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## **An Investigation into the Materials, Structure and Degradation Behaviour of Portraits by William Sawyer**

### *Introduction*

Artist William Sawyer (1820-1889) lived and worked out of an Earl Street studio in Kingston for several years throughout his career which spanned from the 1840s to his death in 1889. His skill and efficiency for “delineating and giving expression to the ‘Human face divine’”<sup>1</sup> earned him distinction as the city’s leading portrait painter. When he wasn’t in transit working as an itinerant artist in communities between Montreal and Toronto, he painted several official portraits of politicians and diplomats in Kingston during the early years of Canada’s confederation. Many of the artist’s works can today be found scattered throughout Kingston in historical buildings and museums.

After Sawyer passed away, the contents of his Kingston studio were retained and kept in the family until the late 1960s, when several items were donated to the Queen’s University Archives and the Agnes Etherington Art Centre. Much of what we know about Sawyer’s artistic practice comes from these archives which include some of his painting tools and supplies, photo albums,<sup>2</sup> and, notably, his personal daybooks that list commission records and document his daily routine over several years. Excerpts from these daybooks were published in a catalogue accompaniment to a 1978 exhibition held at the Agnes Etherington that focused on Sawyer’s contributions to early Canadian photography. Typical daybook entries include the date, the weather, where Sawyer went that day, who he visited for tea, which patrons sat for him, when he went to church, when he wrote or received a letter from his wife, and when one of his children were born.<sup>3</sup> The journal entries unfortunately give little insight into Sawyer’s actual working methods, and are perhaps more revealing of the artist’s temperament, taking pleasure in habitual activities, and in the act itself of recording them.

There is more to be learned about Sawyer’s method, which lies in the paintings themselves. To date there are no known formal investigations into the materials and techniques of the artist. This project involved the visual examination and scientific analysis of one representational portrait from Sawyer’s oeuvre, *Portrait of Clark Wright*, from 1886 (*Fig. 1*). Previously, over twenty of Sawyer’s paintings have been treated in the Master of Art Conservation (MAC) program at Queen’s University, and by local conservator, Amanda Gray. In this study, condition reports for fifteen of these paintings were collected and their contents compared. Noted materials,

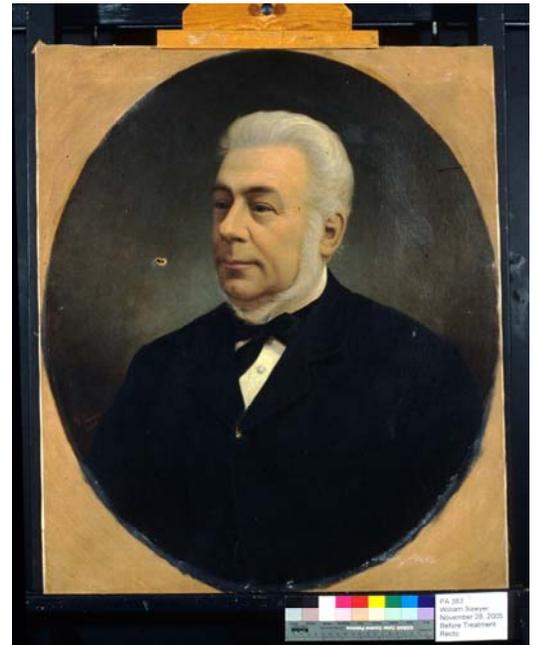


Figure 1. *Portrait of Clark Wright*, William Sawyer, 1886.

techniques, degradation behaviour and treatments were organized to form a body of information that characterizes Sawyer’s techniques for creating paintings and the ways that his paintings have aged. Visual and scientific examination of Sawyer’s *Portrait of Clark Wright* and the artist’s paint box palette supported the condition report findings in many cases. Information gathered from existing literature on the artist’s life, the condition reports survey and visual and scientific examination of *Portrait of Clark Wright* and Sawyer’s palette are outlined below.

### *Sawyer’s Artistic Career*

Sawyer received no formal art education, and must have been inspired by the artistic activity he saw around him as a boy in Montreal, for he persevered to teach himself to draw and paint by copying prints in books. This early enthusiasm for making art is telling of Sawyer’s lasting dedication to the profession. Driven by his love for painting, by his duty “to declare and advance the usefulness of his calling,”<sup>4</sup> and by the need to make ends meet, Sawyer’s career-wide output of work was tremendous. By 1845, the twenty-five year old artist was earning commissions painting copies and portraits in Montreal, although the amateur wages he received from these were not enough to sustain his business.<sup>5</sup> Eager for more work, Sawyer embarked on what would become a vital source of patronage in his career, working as an itinerant artist.

