

‘Men with Beards’

A photographic composite of the First Parliament of the Commonwealth of Australia, 1901

TANIA RIVIERE

Abstract

The First Parliament of the Commonwealth of Australia: The Ministry and the House of Representatives is a large framed composite object consisting of 71 individual platinum prints and associated text panels adhered to a cloth backing. Received into the custody of the National Archives of Australia from an unknown source prior to 1967, little is known of its provenance.

The platinum print photographic process was invented in 1873 and has produced some of the most stable photographic images known. Whilst ‘Men with Beards’ shows deterioration typical of the platinum process, a number of anomalies have been found on the images that do not appear to have been described in the conservation or photographic literature.

This paper will discuss the platinum printing process and the anomalies found in the object, and outline the condition analysis performed. It will also investigate the provenance trail for ‘Men with Beards’.

Introduction

The photographic composite item A7611, item 1: *The First Parliament of the Commonwealth of Australia: The Ministry and the House of Representatives*, is held by the National Archives of Australia (NAA) in Canberra; little is known of its provenance prior to its transfer to the NAA. The item is well known amongst the staff in the National Office as ‘that really large photograph of all those men with beards.’ All but one of the 71 men photographed sport varying degrees of facial hair, hence the nickname ‘Men with Beards’.

Considered a nationally significant item within the NAA collection, 'Men with Beards' was identified for digitisation onto the Archives website in January 2005. This paper outlines the lengthy journey taken by the NAA conservation staff in Canberra in identifying, analysing and documenting the photographic prints as well as investigating the provenance trail for the item. A detailed condition assessment of the remaining parts of the item (the frame, the secondary support canvas and text panels) was made, but will not be included in this paper.

'Men with Beards'

The Australian federal movement of 1891 and the Commonwealth Convention in 1897–98 led to the passing of a Commonwealth Bill establishing Australia as a federation in 1901. On 9 May 1901, the Australian Federal Parliament was officially opened in Melbourne, Victoria with the Right Honorable Sir Edmund Barton appointed as the first Prime Minister of the Commonwealth of Australia (Alpin et al. 1987: p42).

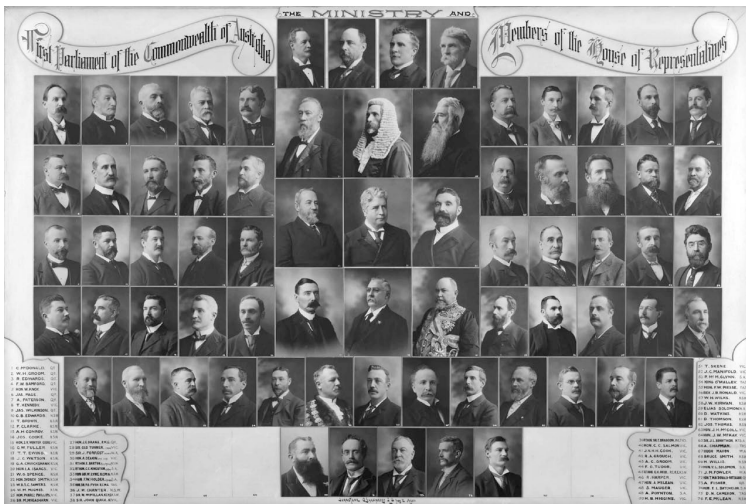


Figure 1. A7611, item 1: *The First Parliament of the Commonwealth of Australia, the Ministry and the House of Representatives*. The bottom row is missing an additional five House of Representatives portraits – three on the left and two on the right.

