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## President's Report

Tamara Lavrencic

National President

Work continues on developing the new AICCM website. A "draft" site has been developed and content has been written for most public-access pages. There have been some delays in the process due to upgrades to the software to be used; it is currently expected that the site will go live in April.

Bulletin articles, AICCM conference papers, National Newsletters and other AICCM documents have been digitised and are about to be loaded onto the site. All but the last three years of material will be freely available to the public; AICCM members will have full access to online content. It is anticipated that this part of the new site will become an important resource for the conservation community. The new website will also feature a members-only "wiki" containing information about how to organise events, write papers and other useful things.

As part of the process to streamline membership management, the new site will also feature online payment options, an online membership database and a more intuitive way of managing the Members in Private Practice list.

Many AICCM members have generously provided images for the new site; please don't hesitate to send in more if you have good pictures of conservation in progress, before and after treatment shots or close-ups of deterioration. Copyright can be a tricky issue when using images of artworks or objects that belong to public or private clients; contact Alice Cannon if you have any questions about AICCM's copyright policy.

The recent floods in Queensland and NSW have highlighted the important role the AICCM can play in disaster recovery. The new website will provide links to existing disaster recovery information provided by various Australian and international cultural organisations. Furthermore, if we include some simple information sheets on how to deal with muddy furniture, wet photographs or mouldy paintings, journalists and radio hosts might be able to find answers to questions that readers and listeners raise.

Once we have a body of information available, AICCM can send out press releases to let journalists etc. know where to find the information, and where to find conservators to answer further questions.

At the moment, we are not very visible outside of our profession. Raising the profile of conservators in the broader community is one of our biggest challenges.

*from the editorial committee*

At the recent National Council meeting in Sydney, the present Editorial Committee of the AICCM National Newsletter (a sub-committee of the Victorian Division of the AICCM) tendered their resignation after more than 6 years of producing the newsletter. We feel it is time for a fresh approach to the newsletter by a new committee. Change can be a good thing and we encourage other members to take on the challenge of carrying the newsletter on to a new beginning. With the redevelopment of the web-site, there is an opportunity for the consideration of producing the newsletter in electronic format only. This will reduce production and mailing costs substantially, allowing the savings to be redirected to other AICCM activities.

In this issue we bring you our regular columns: **Tamara Lavrencic's** Presidents Report, People and Projects and SIG news. The Calendar will be available on the web-site but is no longer being printed in hard copy. The newsletter is also available to members on the web-site. You need to log on to access these.

In addition we have a report from **Caroline Kyi** and **Ahmad Abu-Baker** from CCMC on a project they worked on during the summer break. We have a report on conservation education from **Marcelle Scott** at the University of Melbourne. **Alice Cannon** looks at web-based resources for environmental analysis. She and her SLV colleagues, **Katrina Ben** and **Jean Holland** report on a workshop with UK colleagues, Cheryl Porter and Caroline Checkley-Scott, on the dying of leathers for bookbinding. **Travis Taylor** and **Dr. Petronella Nel** have contributed a technical note on the analysis of crystals on a Blamire Young watercolour from the University of Melbourne Art Collection.

In conclusion, we'd like to thank all members who have contributed to the newsletter over the past 6 years, with contributions on a huge range of activities and topics from around Australia and from members working overseas. We'd also like to thank Victorian members who have been on the Committee over the last 6 years – **Pip Morrison**, **Katy Glen**, **Marika Kocsis** and **Penny Nolton**. We'd also like to acknowledge the support of the Publications Officers we have worked with, **Alice Cannon** and Marika Kocsis.

Editorial Committee: **Alex Ellem**, **Jude Fraser** and **Helen Privett**

# A Hitchhiker's Guide to Dakhleh Oasis

Caroline Kyi, Wall Painting Conservator and Lecturer  
Ahmad Abu Baker, Metals Conservator  
and PhD student

The Centre for Cultural Materials Conservation,  
The University of Melbourne

And so we found ourselves hitchhiking through the desert on our return from the ruins of ancient Kellis on a 27 °C, 20% Relative Humidity day (a value that will become relevant shortly) back to the house/compound where we and an interchangeable cohort of academics, researchers, students and interested other parties were residing whilst having the privilege to participate the 2008 project Season in Dakhleh Oasis.

For the last 30 years under the direction of Dr Colin Hope of Monash University, students and academics from Australian and international institutes converge on the 80 x 25km expanse of oasis located 880 kilometres SSE of Cairo on the western edge of the Sahara (A 12 hour bus ride though the desert with the odd oasis in between) to excavate and study evidence of the ancients hidden in the sand - or in some cases the local rubbish heap.



Figure 1: The ruins of ancient Kellis -  
the remains of the mudbrick structures are visible

Walking through the Egyptian desert is an amazing experience. It is a spectacular place, mostly silent, exposed and expansive, a place fostering quiet contemplation. Our journey all began with an electronic invitation to work in Dakhleh in Egypt, at the site of ancient Kellis (locally known as Ismant Al Karab). Caroline would be examining the condition of, and developing a conservation management plan for excavated wall painting fragments currently stored in an on-site facility. Ahmad Abu Baker was invited to Dakhleh to assess the condition of and conserve metal artifacts. With funding provided by the Spencer Pappas Travel Grant, it all became possible.

## Conservation of archaeological artefacts

Ahmad spent six weeks in Dakhleh. It was fascinating to see and to work on much of the archaeological material that was stored in the magazine from previous seasons' excavations or came directly from this season's excavation. Although Ahmad's main task was to conserve metal artefacts, he was in charge of conserving a range of different types of archaeological materials. He had the chance to work on metals (copper based, iron, silver and gilded objects), glass, wall paintings and stone fragments or artefacts. The diversity of work made his stay in Dakhleh very exciting. There was a new challenge every day.



Figure 2: Work room in the Dakhleh Oasis Headquarters



Figure 3: Roman coin, before and after cleaning



Figure 4: An iron hoe before and after cleaning and conservation

With on site conservation practice, the conservator needs to be able to work with the limitations of available equipment and materials, aiming to achieve the best possible outcomes. A microscope, simple mechanical cleaning tools and some chemicals were available to do the task. Using these materials, Ahmad was able to clean the archaeological artefacts and undertake basic treatments in the workroom at the Dakhleh Oasis project headquarters (Fig. 2). Copper based coins from the excavation, those stored in the magazine at Dakhleh Oasis project headquarters and a collection of 74 coins stored at the recently opened Abdel Hameed Ahmad Yousef Storage

Museum, comprised the major part of the conservation project. Removing soil, surface encrustations and corrosion products from some of the coins revealed surface inscriptions which were interpreted by Dr. Gillian Bowen and which helped in dating the archaeological layers from which they were excavated. An example of these coins is shown in Fig. 3. Ahmad also worked on other metal objects such as the iron hoe (Fig. 4), silver ring (Fig. 5) and gilded artefacts. Apart from metals, cleaning glass fragments and joining the matching ones was also done. Although there was no complete object, the cleaned pieces showed the beauty of archaeological glass in their painted decoration and weathered crust. Analysis of these fragments can reveal much information. Cleaning wall painting fragments and stone artifacts was also carried out to reveal the painted inscriptions (Fig.6) or ancient writings like the hieroglyphic writings on the sandstone block shown in Fig. 7.

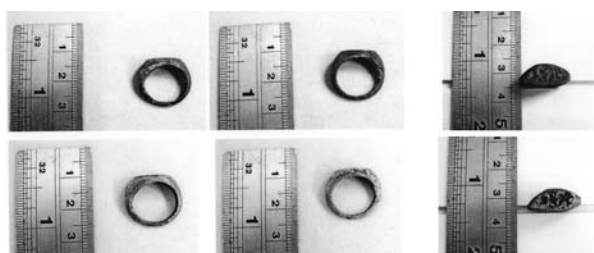


Figure 5: Silver ring, before and after cleaning

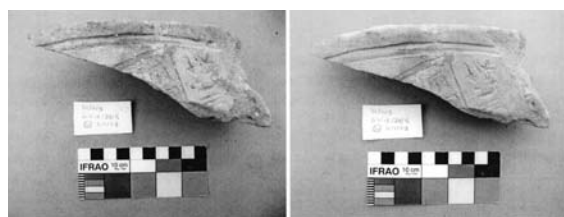


Figure 6: Wall painting, before and after cleaning



Figure 7: Sand stone block with hieroglyphic writings, before and after cleaning

Ahmad also had the opportunity to visit Mut and Ismant el-Kharab archaeological sites and see how the archaeologists conduct their excavations and interpret their findings.

## Conservation of wall painting fragments

Ten days of our time at Dakhleh was dedicated to the assessment of the stored wall painting fragments. The room we were to be working in contained primarily, among other excavated items, an array of wall-painting fragments and painted and plain plaster decorative features (columns, cornices stucco relief-work). Most of the artefacts in the room originated from an excavation referred to as Area B. This area was found to contain a series of painted residences dating from the second to the fourth centuries AD, including a Villa from which many of the wall painting fragments originate. The architectural and technical details observed and the decorative style of the wall paintings indicates that the villa was originally occupied by 'a wealthy resident of Kellis' (Mills 2007:12).

A purely technical explanation of the work we were there to undertake may fail to capture the uniqueness of the experience. For example, the term 'locally available materials' rings true, as a short distance from the Kellis site is the local quarry and brickworks. The removal of material in the quarrying process reveals spectacular seams of red earth, yellow ochre and green earth consistent with those found in the wall paintings. In fact, if you look closely enough at the ground around the site, you can clearly see these mineral pigments in their natural form at your feet. Not only this, but also the hard red and brown coloured rocks that litter the site, under closer inspection, are actually pottery sherds in their thousands. The amount of ancient cultural material and the continued use of locally available materials and traditional techniques within the Egyptian culture is an immediate lesson in these concepts. Although the conservation project involved the examination and assessment of the wall fragments on a number of levels that were informative in developing an approach to their ongoing conservation, the significance of local materials and traditional techniques on the conservation of materials was observed from another perspective.

## Traditional materials and techniques: ongoing preservation

Understanding and addressing the significance of a controlled or, at best, regulated environment to prevent or minimise deterioration in the storage and exhibition of cultural materials is a conservation issue that is widely discussed, researched and, for large institutions, funded. This site provided the perfect opportunity to assess how seemingly 'low-tech' structures, influenced by local and traditional building techniques, function as storage facilities.