Sawyer was not unique in this endeavour; it was common for artists working in Canada at this time to travel to earn a living, as many towns and cities were in their infancy and consequently did not provide a lasting market for art. Beginning in the late 1840s, Sawyer began travelling to communities along the St. Lawrence River and the north shore of Lake Ontario, advertising his portrait business and setting up studio in hotels for the duration of his stay—until all the work was exhausted. He would then pack up and move on to another town.<sup>6</sup> This line of work became all the more necessary after Sawyer married in 1851 and began a family soon after. His advertising paid off; in the daybooks we often find Sawyer juggling a handful of commissions at once, and executing portraits in a matter of days between the patron’s first sitting and Sawyer’s personal delivery of the finished work. Today’s commuters would appreciate Sawyer’s dedication to his profession by tracing his frequent routes between communities spanning 500 kilometers by train or steamer (*Fig. 2*).<sup>7</sup> Luckily, Sawyer was painting in an age that had seen recent innovations in art materials created for convenience and portability.

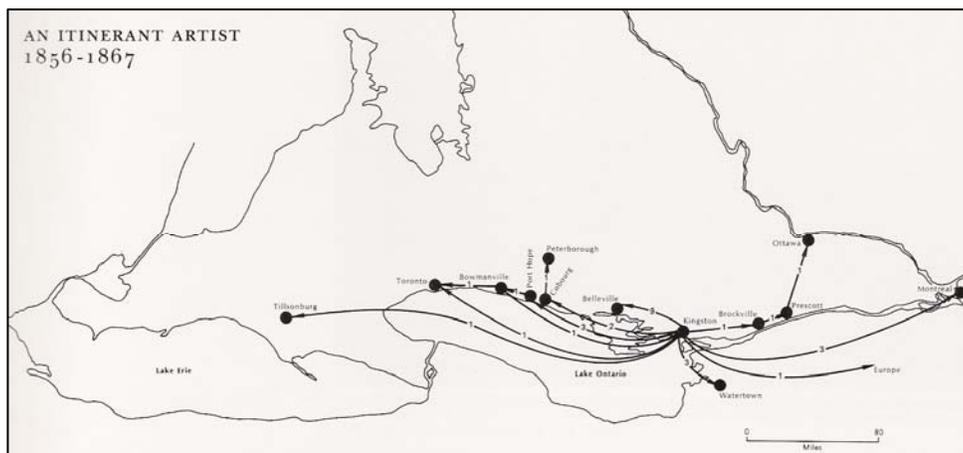


Figure 2. Map of Sawyer’s itinerant activity

Notes from the conservators who examined the fifteen Sawyer portraits indicated that he purchased paints and ready-made painting supports from commercial suppliers. The nineteenth century saw great advances in the industry of manufacturing art supplies. Where artists in the past had been responsible for preparing their own materials from raw sources, new mechanized processes removed this step from the artist's method.<sup>8</sup> For Sawyer, this meant the convenience of purchasing ready-made supplies at his local merchant. The City of Kingston directory for the year 1862-3 lists a handful of hardware suppliers, including *A. & S. Chown*, that advertised "Paints, Oils, Colours, Glass and Putty" in "a large and well-assorted stock constantly on hand."<sup>9</sup> Sawyer would have been part of the earliest generation of painters to benefit from the collapsible paint tube. Several tubes of paint are contained in Sawyer's paint box that now belongs to the Agnes Etherington collection. Interestingly, a strikingly similar box is found in this self-portrait of the artist in his studio from 1884 (*Figs. 3 and 4*), which is only five years before Sawyer's paint box was retrieved from his studio. It is quite possible that these are the same boxes.



Figure 3. *The Artist Inspired*, William Sawyer, 1884.



Figure 4. Sawyer's paint box.

Sawyer is known to have made use of another nineteenth century innovation—the photograph—to aid in his painting method. Sawyer used photographs of his subjects as studies for his portraits to cut back on their sitting time.<sup>10</sup> The artist insisted, however, that he did not partake in the technique used by some of his contemporaries of transferring a photographic image onto a sensitized canvas and painting over it. It seems this declaration may have been more of a gimmick for selling his business than a moral misgiving. A newspaper announcement of his business in Montreal from 1858 reads:

Mr. Sawyer desires it to be particularly understood that his portraits are veritable oil paintings, painted by the hand directly on to the canvas and not a photograph of the person faintly taken on the canvas and then painted thinly over as is so frequently done by inferior artists and palmed off as genuine oil portraits. At the same time Mr. Sawyer

does not ignore photography as a valuable assistant, but will not tolerate the questionable use of it as a foundation for an oil painting.<sup>11</sup>

Despite this firm assertion, some of Sawyer's paintings certainly appear more photographic than others, a stylistic characteristic that will be discussed in further detail below.