'Men with Beards' is a large framed composite item, consisting of 71 individual bust photographic portraits of Australia's first Commonwealth parliamentarians (Figure 1). The members of the House of Representatives are displayed as 62 individual images, arranged in rows of five across, which encase the sides, top and bottom of nine larger images, located within the middle of the work in three rows of three. These larger images consist of Barton's Protectionist Ministry, with Barton located middle centre of the entire work. Five allocated spaces along the lower row of the House of Representatives remain empty, and the work appears to have not been completed. The photographs have been adhered onto individual cream-coloured boards with a bevel-cut edge; dimensions are 142 × 98 mm for the smaller images and 182 × 139 mm for the nine central images. Each image has been hand numbered in the lower right hand corner with opaque white medium, the number corresponding with the listing on the text panels (see Figure 1). The total size of the unframed work is 10530 × 1030 mm.

The creation of photographic composites such as 'Men with Beards' was a method used to display groups of notable Australians from the mid-19th century, and was a popular vehicle for the visual documentation of Australia's parliamentarians. As described by Cato in 1955 (pp131–132): "scores of lusty, powerful looking men who made this country a nation are well recorded, as enlarged groups and mosaic for display in parliamentary libraries across the country". Many of these men remain on display today, such as the 112-member-strong *Members of the First Parliament of the Commonwealth of Australia, May 1901* by Melbourne photographic house Swiss Studios, in New Parliament House, Canberra, as well as the numerous composites of the members of the NSW legislative assembly dated from 1859 through to 2001 at the NSW State Parliament House in Sydney.

The provenance trail

According to the Archives' official documentation, dated 1988, 'Men with Beards' was transferred into the Archives' custody sometime prior to 1967, from an unknown source. No other information on the history of this item before its deposit into the collection remains with it, other than the creator's signature on the recto of the work – 'Johnstone O'Shannessy

& Co Propy Ld Melbne'. Investigation into the provenance of 'Men with Beards' raises as many questions as answers.

The studios of Johnstone O'Shannessy & Co, under the stewardship of George W Brewster, were responsible for the creation of 'Men with Beards'¹. During the late 19th and early 20th centuries, the Melbourne photographic studios of Johnstone, O'Shannessy & Co (Johnstone O'Shannessy) were considered one of the premier photographic studios in Australia (Kerr 1992: p407), and, together with Freeman's of Sydney, were responsible for photographing many of Australia's leading men (Cato 1955: p131). Brewster, the then proprietor of Johnstone O'Shannessy, was responsible for photographing 3000 of the leading men of Australia at the beginning of the 20th century for inclusion in the *Cyclopedia of Australia* (Cato 1955: p132). Of the volumes of the *Cyclopedia* researched², the *Cyclopedia of Victoria* of 1903 provides many examples of Brewster's work, including at least six images found to be exact replicas of the corresponding portraits in 'Men with Beards'. Another three of the portraits were found in the pictorial collection of the National Library of Australia. Interestingly, one of the images, that of Edmund Barton, was dated and signed by Barton in March 1898 (three years before federation).

Research conducted to date suggests that Johnstone O'Shannessy had no apparent official role as photographer during federation, other than providing images for inclusion in the *Cyclopedia*. In contrast, Swiss Studios is listed as the official photographer commissioned for the portraits of the members of the first federal parliament, which are currently displayed in Parliament House (Cato 1955: p132). So why was 'Men with Beards' created?

-
- 1 Henry James Johnstone left Australia for Great Britain in the late 1870s and did not return. There is little evidence of Ms E F K O'Shannessy within the studio beyond 1872 (Kerr 1992: p408 & 598). Brewster is the only person found linked to the studios of Johnstone, O'Shannessy & Co past this date.
 - 2 The volumes of the *Cyclopedia* of a number of the other states failed to note any contributions from Johnstone & O'Shannessy. The images included were referenced to other photographic studios located (one would imagine) within the state in question. As Johnstone & O'Shannessy were based in Victoria, it is likely that they only contributed to the Victorian volumes of the *Cyclopedia*.