Figure 8: The magazine

The magazine was constructed circa 1997 to provide workspace and storage for the excavation being conducted at the time. It contains two rooms, both currently used as work and storage spaces. The mud-brick structure of the magazine is made using traditional construction materials and techniques. The walls are assembled from mud bricks made of mud, sand and straw and layers of earthen-based mortar, finally rendered with a layer of mud. The roof of the magazine is made from similar materials with acacia timber beams serving as joists. Palm nerves are laid over the joists providing support for the application of the earthen material roof. (Fig. 9) From initial examination the magazine, aside from a few cracks and weathering on the north face, appeared to be structurally sound. The durability of these construction techniques is tried and tested as the walls of ancient Kellis, its temple and tombs (which now serve as stables for the donkey) are made out of mud-brick. See Fig. 10



Figure 9: The construction of the roof with acacia beams and palm nerves



Figure 10: The remains of an ancient tomb currently used as stables for the donkey

Access to the room is via a double wooden door located on the south face of the structure. Windows and other forms of direct natural light and ventilation are absent. The floor is bare and exposed and the interior mud rendered walls are white-washed. The interior roof surface remains exposed with the joists and palm nerves clearly visible. There is no electricity or water supply in proximity to the magazine. Light is provided via a modern adaptation six (Perspex) skylights, which are covered over when the project season ends. From the interior of the room the light is visible though the layers of palm nerves indicating the failure to a degree, of the roof in providing shelter for the fragments. Sand and dust appears to have entered the room through these openings and in association with the inserted skylights.

During periods of excavation (approximately 6 weeks between November and February) and practical based research at the site, the fragments may be worked on and stored alongside a vast range of others object including ceramic vessel fragments, basketry, metal based objects, human remains and equipment

and fixtures enabling the room to be used as a workspace. For the rest of the year the archaeological and non-archaeological contents of the room are stacked and stored together. The room is closed and the entrance is sealed with a temporary mud-brick wall. When work recommences at the site the wall is dismantled, the room unpacked and re-used as a work and storage space.

### Annual opening of the room (2008)

An inspector from the Egyptian Supreme Council of Antiquities oversees the annual opening of the room containing the wall painting fragments, an event involving the locating of keys and the removal of the temporary wall.

In 2008, aside from the collapse of the external canopy attached to the magazine, the condition of the magazine appeared to be sound prior to its opening. Inside the room a thick layer of sand and dust had been deposited across all exposed surfaces. To facilitate work within the space, the contents associated with the use of the room as a workspace were removed and a group of local men began dusting the remaining exposed surfaces. The wall paintings fragments are stored in timber trays and crates on locally-made timber shelving. The shelving appeared stable and able to accommodate objects of various shapes and sizes. Unfortunately the close and high stacking of shelves and the placement of large objects on the floor in the proximity to the base of the shelves, means that direct access to some of the trays/crates was difficult.

Individual or collections of fragments were found placed within locally-made open timber trays and crates. Some fragments were placed in plastic bags. Some tray bases were lined with sand. The trays and crates were then stacked on top of one another as a series of drawers with the uppermost tray covered with a cardboard/timber lid. Some larger items rest in shallow trays and are otherwise exposed. All trays and crates were labelled according the location from which they were excavated. (Fig 11)



Figure 11: A general view of the interior of the magazine containing the wall painting fragments. The shelves in the background contain trays of fragments.

While the methods used in the storage and handling may have initially appeared chaotic and slightly removed from the 'text book' example, we are sure that there are conservators reading this article who have had similar experiences whilst working for local 'organisations'. However at the site there are measures in place to protect and catalogue the items stored within the facility that for the most part are effective, and only subtle improvements such as covering the shelves with cloth during periods of closure and making sure all artefacts were stored on shelves or in sealed boxes was advised.

### Locally available climate control

Conservators are well aware that fluctuations in temperature and relative humidity can have significant implications for the ongoing preservation of culturally significant materials. Therefore during January 2008 preliminary assessment of the functioning of the magazine as a thermal and humidity buffer was undertaken. Measurements of the exterior and interior temperature and the interior relative humidity were recorded over a brief period during which, interesting patterns in readings were observed.

In general when the building is used as a closed storage facility it functions extremely well as a thermal and humidity buffer. While temperatures over a 24 hour period can range between 10°C and 33 °C, the internal temperature remains around 20 °C. This has a direct impact on the relative humidity, which was found to be around 30 % over a 24 hour period. These readings can be compared with less favourable readings recorded when the entrance door remained open as it would during periods of use as a workspace where the need for light and constant access to the room is required. Significant fluctuations in the internal temperature and relative humidity of the magazine were recorded. Over a 24 hour period a maximum value of 45% and a minimal value 24% RH were recorded (between 9am and 11am there was a 10% decrease in RH). These comparatively dramatic changes in temperature and relative humidity were recorded even if the door remained open for a relatively short period of only half an hour within an otherwise continuous period of closure. However if the door is intermittently opened and closed (enough to allow persons to enter and/or leave the room) the fluctuations were not as significant.

The upper measurements of uncontrolled RH in the magazine may be more favourable than the RH experience in an unregulated local Australian environment - hence the overall excellent state of preservation of Egyptian antiquities. It was interesting to record and assess how effectively simple structures can function as storage facilities and how proposed modifications to original designs (such as the insertion of dividing walls to separate storage and work areas) and simpler preventative measures (eg. closing doors) may have a significant impact on the environment experienced by materials housed in such storage conditions.

This was one of many lessons learned in Dakhleh (including how to change the phone settings from predictive text - in Arabic). Being in Dakhleh for the whole 2007-2008 season was an invaluable on-site conservation experience that shows how conservation integrates with archaeology to maintain our cultural heritage. The experience was fun, interesting and productive. Ahmad, being a native Arabic speaker, negotiated activities including hitching-hiking from the site in big blue trucks carrying gravel. We stopped short of a ride on a donkey and cart. Walking through the desert, even for a brief period of forty-five minutes, provides you with time and space to think and in a place like Egypt, there is a lot of historical time to think about.

# Pedagogy and Pragmatism: Reflections on teaching conservation at The University of Melbourne

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The experience of developing and teaching the new conservation Masters program has been an exciting and intellectually stimulating one. Of course, it is a huge challenge, and all of us at the Centre recognise the responsibilities that come with the role, both personally and professionally.

For the last few months, including my time as Visiting Scholar at the Getty Center, I've been reflecting quite carefully on the course curriculum – from learning objectives and pedagogical frameworks, through to content delivery and, everyone's favourite ... assessment tasks and grading criteria. If anyone had told me before the closure of the Canberra program that I would soon complete postgrad studies in University teaching, focus my research on conservation pedagogy, and be fascinated by quality of teaching rubrics, well, frankly I wouldn't have known what they were talking about!

Terminology aside, I do think conservators are very interested in how we teach conservation, and how this relates to broader issues in the field. As this Newsletter goes to print, and we welcome a new intake of students to the conservation 'community of practice', it's timely to reflect on some of the pedagogical and the pragmatic aspects of teaching conservation.

## Program aims

Australian conservators are well regarded nationally and internationally, and it is a clear aim of the Masters course to protect, and perhaps even enhance, this reputation. We remain very conscious of the broad range of skills and knowledge expected of conservators; competencies which Suzanne Keene (2002:25) describes as "... a blend of historical and scientific knowledge, manual dexterity, and craft skills that must be extremely rare in employment in the twenty-first century." For these reasons the decision was made early in the planning process to establish the program at postgraduate level. The desire for international equivalence was central to this decision, as postgraduate qualifications are now increasingly required for internships and positions internationally. We also wanted to acknowledge and build on students' undergraduate studies, and to encourage them to apply their skills, experience and what Brooks et al (1999:131) describe as a 'capacity for reflective practice' to their work.

We set about designing the new curricula with two guiding principles in mind:

- (i) The challenging interdisciplinary context; the student cohort is recruited from a variety of backgrounds, including humanities, visual arts practice and science
- (ii) The necessarily broad scope of the content; graduates are expected to have well-developed practical skills, in-depth knowledge of conservation approaches, and the range of higher order generic skills (team work, communication, problem solving etc) now commonly required in the workplace.

Industry advice in the planning stages of the course identified that students' knowledge of chemistry at entry to the program, and level of treatment experience on graduation, were two key issues. A continuing concern raised within the sector is the need for more research. Clearly, the curriculum required careful design to ensure that students were not overwhelmed by content and/or workload. In pedagogical terms the course is designed so that each subject presents a coherent body of knowledge linked to explicit industry relevant learning outcomes. In practice, we recognised that, as Frank Matero (2003:13) puts it, students are likely to "emulate what they experience during their education", and that they value being taught by active professional practitioners. To that end the program draws heavily on the expertise of CCMC and industry colleagues, all of whom demonstrate a high level of infectious enthusiasm for their subject.

## Chemistry

We knew from the range of enquiries before the course had started that a majority of applicants would come from humanities fields, many of whom would not have previously studied chemistry. These students are required to either take a chemistry course at University or TAFE prior to applying for the Masters, or to complete our intensively-taught chemistry bridging course, which is designed to specifically focus on conservation chemistry in an applied way. We have revised the bridging course each year since it was first offered in 2004, with most of the modifications focussing on better alignment with the Masters curriculum. Evidence so far suggests that the students are motivated to learn, and perform better in the subject when the alignment between chemistry and conservation is made explicit. The bridging course explains key chemical principles

using authentic conservation examples, and includes theory, case studies and lab practicals. We are overall very satisfied with the performance of students who have completed the bridging course, and their feedback is positive, particularly in relation to the course's relevance to conservation.

### Treatment experience

It seems that for the last 25 years, or more, we as a profession have worried about the level of graduate's treatment skills and experience. At the same time we've recognised the importance of including new content and theoretical underpinnings into the formal curriculum. The last few decades have seen a considerable expansion in the discipline's knowledge framework, and a change in focus from single object treatment to broader preservation strategies. Nonetheless, highly developed examination and hands-on intervention skills remain a central element of our professional tool kit. With this in mind we carefully constructed a program where practical classes correspond with and reinforce theoretical components. In fact the majority of subjects across the curriculum include practical components, not just in identified treatment subjects, but in the materials and techniques, chemistry and analytical subjects as well. That said however, I think we need to recognise that, just like the new graduates before them, today's graduates will embark on a steep learning curve and a period of rapid skills acquisition during that all important first year out. As is the case with many other practice-based professions, we must rely on those of us with experience to pass on our knowledge, insights, tips and pearls of wisdom to those who will take our place, and who will drive the future of the profession.

### Internships and Placements

Most readers will be familiar with, and many will have hosted students in the internship subject. Both hosts and students have commented that the placement period is too short for practical benefit. The required minimum placement period is largely driven by University concerns that students do not suffer undue financial hardship associated with travel and accommodation costs. However, we are entirely open to the placement period being extended by mutual agreement. We always welcome opportunities for greater industry involvement in the program, and are happy to discuss any ideas you have for student placements and vacation work. The students are very keen to get experience (preferably paid!) during the mid-year break (June and July) and the long summer break (November through to February).

