

'Catch me if you can' – a case study of previous restorations carried out on two posters prior to acquisition by the State Library of Queensland

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ABSTRACT

The State Library of Queensland has an ever expanding collection of maps and posters dating from the mid nineteenth century to the present time. Recently the State Library acquired two posters from an auctioneer in Brisbane, which came to the Conservation Laboratory for de-framing and re-housing. During de-framing, an interesting restoration was discovered on one of the posters. This initiated a search to find out if there was a trend in this type of restoration during this period, which resulted in the discovery of another original poster in the collection produced several decades later that was treated in a similar manner.

This paper looks at the research and analysis carried out on the restoration component of the two posters to determine whether they needed to be retained or removed, and the arguments used to justify this choice. It also outlines the conservation treatment options used to stabilise the posters for their long term preservation.

KEYWORDS

State Library of Queensland, real estate maps, restoration, digital

INTRODUCTION

The State Library of Queensland has a collection of 40 000 maps, approximately 2000 of which are real estate maps. These real estate maps are a unique collection of original maps and plans dating from the mid-nineteenth century to the mid-twentieth century, created by the real estate agencies. The Cameron and Henzell Collection, which owes its name to the leading auctioneers and businessmen in Brisbane in the late nineteenth century, is the largest real estate map collection in the State Library. These maps were used as advertisements for the sale and auction of land in the early subdivision of Brisbane and its surrounding areas. Because of their intended purpose, in this paper these maps have been categorised as posters. From the study of these works, information on how the land was divided, when it was going to be auctioned, who the auctioneers were and who sold the land can be gained. For these reasons, they are an important part of Queensland history and constitute an invaluable research tool in the investigation of the history of urban land areas for family and local historians.

In addition to these real estate posters, the State Library also has an extensive collection of about 5000 posters, mainly published by State Government Agencies over a period of approximately 100 years. New donations and acquisition are regularly added to this collection.

Recently the State Library acquired two posters from an auctioneer in Brisbane. These works came to the conservation unit for de-framing and re-housing. During the routine examination process of one of the original posters, an interesting restoration treatment was observed upon removal of the frame. The unusual nature of this restoration prompted a search for similar techniques and resulted in the discovery of a second example of the same kind. This paper looks at the research, analysis and conservation treatment performed on these two posters.

POSTERS AS COLLECTION ITEMS

The art of poster making is the art of direct and straight forward visual communication used to disseminate information of upcoming events, propaganda, or to advertise goods and

services. Posters are textual, graphic, or a combination of both, designed generally in a portrait format, to be pasted on walls or noticeboards. The colourfulness of the posters generally fulfils its role of attracting an audience to the coming events or product sale.

Lithography was first introduced in the late 18th century in Germany (Gascoigne, 1986). By the early 19th century, lithography in the form of posters became a part of the everyday life of people, who became accustomed to seeing them in public places.

The art of poster making closely followed the colonisation of Australia (Barry, nd). With the formation of states after Federation, state governments and local business used this media to communicate with the public.

The State Library collects material related to Queensland's history published by the state government and local businesses. The collection comprises of posters obtained by legal deposit, purchase and donation.

CONDITION OF THE POSTER COLLECTIONS AT THE STATE LIBRARY

The condition of the posters ranges from fragile to stable depending on the year of their production, the type of paper used, and their storage conditions prior to acquisition by the State Library. While the posters produced in the second half of the twentieth century are generally in sound condition, the earlier posters in the collection are degraded and brittle. Characteristic deterioration includes surface dirt, creases, tears, losses and paper discolouration due to high acidity. A small part of the collection has not been catalogued due to their fragile condition.

The two posters used for this case study, *The Heathfield Estate* and *Papaws - A Tropical Health Fruit* date from the late nineteenth and mid-twentieth century's respectively. The *Papaws* poster is in stable condition while the *Heathfield Estate* poster is in relatively poor condition.

CASE STUDY ONE: THE HEATHFIELD ESTATE

The Heathfield Estate (Figure 1), a lithograph printed in 1886 by Warwick and Sapsford lithographers, Brisbane for Arthur Martin and Co, Auctioneers, was framed in a commercially available modern black frame.



Figure 1: *The Heathfield Estate* poster

The frame was not contemporary to the lithograph and the decision was made to remove and discard it.

