different repair material was chosen. I had times along some precious parchments, it was felt that the adhesives weren't as important as the repair to the materials.

In this instance, usual gold borders didn’t work as an appropriate material for repair as it is too thin for external binding repair and so it was substituted with a 3-­‐layer kozo to give the repairs more strength.

Materials Testing

The adhesives tested were: 10% (w/w) Jin Shofu paste, 5% (w/w) Gellan gum; 5% (w/w) Gelatin; 3% (w/w) Animal glue. All adhesives were made with distilled water 4% (w/w) isinglass. All adhesives were made with distilled water. Three samples were used to test and repair parchment boundaries, but not to test on the repair in the specimen bags as the test would be too large. These samples were also studied under a microscope to see if there were any reactions taking place in the specimen bags and if the tests began. The samples were then done in a manual treatment. Treatment and the results collated into a table out of which comparative graphs were produced.

The parchment repair survey created for this project has yielded useful results, not only for this project but also generally in the field for further research. Due to the way in which the survey was written, some answers lacked a lot of information. Many participants chose not to answer questions regarding the condition of the parchment. A condition that is usual with parchment is the shape and size, which was not given in the survey. But this was not the case, as the survey was not completed by large enough pool of participants.

The related questionnaire was used. As the condition of the repair material is a question, this material look devoid of being used as a base for repair, and can be varied and manipulated with ease, without fear or changing. It is as simple to use as Japanese paper, but has the added advantage of being water resistant. It also has been very useful as a repair material for this project, strong enough to support the more fragile areas of the spine, and flexible enough to move with the opening characteristics of the binding.

ACKNOWLEDGEMENTS

I would like to thank the following for their help and support throughout the project:

- Joselyn Copping – School of Conservation, Cranbrook College of Arts
- Alan Buchanan, Vincent Daniel, Alan Dwyer, David Darby, David Kilgallon, Mark Richard, Sandy Wheaton, Mike Paine – Conservation Department, Cranbrook College of Arts
- Christopher Harvey, Becky Talbot, Vicky West – Conservation Department, College of Art
- Lara Webb – Archivist, Barings Bank Archives
- David Darby, Maureen Dake – Conservation Department, West Dean College
- All those who completed my anonymous survey

My classroom at Cranbrook
- "The EHRC"