### Research

The Minor Thesis subject achieves several objectives that we consider critical to the profession. It contributes to the discipline's body of research; it provides a pathway for entry to a PhD, thereby assisting to drive research in the field; and, it provides an opportunity for independent, external evaluation of student work. We are particularly keen for students to undertake work of relevance to the field, and to this end we invite suggestions for topics to be studied. Keep in mind, the Minor Thesis is only 12,000 words in length, and is not necessarily expected to present ground breaking new information (leave that for the PhD!) but rather, as is the case for all Masters level work, to reflect 'mastery' of the topic.

### Further work

Now that we've completed 3 full cycles of the program, we've had the opportunity to reflect on and revise content and delivery methods, to better align with our teaching aims and to improve content cohesion across the 2-year course. In the near future, we intend to embark on a full curriculum review and international benchmarking exercise. The review will take into account current gaps in course offerings, and how these can be best addressed. Where relevant we'll link the review and its recommendations with the AICCM Continuing Professional Development Program. If you would like to participate or receive more information please let me know. We do get some feedback from the profession, but would welcome more, so by all means contact me if you have any suggestions, comments or questions about the course. More information is available on the CCMC web site. [www.culturalconservation.unimelb.edu.au](http://www.culturalconservation.unimelb.edu.au)

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# People & Projects

## ACT

### Australian Institute of Aboriginal and Torres Strait Islander Studies

In November 2007, **Prue McKay** joined the library section of AIATSIS as its conservator. As the lone conservator at AIATSIS, Prue is finding the situation very different from her role as conservation lab manager at the National Archives of Australia, where she supervised seven staff. The role of the conservator at AIATSIS includes the repair and rehousing of rare books, pamphlets, posters, maps and plans. Prue is also continuing the planning for this year's AICCM Book, Paper and Photographic Materials Symposium, to be held in July, as well as conducting research for a paper to be presented there.

### Australian War Memorial

The most significant news from the Australian War Memorial is that **David Keany** has resigned after more than 30 years with the Memorial. David was farewelled at a large barbecue lunch attended by more than 50 people on the 25<sup>th</sup> January. Things won't be quite the same without him. With his departure imminent, David spent most of January sorting through decades of records and memorabilia but found time to work on a frame for a new acquisition: *Streeton's Middle Harbour Dressing Station*. **Sharon Alcock** is presently working on the painting itself, which requires some consolidation, surface cleaning and flattening of deformations. In December David and Sharon were preparing paintings for exhibition in our new galleries. The biggest project was the stretching of the large (242 x 525 cm) Ian Howard painting of an armoured personnel carrier. Our art team, **Berend Kaak**, **Jen Adams** and **Jenny Selby** joined in the fun. Photographing and condition reporting a series of new paintings from our latest war artists Lyndall Brown and Charles Green has also kept the lab busy.

We welcome **Cathy Challenor** as the new permanent Manager of Paper, Paintings, Photographs and Textile Conservation. **Helen Butler** is back from long service leave and has launched into preparations for the War Memorial's major photographic exhibition, *Icon & Archive: Photography and the World Wars*, part of the National Photography Festival, VIVID. **Sophie Lewincamp** has taken a temporary transfer to manage the treatment labs in the National Library of Australia.

**Jamie Croker** and **Andrew Pearce** have been joined by **Jessie Firth** to conserve the Albatros DVa and Pfalz, both World War One aircraft. In February a group of French specialists will join the team to help fabric cover and dope the planes.

## National Archives of Australia

There have been some staffing changes in the last few months. In November **Prue McKay** moved to AIATSIS until the end of the financial year and **Sally Kneebone** is acting lab manager during this time. **Tania Riviere** is moving to the AWM in February, also until the end of the financial year. **Ellie McFadyen** is retiring in March (she is already on leave). We will all miss her. Her knowledge is extensive and she was a valuable member of the team. She has been awarded an Australia Day Medallion by the NAA for the exemplary performance of her work in conservation over her entire career with the Archives. **Alison McCrindle** is acting as preventive conservator until the position is filled. **Dara Rome** is working with **Ian Batterham** writing preservation policy documents.

The lab has been busy with an increase of items in poor condition being requested by the reading room. Quantities of WW2 files, which usually contain fragile acidic paper due to the poor quality of paper produced during the war period, have been requested lately. **Karen Holloway**, with the help of **Clair Murray**, has been preparing outgoing loan items for the Old Parliament House exhibition *Billy Hughes at War*. The exhibition opened at the Shrine of Remembrance in Melbourne in mid-February and it will be on display at Old Parliament House, Canberra, later in the year. Alison McCrindle, with the aid of the conservators in the lab, will be working on a change over of some items from our *Memory of a Nation* exhibition in our Parkes building.

National Association of Testing Authorities, Australia, assessed the Canberra Preservation Laboratory's testing facilities on 11 December 2007 and accredited us for a further two years. Their accreditation means NAA can continue with the current Archival Quality Testing scheme. **Rajani Rai** and Ian Batterham are testing naturally aged archival paper as part of a research project that they will be presenting at the Book, Paper and Photographic Symposium to be held in Canberra in July. The papers have been aged over 28 years and kept in non-airconditioned and airconditioned areas in all of our State offices.

## NEW SOUTH WALES

### Art Gallery of New South Wales

After 22 years at the Art Gallery **Rose Peel** is retiring from her position as Senior Conservator Works on Paper. Rose has been a wonderful supporter of the Gallery, the conservation department, the Gallery's staff through her work with the Public Service Association and of the AICCM over the course of her long career in conservation. We would like to thank Rose for all her work and wish her well for the future.



**Carolyn Murphy**, Rose Peel and **Analiiese Treacy** have been preparing Indian miniatures for the exhibition *Intimate Encounters Indian Painting* opening in February. The exhibition includes works ranging from the sixteenth to the twentieth century from a number of cultural institutions, private lenders and the Gallery's own collection. **Michelle Stoddart**, a Museum Studies student from the University of Sydney, has completed a ten week internship at the Gallery. Michelle worked on a number of projects including the treatment of a group of etchings by David Barker. The watercolour, *High Force, Fall of the River Tees, Yorkshire, 1816-18*, by J.M.W. Turner has recently been framed in a reproduction gilded frame with slip made by **David Butler**, after collaborative research into Turner's approach to the presentation of his watercolours.

**Kerry Head** is completing a detailed description and condition survey of 200 Indonesian textiles, donated to the Gallery by Dr John Yu. Kerry will meet with the curators to establish the conservation priorities and treatment parameters in preparation for the next exhibition of Indonesian textiles in 2010. **Donna Hinton** is mostly occupied with preparing documentation for objects going out on loan and for new acquisitions. Donna is also grappling with the ongoing problem of maintaining the pristine surface of Rachel Whiteread's *Elongated Plinths* made from white synthetic resin. This sculpture will be displayed in the contemporary gallery in April.

**Stewart Laidler** has finished the cleaning of *The Herring Fishery* by William Wyllie and has now started a major restoration of *Esther* by Jean Portaels. He will be taking *Study for a Self-portrait* by Francis Bacon to the Palazzo Reale in Milan. After a number of mentions in this newsletter in the last couple of years, **Paula Dredge** has finally finished the conservation of the 17<sup>th</sup> century Flemish painting by Frans Snyders, *The boar hunt*. The painting is on display in the Old Court Galleries at the Art Gallery of New South Wales along with 4 didactic panels. The panels describe the history of the painting with discussion about attribution and technical discoveries, and the conservation treatment of both the painting and its 19<sup>th</sup> century frame. Hopefully by the time this newsletter reaches you, the project will also be updated on the web site; <http://www.artgallery.nsw.gov.au/aboutus/conservation/snyders>

## Australian Museum

A major highlight of 2007 was the permanent appointment of **Melanie Findlay** in December. Melanie began working with us in April of last year and has just completed installing the new NVSI Enviropoint Environmental monitoring system. Additionally, Melanie devised the training program for two interns from Malaysia and supervised all aspects of the teaching program. The large spears storage project has also been completed which involved rehousing 7000 spears.

**Sue Valis** presented a Museum Australia Inc (NSW) workshop entitled *Preventive Conservation* to a group of regional museum's participants, which was held at the Australian Museum. Sue undertook the condition reporting and installation of objects for the incoming touring exhibition *Face to Face*. The exhibition consists of 30 powerful, large scale (2 x 1.5m) portraits of apes taken by photographer James Mollison and is on loan from the Natural History Museum in London. Sue has also been working with **Mary Gissing**, Conservator at the Powerhouse Museum, on the Sydney program for two conservation interns from East Timor, who are due to arrive in late March.

**Kate Jones** continues to manage the expanding outward loans program and recently dispatched a group of objects from the Pacific collection to the Macleay Museum for an exhibition entitled *People, Power, Politics: the first generation of anthropologists at the University of Sydney*.

The construction phase of the new Research and Collections building is nearing completion and all staff are hoping this will mean the end of noisy drilling and jackhammers.

## ICS

We are delighted to report that **Nicole Rowney** had a baby boy, Maya born on 20<sup>th</sup> December. Meanwhile **Lisa Stoddart** is kindly helping us out in the paper section from her Kuala Lumpur base, ably supported by **Felicity Turner**.

The very substantial Norman Lindsay Gallery collection owned by the National Trust has been stored at ICS for the last eighteen months whilst elements were worked on and a new storage space designed for it. The collection has now moved to its new storage home, so we are now disappointingly no longer in daily contact with Lindsay's colourful works. At the same time **Adrian Warren**, **Oliver Hull** and **Warwick Bailey** in the furniture section have been immersed in two major National Trust pieces, one being a spectacular Australian sideboard carved with Australian flora and fauna, which is now gracing the Admiralty House dining room.

**Miriam Wormleaton** and **Skye Firth** continue to treat a wide array of textiles, with a particular focus on silk problems, including a Thea Proctor shattered silk, and an 18<sup>th</sup> century English stump work which was treated with fine silk Frankensteins.

**Arek Werstak** and **Adam Godijn** completed the complex task of relocating two murals by Pixie O'Harris within the old Royal Alexandra Childrens' Hospital at Camperdown, which is being turned into apartments. With the murals' move from a post-operative recovery room to a glitzy foyer area, their task in life is now rather different. The Paintings section welcomes **Matteo Volonte**, Italian trained paintings conservator.

**Karina Acton** has been conserving and installing archaeological artifacts excavated from the Parramatta Justice Precinct site. They are now part of the heritage interpretation of this highly significant site, where there has been a hospital structure from the first tent hospital in 1789. **Wendi Powell**, a Canadian trained conservator, is assisting Karina and is working with us for six months.