During de-framing it was discovered that the poster was hinged on a self adhesive foam core board. This type of board, known as gudi board or U stick foam board, has pressure sensitive double-sided tape attached to one side. An object can then be directly attached to the board by peeling the top paper layer. In this case only a strip at the top of the paper was peeled to hinge the poster. The poster had tears all along the folds and creases, and pressure sensitive tape was used to mend them. The most interesting was a large tear on the left corner of the poster which had been poorly repaired (see Figure 2).



Figure 2: Infill of the loss on *The Heathfield Estate*

The repair was hidden by heavy in-painting. On close examination, the texture of the repair support appeared quite different to the poster support. Looking at the image with a Loupe (10x magnification) showed linear dot patterns, indicating a digital

image. The poster was then examined under a stereomicroscope. Linear arrangement of dots in a pattern was observed under 40x magnification (see Figure 3).



Figure 3: Magnification x 40 of the infill on *The Heathfield Estate*

The area which was assumed to be a tear repair was confirmed to be an infill produced from a digital print. On the verso, the original colour of the repair paper could be seen (see Figure 4).



Figure 4: Verso of the repair on *The Heathfield Estate*

The in-painting over the digital image appeared to have been done with pen, most probably a marker/felt pen. White salt deposits were present on the blue areas near the edge of the repair. These were assumed to be the crystals of the adhesive used to adhere the repairs.

Initially, it was assumed that the image on the left was copied from the image on the right. However, on closer examination, the two images were seen to be slightly different. The image was therefore most probably taken from other sources and it is assumed that it was printed off the internet. It was printed on ordinary uncoated printing paper and then pasted on the loss with a large overlap at the back. Pressure sensitive tape was used at the back to reinforce the repair. Heavy in-painting, mostly with black paint, was applied to camouflage the repairs and complete the image. When the repair was viewed under the stereomicroscope, prominent lines drawn with pen were visible. The ink from the pen had seeped through the paper and could be seen on the verso of the repair (see Figure 4).

CASE STUDY TWO: PAPAWS - A TROPICAL HEALTH FRUIT

The *Papaws* poster (Figure 5), a colour line block, was printed by Queen City Printers Pty Ltd for the Committee of Direction of Fruit Marketing, Queensland.



Figure 5: *Papaws - A Tropical Health Fruit poster*

There is no manufacture date present on the poster. The work is adhered to a canvas backed with white board. Major repairs to a loss and tears had been carried out on the upper left edge of the poster (see Figure 6).



Figure 6: Infill of loss on *Papaws* poster

After examination under stereomicroscope (40x magnification), it was determined that the repair used for the loss consisted of a digital print, whereas the border area was repaired with a toned paper (Figure 7).

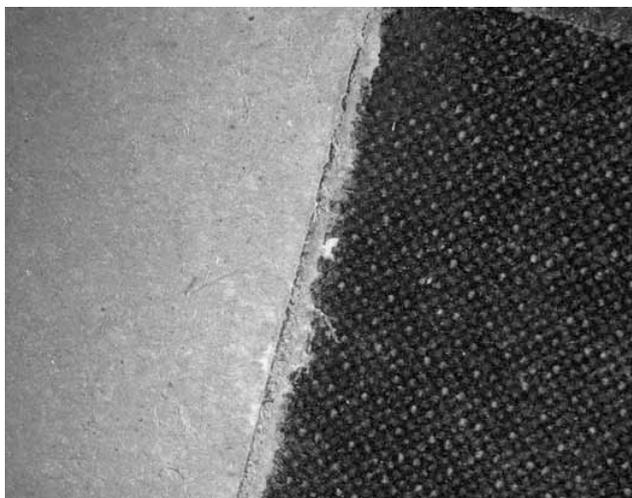


Figure 7: Magnification of the infill on *Papaws* poster

Compared to the *Heathfield Estate* poster, a more complex restoration had been carried out on this second work. The support used to print out the digital image is a glossy paper chosen to match the gloss of the poster. The border area had been repaired with a toned matte paper similar in weight to the original support.

There is no image present on the area of the loss. It is assumed that the poster was scanned, and the area of the image which more closely matched the colour surrounding the loss was printed on a glossy paper and used for the infill. To match the border along this loss, the restorer cut an L-shaped strip of paper similar in thickness to the poster. The repair paper has been either pasted directly on to the backing board or hinged to the poster with pressure sensitive tape or tissue.

