Textile Conservation Centre, University of Southampton
MA Textile Conservation Dissertation Abstracts

The dissertations can be consulted at the University of Glasgow. Please contact Frances Lennard (0141 330 7607) if you would like to make an appointment. Regrettably however, it is not possible to loan them or to make copies. It may be possible for enquiries to be directed to a dissertation's author.

1999 - 2001

Ayers, Karen
How should costume and accessories containing rubber elements be stored in the museum environment?

This dissertation addresses the issues of how costume and accessories containing rubber elements should be stored in the museum environment. For many conservators, the difficult problems of the preventive conservation of these objects are uncharted territory. This is due to both the nature of the material and the complex range of issues that surround the conservation of rubber. The onset of deterioration can be sudden and the damage rapid, severe and irreversible. The objects that confront conservators are rarely pure rubber and often contain additives and fillers that contribute to rapid degradation. Manufacturing processes, such as vulcanisation, also contribute to the unstable and unpredictable behaviour. In the case of costume, the rubber elements may be contributing to the overall degradation of the garment.

At many institutions, conservators have limited time and resources. In some cases, a conservator may not be employed at all and the care of the collection may fall to a curator or volunteers. The primary aim of this research is to demonstrate that despite the limitations of the institution and the unique problems of the degradation of rubber, it is possible to take simple steps to improve the conditions in which these objects are stored. This research will compile concise information that can be used by museum employees, with varying levels of knowledge, to make effective decisions for the future care of costume containing rubber. For this purpose, four different objects have been selected from a variety of institutions to examine as case studies. These objects are used to: 1. Raise key issues surrounding the preservation of rubber items. 2. Characterise the common signs of degradation. 3. Discuss the benefits and drawbacks of the current storage methods used by conservators and 4. Make useful suggestions for improving the storage of costume containing rubber elements in the future.

Bastian, Robin
A preliminary investigation into the effect of alkaline buffered paper support backing material on certain ageing characteristics of cellulosic textiles: Can a well-buffered composition make a difference?

The experiment is a preliminary examination of the use of an alkaline reservoir to reduce the acidity of cellulose during the natural ageing process. In the experiment calcium carbonate is applied to *tengujo* paper to supply it with an alkaline reservoir. Samples of buffered and non-buffered paper, new and naturally aged cotton textile, and textiles in both categories which have been adhesive-supported with Klucel G ™ onto buffered and non-buffered paper are

assessed. Samples undergo thermal and light-induced oxidation to simulate the natural ageing process. Assessment is made based on change in PH, change in colour using chromometric readings and examination by scanning electron microscopy in order to view fracture patterns.

Chang, Lauren
Developing a protocol for the characterization of applied chemical finishes: *A study of Miao and Miao-related textiles with implications for conservation and ethnography*.

An appropriate protocol was developed for the characterization of the chemical finishes on indigo fabrics using both 'low-tech' inexpensive techniques (wet chemical analysis and microscopy) and more sophisticated vibrational spectroscopic analysis. This protocol was tested against samples taken from Miao and Miao-related costume. The ethnological and conservation implications of the materials' analysis were also explored.

Miao costumes present a variety of substances on both proteinaceous and cellulosic substrates, demanding a generalized analytical methodology, and finished indigo-dyed fabrics are found worldwide.

Finishes have generally been neglected in conservation scholarship. With the exception of weighted silks and glazed wool, a protocol for their characterization does not seem to have been established. Isolating the finish can be very difficult due to the thinness of the coating and interference from a chemically similar substrate. However, characterization of the finish can be vital to the conservation treatment decision. The finish could limit solvent application, and might dictate the type of support. Uncertainty about its nature could impose storage, display and access dilemmas.

Deisser, Anne-Marie
Contemporary conservation and the conservation of the contemporary: A case study of Ethiopian umbrellas.

The paper looks at the conservation of contemporary objects in Africa through analysis of a case study of ceremonial Ethiopian umbrellas. African cultural heritage includes ancient historical materials many of them collected during the colonial period but consists too of contemporary cultural materials such as ephemera, manufactured or recycled objects reflecting the current history and postcolonial development specific to each African culture.
Responding to these contemporary conservation issues is nowadays a real challenge for African conservators. Not only do they have to preserve their past but their contemporary cultural 'identity' too. Contemporary objects represent additional challenges for African museums with no or relatively recent experience in conservation. The conservation of contemporary objects implies also the presence of modern materials requiring up-to-date scientific information and conservation equipment generally not available in African cultural institutions.

In such a difficult context, preventive conservation measures are particularly suitable and increasingly implemented in African museums. Whatever the degree of conservation intervention, the purpose and approach to the care of contemporary objects has not yet been fully debated in Africa. This fundamental conservation philosophy should be questioned and defined according to specific African cultures, ethics and needs. In order to create a conservation strategy adapted to Western and African specific contemporary cultural context,

conservators should work in close collaboration set up within each, representative frame of authority and objectives.

Kvitvang, Anne
Investigations into dye analysis and wet fastness of red synthetic dyes found on a group of costume items from Setesdal in Norway.

The basis of this work is the analysis of dye bleeding on a group of baby bonnets and other textiles with red wool embroidery from Setesdal in Norway. The collection of these objects at the Setesdal Museum and objects from a private collection were surveyed. The composition of the dyes and the synthetic dyes in particular is described. Analytical techniques, using wet chemical analysis and Thin Layer Chromatography were carried out on dye samples from the objects. Two objects were wet cleaned, using detergents and a vacuum suction table, with the aim to remove dye bleeding. The project also included a review of the periodical *Dyes in History and Archaeology* and a questionnaire sent to a select group of conservators regarding their experience in dealing with dye bleeding.

Medina, Celia
The application of solvent reactivation of adhesives in textile conservation: an analysis of practice and research

The present dissertation analyses the use of solvent reactivated adhesives in textile conservation. Different research methods were used for the analysis: a literature review was made to assess the current practice of reactivation of adhesives, a study of past treatments was made to analyse particularities on treatments using solvent reactivation techniques and practical tests, mostly subjective, to obtain a comparative arena for the heat reactivation technique and solvent reactivation technique. In particular, the ability of the reactivation techniques to effect an appropriate adhesive bond for the support of historic textiles was considered.

Miles, Róisín
Characterisation and deterioration of Matisse's *Océanie* panels (1947/48): Implications of the 1945 patent for a thermoset dimethylol ureamelamine resin with titanium dioxide.

Silk screened linen panels, part of a larger series, designed by Henri Matisse, were exhibiting (visual) changes that caused concern about their long term stability. The paint film, upon the surface of the support/ground fabric, was flaking leading to paint loss. There was also unidentified discoloration on the textile.

The materials, production and use of panels were investigated in an effort to understand their behaviour and the mechanisms of deterioration. Analysis, of samples from the panels, using instrumental analytical techniques corroborated findings from other material evidence and contextual research, secondary and literature sources. Suggestions for the future care of such panels are provided.

