Section K: Data Archive & Conservation

By Darren Griffin and Specialist Author (as indicated)

K.1: Information Storage

All hard data recorded in the field such as Director's and Trench Supervisors note books, Context sheets, level notebook, photography notebook, Special Finds and Lot Number books, Section Drawings and Plan Drawing books, the plans and section drawings themselves, contact sheets of the black and white photographs and the colour slides are held at the School of Art History and Archaeology, University of Manchester. A copy of certain parts of this archive such as the Context sheets and Special Finds are also being held as part of the Alderley Edge Landscape Project (AELP) archive in the Manchester Museum.

All digital data relating to the project such as digital site photographs, digital artefact photographs, individual specialist reports used in this report, power point presentations from lectures given on the project, images, plans and digitised drawings are all being held at the School of Art History and Archaeology, University of Manchester. A back-up of all this data is stored on CD. A copy of the digital site photographs are also being stored in the AELP archive. Efforts are underway to transfer this data archive to more permanent and accessible storage at the John Rylands University Library at the University of Manchester.

All other information relating to the project is contained within this report, a hard copy of which is being held by the School of Art History and Archaeology, University of Manchester, the Manchester Museum, the site landowner Mr Paul Sorensen, the National Trust and English Heritage. The digital back-up of this report is being held at the School of Arts, Histories and Cultures, University of Manchester.

K.2: Artefact and Other Object Storage

All non-discarded artefacts recovered from the Alderley Sandhills Project excavation were transferred in June 2004 to permanent storage and curation at the Manchester Museum, University of Manchester in accordance with the approved Project Design. In addition the soil samples recovered from the site are also stored at the Manchester Museum.

K.3: Floor Coverings (Conservation Testing)

By Irit Narkiss, Conservator, The Manchester Museum

Introduction

During excavations at Alderley Sandhills in August 2003 some floor-coverings were uncovered at Hagg Cottages. The Conservation Department at The Manchester Museum was called out and Jenny Discombe, Roy Garner and Velson Horie went to the site to excavate the fragile remains. Floor-coverings such as these are very rare in the archaeological record; in fact this is probably the first time such remains have been properly identified *in situ* and professionally lifted by conservators. The fragments were damp when excavated and allowed to dry slowly while in storage.

This is an opportunity to gain knowledge on the materials and production techniques of 19th and early 20th century floor-coverings. It is also an opportunity to develop

methods to conserve such material. However the problems associated with modern materials from a burial environment are a new challenge to the conservation profession.

The three designs of floor coverings identified by specialist consultant Sophie Sarin (see Section H) also represent a chronology of materials and manufacture technology. According to Sarin, based on visual examination; pattern 1, the oldest, is most probably floorcloth; canvas coated in layers of paint in a linseed-oil medium. Pattern 2 is painted on congolium; made of felt-paper saturated with bitumen. Pattern 3 is the most recent and is linoleum; a mixture of pulverised cork, rubber and linseed-oil on a canvas backing.

However, our brief investigations have revealed at least three more designs underlying those identified by Sarin. These are as yet unidentified stylistically and technologically (Figures K.1, K.2, K.3).

Chemical analysis of sample fragments would compliment the stylistic analysis and enable a more accurate technological identification. It would also allow for more targeted conservation treatments than has initially been possible.

Method
A few fragments of each of the three recognised designs were selected for treatment testing. Different materials and techniques were tested for cleaning, consolidation and separating the layers of floor covering. Experiments were also carried out in an attempt to flatten fragments of patterns 2 and 3, which had distorted.

Cleaning
To remove soil from the fragments a dry soft brush was used. Some stubborn dirt was removed with the aid of a scalpel and with very lightly water-moistened cotton swabs in order to reduce removal of pigment.

Consolidation
The substrate of fragments of design 1 was in a deteriorated, crumbly condition and required consolidation. Four different consolidants were tested on the sample fragments:

- Polyvinyl butyral, a 5% solution of Butvar B74 in industrially methylated spirits (IMS)
- Hydroxypropylcellulose adhesive, a 1% solution of Klucel G in IMS
- Acrylic resin, a 5% solution of Paraloid B72 in IMS: Acetone 1:1
- Sodium carboxymethyl cellulose, a 2% solution of SCMC in de-ionized water

Although none of the consolidants fully penetrated the samples, Paraloid B72 and Butvar B74 were the most effective; with Paraloid B72 showing slightly better results than Butvar B74.

Klucel G and SCMC successfully consolidated the surface layer but did not penetrate the underlying layers, making them more suitable for facing (see below).

Separation of layers
Some experimental work was carried out on separating the different layers of floor-covering. The painted surface was faced with Japanese tissue paper adhered with a 2% solution of SCMC in water, and allowed to dry.

A scalpel was then used to separate the fragment from the one lying beneath it. The under-layers were not always robust enough to survive this operation and in some cases the painted surface layer remained unsupported. However in these cases, this was the only way to expose the under-lying design and obtain the stratigraphy of the floor coverings.

The underside of the removed fragment was then backed with Japanese tissue paper and SCMC to give it some support. Once the support backing was dry the surface facing was very lightly dampened and removed, exposing the design.

Findings
The separation of layers has exposed three additional designs:

- Design 4 (Figure K.1): green, yellow and brown lines or tiles on a white background.
- Design 5 (Figure K.2): blue, floral (?) design on a white background. It would seem that the red and black showing through are either the substrate of the fragment or another design underneath.
- Design 6 (Figure K.3): comprises of black lines with small brown 'ribbons' on a white background. The light green showing underneath may be the same as design 4. There may well be more unidentified designs.

Flattening
Two separate procedures were undertaken. Firstly, the samples of designs 2 and 3 were heated in a laboratory drying oven to a temperature of 60 degrees Centigrade and left for approximately 10 minutes to gain flexibility. On removal they were gently flattened using a heated spatula (heated to approximately 66 degrees Centigrade) with a sheet of Melinex film between the samples' surface and the spatula head to stop the spatula sticking to the linoleum surface. A sheet of glass was placed underneath the lino to ensure a flat surface and once relaxed a second glass sheet was placed on top of the sample to keep it flat whilst it returned to room temperature. The heat treatment was successful for samples of pattern 2 but those of pattern 3 did not flatten.

Secondly, samples of pattern 3 were placed in an enclosed humidity chamber. Increasing the relative humidity to 85% did, after a week, somewhat improve the flexibility of the samples but the humidification treatment did not allow the samples to be fully flattened.

Conclusions

It is clear that there is scope for more work to be done on the conservation of these floor-coverings; particularly with regard to consolidation and flattening warped fragments.

It is perhaps surprising that samples of design 3 did not respond to heat treatment, as they have been identified as linoleum. Linoleum may contain a high percentage of rubber, which is usually heat-treated during manufacture to increase its flexibility (Allington 1988). Moderate heating has been used successfully to reshape early 20th century rubber objects (Maltby 1988). This may point to variations in composition, indicate that design 3 was not in fact linoleum or point to chemical changes which occurred during burial. Chemical analysis of the floor-coverings would provide their compositions; not only informing our knowledge of manufacture technology and providing a dating tool, but also enabling the development of the appropriate conservation treatments.

It is very clear that beyond the conservation of these fragments there is considerable scope for pursuing more detailed investigation of the different layers; by physically exposing their designs and through chemical analysis.