The border of the original poster has two coloured bands. The inner band is greyish-green while the outer band is cream in colour. In order to replicate these two bands on the repair paper, the area to be in-painted was masked and an air gun or spray can was used to apply the colour. The applied paint slightly covers the poster side. The extension of this overlapping could be clearly detected under UV light by the maroon fluorescence of the paint. The repair joint had been in-painted with green oil paint to camouflage the repair, even though the tone of the green oil paint is different to the tone of the repair paper (Figure 7). A strip of original poster had been pasted on one of the sides and it is assumed that it was salvaged from the damaged corner before the repair was executed. A heavy layer of in-painting, clearly visible under UV light, had been applied on the creases and cracks.

INFORMATION GATHERED FROM RESTORERS

During the de-framing of the *Heathfield Estate* poster, a framer's label was found at the back of the foam-core board. The framing company was contacted to find out if they had any information about the restoration carried out on the poster. The company acknowledged having restored the works several years ago under the commission of an antique dealer, whose wishes determined the outcome of the restoration work (Restorer 1 2010, pers. comm, February and March). Detailed information was gathered on the type of restoration carried out by the framing company. According to this company, the infill was hand drawn with watercolours and then pasted to the poster. Little information was given on the types of material used, which were selected because of their ready availability, while no consideration was given to their quality and long-term stability. The information supplied by the framing company appears completely different from the reality of the treatment performed, as the infill appears to be created with a digital image rather than using watercolours.

During this period another restorer was contacted to get more in depth information on the method and techniques most commonly used in restoration. The restorer gave vital information on different restoration techniques used to restore works similar to the ones in this study. The adhesive most frequently used was wheat flour, prepared with alum and formaldehyde as a fungicide. The tissue used for the repairs was not identified but was said to have been used by bookbinders at the time. The common form of bleaching made use of hydrochloric acid fumes, common liquid bleach, and NapiSan. The works were washed in the above solution if they were dirty or affected by foxing staining. The restorer had personally formulated the concentration of the bleach used for such treatment. Dilute oxalic acid, or acetic acid in water, was used to wash documents with fugitive inks. Different techniques were used in washing the documents. Sizing with gelatine was another process commonly performed (Restorer 2 2010, pers. comm, May). The use of digital images to repair the losses was not mentioned by any restorer.

ANALYTICAL STUDIES

As the posters were being treated, solubility testing of the media used in both the execution and the restoration of the works were

conducted. The two posters were tested with deionised water, ethanol and 50/50 ethanol/water solution. Deionised water was also tested on the digital repairs to see if any indication of the type of digital image used could be obtained.

	Deionised water	50/50 Ethanol/water	Ethanol
Poster	- ve	- ve	- ve
Digital Image	- ve	- ve	- ve
In-painting medium	+ ve	+ ve	- ve

Table 1: Results of the solubility test - *Heathfield Estate* poster

	Deionised water	50/50 Ethanol/water	Ethanol
Poster	- ve	- ve	- ve
Digital Image	- ve	- ve	+ ve
In-painting medium	+ ve	+ ve	- ve

Table 2: Results of the solubility test - *Papaws* poster

Solubility tests with acetone were also carried out to find out if the media used for in-painting was oil or acrylic based. Even though this test is not conclusive, the solubility of the media indicates the possibility of acrylic paint whereas insolubility indicates oil paint.

		Acetone	Indicative Media
Heathfield		- ve	Oil paint
Papaws	Outer cream layer	- ve	Oil paint
	Inner greyish green layer	+ ve	Acrylic paint
	In-painting areas	- ve	Oil paint

Table 3: Results of the solubility test of the media used for in-painting

The in-painting medium used on the *Heathfield Estate* poster was insoluble in acetone. After a few applications slight solubility of the medium was detected. The test indicated the possibility of oil based paint.

On the *Papaws* poster, testing was carried out in three different places, one on each band and one on the in-painted area. Tests indicated oil based paint as the medium used for both the cream layer and in-painted areas, and acrylic paint for the greyish-green layer.

