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*Carnation, Lily, Lily, Rose* and the process of painting, Rebecca Hellen and Elaine Kilmurray
Carnation, Lily, Lily, Rose and the process of painting

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Acknowledgements

The authors would like to thank Dr Joyce Townsend, Senior Conservation Scientist, Tate (co-author of an essay on Sargent’s Materials and Techniques for volume 9 of the Sargent catalogue raisonné); William Brown, Chief Conservator, and Noelle Ocon, Conservator of Paintings, North Carolina Museum of Art, for the generous access they gave us to X-radiography of Sargent’s portrait of Mrs Barnard, for discussions on the subject, and for their help in stitching together the X-ray plates; Chloe Sarazin, student intern, Tate Paintings Conservation, for her help in the analysis of the X-radiograph of the portrait of Mrs Barnard and for assistance with images.

Marcella Leith, Rod Tidnam, Joe Humphrys, Rose Hillson Summers, and Mark Heathcote in Tate Photography, for their support, photography, advice, and their help in stitching together the X-radiograph for Carnation, Lily, Lily, Rose; Tate Paintings and Frames Conservation, in particular Adrian Moore, for their comments and support.

At University College London, Professor of Photogrammetry and Laser Scanning, Stuart Robson, for calculating measurements in the photograph of Sargent painting Carnation, Lily, Lily, Rose, and Arts Entrepreneur in residence, Gregory Thompson, for facilitating this.

Paul Rafferty for his generous loan of Sargent’s paint box and two palettes and for stimulating us to conduct research into Sargent’s materials and techniques.
At Broadway, we would like to thank Andrew Dakin, Dr Malcolm Rogers CBE, and John Noott for their kind interest, local knowledge, and hospitality. We also thank Christopher Calnan for his attentive eye and his photography. We extend special thanks to Richard Ormond for his expertise, encouragement, and advice, all of which have been invaluable.

Our thanks also to the editorial group of *British Art Studies*, especially Hana Leaper, Sarah V. Turner, and Martina Droth.

**Cite as**

Rebecca Hellen and Elaine Kilmurray, "*Carnation, Lily, Lily, Rose* and the process of painting", British Art Studies, Issue 2, https://dx.doi.org/10.17658/issn.2058-5462/issue-02/rhellen-ekilmurray
“One Object” is a British Art Studies series that uses an object from a collection as a starting point for collaborative research. Rebecca Hellen and Elaine Kilmurray have co-authored this essay based on their recent analysis of *Carnation, Lily, Lily, Rose* (1885–86) by John Singer Sargent

**Introduction: a sequence of moments**

“Never for any picture did he do so many studies and sketches.”

![Figure 1.](image)

**Figure 1.**  
John Singer Sargent, *Carnation, Lily, Lily, Rose*, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)

This “One Object” article on John Singer Sargent’s *Carnation, Lily, Lily, Rose* (1885–86) brings together recent technical examination of the painting with the “patchwork” of moments, ideas, and themes that inform the history of its
making. A variety of observations were recorded by artists and writers who were staying in or visiting Broadway in Worcestershire when Sargent was making his “big picture” there over the late summers and early autumns of 1885 and 1886. By connecting the research carried out in the conservation studio with research from the archive, we present new information about Sargent’s working methods. In considering technical information in tandem with Sargent’s preparatory work, this article explores the evolution of one of Sargent’s best-known paintings.

Carnation, Lily, Lily, Rose (fig. 1) was included in the exhibition Sargent: Portraits of Artists and Friends at the National Portrait Gallery, London, in 2015. The painting was not immediately rehung at Tate Britain when the exhibition closed. Instead, it was brought to the conservation department, where it remained for several months, giving us the opportunity to consider it, unframed and unglazed, under varying conditions of light, and to interrogate it physically. 1 Having direct and prolonged access to a work of art which is usually distanced from us by its framing and public display brought about a rich array of discussion and suggested new routes of enquiry about how the work had been developed by the artist. The wide range of material and information generated by this research project is assembled here, and it reveals that Carnation, Lily, Lily, Rose is not so much a single “big picture” or “one object”, but is the outcome of a sequence of different materials, processes, and creative moments coming together.

**Sketchy beginnings**

It is August 1885. During a boating holiday on the River Thames with the American artist Edwin Austin Abbey, Sargent is captivated by a scene at the village of Pangbourne in Berkshire of two little girls lighting lanterns at dusk in a country garden. The holiday was curtailed when Sargent gashed his head at Pangbourne Weir, but the vision for a large-scale work had taken hold. Abbey took Sargent to stay with another American artist, Frank Millet, and his family at Broadway in Worcestershire to aid his recovery.

The two artists arrived at Broadway on 17 August and, almost immediately, Sargent began expressing his ideas. The garden of Farnham House, the house the Millets were renting, faced the village green and became the initial setting for the painting Sargent later titled Carnation, Lily, Lily, Rose. The back of the house is visible in an early drawing of the garden, with a roughly indicated rosebush and some pots and lanterns (figs. 2, 3). Millet’s sister, Lucia, wrote to her parents on 24 August that Sargent was “painting in our garden and putting Kate [the Millets’ five-year-old daughter] in as the figure”. 2 Four faint sketches on a single sheet in a sketchbook (fig. 4) indicate a
single figure in a garden with Farnham House visible in the background. The picture began as a single-figure composition with a realistic setting, but over time it would develop into something more complex, ambitious, and allusive.