## Powerhouse Museum

**Pat Townley** continues to act as Deputy Director, Collections, and **Mary Gissing** continues as Acting Manager Preservation and Heritage Management. **Kate Chidlow** continues filling in as Team Leader Regional & Community Programs on a part-time basis.

We are pleased to announce the successful launch of our PHM Preservation & Heritage Management web presence and C.A.R.E. search engine - [http://www.powerhousemuseum.com/collection/preservation/?page\\_id=3](http://www.powerhousemuseum.com/collection/preservation/?page_id=3). We would really appreciate your comments and feedback. Finally, after five months of six conservators trialing our PHM developed KE EMu preservation module, final changes are being made by KE EMu. We look forward to all the preservation staff using the module across all our activities.

Mary Gissing and **Dave Rockell** represented the PHM at a gathering of Sydney preservation departments to discuss potential for a memorandum of understanding regarding Disaster Recovery, along similar lines to the MOU by Commonwealth Institutions in Canberra. PHM representative, Mary Gissing participated in the Australia Pacific Museums workshops - a regional dialogue discussing Pacific Cultural Heritage in Australia Museums and Galleries in Canberra in November.

As part of Preservation and Heritage Management Regional and Community Programs, numerous conservators presented sessions within the annual PHM Regional Services Day and the 2007 NSW Heritage Council forum held on the 27<sup>th</sup> and 28<sup>th</sup> November at the PHM Discovery Centre and Ultimo sites respectively. Both forums were filled to capacity and feedback indicated participants benefited greatly from their chosen sessions.

Regional intern, **Terri Backhouse** from Coffs Harbour worked with various members of the department for a week in early December to explore and learn various aspects of collection care and display. Kate Chidlow has been travelling with the small touring exhibition *Greening the Silver City* moving from Campbelltown to Orange, while **Tim Morris** and **Skye Mitchell** travelled to Taralga in November as part of a Regional Museums Services Display - which included a display of Model engines and farm equipment from the Museums Collection.

Mary Gissing and **Sue Gatenby** met with Glenis Selwood of TAFE Ultimo to discuss potential future collaborations regarding units of the Museum and Libraries package with East Timorese colleagues who will be working with us in early 2008.

**Nadia McDougall** installed a small exhibition entitled *Australians Meet Diana*. The display focuses on the personal recollections of people who met Diana during the Royal Tours in 1983 and 1988, and her last visit to Australia in 1996 to take part in the Victor Chang Cardiac Research Institute Dinner Dance. They include Jenny Kee whose brightly patterned koala knit jumper Diana wore to a polo match sparking media headlines about Diana's independent style.

**Bronwen Griffin** is currently in Haarlem (The Netherlands), having couriered the Hope Settee from the Smithsonian in New York. Bronwen has visited three musical instrument collections as part of this trip with more on the agenda. **Teresa Werstak** has been working on objects for the *Yinalung Yenu* exhibition, which will show Indigenous women's contribution to the Australian community through the many roles they have played in both traditional and contemporary Indigenous society. **Suzanne Chee** has been keeping an eye on *Diana* in addition to preparing objects for changeover in the 'Inspired' Gallery. Tim and Skye along with conservation photographer **Chris Brothers**, have been working on a number of objects for the *Hottest, Wildest, Wettest* exhibition going on display at the Observatory later this year. **Margaret Juraszek** and **Dee McKillop** have been preparing objects for the upcoming *Toys in the Attic* exhibition, focusing at present on the treatment of a large tin plate train collection.

**Gosia Dudek** recently made an epoxy resin replica of the 'Shou Lao' figurine from the PHM Collection, which the PHM presented to the Northern Territory Chinese Museum in Darwin. The carved pinite figurine was excavated in Doctor's Gully, Palmerston, Port Darwin, Northern Territory, Australia, 1879.

**Rebecca Main** has been investigating the accelerated aging of a pair of 1920's rubber bathing shoes which were recently brought to the lab for conservation. Rebecca is rehousing and condition reporting a set of 1930's cellulose acetate flowers and other plastics from the Penfolds Plastic Collection. **Kate Pollard** and **Analiese Treacy** have been working on Lawrence Hargrave's Journals, which as part of the larger Hargrave Collection, have been listed on the Memory of the World Register. The Journals are a record of his aeronautical work, his travels, ideas and interests from 1872 to 1892 and include papers on: shoes for walking on the water, observations of wave movements, wave propelled models, sailing tricycles, flying machines powered by rubber bands and compressed air – and much much more. Kate is also looking into suitable software for presentation of this journal on the Museum's website. **Tasha**

**Macfarlane** has been working on a number of significant objects from the Lawrence Hargrave Collection, including experimental models of his infamous flying machines and kites.

The PHM were proud hosts of the 2007 AICCM Christmas Party. The event was undoubtedly a 'hair-raising' affair, with many of the attendees sporting very trendy, interesting and experimental hairstyles – who ever said conservators were conservative!

Finally, after a recent round of Voluntary Redundancies, the department bids a fond farewell to **Therese Dimech** and **Keith Potter**. Therese worked as an administrative assistant within the Conservation Department for over 16 years, while Keith worked as a Conservator of large technological objects and in recent years 'all things clocks'. We wish both Therese and Keith all the best in their future endeavours; they will both be sorely missed.

## State Library of NSW

The pilot project to produce microfilm to current standards for the *Sydney Gazette & NSW Advertiser*, Australia's first newspaper, was completed late last year. This collaborative project between Collection Preservation and Collection Services, was initially led by **Briony Pemberton** (now at CCMC) and then **Trish Leen**, with assistance from **Aileen Dean-Raschilla**, **Anne Jordan**, **Nikki Ellis** and **Silvana Volpato**. The result is the highest quality microfilm of the best image of each page of the *Sydney Gazette*, selected from all copies held by the Library, and in some instances, from the Parliamentary Library's copies. This has resulted in an excellent record for client access to this significant historical newspaper, as well as providing the basis for digitally scanning the entire newspaper as part of the NLA's Newspaper Digitisation Project.

**Steve Bell** has been working on the exhibition *Politics & Power: Bligh's Sydney Rebellion 1808*. This exhibition is presented in collaboration with the Historic Houses Trust. On 26 January 1808, William Bligh, fourth governor of New South Wales, was deposed by the New South Wales Corps and placed under arrest. This was a momentous event for the young Colony, just twenty years to the day after the landing of the First Fleet at Sydney Cove. It was the first and only time military intervention has been used to overthrow a government on Australian soil. *Politics and Power: Bligh's Sydney Rebellion 1808* presents this story through the original pictures, manuscripts and printed works of the time.

**Tegan Anthes, Cathryn Bartley, Martin Bongiorno, Lisa Charleston**, Aileen, Silvana and Anne have been rehousing original cartoons from the Bulletin magazine. There are a total of 26,000. So far 1000 illustrations have been surface cleaned and rehoused in Mylar pockets and new boxes. This set of cartoons includes illustrations from renowned Australian artists such as Norman Lindsay and is especially relevant owing to the recent demise of this magazine.

In other staffing news **Anna Brooks** and **Agata Rostek-Robak** have both made welcome returns to the Branch from extended leave.

## State Records NSW

State Records NSW has welcomed two new conservators for 2008, **Angela Vincitore** and **Sarah Bunn**. They will be job sharing **Dominique Moussou's** job while she is on maternity leave.

**Elizabeth Hadlow** has been dealing with a couple of agencies in relation to disaster response – not due to the flooding in the northern parts of the State as you might expect - but because of sprinkler head failures.

State Records NSW is preparing for a large increase in transfers this year as a result of the Premier's directive for agencies to be more efficient in their management of records. We foresee a very busy year full of visits to agencies to advise on packaging and preparation prior to transfer of archives. No doubt there will be some serendipitous discoveries of long lost treasures and also some horrendous discoveries of long mouldy records that we'd rather not have to take!

## SOUTH AUSTRALIA

### Artlab Australia

**Renita Ryan** has co-ordinated the rather challenging logistics involved in freezing a large entomology collection, in an attempt to control a carpet beetle infestation. Issues such as the speed at which a freezing environment could be achieved, the ability of insects to hibernate in cold environments, and securing a reliable power supply have all had to be addressed for this large project. **Megan Sypek** has been devising a treatment method for a bronze betel-nut container with a heavy burial crust. **Zandria Farrell** has been stabilising flaking paint on number plates from the National Motor Museum. **Justin Gare** is in the process of stripping and coating large wooden commemorative crosses. **Jo Dawe** has been working on an indigenous throwing spear and club. The objects team was very sad to farewell **Mary-Anne Gooden** at the end of 2007 and wish her all the best as she commences the Masters program at The University of Melbourne.

**Fred Francisco** has just returned from a taste of early retirement and is easing back into the 2008 program. **Jodie Proud** has been filling Fred's shoes in his absence, and has been dismantling a photography exhibition from the Art Gallery of South Australia. **Charlotte Park** continues to conserve a collection of lithographs. **Anna Austin** has just returned from a Research and Development trip to Japan, focusing on Mezzotint techniques. Anna worked with Katsunori Hamanishi, Takeshi Katori, and Toru Iwaya. The book conservation team

have been beaver away on books from the State Library of South Australia; **Colin Brown** has been rebinding a nineteenth century Gas Shares Deed of Settlement parchment volume after consolidating the shellac seals. **Liz Mayfield** has been carrying out a condition survey on the library's rare book collection with the assistance of **Michael Veitch**. They are eagerly anticipating the treatment of the Serat Ambiya manuscript from the Sonobudoyo Museum in Yogyakarta, Indonesia.

**Liz Murphy** has been working on approximately 200 pencil and ink tracings from the South Australian Museum. Aboriginal children took the tracings from rock carvings/paintings in the mid-north Flinders Ranges (South Australia). The work is to be photographed, flattened, have minor paper repairs carried out, and then be encapsulated. One of the works is several metres long and will be particularly challenging to handle.

The paintings lab is very happy to welcome **Lisette Burgess** to the team. She is currently working on some privately owned frames. **Eugene Taddeo**, **Marek Pacyna** and **Chris Payne** are undertaking the treatment of *The Judges Series* by Arthur Boyd, which consists of 12 oil paintings framed behind thick glass in lead frames (which are very heavy). The project involves the removal of white powdery deposits that are leaching out of the paint and lead corrosion from the frames. Chris Payne is undertaking a major conservation treatment of *The Horse Muster* by Thomas Clark from AGSA. The treatment involves the removal of extensive over-paint and discoloured varnish, filling and retouching. **Rita Bachmayer** has been busy with the AGSA loans program and has been treating two Greek icon frames, which will be included in an exhibition at the Migration Museum. **Gillian Leahy** is nearing the completion of the major treatment of a privately owned painting which included varnish removal, lining and the filling and in-painting of extensive paint losses. She is also treating AGSA painting *Harling House, Mitcham* by James Shaw. This treatment involves the removal of varnish and over-paint, and the infilling and in-painting of paint losses. She continues to assist the Preventive Conservation section with her monthly environmental monitoring reports for AGSA, Carrick Hill and the Migration Museum.