Roberts, Zoe
The influence of perceptions of authenticity on textile conservation.

Notions of 'authenticity' are explored through an examination of conservation ethics, case histories (relating to costume, interiors and upholstery) and interviews with conservators and curators. 'Authenticity' is shown to be a problematic term, understood both as an innate property of an object and as a conceptual category. The role played by textile conservators in locating and interpreting an object's 'authenticity' is highlighted. This analysis proposes wider acknowledgement of conservators' involvement in the area of interpretation both within the profession and to a broader audience.

2000 – 2002

Barbieri, Gabriella
Memoirs of an 18th century stomacher: a strategy for documenting the multiple object biographies of a once concealed garment

This dissertation describes an investigation project based on the detailed study and documentation of a multi-layered 18th century stomacher which was found concealed in the timbers of a 15th century cottage in Nether Wallop, Hampshire. The stomacher is a mixed-media artefact composed of layers of silk, paper, linen and baleen. It is in extremely poor condition, being heavily soiled and structurally weak with substantial areas of loss. In addition to deterioration resulting from concealment, the stomacher has undergone heavy wear and extensive alteration during its functional life as a garment. There is also evidence to suggest possible deliberate damage prior to placement in the cache site.

The fundamental aim of this dissertation is to expand and enhance current knowledge and understanding of the nature of concealed garments, thereby stimulating debate on the way in which such artefacts might fit into the broader material culture and heritage context. To this end, one of the primary objectives of the project is to use the stomacher as a case study to investigate, record and evaluate the type of information that may be contained within these complex and enigmatic objects and to assess the relevance of that information to other fields of study.

Chanialaki, Archontina
A preliminary investigation of Greek olive oil based soap.

This project reports an investigation on Greek olive oil based soap. The first part of the investigation aimed to find information on the manufacture and the properties of the soap, as well as the use of the soap and the traditional Greek laundry. A literature review and a survey by means of a questionnaire amongst users of the soap and contact with manufacturers, partially answered the above points, and facilitated the collection of information that would be the basis for the experiments.

The aim of the second part was to determine the surfactant properties of soap solutions, to define and assess the cleaning effects of the Greek olive oil based soap through a series of experiments, and to determine whether the use of the soap has any deleterious effect on the cotton fibres. Colour and reflection changes in the soiled samples as well as weight changes were used to monitor the efficiency of the soap. This was achieved by visual examination and with the use of a chroma meter. Moreover, SEM images were produced in order to observe any damaging effect of the soap on the fibres, and accelerated ageing and a tensile strength test were carried out on a set of unsoiled samples in order to observe how this property was affected compared to untreated aged samples.

The soap is an effective detergent for the washing of textiles (with simple carbon and oil soiling), compared to an established synthetic detergent, equally effective at both high and low temperatures. The soap did not affect the tensile strength of the fabric even after accelerated ageing, which means that it did not have any damaging effect on the cotton fibres of the samples. Observation with Scanning Electron Microscope confirmed that the soap does not have any detrimental effect on the cotton fibres of the samples.

Hood, Fiona
The characterisation and conservation of a concealed hat from Cupar in Fife, Scotland.

This dissertation records the documentation and conservation of a once concealed black cloth hat found under the first floor floorboards of a former farm cottage near the town of Cupar in Fife, Scotland.

The hat was fully documented, conserved and mounted for handling and long-term storage purposes. Additional research was undertaken into the practice of concealing objects and garments, the conservation of concealed garments at the Textile Conservation Centre, the ethical issues surrounding such a conservation treatment and working class dress.

Im, Sung-Hyun
Evaluation of the conservation approaches and techniques used in the West for Oriental painted textiles.

This dissertation surveys the conservation approaches and techniques used in Western museums for Oriental painted textiles through a literature review, a questionnaire survey, and personal conservation experience. The meaning of Oriental painted textiles is defined, and the materials and techniques used to make these objects are introduced. The various forms of deterioration found in Oriental painted textiles are also described in order to help the reader's understanding in following discussions. The range of conservation approaches and techniques carried out in the West on Oriental painted textiles are summarised and compared with those used in the Orient and those used for Western painted textiles. Some evaluation and recommendations have been given toward these conservation approaches. Additionally, conservation practice with the removed textile border from an 18^{th} century Japanese scroll has been carried out to preserve the removed border as a historical artefact and to find appropriate support methods. The results and samples of this practical research are also included.

Kotsaki, Alexandra
Assessing the application of instrumental analysis to painted textile samples in cross section through the characterisation of three Greek painted flags c. 1912 in the National Historical Museum, Athens.

Three Greek painted war regimental flags, c. 1912, in the National Historical Museum, Athens, were examined and analysed by means of instrumental analysis. The aim of the investigation was to characterise the objects and access the possibilities of applying a variety of instrumental analytical techniques on the cross-sections of samples removed from them. Nine paint samples were extracted for that purpose and some were embedded in polyester resin for cross-

section examination. Unmounted and mounted samples were examined using Reflected Light Microscopy, Polarised Light Microscopy, Fluorescence Light Microscopy, Fourier Transform Infrared Spectroscopy, X-Ray Fluorescence, Scanning Electron Microscopy – Energy Dispersive Spectroscopy and Raman Microscectroscopy.

The project demonstrated that the majority of the above techniques can be successfully applied to cross-sections of painted textiles. It also led to the collection of a significant amount of information concerning the composition and construction of the flags. This knowledge can be used by curators to draw conclusions about the practices of flag-making in Greece, and by textile conservators towards an informed decision on the most appropriate conservation process for this group of textiles.

Margariti, Christina
The use of chelating agents in textile conservation: an investigation of the efficiency and effects on the use of three chelating agents for the removal of copper and iron staining from artificially soiled cotton fabric.

The use of chelating agents in textile conservation was investigated, with the aim of providing information on three of the most widely used chelating agents (tri-sodium citrate, ti-ammonium citrate and di-sodium EDTA) through a literature review and experiments on the removal of copper and iron stains from cellulosic textiles. Chelating agents are widely used in metal conservation and have been extensively studied in painting and paper conservation. Textile conservators appear to be more reluctant to incorporate chelating agents into wet-cleaning treatments for historic textiles and there is no concise published review on the efficacy and effects of the use of chelating agents in textile conservation on artificially soiled and aged cotton fabrics. The report provides: a concise review on the use of chelating agents in textile conservation; information on the chemical and physical properties of chelating agents, drawn from both the literature review and the experiments; an explanation of the way the three tested chelating agents work; description and analysis of the results of the experiments carried out; an account of the treatment of two historic textiles, which was informed by the experimental results; simple recommendations for textile conservation use of the three chelating agents; proposed topics for future research on the subject.