Why are neither the remainder of the Senate or the Governor General represented, yet they are included in the Swiss Studios work in New Parliament House? If it was intended solely for the documentation of the first House of Representatives, then why was the Protectionist Ministry included? Moreover, the image of Barton appears to have been at least three years old at the time the 'Men with Beards' composite was created, although the entire cast of the House of Representatives and the remainder of the Ministry were photographed by Johnstone O'Shannessy between the creation of the first parliament in May 1901 and 1903 (with the release of the *Cyclopedia of Victoria* and the resignation of Barton as Prime Minister). Correspondence with Old Parliament House and the Clerk of the House of Representatives has revealed no reference to 'Men with Beards'.

The process, the print and the deterioration of the platinum print

The choice of photographic print process was also surprising. During the early 1900s, public taste in photographs had been conditioned to the glossy purple-brown finish of gold-toned albumen prints, and during this time carbon papers manufactured by the Autotype Company mimicked this popular print type (Ware 1993: p3). Interestingly, the work created by Swiss Studios in New Parliament House (which maintains all the features of gold-toned albumen prints) is stamped 'The Autotype Company'. The images of 'Men with Beards' were created using the platinum print process otherwise known as 'platinotype'. This process produced an image with neutral gray-black tones and a totally matt surface – a stark difference to the warm-toned, glossy albumen print.

Platinum is first mentioned for use in photography in 1856 as an intensifying agent for silver prints (Gottlieb 1995: pp11–12). The process of creating a print image with platinum metal was invented in 1873 by William Willis, who further refined and patented the process in 1887 (Hess Norris 2003: p2). The platinum print process used the photosensitive iron (III) complex (ferric oxalate) and potassium tetrachloroplatinate (II) sensitizer (Ware 1993: p3), resulting in an image consisting of finely divided particles of platinum metal. Given the stability of the metal, the platinum print is considered one of the most stable photographic printing processes (Neblette 1952: p394).

When exposed to UV light, ferric oxalate reduces to ferrous oxalate (iron (II)) with the release of carbon dioxide. The converted iron (II) forms the latent image whilst the platinum salt remains unchanged (Hess Norris 2003: p3). The precipitation of the bulk of the platinum metal only occurs when the exposed paper is immersed in a developer solution of the alkali potassium oxalate (Ware 1986: p2). This enables the iron (II) ions to move and interact, the reduction of the platinum salt occurs and the subsequent precipitation of the platinum metal replaces the iron (II) latent image. All of the excess unreacted sensitising chemicals and soluble reaction products (such as the iron (II)) are removed from the paper by subsequent clearing baths of dilute hydrochloric acid (Ware 2004: p2). The precipitated platinum metal constitutes the final image. This traditional three-stage process remains the basis of platinum printing today (Gottlieb 1995: p12). Platinum print papers could be purchased commercially or self-sensitised by the photographic studio.

Platinum prints were printed by the contact method and have a one-layer paper structure, with no binder or baryta layer. Thus the final images appear embedded in the paper structure and paper fibres are clearly visible when the prints are viewed under magnification (Reilly 1986: p54). The absorption of the sensitising solution into the single-layer paper structure results in a traditional matte-finish printed image; however, some prints were waxed or coated to increase luminosity (Hess Norris 2003: p4), and commercially available papers such as 'Sepia Platinotype', or 'Japine' paper manufactured by Willis' Platinotype Co produced a glossy platinum print (Ware 1993: p3).

The platinum image is considered to have an extensive tonal range (Stevenson 2002: p1), yet with less overall contrast than silver prints (Hess Norris 2003: p4). Traditionally, platinum images have soft grey/black tones, ranging from cool to warm blacks and silvery greys. Platinum prints could also be toned to enhance color and intensify tone. A common toner used was gold chloride (Gottlieb 1995: p28), which produced blue-grey to black tones (Farber 1998: p106).

