

THE ZIBBY GARNETT TRAVELLING FELLOWSHIP

Report by Jessica Crann



The conservation of paper based objects at the Art Gallery of New South Wales

Sydney, Australia

1-29<sup>th</sup> August 2008

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## Introduction

My name is Jessica Crann and I am a 25 year old British student studying at Northumbria University for an MA in Conservation of Fine Art. I specialise in works of art on paper and on completion of the two year MA I will be a qualified paper conservator. Once qualified I hope to successfully apply for further internship opportunities and go on to secure a permanent position within a reputable gallery and aim for accreditation status.

I first heard of The Zibby Garnett Travelling Fellowship from a second year student, Matthew Brack, who had received a grant from the trust for an internship at the Asian Art Museum in San Francisco the previous year.

### Study trip

After the first academic year I knew I wanted to take the opportunity to do a work placement during the summer period. This is encouraged by the lecturers but does not form part of the course. I specifically wanted to further my knowledge of conservation techniques and gain experience in the day to day running activities of an art gallery. I decided to apply for an internship at the Art Gallery of New South Wales in Sydney, Australia. I have a particular interest in Asian art and this gallery has a reputable Asian art department and dedicated Asian art conservator. The galleries other departments include Contemporary, Aboriginal and Photographic art, all of which are areas I have a keen interest in. The environmental aspect of the country was also a draw as I wanted to see the types of problems encountered within a different climate and the different range of insects and pests.

My study subject was the conservation of paper based artworks at the Art Gallery of New South Wales, Sydney. The placement was for one month, 1-29<sup>th</sup> August and during this time I was able to work on Asian, contemporary and Australian artworks. There were also a number of site visits enabling me to see and experience the different sides of conservation in different types of institutions.

I flew into Sydney on the 23<sup>rd</sup> July to acclimatise and enjoy the sites before the hard work began. I worked in the paper conservation

department of the gallery from the 1<sup>st</sup> -29<sup>th</sup> August. Site visits during this time included:

8<sup>th</sup> Aug – Museum of Contemporary Art

14<sup>th</sup> Aug – State Records

21<sup>st</sup> Aug – The Powerhouse Museum

28<sup>th</sup> Aug – State Library

Having already decided to extend the trip prior to travelling out, I remained in Sydney for another week and then travelled down to Melbourne for a few days where I was able to visit the National Gallery of Victoria. On the 11<sup>th</sup> September I flew from Melbourne to Tokyo, Japan where I stopped over for 5 days before returning home. Many of the conservation tools and techniques employed in paper conservation are Japanese and the stopover enabled me to visit various paper museums and buy specialist equipment.

#### Total cost of trip

The total cost of the trip is based solely on the time spent in Sydney at the Art Gallery of New South Wales.

£2033.30

I was awarded £1,300 from The Zibby Garnett Travelling Fellowship and I was able to raise the remaining funds from private savings.

## **Conservation of paper based objects at the Art Gallery of New South Wales, Sydney, Australia**

### **1 month placement**

Australia<sup>1</sup> is situated in the Southern hemisphere in the geographical region known as Oceania. Australia is a vast country and the majority of the population live on the coastline. European settlement of the country began in the late 18<sup>th</sup> century via the transportation of convicts and Sydney was the site of the first British colony. Consequently the country's history is relatively young which is reflected somewhat in the depth of cultural and historical items and documentation. However, the Aboriginal culture is long and rich, with a strong oral culture and a belief in the spiritual values of the land; this part of Australia's culture is now given much more recognition. It is a beautiful country with fantastic wildlife and friendly, easy going people.

Sydney is the largest city in Australia and lies on the south east coast. The Art Gallery of New South Wales is situated within the Botanical Gardens next to the iconic Sydney Opera House. It is the leading art gallery in Sydney and holds significant collections of Australian, European and Asian art.

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<sup>1</sup> Both Australia and Japan have been highlighted on the map indicating the two countries I visited.