**Joanna Barr** has been working with the National Motor Museum to develop a policy and procedures for assessing the vehicle collection, with the ultimate aim of maintaining a small fleet in operational condition. Joanna has also been working with the NMM to assess and prepare the Talbot Overlander for its touring exhibition commemorating the centenary of the first Adelaide to Darwin journey by motorcar. Joanna is also celebrating the completion of a masonry dilapidation survey and conservation strategy for the National War Memorial in Adelaide – with nearly 500 items of dilapidation to document, and the sometimes conflicting objectives of conservation and public safety to navigate, this 'small' project quickly became colossal!

**Kristin Phillips** and **Bee Flynn** in Textiles have been getting down and funky working on a collection of clothing for an exhibition at the History Trust of SA, *Blue Jeans and Jungle Greens: revisiting the 60's and 70's*. The highlight being an orange and brown long dress with felt appliqué snails around the hem. They have also been busy repacking the Morris textile collection for its upcoming tour to Christchurch, New Zealand.

## TASMANIA

### Archives Office of Tasmania and the State Library of Tasmania

Following the Minister for Education's announcement of the Community Knowledge Network in October 2006, the Heritage Collections of the State Library of Tasmania and the Archives Office of Tasmania have been merged. A major restructure for staff has occurred and is still being finalized as new management positions are filled.

At the same time the main Education administration building is being sold and the Heritage and Archives areas have to be re-located and refurbished within the existing building. This will involve the move of the oldest government material in the Archives, such as the convict registers and the Colonial Secretaries volumes and files. We are hoping that new compact shelving will allow much of the very fragile and large volumes to be shelved horizontally. The Tasmaniana and W.L. Crowther collections will also be moved. **Stephanie McDonald** has been assisting with the planning of some of these moves, estimating work required and space requirements.

A new digitizing program has been set up, with 6 casual staff employed following brief training from Reprographics staff and "care and handling" with Stephanie. The exhibition program in the Allport Library and Museum of Fine Arts is undergoing review with an end to the previous program showcasing themes and items from the collection. Consequently, **Penny Carey Wells** is not currently working in Conservation. We are hoping there will be some contract work available in the future so that we can continue to benefit from her valuable knowledge, expertise and skills.

### Museum of Old and New Art

The Museum of Old and New Art, formerly the Moorilla Museum of Antiquities, is located in Hobart and houses a private collection that ranges from Egyptian and Mesopotamian antiquities to contemporary art. The museum is currently undergoing a redevelopment project that will see a three level museum built into the shore of the Derwent River that will be accessed through the original Sir Roy Grounds building. The Moorilla Estate will also house an art library that will be accessible to the public. Currently on the estate there is a winery, boutique brewery, five star accommodation and a function centre. At present there are two conservators and a conservation technician employed at the museum.

**Kylie Roth** has recently attended a conference in the UK about Egyptian Decorative Surfaces and is hoping to apply her new-found knowledge to some of the issues in the collection. Kylie is looking at a Romano-Egyptian male stucco mummy that has had a bit of a tough life since death. An attempt has been made to remove the stucco casing from the mummy and is causing instability that needs to be addressed. Kylie is also working on co-ordinating of the preparation of the collection for display and the building project, liaising with the architects and engineers looking at the pathways through the building and the provision of services.

**Judith Andrewartha** is working on an Egyptian faience beaded net with significant losses and is also re-housing the African beaded costume collection. Judith has many challenges ahead for her in the collection including the treatment of a wrapped female mummy who is in need of TLC. Judith is providing advice on procedures and maintenance programs for the new museum building.

**Anthony Johnson** is our conservation technician and is currently undertaking the thankless task of reorganising the storage areas and ensuring that the collection is packed appropriately. Anthony attended the recent symposium on art and object handling, *New trends/Back to basics*.

## VICTORIA

### Centre for Cultural Materials Conservation, The University of Melbourne

Congratulations to **Libby Melzer** and Rob Franzke, proud parents to Edith, their New Years Day bundle of joy. We welcome **Tracey Golds** who will be with CCMC for 4 months while Libby is on maternity leave. Tracey worked with us in 2004 and we are very pleased to have her back on the team, particularly with her teaching experience from Canberra University. **Di Whittle**, conservation intern, will be leaving us soon to take up a position as Project Conservator at Artlab. Di has been focussed on a number of University collection projects whilst she has been with CCMC. She has surveyed the Physics Museum collection and treated three instruments from the collection. She has also been undertaking research into gelatin plant models from the Herbarium collection.

**Holly Jones Amin, Alexandra Ellem** and **Nicole Tse** presented papers at the 32nd Congress of the International Committee of the History of Art (CIHA) Conference *Crossing Cultures: Conflict, Migration, Convergence* held at The University of Melbourne, January 13th-18th. The papers were delivered in the *Materiality across Cultures* session, chaired by David Bomford, Associate Director for the Collections, J. Paul Getty Museum, and Alison Inglis, School of Art History, University of Melbourne. Their presentations covered a broad range of topics: Nicole Tse, Dr Ana Labrador and Associate Professor

Robyn Sloggett *Paintings Practice in the Philippines: Two Institutionalized Practices and Their Materials and Techniques*; Alexandra Ellem *A Convergence of Cultures: Max Meldrum's Art Theory and Practice*; and Holly Jones-Amin *The Gamelan: Melding Conservation Issues with Javanese Spiritual Beliefs*. Conservators and art historians, both local and international speakers from Europe, the UK and the US, presented other papers in the session. Approximately 800 delegates attended this conference, referred to as the 'Art history Olympics'.

Many of the CCMC team have been involved in two major projects over the last six months, undertaking collection surveys in Melbourne and in regional Victoria. In total, 80 collections are being assessed by 13 staff, including **Carolyn McLennan** who has joined us specifically for these projects.

**Caroline Fry** recently received an Asian Field Research Scholarship to continue to develop conservation projects in Vietnam.

## Museum Victoria

As 2008 commences, we're launching a new structure in Conservation which will enable us to deliver greater outcomes towards preservation of the Museum's collections and to enabling use, access and research projects on the collections. We are dividing into two work teams; Collections Preservation and Collections Development and Access, with the intention that the very large, and to some extent reactive, workload in the latter area will not draw on staff capacity in the former area. In recent years, an inability to sustain ongoing preventive conservation programs beyond IPM, display lighting guidelines, material specifications for storage/display, and periodic environment monitoring, has beleaguered our small Department.

Each team is lead by a Senior Conservator position. **Michelle Berry** will lead the Collections Preservation team, which currently comprises staff engaged in IPM, environment monitoring and image-and-audio-visual collections preservation work. **Helen Privett** will lead the Collections Development and Access team, which currently comprises seven contract conservator positions. We are in the midst of recruiting three ongoing conservator positions in this team.

Michelle Berry has been on leave from Museum Victoria for the last two months. Taking a well earned break she has been working with the Mawson's Hut Foundation in Antarctica.

Helen Privett and **Liz Ogden** have been surveying the Spencer and Gillen collection in preparation for a proposed digitisation project. Helen has been co-ordinating recurrent exhibition cleaning for the three campuses of Museum Victoria. **Iliaria Poli, Jenny O'Connell, Isa Loo** and **Sarah Babister** have been doing a great job of ensuring our exhibitions are well maintained. Helen has also been overseeing the conservation

of a Cobb and Co Coach, dating from 1880. The coach is a recent acquisition scheduled to go on display in the new *Melbourne Story* exhibition at Melbourne Museum. Helen is working with the coach builders at Sovereign Hill on the structural repairs necessary to allow the coach to be safely transported and displayed; as well as two conservators, Isa and **Samantha Hamilton**, who have been carrying out treatment on the painted surfaces of the coach.

**Melissa Gunter** has completed work on preparing several natural sciences specimens for display in the *Melbourne Story* and will begin work on the redevelopment of the Life and Sciences Galleries at Melbourne Museum in January 2008. In the coming weeks she and **Amy Bartlett**, masters student at CCMC, will be condition reporting the 600 objects in the Freestyle exhibition in preparation for the tour to Milan.

**Karina Palmer** has completed work on preparing a Luna Park roller coaster carriage for restoration as part of the *Melbourne Story* exhibition and is working to redesign the conservation treatment report form currently used by the department. Karina has also been leading **Sarah Gubby**, **Rebecca Dallwitz**, **Elizabeth McCartney**, Sam and Isa in a team completing treatments on objects for the *Melbourne Story* exhibition, as well as completing documentation, mount production and recommendations for display requirements.

## National Gallery of Victoria

**Kate Douglas** and **Solitaire Sani** have just completed the installation of the major exhibition *Black in Fashion: Mourning to Night*. The exhibition contains over 50 costumes from the mid 19th century to the present day and is being shown over two venues at NGV: Australia and NGV: International. **Annette Soumilas** completed numerous historical underpinnings for this exhibition, working closely with the curators to accurately represent the historic costumes. The suite of Roger Kemp tapestries were re-hung in the Great Hall when the last tapestry arrived from the Victorian Tapestry Workshop. Kate led the installation crew with the high level in-situ cleaning project. Work has commenced with preparations for the next major textile exhibition comprising of over 70 ATSI batik cloth and costumes.

**Ruth Shervington** has had a trip to Japan to view the conservation work being performed on one of the Japanese screens from the NGV Asian Art collection. The screen is being treated as part of a collaborative project with the National Research Institute for Cultural Properties in Tokyo. **Louise Wilson** has been preparing Indian miniatures for loan to the Art Gallery of New South Wales. She recently attended the Indo-Persian Miniature Painting Workshop, and has since

performed mini workshops on grinding gold leaf to prepare pigment for the Frames and Furniture lab. **Pip Morrison** has been mounting and framing enormous photographs for the show *Body Language: Contemporary Chinese Photography*, including six 3 x 2 metre photographs of incredibly oversized bottoms.

In Exhibitions **Catherine Earley** is busy forward planning around the next 30+ exhibitions. **Janelle Borig** is preparing hundreds of small sculptures for a Klippell exhibition in August and **Belinda Gourley** has started work on an exhibition of Chinese photographs, and reporting of sculptures touring regionally. All three of the Exhibitions team have recently qualified for 'yellow cards', having completed training in the use of elevated work platforms including scissor and boom lifts.