True platinum prints can be difficult to identify visually (Hess Norris 2003: p5), and prints made with a platinum/other metal mix in the sensitising solution can confuse the identification process. A platinum/

palladium mix produces more warm brown images, with a mercuric chloride mix producing increased red and brown tones (Neblette 1952: p394). Additionally, the 'Satista' paper produced by Willis' Platinotype Co contained a platinum/silver mix (Hess Norris 2003: p4). The kallitype photographic process, which also uses ferric oxalate as the light-sensitive component, but uses silver metal rather than platinum to form the image, is considered a very close cousin to the platinotype. A kallitype toned with platinum is thought to be virtually identical in tone and color to a true platinum print (King 2005: p2).

The platinum image does not mirror or fade over time and is considered to be permanent, but the paper support may deteriorate. The acidic clearing bath, as well as any residual iron salts, strongly contribute to the eventual deterioration of the paper support through yellowing and embrittlement, whilst the image remains robust and virtually unaffected (Hess Norris 2003: p4). Acidity problems can also cause the transference of a 'ghost' image onto adjacent papers that have been in contact with the print during storage (Reilly 1986: p72). Platinum prints also commonly suffer from foxing spots, and may be abraded or damaged by insects (Hess Norris 2003: p5).

Prior to 2005, 'Men with Beards' had been considered to consist of gold-toned matte collodion photographs. However, the robust nature of the images, the tonal range, the characteristic acidic deterioration of the supports, the visibility of the paper fibres and the lack of the characteristic layered structure of the collodion print led to these photographs being reclassified by conservation staff as platinum prints.

The reporting process and the anomalies found

In 2000, a conservation treatment was carried out on 'Men with Beards' to prepare it for exhibition. The frame was stabilised and individual images that were lifting away from the canvas support were readhered. Other than this brief sojourn into the public eye, the work remained within the confines of the 10°C and 35% relative humidity environment of the NAA's cold store. In January 2005 it was identified for digitisation onto the NAA's records database *RecordSearch*. Due to its large size and the lengthy acclimatisation process required on removal from cold storage,

conservation staff took the opportunity to complete a comprehensive condition report. A basic visual examination of the entire work showed an item in very good condition for its age and large size, exhibiting strong images maintained on robust primary supports. The process of individual visual assessment of each photographic print using hand-held 8x and 20x magnification identified areas of foxing, individual support boards lifting away from the canvas stretcher and the acidic discoloration of these supports. Additionally, two anomalous features were observed within several images: localised partial 'bleaching' and localised 'bronzing'. For the purposes of this paper, the terms 'bleaching' and 'bronzing' are used to describe the appearance of the anomalous areas rather than suggest their chemical nature or process.

Localised bleaching and bronzing

The localised bleaching was found in 10 images (Figure 2 shows an example). In each case, the bleaching is located within areas of minimum density (D_{\min}), such as the forehead and light hair areas. The bleaching of



Figure 2. No. 11, T Brown. Localised bleaching visible above right ear.



Figure 3. No. 45, Rt Hon GH Reid P.C.K.C. Bronze sheen visible on left shoulder and lapel.

the image in these areas is not complete, as the image remains visible, yet appears a shade lighter. Due to the stability of the platinum metal, platinum prints are not considered susceptible to bleaching. However, bleaching of palladium prints can occur during the clearing process as the metal can be partially dissolved by the hydrochloric acid clearing bath, resulting in a splotchy appearance. Storage in acidic environments is also thought to impact on the bleaching of palladium prints (Gottlieb 1995: p12 & 18).

A bronze-coloured sheen (similar in appearance to silvering-out on a silver gelatin print) is present on a further 10 images (see Figure 3 for an example). Only the maximum density areas (D_{\max}) are affected. All of the affected portraits exhibit the bronzing within the shoulders and folds of the jackets. This bronzing is present on all the tone types found within 'Men with Beards' (i.e. on both cool and warm black and greys). The reversal of tone through overexposure is known as 'solarization'. This term is applied to the bronze appearance of shadows produced on printing-out papers by increased exposure (Neblette 1952: p180). William Jolly's treatise on the historical, artistic and technical aspects of the Sabatier Effect briefly discusses the effect of overexposure solarization of platinum and palladium prints (developing-out papers) resulting in decreases in density and the occurrence of a golden colour in the affected areas (Jolly 1997: p4).