[http://en.wikipedia.org/wiki/World\\_map](http://en.wikipedia.org/wiki/World_map)



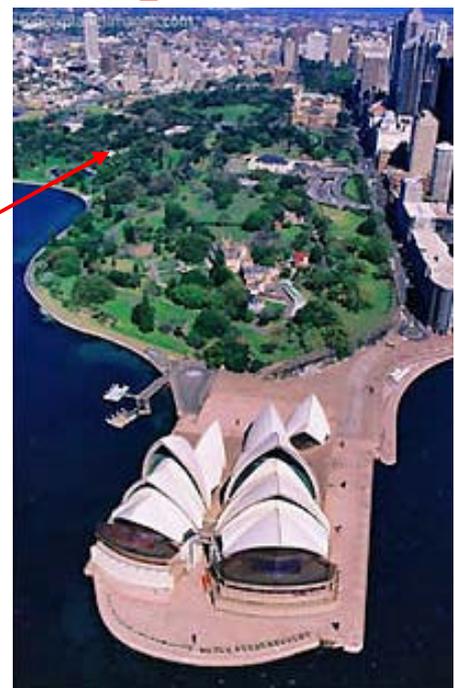
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<http://en.wikipedia.org/wiki/Australia>



Art Gallery of New South Wales



[http://www.allposters.com/-sp/Sydney-Opera-House-and-Harbour-Sydney-Australia-Posters\\_i1130544\\_.htm](http://www.allposters.com/-sp/Sydney-Opera-House-and-Harbour-Sydney-Australia-Posters_i1130544_.htm)

Within the Art Gallery of New South Wales there is a large conservation department, see Appendix I for more information on the structure. I worked within the paper conservation department monitored by both the Head of Paper Conservation Carolyn Murphy and paper conservator Analiese Treacy.



Head of Paper Conservation  
Carolyn Murphy



Paper Conservator  
Analiese Treacy

Upon arrival I was given a selection of artworks which I could work on throughout the placement. There was a wide variety including Japanese wood block prints, contemporary collage and a lithographic print.

Alongside this, a work programme had been devised which intended to give me a broad overview of the working practices within an art gallery and therefore a very comprehensive experience. This meant that not only did I learn and practice conservation but I took part in condition reporting, external loans, installs, de-installs, and consultations with members of the public at the weekly appraisal day.

## Conservation Treatments

The conservation studio was specially designed and had a controllable sky light to enable aqueous light bleaching within the studio.

Bleaching can be used as an effective treatment to reduce discolouration and staining. There are various forms; of which chemical bleaching is the one I am most

familiar with. Aqueous light bleaching is

regularly used in the Art Gallery of New South Wales if the artwork requires it. This is not a treatment I had come across in the UK, most likely due to the inclement weather, although artificial light bleaching can be employed, and so I was eager to try it out.



Sky light in studio for aqueous light bleaching

Of the objects presented for conservation treatment I chose one which would require some form of bleaching. The artwork was a black and white engraving dating from 1654, by Cornelis de Visscher. The condition was quite poor with overall surface dirt, discolouration and localised staining to the sitter's face<sup>2</sup>. This detracted a great deal from the engraving and so various treatments were used to reduce this. The print was surface cleaned and washed to remove any soluble discolouration. The print was then placed in a tray of deionised water, pH manipulated to pH9 using Calcium Hydroxide and positioned in the sky lab area of the studio. The

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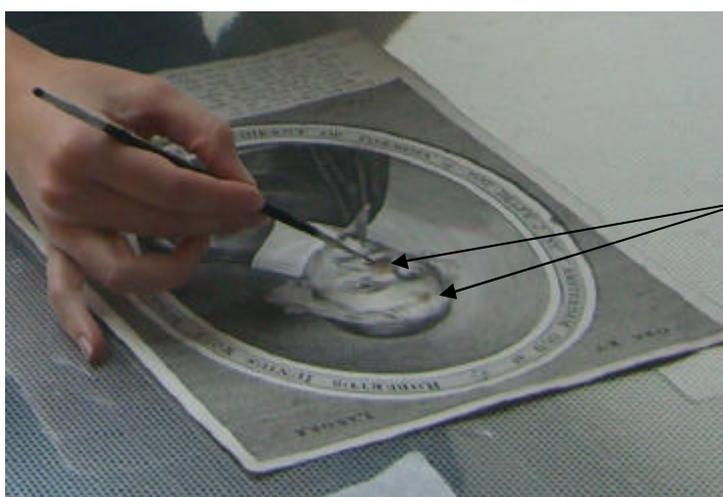
<sup>2</sup> Unfortunately there is not an image of the print before treatment but a close up of the area of discolouration is on the following page.