Mastromina, Anna Maria Georgina Irene
Investigation into water- repellent textile treatments

The study consists of an investigation into water-repellent finishes, aiming to explore possible methods of identifying the presence of such finishes on historic and contemporary textile artifacts, within the field of textile conservation. It consists of the following elements: a literature review; a survey in the form of a questionnaire sent to various institutions in order to gather information about textile objects treated with water-repellent finishes; a sequence of identification tests conducted to establish the possible presence of water-repellent treatments, using samples assembled from historic and contemporary textile objects, as well as model water-repellent treated textile samples prepared for the purpose of this investigation. The results of the simple experimental tests are presented, analysed and discussed with the aid of tables and charts. This investigation is concluded with an overall review of the effectiveness of the analytical and experimental tests that were conducted as part of this investigation.

Penrhys-Evans, Melangell
An investigation into the ageing of PVOAC adhesive support treatments on textiles: a case study with three Indian textiles.

The use of synthetic polymer adhesives in textile conservation since the 1950s is reviewed in the literature. Their period of use has not yet been long enough to provide a clear indication of their long-term stability. This study considers the ageing of the polyvinylacetate adhesive, Vinamul 6525, in situ on three Indian textiles.

The adhesive present on the textiles in the collection at the Horniman Museum, London, presents particular and differing problems on each textile. The treatments were carried out in 1977 and the appropriateness of the treatments is re-evaluated this twenty five year period providing information to add to the body of knowledge on naturally aged adhesives in real life situations.

The report includes Fourier Transform Infra Red spectroscopy spectra which identify the adhesive on all three textiles. Its ageing characteristics are examined visually and through a series of solubility tests. Reversal testing was also carried out and a complete reversal of the adhesive support was carried out on one textile. The results and observations on all the research undertaken are given in the report as well as recommendations for the future care of the textiles.

2001 - 03

Baldursdóttir, Thórdís Anna
Digitally produced, non-interventive infilling for areas of loss on knitted textiles

Knitted gloves belonging to the National Museum of Iceland were used as case studies to test a method for infilling areas of loss. Digitally printed infill patches were applied, in a non-interventive way, sandwiched between the textiles and three-dimensional mounts. Experimentation led to a suitable match of colours and knitted textures, obtained from digital images of the objects themselves. The original images were adjusted using the Adobe Photoshopâ software, and then transferred onto a non-woven polyester fabric, Vilene â. Emphasis was put on selecting, testing and explaining an inexpensive, easily re-producible production method.

Gill, Lynette Frances
The characterisation of a collection of nineteenth century Biblical Berlin woolwork pictures

This study examines a collection of over sixty items of 19th century Berlin woolwork depicting Biblical scenes and themes. It describes the physical features of the objects, including the materials used and their construction, and analyses the principal issues and problems arising from their present condition. The subject matter of the scenes is discussed, with particular reference to the duplication of patterns and images found both within the collection itself and in public holdings elsewhere. The identity of the embroiderers and the status of their work today is considered. A catalogue of all the objects is included as an appendix.

Hughes, Anne-Marie
A preliminary investigation into the potential of aqueous foam as a cleaning medium for historic textiles

An investigation of the potential of aqueous foam as a cleaning medium for use within textile conservation undertaken at the Textile Conservation Centre is reported. The use of aqueous foam as a cleaning medium is little used and less understood within the conservation profession. Foam is widely studied and practiced in diverse industries such as cosmetics, textile finishing and dyeing and the flotation of ores in mining, and displays excellent minimisation of surface tension effects. The physics of foam and surfactants are discussed.

Experiments to assess the development of a stable reproducible foam are outlined. The foam generated by different methods and by different surfactant solutions are applied to cotton and wool standard soil test fabrics and comparative analysis of the cleaning efficacy is carried out to assess soil removal using the foam method as opposed to conventional aqueous cleaning methods. This is quantified using the CIEL*a*b* system.

The results indicated that aqueous foam provided optimum soil removal on the cotton samples compared to samples treated by the immersion method. The test results on the wool samples were inconclusive. Topics for further research are raised.

Lovett, Doon
The deterioration of polyurethane (PUR) foam with reference to foam-laminated 1960s dresses

The deterioration of polyester polyurethane, PUR (ES), was investigated following the discovery of rapid foam deterioration in a group of 1960s foam-laminated dresses at the Museum of London. Oddy Tests confirm that acids are being released from the foam. Accelerated ageing tests, performed on samples of new PUR (ES), in a variety of environmental conditions, suggest that hydrolysis, rather than oxidation, is the dominant mechanism for deterioration. The rate is slowed at low relative humidity. A survey of costume collections in the UK suggests that foam-containing garments are under-reported. Recommendations are made for the preservation of PUR (ES) containing garments.

Morris, Roisin
The first 'truly' synthetic fibre: investigating the current stability of early examples of nylon objects in museum collections

Nylon was the first fully synthetic fibre. In recent years examples of this material type have appeared in museum collections. There is limited accessible information available about how early examples degrade or if they degrade differentially in relation to changes in their recipe, production techniques and/or finishing treatments.

The research highlights issues relating to identification and the main mechanisms by which degradation proceeds in nylon. Consideration has been given to museum examples, which have been worn, cleaned and stored in diverse conditions prior to accessioning into collections, in addition to the fibre's production.

Rode, Nicole
Towards a clearer understanding of the whitening effects on the surface of painted flags and banners

The synthesis and evaluation of the seemingly incongruent information regarding the understanding and treatment of whitening effects on canvas paintings was assessed in light of the structure, materials and interpretive context of painted flags and banners. Current practices as well as analysis and treatment approaches not typically considered by textile conservators were evaluated for their potential application to textile conservation in order to raise awareness for textile conservators and increase the level of sophistication by which we approach the treatment of these objects.

Wickens, Joelle D.J.
Contract for eternity: the investigation and documentation of a hearse cloth made 1504/5 for Henry VII (b.1455-d.1509)

A cloth constructed of cloth of gold, cut pile velvet and embroidered Tudor emblems, known as Henry VII's Hearse Cloth (431 cm x 310 cm), c. 1505, and currently in the care of The Fitzwilliam Museum, Cambridge was investigated using analytical techniques including metal thread analysis, dye analysis, weave analysis, archival research and object examination. The results have been recorded establishing a thorough, current record of the cloth which provides new details about its attribution and provenance, helps direct future research with respect to the cloth and helps define the role of such research within the context of conservation.

Wing-ah Sam, Louise
An investigation into the modification of methods to improve the performance of poultice cleaning on textiles

This project investigates modifications of poultice cleaning in textile conservation.

Previous studies showed that poultice cleaning for textile conservation have had very promising results with the appropriate selection and use of materials. However, textile conservators are reluctant to use this method because of the problems of ringing and residue and there is relatively little published material available. In this project, new materials and methods were explored to overcome the problems and at the same time aimed to improve the cleaning effectiveness and efficiency.

Tyvek^{TM} was found to be an appropriate barrier for poultice cleaning to prevent residue without affecting the cleaning results. The use of two poultices separating the solvent supply and solvent removal of poultice cleaning into two steps, if properly arranged, could prevent ringing.