To ensure an appropriate approach to the preservation of the item the print type needed to be determined absolutely. Clear identification would also assist in better understanding the anomalous areas. As a result, elemental analysis of the image surface was made using the non-destructive analysis technique of X-ray fluorescence (XRF) spectrometry.

XRF analysis and results

Due to the size and weight of the work, a portable XRF probe was sourced from Sietronics, an X-ray analytical specialist firm in Canberra. The Innov-X portable XRF Environmental Metals Analyzer consists of a point-and-shoot probe with an iPAQ Palm Pilot (Figure 4). 25 chemical elements can be calibrated into the machine at one time and sampling times can vary from 30 seconds to up to 7 minutes depending on sampling needs. Qualitative and quantitative results and spectra are available on the Palm Pilot screen on site, and can later be downloaded into PC-based software

for further detailed analysis.

The depth at which the XRF radiation penetrates a sample can be affected by the elements contained within the surface of the sample. Heavy metals such as iron, gold, lead and, to a certain extent, platinum, will absorb a large proportion of the radiation, thereby restricting the levels of radiation penetrating further into the sample. Levels of radiation are then less available for the detection of lighter elements within the sample. As a result, readings are required from the verso of a print to identify elements found in the photographic paper or, in the case of 'Men with Beards', the

backing boards. These elements can then be eliminated as background noise should they appear in the readings obtained from the image layer (recto). As the individual mount boards are firmly adhered to the canvas support, we were unable to undertake readings from the verso. Any quantitative data obtained must therefore be considered inconclusive; however, some assumptions based on the qualitative data can be made.

For the analysis of 'Men with Beards', platinum, palladium, gold, silver and iron were added to the existing metals calibrated into the machine. Eight images were analysed in total, including the analysis of both anomalous areas, each of the three main tone types present – soft grey, grey-black and blue-black – and one additional area of increased localised acidic deterioration. All prints tested were analysed within the D_{\max} , D_{mid} (middle density) and D_{min} areas. A sampling time of 1 minute 30 seconds was chosen, with one sampling period per density type. Squares of 3.6 μm thick polyethylene terephthalate (Mylar™) protected the work from the contact with the probe. The probe was placed on the surface of the work with minimal pressure for the duration of the sampling period.



Figure 4. Innov-X Portable XRF Environmental Metals Analyzer probe.

The XRF analysis of 'Men with Beards' detected the presence of platinum and iron. No silver or palladium were recorded, which rules out identification as a collodian print, kallitype or a palladium or platinum/palladium mix. Together these confirm the status of the 'Men with Beards' images as platinotypes. A number of additional elements were also detected, with strong peaks recorded for gold, lead, iron, zinc and strontium, and minor peaks for magnesium, bromine, molybdenum, rubidium, arsenic and zircon. According to Gottlieb (1995: p28), magnesium and bromine could be considered as background noise, however, he makes no mention of the latter four elements. An assumption can be made that there would be little to no gold present from the manufacture of the backing board. The high levels of gold present (across all density areas) suggest the use of a toning bath during the processing of the photographs. Although this is speculation, it is felt that this was most likely used to manipulate the processed image to obtain greater blue/black tones and further enhance any low-contrast images.

The XRF analysis of the anomalous areas showed no immediate identifiable difference in readings when compared to other similar, yet unaffected areas. The entire range of elements listed above were also recorded in the anomalous areas. As a result, the analysis of the anomalous areas by this round of XRF testing is inconclusive.