In the paintings conservation studio, **John Payne** and **Carl Willis** have just commenced work on the large eighteenth century Venetian painting, *The Finding of Moses*, currently attributed to Sebastiano Ricci, but generally accepted as a work by Giambattista Tiepolo. The painting is in need of a major treatment, including re-lining, cleaning, removal of old overpaints and restoration, and is expected to take at least a year to complete. **Michael Varcoe-Cocks** is cleaning Eugene von Guerard's *Mount Kosciusko, seen from the Victorian border (Mount Hope Ranges)*. **Melanie Carlisle** is continuing her treatment on Frederick McCubbin's *Study in Blue and Gold*, and **Raye Collins** is working on *Melbourne, 1888*, also by McCubbin.

The Frames and Furniture department have been focusing on treatment of a variety of international frames for an upcoming changeover. **Ruth Goris** has recently completed treatment of two large Halswelle frames and is currently treating a 19th Century English frame that has extensive losses to the ornamentation. **MaryJo Lelyveld** has just begun the daunting task of removing bronze over-paint from a large work that will require many hours in the spray booth. **Noel Turner** and MaryJo have been undertaking research into reframing of works by Glover, Scheffer, Herring and Follingsby, with construction to commence shortly.

# Dying leather for bookbinding - Notes from a workshop

Katrina Ben, Jean Holland and Alice Cannon, State Library Victoria

In November 2007 Cheryl Porter and Caroline Checkley-Scott visited the State Library of Victoria Conservation lab, as they were in town for the Middle Eastern Manuscripts Symposium held by the Centre for Cultural Materials Conservation at the University of Melbourne. Cheryl is a pigment expert and is currently Senior Conservator and Co-ordinator of Preservation and Conservation for the Thesaurus Islamicus Foundation at the National Library in Cairo; Caroline is Senior Conservator at the Wellcome Institute. While she was here, Cheryl generously gave us a short workshop in dying tawed skins for book binding.

The SLV book conservators are currently treating two medieval books for the upcoming exhibition *The Medieval Imagination*, and have been exploring a variety of binding options. Finding commercially-available leather appropriate to the period and region of the original binding has proved difficult, so we were keen to investigate other options.

Cheryl discussed how medieval bindings up until the 16<sup>th</sup> century were generally bound with alum tawed skins, either plain white or brightly coloured. The use of colour on bindings became more popular from the 12<sup>th</sup> to the 15<sup>th</sup> centuries; it is estimated that by the 15<sup>th</sup> century at least half of all tawed skin bindings were coloured. However, as few books from the medieval period have retained their original binding, examples of coloured bindings are now difficult to find. The colour applied to tawed skins is nearly always applied only to one surface, and so is vulnerable to loss by wear and tear, dirt and light fading. Sometimes evidence of original colours can be found under turn-ins and other areas protected from light and handling. Also, contemporary images of books and book covers almost always show books with coloured bindings – reds, greens, yellows, blues and blacks, as well as white. (Porter, 2005, 295-297).

Cheryl had brought samples of a number of traditional dyeing materials with her – brazilwood (cherry red), lac (purplish-red), immature buckthorn berries (yellow) and woad (blue). The best place to obtain dyestuffs such as these is Kremer Pigmente, a German company.

The first three dyes were produced by soaking the dying material in water (ideally for 24 hours or more) then simmering for about an hour. The buckthorn needed some pulverising. The resulting mix can be strained through coffee filter paper - leaving fragments of plant matter does no harm but may cause some variation in dye distribution. The dye is then painted on with normal brushes and quickly soaks into the skin, the colour becoming more intense as it reacts with the alum in the skin. The alum chemically bonds to the lac, brazilwood and buckthorn dyes, acting as a mordant. The dyes could be allowed to dry and reapplied to obtain darker hues.

Woad must be mixed with gum arabic prior to painting and sits on the surface of the skin, not penetrating it. All of the dyes are non lightfast, but very beautiful.

Issues we discussed included light stability and susceptibility to wear and tear. Brazilwood dye, in particular, is extremely fugitive. By dyeing a binding in this manner, we would be essentially creating a fugitive item, something which conservators generally tend to avoid. It is expected that the newly-bound books will also be handled and displayed more frequently in the years following their treatment and so the coloured bindings could be expected to fade or darken – even with precautions such as handling with gloves, controlling exposure periods etc. However, the dye is not damaging in any way, neither when new or when aged, and at least for a short time demonstrates something that is probably closer to the original appearance of the book. We are leaning towards dying the skin with natural dyestuffs and accepting that the colour will fade quickly, to be replaced by an appearance more in keeping with a book of its age.

## Reference

Porter, Cheryl. 2005. *L'Alun de Méditerranée*. The use of alum in the preparation of tawed skin for book covers in the 11<sup>th</sup>-15<sup>th</sup> centuries: advantages and disadvantages for the book structure. Naples/Aix-en-Provence: Centre Jean Bérard & Centre Camille Jullian, pp. 293-298.

## Suppliers

### Natural dyestuffs

- Kremer Pigmente GmbH & Co. KG: Hauptstr. 41 - 47, DE 88317 Aichstetten. Tel +49-7565-91120, fax +49-7565-1606, order@kremer-pigmente.de, www.kremer-pigmente.de/shopint/
- UK stockist: AP Fitzpatrick, 142 Cambridge Heath Road, London E1 5QJ, Tel. +44-171-790-0884, fax +44-171790-0885, info@apfitzpatrick.co.uk, www.apfitzpatrick.co.uk/home.htm.

### Alum tawed goat skins

- Cowley's skins, stocked by Talas. Australian supplier: Archival Survival.
- William Cowley, Parchment and Vellum Works: 97 Caldecote Street, Newport Pagnell, Buckinghamshire, MK16 0DB. Tel. +44-01908-610038, fax +44-01908-611071.
- Talas: 20 West 20th Street, 5th Floor, New York, NY 10011, Tel. +1-212-219-0770, fax: +1-212-219-0735, http://www.talas-nyc.com/.
- Archival Survival: Tel. 1300-781-199, fax 1300-781-146, info@archivalsurvival.com.au, http://www.archivalsurvival.com.au/index.htm.

# Web-based resources for environmental analysis

Alice Cannon, State Library Victoria

When monitoring collection spaces, it is useful to be able to compare the conditions experienced by the collections to conditions outside the building, in order to better understand why the building and its systems behave the way they do. As Tufte (2001) writes, when examining data we should always ask ourselves "compared to what?". A good way of obtaining such comparison data is to install a dedicated "weather station" data logger outside the museum building; however, there are other publicly available resources that can be used by conservators wishing to make their environmental data more useful.

## Bureau of Meteorology

The Bureau of Meteorology (BOM) records environmental data at various locations throughout Australia – 94 locations in Victoria alone. Data recorded includes the temperature and relative humidity at 9am and 3pm, rainfall, wind speed, wind direction, atmospheric pressure and hours of bright sunshine.

This data is consolidated into monthly data sheets, called Daily Weather Observations, of which the last 13 months are freely available on the Bureau site. They can be downloaded as a PDF file or as a plain text version that opens directly in Microsoft Excel.

Data sheets can also be purchased for a small fee, so that they are faxed or emailed to you as a PDF file as soon as they become available; you simply need to select the charts from the monitoring station that is closest to your building.

Temperature and RH data, in particular, can then be easily transported into Microsoft Excel spreadsheets for comparison against your own environmental readings. This allows comparison of internal and external conditions for 9am and 3pm, so that daily, weekly and monthly fluctuations can be compared. In addition, it is useful to be able to see where rainfall may have influenced internal conditions. This information can be used to help estimate to what extent your internal conditions are influenced by the weather outside.

## Australian Radiation Protection and Nuclear Safety Agency

One area of information lacking from the Bureau of Meteorology Daily Weather Observation sheets is the level of ultraviolet radiation (UVR) experienced in its recording locations. (UVR information recorded by satellite can be purchased from the Bureau, however). While not always applicable for museum purposes, this information can be useful in understanding fluctuations in light levels experienced in areas with windows and skylights and the amount of ultraviolet radiation to which outdoor monuments and sculpture are exposed.

UV radiation varies according to the following factors (WHO, 2002):

- Sun elevation – the higher the sun in the sky, the higher the UVR; UV levels therefore vary according to the time of day and the time of year
- Latitude – areas closer to the equator experience higher UVR levels
- Cloud cover – UVR is highest when the sky is cloudless
- Altitude – at higher altitudes the atmosphere is thinner, and therefore absorbs less UVR, resulting in higher readings
- Ozone – ozone absorbs UVR, therefore areas that suffer ozone depletion can expect higher levels
- Ground reflection – grass, soil and water reflect less than 10% of UVR, fresh snow can reflect up to 80%, beach sand about 15% and sea foam about 25% (WHO 2002)

The Bureau of Meteorology predicts UVR levels daily, using the date, time, latitude, temperature and ozone concentration to predict the likely maximum level. Usually this figure is an average of the value that would be expected for a clear sky at solar noon and the figure that would be expected with cloud cover. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) defines UVR as the portion of the electromagnetic spectrum between 100 and 400nanometres (nm) and further subcategorises this area of the spectrum into UVA (315-400nm), UVB (280-315nm) and UVC (100-280nm) for the different effects these wavelengths can have on human health (ARPANSA 2004).

ARPANSA records the Global Solar UV Index (UVI) for most Australian capital cities, daily. The UVI is a number that relates to how much solar UVR reaches the ground and is based on the potential for skin injury. The number reported is calculated from the daily maximum UVR recorded, averaged over 30 minutes. One UV Index unit is equivalent to 25 milliwatts per square metre (mW/M<sup>2</sup>) of UVR (ARPANSA, 2004). Converting it to the scale we use most in conservation, this equates to 25,000 microwatts per square metre (µW/M<sup>2</sup>) (Javorniczky, 2007). Thus, a UVI of 2 is equivalent to 50,000 µW/M<sup>2</sup>, a UVI of 3 to 75,000 µW/M<sup>2</sup> and so on. This unit of measurement represents the total UV energy falling on a square metre of area. The level of error in this system of measurement is one UVI, or ±25,000 µW/M<sup>2</sup> (ARPANSA 2004).

Conservators are often used to measuring UV radiation as microwatts per lumen (µW/Lumen), in which UV is expressed as a proportion of the total illuminance, but many of the newer UV monitors, including the Elsec Environmental Monitor Type 764 and the Irlog, also measure UVR in microwatts per square metre (µW/M<sup>2</sup>). This measurement can be converted to the



more familiar  $\mu\text{W}/\text{Lumen}$  by dividing this figure by the lux value, if recorded. (The Elsec Monitor Type 764 can switch automatically from one figure to the other).