Yamazaki, Makiko
Shattered silk: identification of the causes and effects of deterioration

The purpose of the report was to identify the causes of deterioration of "shattered" silk. It was verified that the amount of the weighting agent (as determined by X-ray microanalysis) does not always correlate with the deterioration of the silk. Case studies showed that the storage and display conditions are significant factors. Other factors such as previous treatment,

processing and finishing, and construction, are all possible causes of the deterioration of the silk. An analysis of the differential promotion of degradation due to the dye colour was inconclusive.

2002 – 04

Collinge, Rachael Pixie-Ann
The use of enzymes in textile conservation: a preliminary investigation into localised application techniques

Enzymes are protein molecules usually obtained from natural sources. They act as catalysts with specific functions, and are used in conservation to remove adhesive residues or soiling.
Textile substrates are often not suitable for immersion treatments. The localised application of enzymes may provide an alternative. This dissertation has been written to provide an accessible document on the subject of enzyme use in conservation, and includes a literature review on the use of enzymes across conservation disciplines, as well as interviews with conservators. Experimental work to determine whether methods could be adapted for localised textile treatments using gel formulations, the Albertina-Kompresse and cyclododecane was also performed.

Duffield, Miriam
Interpreting evidence of wear and deliberate damage in four deliberately concealed garments

A deliberately concealed waistcoat, hat, child's dress, and jacket were examined to investigate an unsupported theory that they were deliberately damaged with ritual intent; the practice of concealment is also believed to denote a ritual function. The separate damage characteristics included unsubstantiated cuts, tears, binding, and removal of garment components. As little research exists to inform the preservation of ritual artefacts, the study combined interdisciplinary research of associated concealment practices and ritual behaviour with visual examination, microscopy, SEM and X-radiography. The investigation thereby evaluated and compared material and contextual evidence, and substantiated deliberate damage in three of the four garments.

Hodson, Anna
The pits of despair? The characterisation of rubberised fabric dress shields, their degradation and conservation of treatment options. How can dress shields be preserved in the costume collections of museums?

The presence and deterioration of rubber proofed dress shields in museum collections is researched and the conservation problems posed are considered. Two collection surveys conducted at the Gallery of Costume, Manchester, and Hampshire County Council Museums and Archives Service, provide valuable information revealing the extent, types, period and condition of dress shields in museum collections. The process of deterioration of the vulcanised natural rubber component is defined and the deleterious effect of this on the cotton textiles of the host garments assessed through accelerated age experiments. The effect of deterioration is considered for the storage of dress shields in museum collections.

Smith, Rebecca
TV puppets from the 1960s and 1970s: creation, materials and conservation

This dissertation focuses on the conservation of TV puppets from the 1960s and 1970s. Two puppets, Bagpuss from the TV series Bagpuss, and Tog, from the TV series Pogles' Wood, were investigated. They are mixed media objects which include pine, oak, polyurethane foam, steel, brass, synthetic adhesives, and paint. Oddy tests confirmed that the polyurethane foam inside Bagpuss was off-gassing. Light ageing tests confirmed that the Bagpuss fur helps protect the foam. A questionnaire revealed the presence of TV puppets in four of the ten museums questioned: two museums reports puppets with foam content. A discussion with the puppet makers, Peter and Joan Firmin, provided information about the materials and history of the puppets, and the makers' views on the long-term care and possible conservation/restoration intentions. The conservation of Tog was undertaken and documented. Recommendations for the safe storage and conservation of 1960s/1970s TV puppets are given.

Zagorska-Thomas, Natalia
Investigation into the history and construction of European upholstered saddles
with particular attention to a saddle belonging to Audley End House, Essex.

The dissertation endeavours to identify the period and place of origin of an upholstered saddle belonging to Audley End House (English Heritage) in order to place it in its historical context and to develop its identity as part of modern Audley End House and its collection.
It is based on the documentation of the saddle (included in appendix1) and research into the history of upholstered saddles in general from the pre-Christian era until and including the 17th and 18th century when the saddle is thought to have been made and used. Particular attention is paid to the construction and materials of the saddle which are considered as the most reliable primary source of information for an object with no established provenance or history.

2003 – 05

Baker, Rosemary M.
The use of reflected visible light spectra to analyse dyed fabrics: The highs and lows of synthetic dyes

A non-destructive method for dye analysis was examined in this study. A portable spectrometer with a probe which can be placed directly on a textile was used to measure reflectance spectra in the visible region. Results for a small range of synthetic green dyes showed that characteristic peaks which could be used for identification were obtained. However, light ageing of dyed fabrics indicated that in some cases the peak position might change over time which would make identification more difficult.

Darby-Gibson, Janine
To investigate how long acid free tissue is acid free and what the effects and implications are for conservators, museums, heritage organisations and collectors

The dissertation investigates whether acid-free tissue has a 'life-span'. The aim was to identify whether the pH level of acid-free tissue alters once it deteriorates and discolours rendering it detrimental for use within textile conservation.

The history, production methods, pulps, additives and specialist qualities of paper are discussed. Fibre composition and production of acid-free tissue and Japanese tissues were researched including their properties and function within conservation practice. Deterioration processes, causes, visual and physical effects evident within acid-free tissue were established. Environmental conditions, alternative storage materials and research by the American Society for Testing & Materials are discussed. A survey providing information on purchase, product knowledge and utilisation of acid-free tissue within institutions is analysed, including data from accelerated ageing experiments undertaken. Guidelines for the use of acid-free tissue within conservation are listed within the conclusion.

Davies, Sally
Reflections of patent leather: an initial investigation into the degradation of linseed oil and polyurethane finishes, in relation to preventive storage techniques

This dissertation investigates the deterioration of two types of patent leather objects found within costume collections. The degradation of linseed oil patent leather is a known problem but the later polyurethane coating is young from a conservation point of view, and the initial problems need to be addressed. Laboratory testing indicates that high humidity is detrimental to the patent finish. Results suggest a stable environment will arrest degradation, and recommendations for appropriate storage methods are proposed

Kim, Sun Young
Textile conservation in Korea: an analysis of past practices and future prospects

Textile conservation in Korea evolved since the early 1970s mainly for treating textiles excavated from graves (*chultoboksik*). This dissertation proposes the adoption of a code of ethics in Korea to complement conservation practice. Following analysis of textile conservation in Korea, the applicability of international codes of ethics to Korean practice is assessed. It is argued that raising awareness of ethical standards and encouraging discussion of codes of ethics are imperative for the development in textile conservation in Korea.

Loosemore, Vicky
Screen printing techniques, dyes and pigments and their suitability for producing coloured supports in textile conservation

In this piece of research the author uses both her previous experience in print, and her knowledge as a textile conservator to research four types of pigments/dyes, and their suitability for creating a localised coloured support. The four pigments and dyes include Helizarin Pigment with Bricoprint binder, Procion P reactive dyes, heat transfer disperse dyes and Liquitex acrylic paint. The research investigates the light fastness, wash fastness, flexibility and safety for use with historic textiles of the chosen pigments and dyes. The aim of the research is to conclude whether these produce suitable fabrics for supporting historic artefacts and whether they are suitable for use within the Textile Conservation field.