With tools for the nineteenth century artist at hand, and a technique that satisfied the popular view of what constitutes a "veritable oil painting," Sawyer steadily painted his way to earning an esteemed role in Kingston's social fabric. From the mid-1850s Sawyer based his business out of a studio at number 72 Earl Street (*Fig. 5*),<sup>12</sup> where he earned some important commissions for the government of Canada and the City of Kingston, work that kept him busy through the 1860s.



Figure 5. Sawyer's home and studio at 72 Earl Street.

In the early 1870s Sawyer set up his first official Photographic and Art Studio in Montreal and continued with itinerant activity, before finally settling down in Kingston in the 1880s, where he stayed for the remainder of his days working at a gentler pace: assisting a local decorative painter, teaching art lessons, continuing his portrait business, and even trying his hand at restoring pictures.

#### *Characteristics of Sawyer's Method and Style*

Information gathered from the fifteen condition reports surveyed for this study reveal one more important aspect of Sawyer's method: that he devised a formula for painting efficiently. The paintings surveyed, which span the greater part of Sawyer's career between 1855 and 1888, share many stylistic and material similarities. The results of scientific analysis of Sawyer's *Portrait of Clark Wright* supported the condition report findings in many cases. The findings are summarized below, with emphasis on the most typical characteristics and other noteworthy observations. Characteristics were considered

according to the year of the painting to look for an evolution of style or trends at specific time periods.

### Stretchers

The majority of paintings surveyed had 4-member pine stretchers with butt-ended mortise and tenon joints, expandable in two directions independently by means of wooden keys (*Fig. 6*). It is likely that Sawyer purchased his stretchers in the form of bars requiring simple assembly. Two paintings from the late 1880s had metal expansion devices on the corners, marked “1885, Dec. 17”. It seems that even at the end of his career, Sawyer was trying out the latest in art supply technology.

### Supports

All paintings were on tightly woven, fine linen canvas, mostly tabby weave. Three of the paintings had canvas stamps denoting Reeves & Sons and George Rowney colourmen, two of the major producers of artists materials of the day, based in London, England.<sup>13</sup> Any of their supplies could have been imported by local merchants and dealers in the communities that Sawyer visited.

### Preparation

Preparation was consistent across all of the paintings. All featured a white to off-white ground, thinly and uniformly applied, that in most cases was noted to reveal the canvas texture below. The descriptions are consistent with common commercial grounds of the day, a mixture of lead white pigment and linseed oil. FTIR spectra of ground sample from Sawyer’s *Portrait of Clark Wright* identified both of these components. Other clues indicate the likelihood of a mechanical process of applying the ground: coverage to just before the selvage edges, splashes of ground on the reverse of some canvases and extra tack holes that indicate previous stretching. Specialist suppliers of this period, including the forementioned Reeves & Sons and George Rowney, produced prepared canvases available in rolls, pre-cut or pre-stretched on frames.<sup>14</sup>

### Preparatory Sketches

The examination of *Portrait of Clark Wright* gave no indication that Sawyer sketched out his sitter before going ahead with the painting. Infrared examination did not reveal any sign of an underdrawing, although a pencil holder tool and pencil stubs were amongst the items in the paint box (*Fig. 7*). An x-ray of the painting shows no major deviation from the final depiction, which supports the theory that Sawyer painted quickly and skillfully relying only on photographic aids (*Fig. 8*).

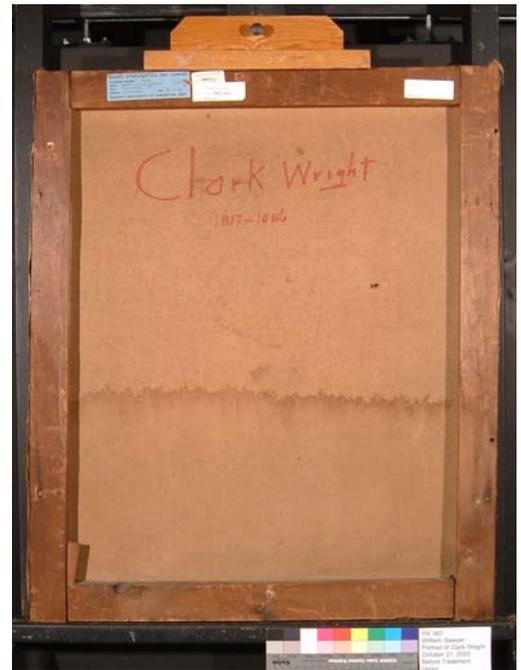


Figure 6. *Portrait of Clark Wright* verso.