[Illuminance in lux, or lumens/ $\text{M}^2$ ]  $\times$  [UV in  $\mu\text{W}/\text{Lumen}$ ] = UV in  $\mu\text{W}/\text{M}^2$  e.g. [50 lux]  $\times$  [30  $\mu\text{W}/\text{Lumen}$ ] = [1500 microwatts/ $\text{M}^2$ ]

The ARPANSA information does not record the illuminance recorded, which means a straight conversion from microwatts per square metre to microwatts per lumen is not possible. As an indication of total UV radiation, however, it can still provide a useful indication of daily trends.

The UV Index was developed in 1995, by joint recommendation of the World Health Organization (WHO), the World Meteorological Organization, the United Nations Environment Programme and the International Commission on Non-Ionizing Radiation Protection. The UV Index is thus a standardised way of reporting UVR levels to the public, worldwide (ARPANSA, 2004).

Records of UVR levels for the past year are available on the ARPANSA website, as summaries and as a daily graph of UV levels. As an example, summaries for the city of Melbourne are available for each month of 2004 and 2005 as an overall monthly graph of maximum values, a table of maximum values recorded, and daily charts of UVR levels that show the fluctuations that occur over a 24-hour period. While the data is not easily transposable to an Excel spreadsheet in this form, it may be useful, for example, for identifying visually how UV levels inside an exhibition area with natural lighting may vary with external conditions over a 24-hour period.

ARPANSA does offer calibrated UVR data for research and commercial use, by request. There may be a cost associated with provision of this data, depending on the complexity of the request.

## Contact details

### Australian Bureau of Meteorology (BOM)

Main site: <http://www.bom.gov.au/>

Daily Weather Observations available from <http://www.bom.gov.au/climate/dwo/index.shtml>. Choose your state for a list of monitoring locations.

State office contact details available at <http://www.bom.gov.au/climate/how/contacts.shtml>.

## Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) UV Section

[www.arpansa.gov.au](http://www.arpansa.gov.au)

[uv.index@arpansa.gov.au](mailto:uv.index@arpansa.gov.au)

Fax: +61 3 9432 1835

Post: 619 Lower Plenty Road, Yallambie VIC 3088

See <http://www.arpansa.gov.au/uvindex/index.cfm> for an index of available online UV data. Data loggers are maintained in a number of Australia cities; monthly summaries are available for Adelaide, Brisbane, Darwin, Kingston, Melbourne, Newcastle, Perth, Sydney and Townsville.

### Elsec monitoring equipment

Available in Australia from:

Pacific Data Systems Pty Ltd

250 Orange Grove Road, Salisbury, QLD

PO Box 324, Salisbury QLD 4107

Tel. (07) 3275 2999

Fax (07) 3275 2244

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# Blamire Young's *Clouds in Spring*, a Watercolour with Crystals

Travis Taylor and Dr. Petronella Nel

*'I know now that the charm I was seeking was  
'bloom' that unmatched resonance that comes  
from the rich surface of undisturbed paint.'*

Blamire Young

## Abstract

Two Blamire Young (1862-1935) watercolours from a private collection were donated to the University of Melbourne Art Collection in 2005, and were referred to the Centre for Cultural Materials Conservation for treatment. Upon de-framing it was discovered that on one of the watercolours there was a white crystalline growth over the entire image surface, and around the edges of the verso. To inform the conservation treatment of the artwork, it was decided to investigate the nature of the crystals and their origins.

## Introduction

### The artist – Blamire Young

According to Bruce (1921), Blamire Young was born the second son of 12 children in 1862. He moved from England to Australia in 1885 to teach Mathematics at Katoomba College, NSW. A friend of the cartoonist Phil May, he returned to England in 1893, attended Herkomer's Art School and became involved with the poster designs of the Beggarstaff brothers. Young returned to Australia in 1898, continuing to work on posters, and working briefly with Norman and Lionel Lindsay. In 1901 he exhibited two oil paintings at the Society of Artists Commonwealth Exhibition of Australian Art. However, by about 1906 Young was moving away from oil painting to work mostly in watercolours. In 1912 he moved back to England with his family, where he stayed until 1923 when they returned to live in Victoria. During this time he had numerous solo exhibitions and participated in many group exhibitions. Work from this period was often influenced by his travels around England, or the voyage from Australia to England which went via the Canary Islands, Lisbon, Madrid and Paris. From 1929 to 1935 he was the art critic for the *Herald* newspaper in Melbourne. Although he sketched constantly Young preferred not to work *plein air* as he believed it let the subject dictate what the artists' individuality, passion and fantasy could fulfill. Throughout his career, his sometimes fantastic period-piece subject matter and decorative palette put him outside the 'academic' Australian nationalist painters who wished to emulate the Heidelberg School and the nascent modernist artists such as Eric Thake and Margaret Preston. Technically he often used mixed wet colours and created atmospheric washes by mixing opaque and transparent colours by laying one over the other on a tilted ground, creating granular, textural washes. Although he was accused of adding sugar or vinegar to his paints to achieve the arresting textural effects in his paintings, he is reputed to have denied it (Bruce 1921).

### The watercolour and its crystals

The framed work entered the collection from a private collection with another Blamire Young watercolour. There are no inscriptions on either the recto or verso to give an indication of the date of the work. There is very little information on prior display, storage, handling or treatment. The medium covers the entire recto of the primary support. Close inspection after de-framing, revealed that the entire image surface is covered with a fine white crystalline growth that is not restricted to any particular pigment or area. The crystals are not powdery, and resist being brushed off the work. While the crystals are present on all of the media, and along the edges of the verso, there appears to be more crystals in areas where the colour of the media is most intense, particularly in the bottom third of the image area.

### Crystals on works of art

In paintings conservation crystalline bloom is thought to be the crystallization of ammonium sulfate within a Dammar varnish, (Nicholaus, 1999). Bloom has also been observed when fatty acids, such as stearic and palmitic acid, migrate to the surface of an object. Fatty acid bloom has been noted in wax works (Harley, 1993) as well as oil paintings, and ethnographic works that have been fat or wax coated (Mills & White, 2003). While the formation of crystalline bloom is not uncommon in painting conservation, they are rare in paper conservation. Otieno-Alego et al. (2001) has reported crystalline bloom on a paper artefact that was determined to be due to the recrystallization of residual bleach that had not been cleared after treatment. Ammonium sulfate hydrate crystals have been observed on a watercolour by Majewski (1969), but no explanation was provided for their development. Although denied by the artist, another possibility that needs to be considered is the report by Bruce (1921) that the artist was accused of incorporating additives like sugar or vinegar into his water colour paints in order to achieve desirable visual effects. The aim of this investigation was to use various analytical techniques to identify these crystals.

## Methods

### Microscopy

Samples were viewed with an Olympus BX51 microscope, and images documented with an Olympus DP70 camera connected to a DELL Optiplex GX280 computer, at the Centre for Cultural Materials Conservation at the University of Melbourne.

### Scanning electron microscopy with energy dispersive spectroscopy (SEM-EDS)

A small sample of crystals was placed on a glass microscope slide which was then carbon coated in a Dynavac Mini String Coater. Carbon paint used to provide a conductive strip to the bottom of the microscope slide. Elemental microanalysis was performed

using an Oxford Instruments "Isis" system fitted with a SiLi (ATW) 10mm area detector with 139eV resolution. All analysis was done at 20KeV. The microscope platform used was a Philips XL30 SEM with a LaB6 electron gun at the Department of Chemical and Biomolecular Engineering at the University of Melbourne.

### Fourier Transform Infra-red (FTIR) Spectroscopy

A Bruker Tensor 27 FTIR with OPUS software, spectral range 7500-370  $\text{cm}^{-1}$  with standard KBr beam splitter and resolution of 4  $\text{cm}^{-1}$  at the School of Chemistry at the University of Melbourne was used. Samples were prepared as KBr discs. Samples were obtained from the back of the watercolour to try and minimize contamination from pigments in the watercolour. To test the ammonium sulfate and sugar hypotheses respectively, control spectra were obtained from authentic samples of ammonium sulfate hydrate and potassium saccharate (a sugar).

### FTIR spectra obtained using IdentifyIR (FTIR-ATR)

FTIR-ATR spectra (4000 – 650  $\text{cm}^{-1}$ , 16 scans, 8  $\text{cm}^{-1}$  resolution at 4  $\text{cm}^{-1}$  intervals) were obtained using the IdentifyIR (Smiths Detection) and associated SpectrAssist software when the equipment was demonstrated at CCMC at the University of Melbourne. Placement of a small amount of sample on the diamond ATR interface was confirmed by a 100x magnification integrated video microscopy system. After background subtraction, each FTIR-ATR spectrum collected was compared against a generic set of spectral libraries (0002 common chemicals, 0013 toxic industrial chemicals, 0016 forensic drugs, 0018 drug precursors, 0037 pharmaceutical excipients).

### X-ray diffraction (XRD)

A Philips PW1710 diffractometer operating with a copper x-ray tube and a graphite monochromator was used for the micro-XRD testing conducted at LaTrobe University.

## Results

### Microscopy

The crystals on the watercolour artwork were observed under the microscope to be white in colour and grouped into small circular bundles of varying sizes (see Figure 1). Usually individual crystal clusters were observed to be between 10-30 $\mu\text{m}$  in diameter, although some clusters merged into larger masses. It was decided to remove some of the crystals from the verso of the work for further testing.

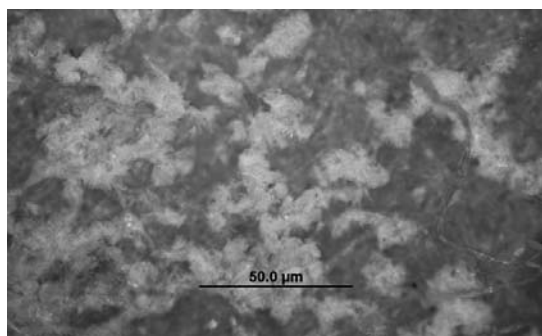


Figure 1

### Scanning electron microscopy with energy dispersive spectroscopy (SEM-EDS)

When viewed under the electron microscope it was clear that the crystals had been crushed by the scalpel during sample removal process and when pressed onto the glass slide. However in the back scattered electron image the crystals were generally uniform in colour, of which four areas were tested. Refer to Figure 2 for SEM for images of crystals. One small area which appeared 'bright', indicating a high molecular weight material, was also tested. The glass slide was also tested in order to determine whether it was interfering with the crystal readings. The majority of the crystals contained carbon, oxygen and sulfur with trace levels of sodium and calcium, see Table 1. From these results it seemed possible that the crystals could be either ammonium sulfate hydrate, or paratoluenesulfonamide. Elemental analysis determined that the small 'bright' area contained copper and zinc, as well as oxygen and carbon, indicating that despite sampling from the verso side of the artwork a pigment particle, or other contaminant, found its way into the sample. As expected the glass slide contained high levels of oxygen and silicon. However the minimal levels of silicon detected for the crystal particles indicate that the glass slide did not interfere with the crystal readings.