McNett, Sarah L.
Communicating textile conservation: what are the positive outcomes of promoting public and financial support?

The aim of this dissertation was to evaluate whether the various strategies for promoting awareness and understanding of conservation are having a positive impact on the profession in terms of increased public and financial support. The background was explored through a literature review. A range of institutions was examined in case studies with supporting interviews. The interview results confirmed that though conservators make much effort to communicate the importance of conservation to the public and to museum colleagues, the language used is not always effective and more careful audience research must be done to streamline efforts. The outcomes indicated that communicating conservation strategies work best when they are integrated into the overall vision and action plan of an institution and not seen as 'one-off' reactions or responses to access or funding requirements.

Morris, Bernice
The ethics and practice of conserving Jewish ceremonial textiles

Jewish life is rich in textiles that are used to facilitate Jewish religious practice. Ritual use and handling means conservation is often necessary for their preservation. A comprehensive list of Jewish ritual textiles is presented that explains their function, as well as demonstrating preservation needs and possible solutions. According to professional ethics, conservators should consider the desires of originating cultures when treating their objects: the appropriateness and viability of conservators recognising the religious rules imposed by Jewish law on ritual objects is explored through the various perspectives of both Jews and conservators. Possible strategies acceptable to both the conservation profession and the Jewish religion are recommended.

Osborne, Cheryl Elizabeth
An investigation into plant moth deterrents, including conkers, traditionally used to protect textiles and their potential for protecting textiles on open display in historic houses.

The aim of this study was to investigate the potential of traditional plant insect deterrents, including conkers, for protecting textiles on open display in historic houses. The problems of preventive conservation in historic houses and the biology of commonly found textile insect pests were outlined. The deterrent properties of the plants were investigated to try to find a common characteristic and link to conkers from the Horse Chestnut tree *Aesculus hippocastanum.* The study also aimed to determine how effective the plants might be at protecting textiles. The methodology included a literature search and consultation with relevant organisations and professionals. Essential oils compounds called terpenes were found to represent the deterrent activity and were the common factor between plants and conkers. The research highlighted the need for further testing before firm recommendations could be made.

Roberts, Branwen Tudor

An investigation into the development and feasibility of an image-centric documentation framework to document textile artefacts

An investigation into the development and feasibility of an image-centric documentation system to document textile artefacts is conducted. Current thinking on conservation documentation processes is reviewed and an assessment of the current use and possible future utilisation of imagery in documentation are made. A test bed system comprising the key features of the proposed image centric documentation system is developed and the system is evaluated, both from the documentation producer's and the consumer's viewpoint. The system's extensive use of imagery proves successful in communicating descriptive information e.g. textile construction, and the website interface proves to be user-friendly. The system is considered viable but the investment in resources required to establish the system may be prohibitive for many organisations.

Taylor, Jane
Crossing the Channel: A comparative study of the textile conservation profession in England and France

This study traces the development of textile conservation in England and France as a distinct branch of the conservation profession from the earliest work of Swedish conservators in the early 20th century to the present day. An original aspect of the research lies in the use of oral sources as its departure point.

A comparison of the evolution of the textile conservation profession in England and France is made by tracing the events, theory and people that shaped the profession in both countries based on information obtained during interviews of conservation professionals. Present-day training and qualifications are compared and the significance of the recently established accreditation and *habilitation* processes in the two countries is examined. Finally a comparative study is made of the demographics and economic status of professionals on both sides of the channel showing evidence of differences in status and compensation resulting from the way the profession has evolved in each country.

2004 – 06

Chatziantoniou, Konstantinos
An Epitaphios of the Greek Orthodox Church: its maker and its tangible and intangible properties. How can the understanding and examination of these affect its future role and assist in the conservation of similar religious textiles?

In the Greek Orthodox Church several liturgical textiles find use during ceremonies, such as Epitaphioi. These are flat textiles with metal thread embroideries, depicting the lamentation mourning of Christ before the placement of His body in the tomb and have a significant liturgical role at Easter. Since they first appeared in Byzantium their iconography and function has evolved greatly. In this research, the tangible and intangible properties of an Epitaphios made in 1829 AD in Constantinople by the embroiderer Kokona Tou Rologa will be examined, with the aim of assisting in its future role. An extended role of this dissertation will be to assist in the examination and conservation of similar religious objects.

Hernandez Gomez, Catalina
The uses of non-woven surgical fabrics in textile conservation

This document describes an investigation into non-woven surgical fabrics as breathable barrier materials, determining which types can be safe, efficient, effective and cost effective materials to be used in Textile Conservation. Different types of these fabrics were tested and those that complied with specific requirements were identified as having potential uses as protective barriers in storage, during interventive conservation treatments and as breathable barriers for contact humidification processes. They were compared to materials already used for these purposes which they could potentially replace, bringing benefits in quality and efficiency, stressing the importance of further research into this material.

Hickson, Wendy
Developing a preventative conservation strategy for historic vestments at Saint Peter's Catholic Church, Winchester

This discussion develops a preventive conservation strategy for the historic vestments in current liturgical use at St Peter's Church, Winchester. This allows for their continued occasional use but ensures the care of the late medieval orphreys is the best possible in a non-museum environment, protecting them for future generations. To establish this strategy a literature review was conducted to establish good practice in preventive conservation and the current position of the conservation profession and the Catholic Church on the conservation and use of sacred objects. To verify usual practice in storing vestments, visits to churches were carried out.

Johnston, Claire Rosemary
A preliminary investigation into the differences in weave analysis between Persian and Ottoman velvets from the 16th to the 19th century

This study examines the weave structures of Persian and Ottoman velvets of the 16th – 19th centuries. It summarises the basic foundation weaves including velvet weave structure together with materials and looms used to weave velvets. The relationship between the Persians and the Ottomans and its impact on the weaving industries of each are discussed together with comparisons in design and colour of the velvets they produced. The methodology of weave analysis is discussed in depth leading to a discussion about the three weave structures identified through examining velvets in several large collections. The conservation of velvets is also considered.

Maskell, Florence Mary Luise
The use and re-use of liturgical textiles: a communion table carpet in Corpus Christi College, Oxford

A textile belonging to Corpus Christi College, Oxford, thought to be a Communion table carpet made in the late sixteenth or early seventeenth century, was investigated using the following techniques: metal thread analysis, dye analysis, weave analysis, object examination, and archival research. The textile contains fragments of cloth of gold woven to order in Florence c. 1500 – 1525 to make copes for Bishop Richard Fox, Founder of Corpus Christi College (1517). A detailed current record of the textile was created that provides new information about its attribution and history, and informs its conservation treatment.