print was left in the sun for about an hour at a time. In total the print was aqueous light bleached for 3 hours over a period of a few days.

This was quite successful but the small area of heavy localised staining was still visible and so chemical bleaching was then employed using a 2% solution of Hydrogen Peroxide. This was applied locally using a small brush whilst the artwork was positioned on the suction table.

Once the discolouration and staining had been removed, tears and weakened areas were repaired using Japanese paper and wheat starch paste.

Using a combination of bleaching techniques gave a good result and the staining was removed; the engraving after treatment can be seen below.



Areas of discolouration on the sitter's face.



Engraving, after treatment



Localised application of 2% Hydrogen Peroxide

In conjunction with this I was given a mock up black and white print which I could use to experiment and compare different forms of bleaching and their effects on the paper and media. Carolyn and Analiese encouraged self learning and experimentation to help inform my own ideas about treatment options and learn to make my own judgements. In this case the print was cut into samples and exposed to varying amounts of aqueous light bleaching, ranging from 15mins to 3 hours. Chemical bleaching using solutions of Hydrogen Peroxide at different percentages was also used, ranging from 1% to 10%. This experimentation was combined with a literature search and the samples have been kept so that the long term effects can be observed.

The conclusions reached were that in terms of chemical bleaching there appeared to be very little difference in the samples using a solution of 3% to 10%. It is believed that a higher percentage can be detrimental to paper and this showed that increasing the percentage does not increase its effectiveness. The best effect using aqueous light bleaching was the sample exposed for 3 hours. This technique is very good for effective removal of a variety of stains as the darker areas of staining will absorb more of the light and the conjugated double bonds of coloured compounds will be broken and rendered colourless. This tends to give a good overall bleaching. I also found that the colour change was more natural whereas with Hydrogen Peroxide the effect could be too white.

There were two Japanese woodcuts for me to conserve and through this I was able to learn new techniques for conserving Asian art. A common problem for conserving Japanese woodcuts is the solubility of the inks. This often means that wet treatments are not possible, but there are techniques of introducing controlled humidity. The methods of friction drying and blotter washing are discussed.

The first was a Japanese coloured woodcut by Toyohara Kunichika. It was in poor condition as the primary support was adhered to a discoloured and deteriorated lightweight board. There was severe creasing and planar distortion caused from this adhesion, this was most apparent in raking light, see image. There were also areas of discolouration and evidence of mould growth and bleeding of the media the cause of which may have



Raking light showing creases

been from previous improper storage or sustained dampness.

Once the woodcut was removed from the secondary support the areas of discolouration were found to be areas of a residual lining paper<sup>3</sup>. The main problem with this object was the solubility of the media. This was tested with deionised water and the media did not solubilise but did offset slightly. Wet treatments could therefore not be considered but a controlled

<sup>3</sup> A lining is usually an additional support adhered to the back of the artwork, benefits include; increasing rigidity, supporting damaged paper and correcting distortions.

amount of moisture could be used. To remove the residual lining the artwork was placed face down and working on a small area at a time a Gore-Tex chamber was set up, as pictured.