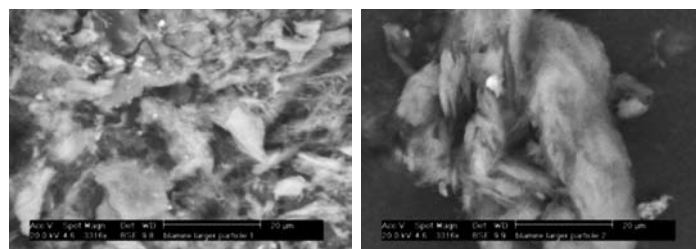


Figure 2

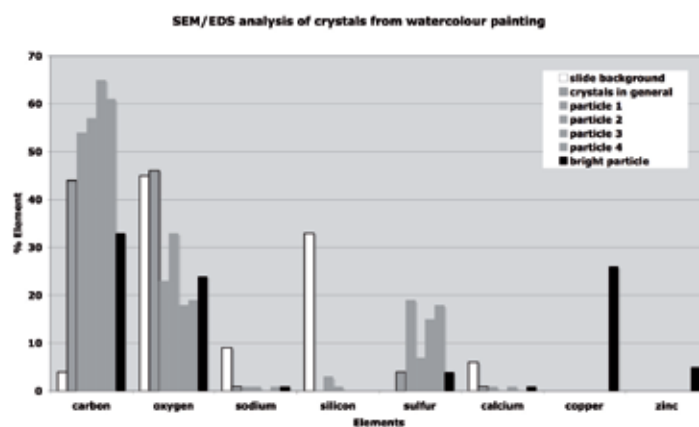


Table 1

### Fourier Transform Infra-red (FTIR) Spectroscopy

Samples from the work were tested, as well as authentic samples of ammonium sulfate hydrate and potassium saccharate (equivalent to saccharic acid) for comparison. There were difficulties in removing a large enough sample from the verso of the work, and it is possible that the sample may have been contaminated with microscopic paper fibres that detached with the crystals. A weak FTIR spectrum was obtained from the crystals. A comparison of the sample spectrum with those obtained from the control samples provided no obvious matches, see overlay spectra in Figure 3. The peak at 2900 is due to C-H stretches and the

peak at 3300 is very likely due to an O-H stretch, which is consistent with the sugar theory. The absence of any peak at 1700 means that there is not a carbonyl group in the molecule. The spectra obtained from the crystals had no matching peaks with either ammonium sulphate or saccharate.

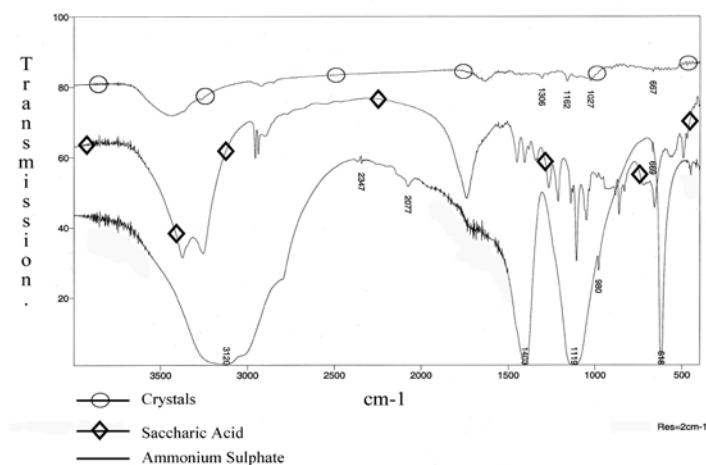


Figure 3

### ATR-FTIR

A second round of FTIR testing was conducted, this time using ATR-FTIR. When matched against a standard reference database, the ATR-FTIR spectrum of the crystal sample gave reasonable matches for *Rauwolfia Serpentina* (~0.90), Corn starch (~0.89) and carbohydrate (~0.87). However, the sample may have become contaminated by paper fibres or sizing materials from the support as the crystals were quite strongly attached to the support.

### X-ray diffraction (XRD)

After a 36 hour scan using X-ray powder diffraction a X-ray diffractogram was obtained, Unfortunately it was not informative enough to give a match with any other known crystal. The operator concluded that it is likely that the sample is not pure, which would further complicate finding any matches.

## Discussion

### Presence of sulfur?

The identification of sulfur (SEM-EDS) within the crystals sampled from the verso, was initially very surprising. However, Otieno-Alego et al. (2001) used Micro-Raman spectroscopy to identify the crystalline bloom on a watercolour to be due to paratoluenesulfonamide, a residue of chloramine-T bleach, (used in conservation treatment in the 1970's), and calcium hydroxide (used as a buffer in the manufacturing process of the paper). However, the crystals on the Blamire Young watercolour do not appear to be of the same size and consistency as residual bleach crystals, nor is there a fading or discolouration of the media in areas in which the crystals occurred, which would be expected from bleaching. There is a stronger bond between the crystals and the support, and the crystals are grouped in distinct clusters, both characteristics not seen in previously encountered examples of residual bleach. The fibre network of the paper is not disturbed or weakened in areas where there are many

crystals, nor are the fibres of the paper discoloured. Since the work is a watercolour painted across the entire recto of the support, there seems to be a greater risk of damaging the media from bleaching than any aesthetic benefit that may have been gained. For these reasons it is thought unlikely that the crystals are the result of a prior bleaching process.

An alternative source of sulfur is ammonium sulfate. One incidence of ammonium sulfate hydrate crystals on a watercolour was reported by Majewski (1969). However, unlike the crystals described by Majewski (1969), there is no staining or weakening of the paper surface in the Blamire Young watercolour associated with the crystals. Ammonium sulfate bloom is found in paintings that have been varnished with dammar varnish, however the watercolour has not been varnished. Furthermore no match was found with the FTIR spectrum.

Another explanation for the presence of sulfur is that sulfur dioxide may have been included in the watercolour paint as a preservative due to its anti-microbial properties. However, after contacting watercolour manufacturers in Europe, Windsor & Newton and LeFranc and Bourgeois, those that did have recipes from the period indicated that sulfur dioxide was not used as an anti-microbial or fungal agent.

### Presence of sugar?

It is possible that the source of the crystals is due to honey or corn syrup humectant being added to tube watercolour to help retain water to prevent drying within the tube. These sugars could have been converted into saccharic acid through exposure to an acidic environment, especially one containing nitric acid, which is the commercial method of developing saccharic acid. The identification of the crystals as a polysaccharide such as starch is not as easy to explain as a simple sugar, which may have been added during manufacture. While the crystals did not match the sample of saccharic acid crystals tested with FTIR it may provide a clue as to their formation. Saccharic Acid is formed by the oxidization of a sugar, such as glucose, with nitric acid. A hypothesis for the crystals may be that the paint already contained a sugar as a humectant, and the artist may or may not have added diluted sugar to the watercolour to affect the working properties of the paint, and then the work was stored or displayed in an environment which may have led to the oxidation of the sugars and to the development of the crystals. The presence of the sulfur may be due to exposure to a polluted atmosphere. However, without accurate identification, such as matching FTIR spectra, of the crystals it is impossible to conclusively prove their source or structure.

## Conclusions

Various analytical investigations provide tantalizing clues as to the identity of these crystals – an organic molecule that is possibly a sugar that possibly contains sulfur. However without a confident identification of the crystals it is impossible to speculate further as to their source or origin of formation.

## Acknowledgements

SEM-EDS was conducted by Roger Curtain at the University of Melbourne. FTIR was conducted by Sioe See Volaric at the University of Melbourne. XRD was conducted at by Rob Glaishner at La Trobe University. Brendan Abrahams for helpful discussions. Louise Wilson, Libby Melzer and Jude Fraser and the CCMC.

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**Travis Taylor** undertook this research in 2006-07 while he was a paper conservation intern at the Centre for Cultural Materials Conservation at the University of Melbourne. Travis now works at the Canberra Office of the National Archives of Australia.

**Dr. Petronella Nel** is an academic staff member of the CCMC at the University of Melbourne.



## AICCM National Conference 2009

The next AICCM National Conference will  
be held in Perth, Western Australia  
on 22-25 September 2009

For information contact:  
Jonathan Schmidt, President of the WA Division,  
[jonathan.schmidt@slwa.wa.gov.au](mailto:jonathan.schmidt@slwa.wa.gov.au)

# Special Interest Groups

## Education

The theme for the bi-annual meeting of the EDSIG is "Technology in community conservation education". Abstracts for papers were due in December. However, because of the delay in publishing the last newsletter, the deadline has been extended to the 15th April. A member from each state has been invited to be part of the organising committee. Please contact the SIG convenor if you are interested. Finally if any member is interested in the EDSIG position please notify Tamara Lavrencic by the 15th April. A date for the meeting will be announced in the next newsletter once abstracts are received.

## Paintings

Connecting the past to the future  
11th AICCM Paintings Group Symposium  
9-10 October 2008  
National Gallery of Victoria, Melbourne

This symposium will bring together contributions focused on a single theme - reflections on the past, present and future of the paintings conservation profession in Australia. It will aim to survey how the profession has developed in this country, reflect on where we have made our strongest contributions to the field and discuss where (and how) we would like to aim for the future.

For an international perspective, Sarah L. Fisher, Head of Paintings Conservation at the National Gallery of Art in Washington, D.C. has been invited to present a paper discussing her gallery's paintings conservation department.

Themes will include:

- Historical development of conservation in Australia's cities and nationally
- The changing roles of paintings conservators in Australia's art museums: Treatment, Administration, Exhibitions Conservation, Research
- Academic training opportunities and issues
- Diaspora - Australian conservators abroad
- Special contributions by individuals to our field over the past 50 years

This symposium will be supported by the National Gallery of Victoria. For further information please contact Carl Willis, email: [carl.willis@ngv.vic.gov.au](mailto:carl.willis@ngv.vic.gov.au)

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AUSTRALIAN WAR MEMORIAL, CANBERRA, XXIII-XXV JULY MMVIII

**Announcing the 5th AICCM Book,  
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Memorial, in Canberra from  
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The aim of the symposium will be to provide a forum for the presentation of original research and experiences, and for discussion of issues affecting the book, paper and photograph conservation profession.

It is also an opportunity for conservators from around Australia and other parts of the world to come together, catch up on important news, and enjoy a bevy of social events perfectly designed to complement the serious business of conferencing.

The Symposium will have no specific theme, but will cover the following broad topics:

- Conservation treatments
- Research
- Analysis
- Collection issues

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The AICCM National Newsletter is the quarterly newsletter of the Australian Institute for the Conservation of Materials (Inc.)

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**1 November**

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