Densitometric procedure and analysis

To provide a basis for the continued monitoring of this work, density readings were recorded for 'Men with Beards'. Density readings were taken for each individual image using the ESCO Compumaster TR90, a combination reflectance and transmission densitometer. The TR90 provides simultaneous readings for the three standard colour wavelengths of red, blue and green as well as visual neutral. Reflectance measurements were made to track possible increases in acidic discoloration through yellowing of the photographic paper support and to monitor the localised bleaching and bronze sheen areas over time. The method chosen for making the densitometric readings was based on the process outlined in Henry Wilhelm's 'Monitoring the fading and staining of color photographic prints' (1981: pp49-64).

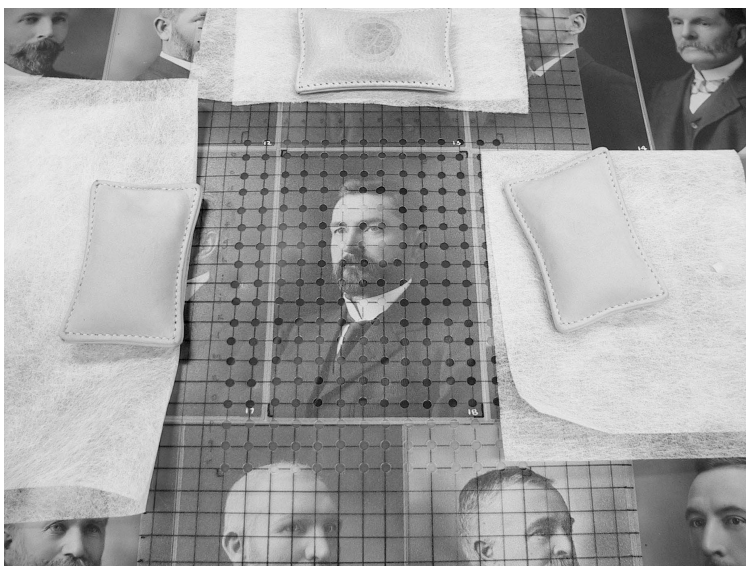


Figure 5. Densitometer grid set up.

A polycarbonate³ overlay (Lexan 8A35-112) with grid holes spaced at 10 mm intervals was made to protect the individual images from contact with the densitometer foot and enable precise locations for recording purposes (Figure 5). A 130-hole grid was made to cover each of the 62 smaller images, with a 238-hole grid covering each of the remaining nine larger central images. Each grid point was measured once with the reflectance foot. Areas of concern such as the anomalous areas and areas of increased yellowing were sampled 20 times (in specific areas on the grid) to allow for standard deviation and confidence levels to be calculated.

The raw data suggests the density recorded for the areas affected by the bronzing have mildly elevated density levels of approximately 0.05 density units. Increases in exposure resulting in solarization cause decreases in density. No data could be found on what causes the bronze sheen and how

3 Lexan replaced Mylar™ as suggested by Wilhelm, to reduce the slippage of the reflectance foot experienced with the Mylar™

this may affect subsequent density readings. As a result, solarization could not be confirmed as the cause of the bronze sheen on these prints.

Summary

A7611, item 1, *The First Parliament of the Commonwealth of Australia, the Ministry and the House of Representatives* consists of 71 photographic images in remarkably robust condition. The aim of this project was to create a comprehensive condition assessment for this item and provide a framework for its continued care. XRF analysis confirmed our visual assessment of these prints as one of the most permanent photographic processes known – the platinotype, and provided the further tentative determination of gold toning. Whilst little progress was made on the causes of the localised bleaching and bronzing, the densitometric data obtained and associated visual assessments made will provide for the monitoring of this work in the future. Should significant increases in the areas of yellowing, bleaching and/or bronzing occur, or should one more portrait fall away from the canvas support, further analysis of this item using XRF technology will be canvassed.

It remains intriguing that a work of this size and relative complexity was made without apparent commission or specific end purpose. In all reality, the unfinished item probably never fulfilled its intended purpose (whatever that was), further clouding the determination of provenance – a job better left for another day.