Figure 7. Pencil holder in Sawyer's paint box.



Figure 8. X-ray of *Portrait of Clark Wright*

### Palette

Sawyer's paint box contains a remarkably tidy palette (*Fig. 9*), which is revealing of Sawyer's late method of mixing his paints. Pure paints are laid out from light to dark, with varying intermittent mixtures of neutral beiges, browns and flesh tones. This palette certainly visually represents the typical colours found in Sawyer paintings; colours are limited to earthy browns, grays, flesh tones, black and white, with some primary colours used to enhance the backgrounds. A tube of Winsor & Newton Flake White paint was one of two legible paints in Sawyer's box (*Fig. 10*), indicating his use of lead white to lighten his colours. The identification of the other colours in *Portrait of Clark Wright* was more tricky. By the end of Sawyer's career there were well over 100 colours of tubed oil paint available from Winsor & Newton. Polarized light microscopy coupled with x-ray fluorescence analysis of the pigments in *Portrait of Clark Wright* identified probable Ivory Black in the dark areas and iron oxide pigments in the browns.



Figure 9. Sawyer's palette.



Figure 10. Winsor & Newton 'Flake White' paint tube from Sawyer's paint box.

### Paint and varnish application

Sawyer's paintings are typically painted in thin, broad areas of colour with little to no visible brushstrokes. Cross sections from black and gray design areas of the *Clark Wright* portrait show a very thin application of paint over thicker, perhaps two or three coats of preparation (*Fig. 11*). It makes sense that Sawyer would paint thinly in order to keep pace with his busy output of paintings. Thicker areas of paint were reserved only to enhance light effects and texture on jewelry and facial features. The oval edge of *Portrait of Clark Wright* reveals the build up of layers: ground, then light brown, black paint, and varnish (*Fig. 12*).

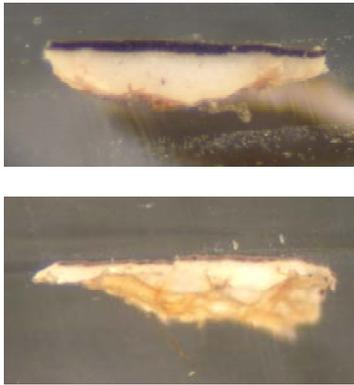


Figure 11. Cross sections from black and gray design areas of *Portrait of Clark Wright*



Figure 12. Detail from middle-left edge of *Portrait of Clark Wright*, showing paint layers.

Less conclusive results can be made about Sawyer's use of surface coatings, as many of the paintings reviewed had received previous treatment that may have included full or partial removal of original varnish. Four paintings that showed no evidence of previous restoration displayed what the conservators visually assessed to be discoloured natural resin coatings; copal oil and mastic varnishes were both used throughout the century.<sup>15</sup> Sawyer might not have even applied the original surface coatings on his paintings. Given the necessary drying time before applying a finishing resin varnish, and Sawyer's travelling practice, he may very well have left this responsibility with his patrons. It was not uncommon for such tasks as paintings maintenance to be allocated to the servants of a well-to-do household in Sawyer's era.<sup>16</sup>

### Stylistic Trends

Sawyer paintings are likely to be signed with his trademark 'W. Sawyer' followed by the date of the painting. Of the paintings studied, the red or black painted signatures were found in different inconspicuous locations in the lower portion of each painting (*Fig. 13*). While Sawyer was unquestionably talented at rendering the faces and, at times, the character of his sitters, he was never very good at painting hands. They show a typical sausage-like appearance, and are often tucked away (*Fig. 14*). There is a grander likeness to Sawyer portraits than these small details, in the form of his limited neutral palette, and the three-quarter or bust-length compositions, with attention given to the faces and less to

the backgrounds. His later painting compositions have been likened to the aesthetics of photography,<sup>17</sup> which is a reasonable parallel to draw given the artist's "double-edged craft".<sup>18</sup> Sawyer's paintings likely intentionally emulated the aesthetics of photographs, which was the fashionable norm of portraiture of the day. Finally, many of Sawyer's portraits were a rectangular format with an oval design area fitted for a specific gilt frame design (Fig. 15), which is thought to have been produced by a frame maker in Kingston.<sup>19</sup>