Tests were also carried out to determine the nature of the crystals present in the blue area next to the repaired loss in the *Heathfield Estate* poster. Due to limited resources, only spot tests were carried out. The crystals were tested to detect the presence of starch, protein and PVA. A solution of iodine potassium iodide was used for the identification of starch and polyvinyl acetate, and the biuret test was used for the identification of protein (BPG catalogue 10 1990). The results were negative suggesting that either the adhesive used was none of the three tested, or the crystals present were not related to the adhesive used in the repair.

The two works were examined under a stereomicroscope at 40x magnification to identify the type of digital images used to infill the losses. Under magnification, the repaired area in the *Heathfield Estate* poster displayed a regular dot pattern (see Figure 3). This closely resembled the dot pattern present on the analogue half tone process (Jürgens 1999), in which the dot pattern is systematically arranged and are perpendicular to each other (Jürgens 2004). It is difficult to say whether the image is half tone because the appearance of its screen can be imitated by other processes like inkjet (Jürgens 1999). The results of the study were inconclusive to definitively establish whether the image was analogue half tone or inkjet print.

When the *Papaws* poster was viewed under magnification it showed a clear rounded dot pattern (see Figure 7). The dots had

a prominent linear pattern in the image area (Jackson, 2008). When viewed under raking light, surface gloss was visible on the image areas (Jarry 1996). Moreover, the dots produced in the image had a speckled appearance indicating the use of dry toner. These features are characteristic of the electrophotography process, commonly called laser printing. The digital image is therefore probably a laser print. Sometimes dot patterns present on laser prints can be confused with the dots present on inkjet prints. These two techniques can be distinguished by the linear dot pattern which characterises laser prints (Jarry 1996).

There were limitations in the studies performed on the two digital images. Due to their small size it was difficult to carry out comparative studies of different areas. The study conducted gave clues on what the images could be, but it is difficult to be definitive. This study has confirmed that the digital nature of the original repair will require a conservative approach to be adopted for its conservation and storage to ensure long term preservation.

TREATMENT

After detection of the digital image infill, the Maps Librarian was contacted and informed of the results. Attention was drawn to the risk of accelerated aging of the digital image compared to the original lithograph. The retention of the digital repair on the posters would therefore determine its storage and display. Removal of the repairs would require major treatment, especially in the case of the *Papaws* poster which has been adhered to a backing board. The presence of heavy in-painting also sets limitations on the amount of treatment which can be carried out. All the studies conducted suggested that the repairs did not have any adverse effects on the stability of the posters.

After consultation with the librarian, and discussing the pros and cons of keeping or removing the repairs, it was decided to retain the repairs on the posters. Close monitoring of the posters would be maintained in the near future to assess any fading of the digital prints. The frequency and period of display of the posters will also be monitored.

The *Heathfield Estate* map was removed from the frame and the frame was discarded. Surface cleaning was carried out using grated Staedtler Mars erasers. The poster was removed from the foam-core board mechanically by peeling the bulk of the board from the verso of the poster. The remaining board and the adhesive layer were then removed using direct applications of toluene. Due to the solubility of the digital print and the heavy in-painting it was decided not to carry out any aqueous treatment. The pressure sensitive tape adhered on the verso was removed using a solution of 60/40 toluene and ethanol. Japanese tissue repairs were carried out along the torn areas. The entire poster was then humidified and subsequently flattened.

No treatment was carried out on the *Papaws* poster.

CONCLUSION

Collection managers often buy posters on-line or without directly viewing them and rely on the information given in the catalogue by the seller. Undetected restorations often misguide on the real conditions of these works increasing their value. The *Heathfield Estate* poster came to the Conservation Laboratory for routine de-framing. The resulting discovery of the digital image in *Heathfield Estate* and *Papaws* posters has changed the way these posters will be stored and exhibited. Any future treatment and display will have to take into consideration the digital component of the posters. The study of the two posters also highlighted the type of work being carried out by past restorers.

Conservators will always face the dilemma of dealing with works restored prior to acquisition. The question of retaining or not retaining the restoration will always be a subject of discussion. Clients will continue to drive the demand for restoration of works. The understanding of restoration techniques will help conservators

in the decision making, when treating earlier restored works. The restoration profession has a wealth of knowledge and experience to share. Communication between conservators and restorers will help to strengthen the bridge between the two.

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