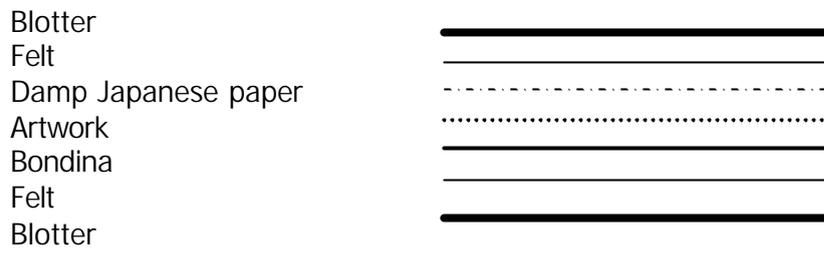
Detail of residual lining on the back

Use of Gore-Tex chamber

This was left on for about 5 minutes and allowed a small controlled amount of moisture to the lining and adhesive layer. This had the effect of slightly softening the adhesive. The Gore-Tex chamber was then removed and the lining was carefully scraped off using a spatula. This process was repeated and after a certain amount of time, once the sensitivity of the media had been established, certain areas were carefully wetted with a small brush and the lining scraped away.

The other problem was that the artwork had planar distortion and heavy creasing to the top left hand corner. Due to the sensitive media the method proposed to flatten out the object was friction drying. This consisted of very lightly pressing the artwork with very thin and smooth dampened Japanese paper. Supervised by Carolyn Murphy a suitable Japanese paper was chosen, cut to size and dampened and smoothed. The artwork was lightly humidified and positioned onto the Japanese paper. With the woodcut positioned face down onto a layer of Bondina and the Japanese paper positioned on the back, it was lightly smoothed

using a smoothing brush. It was then lightly pressed between felt and blotter.



Once dried the artwork was removed and the Japanese paper was carefully peeled off. The outcome was quite successful and this is a technique I would definitely consider in the future.



After treatment, reflected light

An earlier woodcut by Tamagawa Shūchō, one of a triptych, presented other challenges. There was considerable planar distortion which appeared to be caused by contractions around repaired areas, most notably in the centre, causing creases and distortions. Other areas of the primary support were very thin. This was best seen through transmitted light.



Reflected light showing distortions

As this was part of a trio the treatment had to be considered in these terms. For instance, if this was lined this would affect the look of the triptych. The two other woodcuts were in good condition and it was decided that an attempt would be made to remove the repairs and aim to be as minimally interventive as possible.



Transmitted light showing thin areas

Although the media remained relatively unaffected by water, the repairs were removed mechanically using a small spatula, due to the fragile nature of the support. Initially the central repair was removed. The object was then humidified and lightly restrained to dry. This then indicated

areas with continued distortion. These areas were subsequently worked on.



Removing previous repairs

The woodcut was fairly discoloured and noticeably so when compared to the other two. The fragility of the piece meant that a Gore-Tex sandwich blotter washing technique was employed to try to remove discolouration.

Damp blotter	—————
Gore-Tex	- - - - -
Bondina	—————
Artwork	.....
Bondina	—————
Gore-Tex	- - - - -
Damp blotter	—————

This was covered with a layer of plastic so that the moisture was retained.

This sandwich gently humidified the artwork and after 10mins the bottom layer of Gore-Tex was removed. After a further 10mins the bottom layer of Bondina was removed, meaning that the artwork was lying directly onto the damp blotter. This introduction of moisture can remove some soluble discolouration; in this instance a small area of discolouration was removed. After discussion with the mounting conservator it was decided

that the overall appearance of the woodcut could be matched to the other two by mounting it on a lighter background.



After treatment, reflected light

### **Special instruction**

The majority of paper conservation treatments are based on Japanese techniques. However, the invention of paper originated from China and they have their own techniques and methods of conservation as Chinese paper has its own set of properties and as such tools and techniques are adapted to this. I was lucky enough to spend an afternoon with Sun Yu, the Asian art conservator who taught me various Chinese lining techniques.

The Asian art conservation studio was specially designed and incorporated traditional designs. For example, the table used is traditionally red lacquer. The red colour helps to show up any tears and losses in the artwork when

conserving. In this instance it is not lacquer but has the same properties of being a waterproof and smooth surface.