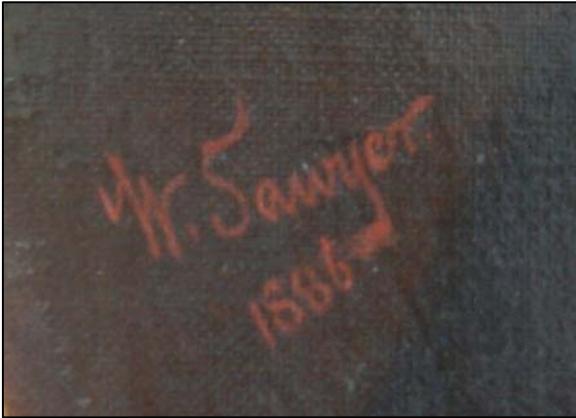


Figure 13. Sawyer's signature.



Figure 14. Typical Sawyer "sausage" hand.



Figure 15. Typical gilt frame found on Sawyer oval portraits.

### *Typical Degradation Behaviour*

#### Natural Ageing

Most of the paintings surveyed showed problems that today's conservators would anticipate for century-old paintings naturally ageing in uncontrolled conditions. Many of

the problems observed in the Sawyer paintings are in line with Joyce Townsend's characterization of degradation problems in nineteenth century paintings. As Townsend notes, conservators are generally wary of these paintings for their notorious sensitivity to solvents, temperature and moisture.<sup>20</sup> The Sawyer paintings displayed stretcher shrinkage and loosening of the keys, causing the canvas to slacken on the support, seen in the raking light photograph of *Portrait of Clark Wright* (Fig. 16). Canvas fibres across all paintings surveyed were brittle and weakened from cellulose degradation, and a handful of paintings had minor tears or punctures. The paint films were generally intact and stable, with only minor scratches, abrasions and a dulled appearance from significant accumulation of surface grime. Paintings displayed slight-to-considerable crack patterns as a result of ageing, and in some cases due to the slackness of the support (Fig. 17). Most surface coatings were yellowed and grimy, regardless of whether they were considered to be original or from a newer restoration.



Figure 16. *Portrait of Clark Wright* in raking light.

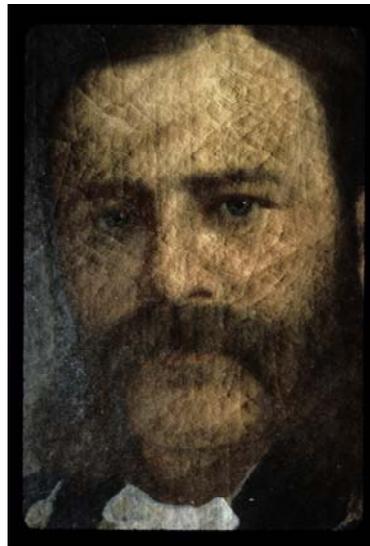


Figure 17. Detail of *Portrait of Robert J. Carson*, 1881, in raking light, showing crack patterns.

### Use of Bitumen

Four paintings executed between 1855 and 1862 displayed evidence of the artist's use of bitumen, identified by localized shrinkage cracks in dark areas of the design (Fig. 18). Bell also notes Sawyer's increased usage of the pigment around this period.<sup>21</sup> Bitumen is an organic, tarry pigment that was popularly used in the nineteenth century to enhance glazes. Bitumen causes problems in paint films because the material never completely dries, which can lead to its migration and disfiguring shrinkage cracks known as 'alligating.'<sup>22</sup> The conservators who worked on Sawyer's paintings affected by bitumen noted difficulties in removing varnish over these areas without solubilizing the paint beneath. Fortunately, Sawyer seems to have abandoned its extensive use by the mid-



Figure 18. Bitumen damage on one of Sawyer's self-portraits.

1860s, although a paint tube which legibly reads: "Winsor & Newton; Asphaltum", a closely related tarry pigment,<sup>23</sup> is found among the contents of the paint box that Sawyer supposedly used up until his final days.