Acknowledgments

I would like to thank the Preservation and Imaging teams of the NAA; Tim Black and Ross Freeman of Sietronics X-ray analytical specialists Canberra; Phillip Jackson, Australian Public Affairs Information Services, National Library of Australia; Robert Lawrie, Archivist NSW Legislative Assembly; Willameena Gentle, Conservation Manager, New Parliament House; the staff of Old Parliament House, Canberra; and the staff of the Office of the Clerk of the House of Representatives, Parliament House for their great assistance and involvement in this project. Special thanks to Dr Mike Ware, photographic historian and scientist, for being a constant source of knowledge, advice, guidance and patience.

References

- Alpin, G., S. G. Foster and M. McKernan. 1987. *Australia – A historical dictionary*. N.S.W: Fairfax, Syme & Weldon Associates
- Cato, J. 1955. *The story of the camera in Australia*. Melbourne, Australia: Institute of Australian Photography
- Farber, R. 1998. *Historic photographic processes – A guide to creating handmade photographic images*. New York: Allworth Press
- Gottlieb, A. 1995. Chemistry and conservation of platinum and palladium photographs. *JAIC* 34(1): 11–32
- Hess Norris, D. 2003. Platinum. In *Photographic conservation block notes 2002/2003*. n.p.: The Winterthur/University of Delaware Program in Art Conservation: 1–6
- Jolly, W. L. 1997. Early history and general procedures. In *Historical, artistic and technical aspects of the Sabatier Effect*. California: Department of Chemistry, University of California, Berkley. 1–16. Accessed 8 April 2006. Available at <http://www.cchem.berkeley.edu/wljeme/SOUTLINE.html>
- Kerr, J., ed. 1992. *The dictionary of Australian artists, painters, sketchers, photographers and engravers to 1870*. Melbourne: Oxford University Press
- King, S. 2005. *The kallitype process – AlternativePhotography.com*. 1–15. Accessed 11 January 2006. Available at http://www.alternativephotography.com/process_kallitype.html
- Neblette, C. B. 1952. *Photography: Its materials and processes*. 5th edition. Toronto: Van Nostrand Co.
- Reilly, J. 1986. *Care and identification of 19th century photographic prints*. USA: Eastman Kodak Company
- Stevenson, J. 2002. How platinum prints are created. 1–3. Accessed 3 August 2005. Available at http://www.johnstevenson-gallery.com.au/how_made.html
- Stulik, D. C. 2005. Getty Conservation Institute portable analytical laboratory for photograph conservation: the first three years. ICOM Committee for Conservation Preprints, 14th Triennial Meeting, The Hague, 12–16 September 2005, Volume II: 556–564
- Ware, M. 1986. An investigation of platinum and palladium printing. *Journal of Photographic Science* 34 (5/6): 165–177. Accessed 7 April 2005. Available at <http://www.mikeware.co.uk/mikeware/technical.html>
- Ware, M. 1993. The eighth metal: The rise of the platinotype process. *Photography 1900: The Edinburgh Symposium, National Museums of Scotland and National Galleries of Scotland*. 1–5. Accessed 7 April 2005. Available at http://www.mikeware.co.uk/mikeware/Eighth_Metal.html

- Ware, M. 2004. Chemistry for the iron-based processes: An outline for the non-chemists. 1–2. Accessed 7 April 2005. Available at http://www.mikeware.co.uk/mikeware/Iron-based_Processes.html
- Wilhelm, H. 1981. Monitoring the fading and staining of color photographic prints. *JAIC* 21(1):49–64. Accessed 23 August 2005. Available at http://aic.stanford.edu/jaic/articles/jaic21-01-003_indx.html

Author biography

Tania Riviere has a BAppSc in Conservation of Cultural Materials from the University of Canberra, 2000, and has been employed with the National Archives conservation laboratory since 1992.

National Archives of Australia
PO Box 7425
Canberra Business Centre
ACT 2610
Australia
Tel: +61 2 6212 6218
tania.riviere@naa.gov.au