One technique taught was to paste out the lining paper first and then position it onto the back of the artwork. Chinese brushes are different to the Japanese brushes I have used. For the application of wheat starch paste a bamboo and goats hair brush is used. To smooth the lining onto the artwork a brush made from palm tree bark is used. As pictured, the pasted lining paper is lifted and positioned on top of a lightly wetted artwork. This is then smoothed out with the palm bush.



Pasted lining paper being positioned



Smoothing out lining paper

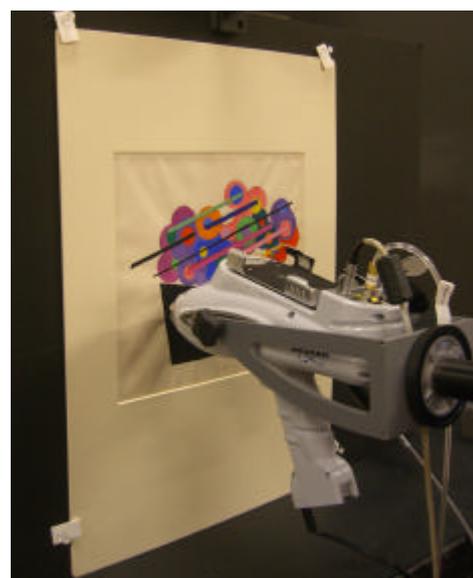
The edges of the lining paper are pasted and the artwork is transferred to a kari bari board and adhered at the edges, ensuring there is a gap at one corner so that it can be removed from the board once dried.

The conservation department has numerous analytical devices; one recent acquisition was a portable XRF (X-Ray Fluorescence) machine. I had not used one before and I was shown how and performed some XRF analysis. X-Ray Fluorescence is a form of elemental analysis which uses high energy X-rays to excite atoms of a sample. The basic principle concerning the excitation is that when the high energy X-rays hits an atom it can knock an electron out. When electrons from outer shells fall down into the vacancy, the energy is converted and given off as an x-ray. Each element gives off characteristic energies or wavelengths which enables identification.

A preparatory study by Robert Klippel was analysed using this technique to determine further information on the type of paint used, it was proposed that it may have been fluorescent paint. The artwork consisted of paint on paper with collaged card which had also been painted.

This was combined with a literature search of the artist and his techniques as well as the history and conservation of fluorescent paints. On the black area of the artwork there was an overall distribution of small spots of a lighter discolouration. This area was targeted, as well as an unaffected area to see if the results could indicate a reason for the spotting.

Although the results were relatively inconclusive, it was determined that the media was most likely not fluorescent paint.



XRF analysis of a Robert Klippel

## **Study trips**

One day a week I had a site visit. This was extremely useful and at the Museum of Contemporary Art I was able to work on Aboriginal bark paintings. Time was a huge factor at this gallery and there was only one conservator who had to look after and know about all manner of materials. Whilst I was there the Aboriginal bark paintings had returned from exhibition and needed to be condition reported before being put into storage. Some were highlighted as needing treatment prior to this and I took part in condition reporting and helped to consolidate some flaking paint layers.

The priority at the State Records was also time related due to the sheer scale of their holdings. However, the focus was on function over aesthetic. Records are not surface cleaned due to the time restriction but instead focus on repairing structural instabilities such as tears and creases. There were also no parchment records as the earliest records dated from around the early 18<sup>th</sup> century.

I found the day at the Powerhouse Museum very interesting and this consisted of a tour of the museum and its new offsite storage, which stores and displays the objects. It is open to the public and educates about objects, materials and the effects of poor storage.

## **Ethics**

A lecture I attended, given by the objects conservator at the Art Gallery of New South Wales, was on the conservation of an outdoor sculpture of two large matchsticks by Brett Whiteley's titled *Almost Once*. This touched

upon the ethics of conserving contemporary works of art. This is an area I have become interested in through this placement and the Art Gallery of New South Wales has a very good policy and working practice in this area. Whilst on the placement there was an ongoing debate about a large artwork which was a light box depicting images of Aboriginal people. There was bubbling of the photographic image on the Perspex support, which is shown in the image below.



Back of artwork, showing bubbling



Bubbling not noticeable when backlit.