Moxon, Philippa
An experimental evaluation of spot bleaching treatments on cellulosic textiles

This dissertation researches the use of bleach in the field of textile conservation with specific practical analysis of spot treatment techniques on cotton fabric. A survey of published sources and unpublished research carried out at the Textile Conservation Centre highlighted the potential for damage that bleaching historic garments can cause and some of the other associated problems, such as colour revision. The research topic was refined and a range of spot treatment techniques (brushing, poulticing and using Gore-tex™) were tested using artificially stained modern cotton fabric, with specific focus being given to comparative analysis of the application techniques.

Papadoula, Anna
The cut, construction and materials of an Indian pair of shoes dated late 18th/early 19th century: reflections of a culture

This study concerns the identification of the cut, construction and materials of an Indian pair of shoes, dated late 18th / early 19th century, and their interpretation in the Indian context. The shoes are made of leather, fine embroidery with metal threads and a pair of laces with tassels and fringes. An in-depth analysis of the construction and all the materials took place through visual observation and examination under microscopes and implementation of SEM-EDS analysis, HPLC analysis, X-Ray Fluorescence and X-Ray spectroscopy. The results were related to Indian culture and beliefs through literature sources, museum collections and personal contacts.

Rapti, Stavroula
An investigation of Vinamul 3252

Throughout a series of experiments the properties and performance of Vinamul 3252 (ethylene/vinyl acetate copolymer) were examined. 10% and 20% w/v dispersants of Vinamul 3252 in deionized water or in acetone/deionized water mixture, were applied to silk crepeline samples. Acetone/IMS reactivation of various times and a combination of heat sealing and IMS reactivation were used to adhere the coated silk crepeline samples to silk habutai in the role of the artefact. Sheen increased with increased concentration and reactivation with the combination method, whereas flexibility did not noticeably alter. The bond strength, evaluated via T-peel strength increased with increasing reactivation times. Acetone produced stronger bonds than IMS. It was noticed that the adhesive in the mixture of the organic solvent and water did not produce stronger bonds. Specimens of lower concentration reactivated for a longer time created equal bond strength to higher concentrations at shorter reactivation times.

Weatherall, Rosamund
Completing the picture: a comparative study of compensation for loss with particular reference to canvas-work upholstery top covers

This dissertation focuses on techniques used to compensate for loss in canvas-work upholstery top covers. This issue is considered from an ethical and philosophical standpoint, and the study is placed within a wider context of the

treatment of loss in the non-textile disciplines of furniture, ceramics and wallpaper. Compensation for loss in other textile disciplines is also considered, with particular attention paid to tapestry and carpet conservation. These objects all pose similar problems of filling losses with a decorative surface, texture and volume in depth. The aim is to identify those methods of integration of loss which are most effective in responding to the particular characteristics of canvas-work and its context, whilst also staying within ethical guidelines.

Wood, Susan
A preliminary investigation into green dyed embroidery threads on samplers made during the period 1780 to 1849 and their susceptibility to dye bleeding

This dissertation investigates the use and availability of green dyes within the period 1780 to 1849. It details the dyes in use during this period and discusses their dye classes in relation to dye bleeding. Wash fastness tests and methods to control dye bleeding are also discussed, along with methods of dye identification. Experimental work was carried out which identified the blue dye as Saxon blue and investigated whether the type of surfactant or type of water affected the rate of dye bleeding. It is tentatively concluded that de-ionised water and anionic surfactants may increase the rate of dye bleeding.

2005-07

Chervenock, Bonnijo

An investigation into the effects of gunpowder staining on historic proteinaceous textiles

Gunpowder residue is known to be corrosive in metals, but little has been done to determine the effects of gunpowder residue on textile objects. This paper investigates whether gunpowder residue is harmful to proteinaceous textiles using synthetically soiled wool and silk. These samples were aged, cleaned using a variety of surface, wet, and solvent methods, and aged a second time. Based on these tests, gunpowder soiling does not appear to cause any long-term damage. Also discussed are the ethics behind removing gunpowder residue from historic objects and the conservation of an historic object which has gunpowder residue.

Fusco, Maria
The evolvement of a treatment plan for a Peruvian burial shroud and its relation to wider treatment and display considerations for funerary textiles in foreign and descendant cultures

This project is a case-based study of current practice in the treatment of archaeological textiles, in particular those of a funerary nature. Work centres around the author's investigation, characterization and proposal for treatment of a Peruvian burial shroud currently held in a UK collection. The author developed a treatment plan based on the unique needs of this textile and concurrently undertook investigations into wider sentiment and practice in work with funerary textiles. The author aimed to research two themes: whether funerary textiles have special treatment and display needs beyond those of other archaeological textiles and whether such sentiment and practice differs between cultures, in this case between the shroud's current and source culture.

Horton, Karen
Research into a group of 6th Century archaeological textile fragments from Deir 'Ain' Abata, Jordan: determining their materials, use and future conservation treatment

The general aim of the research presented in this dissertation is to identify a group of small archaeological textile fragments that had been classed as rubbish in antiquity and disposed of accordingly. Being able to identify both individual fragments as pieces of garments or utilitarian textiles as well as their method of construction and fibre morphology, allows a greater understanding of where the textiles may have originated as well an understanding of ancient trade routes, agricultural origins and patterns of trade within communities. Archaeological fibres can prove difficult to identify and distinguish as a result of their degradation but it is hoped that through the work presented here a comprehensive database of 6th century fibres can be established.

Komatsu, Miki
An investigation of the fragments of liturgical textiles from Worcester Cathedral

The pieces of fabric, found in Worcester Cathedral, are traditionally thought to be attributed to Bishop William de Blois, who died in 1236. These fragments are of significance as an example of early English embroidery, yet have not been thoroughly investigated before. The aim of this research is to reveal the importance of the fragments from the viewpoints of 1) Style and design, 2) Technique and 3) Materials. The research was conducted by literature review, comparison with contemporary textiles (style and technique), morphological observation by microscope, elemental analysis by SEM-EDS and FT-IR, and photography by UV, IR and X-ray radiography.

Obie, Chandra
Collecting Pop Culture: a discussion of the strengths and weaknesses of three major types of collectors of pop culture objects

Pop culture objects are the material culture of the majority and a vastly underappreciated and underrepresented area in collections and conservation literature. The most important pop culture objects are often not in museum collections, but in private hands, producing a set of circumstances that will have a profound impact on the future of collecting in this growing field. It is important to understand the varied collectors of pop culture objects and the impact they have on their collections, both positive and negative, and consider how pop culture objects will be collected, conserved and displayed in the future.

Paul, Sarah
Are optical fibres safe to use for conservation purposes? An investigation into the deterioration of optical fibres for their use in tapestry conservation

This study contributes towards a larger project undertaken by an interdisciplinary team from the Textile Conservation Centre and the School of Engineering Sciences at the University of Southampton. The aim of the larger project is to establish an objective monitoring technique to observe strain in tapestries. The

use of optical fibres to enable this monitoring is currently being investigated. It is hoped that an optical fibre can successfully be incorporated into a tapestry to effectively monitor particular areas of strain without compromising the flexibility of the fabric. The dissertation investigates the possible degradation of the optical fibres being considered for use. A series of tests to establish a deterioration pattern and rate, if any, were carried out and the results analysed. The tests include Oddy tests, thermal and light ageing.