#### Water Damage

The most problematic trait noted in surveying the Sawyer paintings lies in an inherent weakness that Sawyer likely had no direct hand in creating: the hygroscopic glue size layer. An extreme example of water-damage to a Sawyer painting was the subject of a JAIC publication from 1992 by authors Gianfranco Pocobene and Ian Hodkinson. This article highlights the disastrous effects on Sawyer's *Portrait of Rev. Professor James Williamson* (Fig. 19) after it was almost completely saturated in a 1984 flood in the storage vault of the Agnes Etherington Art Centre. The authors explain that nineteenth century

manufactures of artists' canvases popularly applied glue size as a discrete gel layer on top of the fabric rather than infused into its fibres. This layer became the source of structural failure in paintings that came in contact with moisture. Instead of protecting the fibres from water uptake, this type of size softens with moisture and loses its adhesion to the canvas. As the canvas shrinks to accommodate tensions set up by its swelling fibres, these forces are then transferred to the paint layer which delaminates from the canvas.<sup>24</sup> Four of the paintings surveyed displayed paint and ground losses and tenting due to water damage, the most severe cases of which proved problematic to consolidate successfully.



Figure 19. Severe water damage to *Portrait of Rev. Professor James Williamson*, William Sawyer, 1887.

#### *Conclusion*

William Sawyer seems the quintessential Canadian nineteenth century professional artist. He traveled to gain enough work to live off of and made use of the latest commercial art supplies on the market. His quickly executed paintings reflect his mode of work, and their style accords to the aesthetics of portraiture of the day. Finally, the problems his paintings have faced through ageing are typical of nineteenth century paintings. This information is useful, as there is much written in the literature on nineteenth century paintings that can

help in identifying materials and anticipating problems in conservation treatments. In addition, characterizing the stylistic trends of Sawyer paintings may be useful in addressing problems of attribution in the future.

Several Sawyer paintings are housed in the collection at the Agnes Etherington Art Centre, and are in need of treatment before they will be suitable for future exhibition. A recent donation of more Sawyer paintings from a living relative has recently been made to the art centre. It is anticipated that this will re-spark interest in Sawyer paintings, likely bringing more into the Queen's Art Conservation program to be treated in upcoming years. Sawyer's photographs of nineteenth-century Kingston and surrounding communities and portraits of local citizens and politicians warrant him recognition as an important figure in documenting life and times during the early years of Canada's confederation.

### *Acknowledgements*

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### *Notes*

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<sup>1</sup> Words from a review in *The Daily British Whig* after a prize-winning entry into an 1863 Kingston exhibition. Michael Bell, *W. Sawyer portrait painter* (Kingston: Agnes Etherington Art Centre) 1978. p.16.

<sup>2</sup> Sawyer was also an avid photographer.

<sup>3</sup> Sawyer and his wife, Eliza Jane Baxter, had ten children in total.

<sup>4</sup> Sawyer's remarks on his philosophy of making art from a public lecture he gave in Kingston and Montreal in the 1860s. Bell, p.84.

<sup>5</sup> Bell, p.8.

<sup>6</sup> *Ibid.*, p.11.

<sup>7</sup> Figure from Bell, 40.

<sup>8</sup> Leslie Carlyle, *The Artist's Assistant. Oil Painting Instruction Manuals and Handbooks in Britain 1800-1900* (London: Archetype Publications) 2001. p.9.

<sup>9</sup> T. Hutchinson, *City of Kingston Directory 1862-3*, advertisement for A. & S. Chown.

<sup>10</sup> Bell, p.87.

<sup>11</sup> Bell, p.21.

<sup>12</sup> Figure from Queen's University Archives.

<sup>13</sup> Carlyle, p.8.

<sup>14</sup> Carlyle, p.186.

<sup>15</sup> *Ibid.* p.241.

<sup>16</sup> *Ibid.* p.250.

<sup>17</sup> Bell, p.25.

<sup>18</sup> Bell, p.20.

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<sup>19</sup> Amanda Gray. Personal communication, November 2005.

<sup>20</sup> Joyce H. Townsend, "The characterization of nineteenth century paint," *Conservation science in the UK: preprints of the meeting held in Glasgow* (London: James & James) 1993. p.33.

<sup>21</sup> Bell, p.25.

<sup>22</sup> R.L.Gettens, and G.L. Stout, *Painting Materials: A Short Encyclopedia* (New York: Dover Publication) 1942. p.94.

<sup>23</sup> Carlyle, p.479.

<sup>24</sup> Pocobene, G., and Ian Hodkinson, "Use of a Pressure-Sensitive Adhesive to Facilitate the Transfer of a Severely Tented Painting," *Journal of the American Institute of Conservation*, vol.1, number 2, article 2 (1992) p.5.

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