Over the course of the month the possible reasons for this were investigated as well as the materials used. This discussion also included whether it could be exhibited without this problem affecting the image or if the artwork could be reprinted. It was found that when lit from behind the bubbling was not noticeable. Various options were drawn up and the artist was to be contacted to consult her advice. If the artwork was to be reprinted the technology available would mean that the size of the printed image would be significantly reduced. The ethics involved with this possible action focused on determining what the concept of the artwork was, was the scale essential to it or did the image speak for itself. This is

sometimes a joint decision made by the various departments of a gallery but the Art Gallery of New South Wales is keen to consult the artist and seek their advice where possible in order to come to a satisfactory conclusion for conservation work on contemporary pieces. This is an area I found very interesting, specifically for artworks for which the intention is that they do deteriorate. I have also been looking at various schemes which are interviewing artists whilst they are alive and finding out their thoughts on the longevity of their artworks and the role of conservation.

### **Life outside of work**

Whilst on the placement I spent the first 3 weeks living in the suburbs, in Epping, with a lady who took in student lodgers. I was there with two other students who I became great friends with and I was made to feel totally at home and treated like one of the family. For the latter part of my stay I was closer to the city staying in Newtown with a friend who I had worked with back in the UK. Luckily she had a spare room, on the top floor of an apartment block with the most fantastic views of Sydney's cityscape. Newtown was lively with great nightlife and restaurants. Every Friday we would all go out and meet up with the students I had lived with previously and sample the nightlife, on one occasion we learnt salsa dancing. At the weekends I would travel around Sydney and visit the many attractions and sites. One of my favourite places was Manly, a beautiful stretch of beach, which was a short ferry ride away, which passed by the Harbour Bridge and the Opera House. I also went to the famous Bondi beach and strolled for miles along the coastline and saw

wombats, kangaroos and koalas at Taronga zoo. There was also the Biennale of Sydney 2008, which was a huge art event across the city and I visited nearly every art gallery and museum and attended talks and late night jazz sessions put on by the galleries.

After my placement I hired a campervan and travelled down the coastal route to Melbourne. This was a fantastic experience and a great way to see and experience Australia. The most memorable part was the beautiful landscapes and seeing kangaroos and emus out in the wild.

## **Conclusion**

The whole experience was outstanding. If I were to have my time again the only thing I would do differently would be to increase the length of the work placement and perhaps try to visit Aboriginal areas such as the Torres Strait to gain a wider understanding of Aboriginal art and culture.

I learned such an enormous amount and gained a real sense of how conservation works within different institutions and the various roles of the conservator in an art gallery from condition reporting, acquisitions and installing / de-installing exhibitions. The new conservation techniques I have learnt will be invaluable and because both Carolyn and Analiese encouraged self learning and testing I have gained skills and knowledge that I will use throughout my career.

I thought I would learn about environmental difficulties compounded by the coastal environment and hot and humid conditions. Interestingly, as was discussed in the lecture on the conservation of the outdoor sculpture

of two large matchsticks by Brett Whiteley's titled *Almost Once*, it was not the environmental factors but wildlife, specifically termites and cockatoos that were the major cause of its deterioration.

This placement also provided me with the opportunity to work on a wide range of artworks and I really enjoyed learning new conservation techniques, especially in the conservation of Asian artworks. As well as the analysis and research which was undertaken on Klippel's preparatory study, which has furthered my interest in the conservation of modern artworks and the wide range of materials used. During my time at the gallery I have also become increasingly interested in the ethics of conserving contemporary art and this is definitely an area I will continue to explore.

I would like to take this opportunity to sincerely thank the Zibby Garnett Travelling Fellowship and all the trustees as I have had a truly amazing experience, which would not have been possible without the generous funding from the trust. I would also like to thank the Art Gallery of New South Wales for taking me on and making the placement such a great experience.

This will undoubtedly help me in my future career and I am in fact considering going back to Australia for further opportunities in the field of conservation.

## Appendix I

Structure of the Conservation Department  
at the Art Gallery of New South Wales