Rhodes, Rachel
Natural and simulated pearls used as part of textile objects; their identification and reaction to interventive treatments

Pearls and pearlescent beads represent a largely unexplored subsection of beadwork, which needs further attention. Research shows that the materials a textile conservator may encounter from this group are not unproblematic. A wide variety of materials including essence-d'Orient made from fish-scale and cellulose nitrate may be found, both of which require additional care during treatment. Clear identification must be made before making good conservation treatment choices. This work goes some way in exploring the most accessible ways a textile conservator can identify the materials in these beads and the implications of finding some of these materials on interventive treatment options.

Zhi Yong, Lu
A Chinese Liao silk sock (907-1125): research on the surface decoration, provenance and conservation
The aim of this dissertation was to investigate the particular decoration using small dots of material on a significant but incomplete sock, to investigate the identity and provenance of the sock, and to develop conservation suggestions. A way of digesting detailed documentation, instrumental analysis, historical documents and archaeological materials to investigate an object with unclear provenance was developed. Research conclusions prove the sock is significant and the decoration is unique. The incomplete sock is deduced, at this stage, to be a sock worn by a noble *Qidan* female in the middle *Liao* period. Based on the research conclusions and an understanding of the sock's significance, suggestions for conservation were developed.

2006-08

Hannah Rose Barrett
The role of contemporary footwear manufacturing techniques in contemporary footwear conservation

The overall aim of this research project was to ascertain the effectiveness and appropriateness (financial viability, practicality and time efficiency) of laser scanning and 3D reproduction systems in the conservation and support of historic footwear. This research project introduces the laser scanning and rapid prototyping processes and identifies the potential damage these technologies could cause. The final chapters analyse the results of testing and follow the concept in practice to evaluate the concept as a whole. From the outcomes of this project it can be suggested that this concept is indeed a safe, viable and workable concept with potential for future development.

Merethe Didriksen

Enzymes in textile conservation. An investigation into the effect of Amylases on cotton fabric

Enzyme treatments have been employed in textile conservation as a precise and safe method to remove difficult and otherwise insoluble adhesives from textile artefacts. The aim of this research was to establish whether amylase-enzymes in fact are as safe as thought when used on historically degraded cotton textiles. To establish this, a range of tests was conducted in order to determine the possible direct and long-term effects of an enzyme treatment on both new and historically aged cotton textiles.

These tests comprised a microscopic- and macroscopic assessment, weight measurements, colorimetric measurements and tensile tests. In order to determine the presence of enzyme residues in the cotton fabric after treatment, a commercial iodine amylase test, the Phadebas®-test, was employed. The test revealed that enzyme activity was detected in the samples after the bath treatments. However, based on the other tests performed in this research, it can be concluded that the two amylases, Stainzyme® and Termamyl®, did not show any adverse effects on any of the various degraded cotton fabrics. The enzymatic reactions did not affect the cotton object during the time of reaction nor on a long-term basis.

Sarah Glenn
An investigation into the conservation of spacesuits and high-altitude pressure suits

This dissertation researches the conservation of spacesuits and high-altitude pressure suits with particular reference to a collection of thirteen suits at the Science Museum, London. A survey of published and unpublished sources showed that the modern materials that form a major part of such objects often have complex and different degradation processes, and as such, present a challenge to the conservator. It may be that the only viable treatment for these objects is through preventive conservation rather than interventive methods.

The thirteen suits at the Science Museum had been treated fourteen years previously at the Textile Conservation Centre, Winchester. A re-evaluation of this treatment was carried out through a condition survey, and recommendations for a future conservation strategy were made in line with the findings of the research carried out on the collection of spacesuits at the National Air and Space Museum (NASM), Washington D.C. It is hoped that other collections of spacesuits and high-altitude pressure suits may benefit from the recommendations made.

Judith Hubbard
Cinderella fabrics, the conservation of knitted objects

This dissertation considers, tests and describes methods of conservation appropriate to knitted fabrics, with particular attention to those that retain the flexibility of its structure. It explores the ethical questions connected with the use of re-looping techniques and advocates the use of acrylic yarn in conservation as an alternative to wool. The possible reasons for the small numbers of knitted objects currently being conserved are discussed and the likelihood of an increased future demand is assessed by a study of the changes in the uses of knitting which occurred during the twentieth century.

Masumi Kataoka
Understanding the microenvironment within pressure mounts for historic textiles

The pressure mounting of historic textiles between a padded rigid board and a glazing material is used as a minimally interventive conservation treatment. This study investigated the RH within the mounts. It confirmed earlier studies in other conservation disciplines that the internal space is affected by the external environment conditions, unless it is hermetically sealed. Tests also showed that the predominant factor in determining the RH level within the mounts is the moisture sorption properties of the contained material(s) and artefact. This explains the reported 'anomaly' that the RH inside a mount rises as the external temperature rises.

Christine Maurhoff
Commercial spot removal product: Conservation's friend or foe?

Commercially available stain removal products, specifically from the Stain Devils range, were tested in a pilot study to see whether they are suitable for use in conservation treatments. Four different stains were applied to five different fabrics. One set of samples was treated with Stain Devils and a second set using traditional conservation methods. The samples revealed that Stain Devils yielded similar results to the traditional methods in the stain reduction. The samples were then artificially aged to examine the long-term suitability of Stain Devils' use in conservation, which is yet to be determined as conflicting results were discovered.

Luba Dovgan Nurse
Conservation of a rare Maori cloak made from the leaves of *Celmisia* species and fibres of *Phormium tenax*: Maori taonga in the context of the Economic Botany Collection, Royal Botanic Gardens, Kew

This dissertation is about the conservation of a rare Maori cloak, made in New Zealand from the leaves of a mountain daisy, *Celmisia* species, and fibres of *Phormium tenax,* donated to the Economic Botany Collection, Kew, UK in 1858. The challenge was to identify and implement a conservation strategy that reflects the cloak's role as a botanical specimen at the EBC and as taonga (value, treasure) of Maori people. The author proposes to carry out a public consultation to assess the significance of this cloak to the descendants of the community that produced it and to include the community in the conservation process. Issues raised during the preparation for community consultation are discussed.

Sarah Reardon
An investigation into the wet cleaning treatment of textiles supported with paper, with reference to a collection of Opus Anglicanum ecclesiastical embroideries belonging to The National Trust's Hardwick Hall.

This is an investigation into why the paper backings of a collection of ecclesiastical embroideries changed in texture after wet cleaning. Controlled tests were conducted to examine three theories: the effect of starch migration; mechanical action; and the use of a surfactant. Results showed there was no starch migration, but that mechanical action and use of a surfactant were contributory to causing damage to paper. Overall conclusions from these

experiments were that arguably the embroideries should have minimum intervention. However, if wet cleaning is necessary, the suction table method using deionised water seemed to be the best treatment.

2007-09

Bathke, Lynn Ellen
From Pointillism to pixels: Understanding the transformation of digital printing for use in textile conservation

Textile conservators are often presented with beautifully embellished textiles where imagery is significant to the interpretation of the object. Over time, loss within the imagery has been caused by the degradation of materials. Digital textile printing can reproduce details of embellishment techniques that are not readily practiced or are time consuming. A replica object allows further display and educational handling options, when the original object is too fragile for exhibition.

In the dissertation, the history of printing and color theory are analyzed. The ability to use color theory principles correctly allows a conservator to produce an aesthetic duplication of the original textile in a quick and efficient manner. Adobe Photoshop is used as the primary tool for color and image manipulation. The first case study, the conservation of a crocheted bag, analyzes the production of a digitally printed textile for use as an aesthetic infill to compensate for loss along the bottom of the bag. The second case study, the replica production of a Korean Rank Apron, examines large format digital textile printing on silk to produce a replica garment. The third case study demonstrates how a textile conservator may use digital photography to convey different treatment options for a client or curator.

Leitão, Aniza Figueirôa
Textile conservation: A review of practice

This study aims to provide the foundation in which textile conservation evolves. Textile conservation theory and practice is explored. Significant concepts, issues and new challenges to the practice of the profession and to the process of decision making are considered. Basic principles are reassessed and the efficacy of minimal intervention as a guiding principle for practice is questioned. The relationships between conservation and the preservation of both tangible and intangible material are also discussed.

Morais, Rita Maltieira
Textiles storage and long term preservation in Portugal based on two case studies: Alberto Sampaio Museum and second year students of conservation in Portuguese Catholic University

This document intended to evaluate whether strategies for promoting awareness and understanding of the preventive conservation of textiles can have a positive impact on the preservation of textile collections in the north of Portugal, in terms of improving storage conditions, working as a team and using low cost materials which met conservation standards. The research is based on a literature review and on two case studies. Training courses were carried out with conservation students and with volunteers working on a museum project. Oddy tests were

used to analyse materials from the local market. The results were displayed in the museum. The project achieved interaction and commitment from the community.

Owens, Sarah Jane Grace
Witness to the past: Assessing the usefulness of non-invasive techniques to investigate historic textiles

This dissertation presents research assessing the usefulness of non-invasive techniques to investigate historic textiles. The examination and photographic techniques included are: visual inspection by the unaided eye and enhanced through the use of microscopy, varying photographic lighting using raking, transmitted, Infrared and Ultraviolet and X-radiography. A series of case studies, including a 17th Century leather glove, North American moccasin, degraded sampler and Brazilian face mask, present results from utilizing these techniques. Primary and secondary sources are cited to illustrate the considerations, limitations and benefits of such non-invasive investigation for conservators, other professionals in the wider cultural sector and the public.

Palacios, Elizabeth
Archaeological burial objects outside original context: Case study Kew Economic Botany Collection Cat. No. 26834

The case study object 26834 (TCC 3139.2) from Kew Economic Botany Collection has been used to explain the different contexts, meaning and significance of archaeological burial objects, and how their role is interpreted in each context. The object was brought to the United Kingdom by Hugh Cumming in the late Twenty Century from a grave in central coast of Perú; it is composed of two textiles, a flute and a fossil. Their roles in the collection influence their conservation.

Rose, Elizabeth M.
An investigation into the stability of dyed black cellulose

Black textiles are found in many collections today. Textiles have been coloured black using both natural and synthetic dyes, from mud to aniline, and have degraded or discoloured in different ways. When treating objects, textile conservators need to use stable, dyed support substrates which are not deleterious to objects.

This research focussed on the development of a 'good' black dye recipe for cellulose using a combination of Solophenyl, direct dyes. To ensure the stability of the trichromatically dyed cotton it has been subjected to a stringent testing regime which included light ageing, spectrophotometry, tensile strength and wet fastness tests.

Suh, Jung-Won (Emma)
Textile conservation in Korea: Past, present and future

The dissertation examines how textile conservation in the Republic of Korea has developed since the 1970s, focusing on excavated textiles. Recently some national institutions in Korea have advertised job vacancies for positions in textile conservation. However, currently there are no specific courses for education and training in this field, which usually forms part of a curator's job.

This research provides an overview of textile conservation in Korea, examining and evaluating the existing literature to identify challenges within the sector. It then puts forward recommendations for developing this as a new profession, focusing on education and training in the field.

Thompson, Elizabeth
The research of a group of Tudor archaeological textile fragments from the Museum of London: to provide documentation, uncover new details about the provenance of the textiles and help to define the role of such research within the context of conservation

This research project focuses on a set of archaeological textile fragments dating from the Tudor Period. They were originally excavated from a site in London at Moorfields in the early 20th Century and they belong to the Museum of London. The textiles include fragmentary examples of different textile weaves and some that can be identified as garments. The study is primarily a catalogue of this previously undocumented set of textiles undertaken in order to contribute to the limited information held on the Moorfields Collection by the Museum of London and to make access to the collection as a source of information easier for future study.

A discussion on some of the pieces in more detail drawing on contextual information, aimed to not only highlight the importance of some of the Tudor garments in the collection but to also propose a suitable conservation treatment for two of the pieces. It was hoped that this would promote further discussion on the importance of contextual information to textile conservation on a wider scale. By proposing treatments for examples from the collection the conclusion was made that treatments proposed for these textile objects relied heavily on the documentation and contextual information that was uncovered by the conservator and this has emphasised the level of study it is necessary for a textile conservator to undertake when treating an object.

Tonkin, Leanne Claire
Developments in the conservation of ecclesiastical textiles: the Whalley Abbey Orphreys c.1390-1500

This thesis focuses on the conservation challenges posed by the Whalley Abbey orphreys, an altar frontal made up of two side pillar orphreys c.1390 and a central cross orphrey c.1500 mounted on a crimson silk and owned by Towneley Hall Art Gallery and Museum in Burnley, Lancashire. It also introduces the challenges of conserving a wider group of liturgical textiles from the late medieval and early modern periods through published and unpublished case studies.

The final treatment of the orphreys took into account the previous treatment of the Whalley Abbey vestments which were conserved around twenty years earlier. The overall outcomes from this research revealed that the conservation of ecclesiastical textiles, such as the Whalley Abbey textiles, follows the developing ethics of textile conservation in general and is likely to be useful in developing further ideas into the specific conservation requirements of ecclesiastical textiles.

Wairkar, Madhura
The conservation of Patan *Patola* as tangible and intangible heritage

This dissertation discusses the significance of the conservation of intangible heritage in India, taking the case study of the 12th century A.D art of weaving the *Patola* Saris from Patan, India. With a visit to the *Patola* workshop in Patan, and through an extensive literature review, the dissertation brings in different perspectives and approaches for conserving the intangible heritage, as well as its tangible aspects of display and storage. As the proverb states 'Prevention is better than cure'; taking preventive care is the best way to avoid damage or loss of heritage.