Figure 2.
John Singer Sargent, Study for “Carnation, Lily, Lily, Rose”, 1885, graphite on paper, 24.7 x 34.6 cm, Harvard Art Museums/Fogg Museum, Gift of Mrs Francis Ormond (1937.7.21.5) Digital image courtesy of Elaine Kilmurray

Figure 3.
View of the back of Farnham House, Broadway, taken from the garden, 2015 Digital image courtesy of Christopher Calnan
Figure 4.
John Singer Sargent, Four sketches for “Carnation, Lily, Lily, Rose”, 1885, charcoal on paper, 24.7 x 34.6 cm Digital image courtesy of Harvard Art Museums/Fogg Museum, Gift of Mrs Francis Ormond (1937.7.21. 12)

Paints not bright enough
By 6 September Sargent was using two models, the daughters of the illustrator Frederick Barnard; Dorothy (Dolly), aged eleven, and Marion Alice (Polly), aged seven. Lucia recorded the change: “Mr Sargent one of the artists here is painting the Barnard children and Mrs Barnard, her sister Mrs Faraday and I have been making them some white dresses.” Having changed from one model to two, the artist experimented with two key elements of his composition in a number of studies in pencil and oil: how the girls should be posed in relation to each other, and in what format his canvas should be set. One thumbnail sketch represents a horizontal design, where the figures face each other and their relationship closely approximates to those in the finished work (fig. 5), but others show different options.

Several pencil studies illustrate ideas for a rectangular format, such as the sketch at the upper right in fig. 6 and three of the four sketches in fig. 4. The pose of the sisters changes repeatedly as Sargent develops the idea for the painting. The chronology of the studies in oil and pencil is difficult to establish, but these drawings suggest that work on the position of the figures preceded the decision to compress the picture space, rendering it portrait in format, but almost square.
Two pencil studies by Sargent on one (fig. 6) sheet show further deliberation. The sheet contains one almost-square and one rectangular composition, and in both the girls are posed facing in the same direction towards the left. One oil study (fig. 7), the only image showing the girls with their backs to each other, probably represents a relatively early idea for the composition. Two further oil studies, one of Dolly and one of Polly (fig. 8), show the figures in poses close to those in the finished picture, while another of Polly (fig. 9) shows her in a similar pose to that in the finished picture, with lilies, lanterns, and a forked rosebush. Sargent is circling around his subject and its motifs, building up image after image and recording them in different media.
Figure 7.
John Singer Sargent, Study for “Carnation, Lily, Lily, Rose”, 1885, oil on canvas, 59.7 x 49.5 cm Digital image courtesy of private collection (Yale 872)
Figure 8.
John Singer Sargent, Two images: John Singer Sargent Sketch for “Carnation, Lily, Lily, Rose”, 1885, oil on canvas, 50.2 x 37.8 cm Digital image courtesy of private collection (Yale 874)
Correspondence confirms that Sargent was determined to paint *en plein air* as daylight faded, but found the reality of it a struggle. He wrote to his sister Emily of the challenges of capturing the colours he was determined to convey at twilight: “I am still here and likely to be for some time, for I am launched into my garden picture . . . Fearful difficult subject. Impossible brilliant colours of flowers and lamps and brightest green lawn background. Paints are not bright enough, & then the effect only lasts ten minutes.”

**Portrait or landscape?**

Interpretation of X-radiographic evidence from a portrait painted at Broadway reveals new and more detailed information about a preliminary study for *Carnation, Lily, Lily, Rose* in a horizontal format. Although
Carnation, Lily, Lily, Rose was Sargent’s principal preoccupation during his two seasons at Broadway in 1885 and 1886, he also painted a small group of landscape, flower, and figure studies and several portraits which are significant in their relation to the “big picture”. Among the latter were two portraits of Alice Barnard, the mother of his two models. One portrait is in the collection of the Tate, London (fig. 10), and the second is in a private collection (fig. 11). X-radiographic examination of the latter (fig. 12) shows the preliminary study for Carnation, Lily, Lily, Rose in a horizontal format. The underlying image is difficult to read, as it is obscured by the concentration of lead white pigment used to depict Mrs Barnard (her dress in particular); but outlines of the figures at centre and upper right, facing each other with a line of lanterns snaking around them, are discernible, and the similarity to the thumbnail sketch represented in fig. 5 is strong.  

Figure 10.
John Singer Sargent, Mrs Frederick Barnard, 1885, oil on canvas, 104.1 x 57.1 cm Digital image courtesy of Tate, 2016 (N05901)
Figure 11.
John Singer Sargent, Mrs Frederick Barnard, 1885, oil on canvas, 98.1 x 71.1 cm Digital image courtesy of private collection, USA (Yale 160)
It has not been possible to establish a linear chronology for this intense period of the working out of compositional ideas. Nonetheless, it is clear that in early September 1885 Sargent experimented with a horizontal composition in pencil sketches and in the oil sketch, subsequently painted over (figs. 11, 12), but that when orienting the large canvas to make his start on the “big picture”, he began his work in “portrait” format. The physical evidence we have revealed is at the tacking edges: there is very little paint on the left and right and where there is, the composition tails off (fig. 13); at top and bottom we see more paint including floral motifs lapped around the back of the stretcher. This is where the majority of the unwanted image was truncated and lost when Sargent almost squared the canvas.

Written evidence for the above also exists in the form of a letter from Abbey of 28 September, in which he notes the size of the canvas, suggesting a portrait format, and describes the pictorial elements of the composition and the challenges of fugitive light:
Sargent has been painting a great big picture in the garden of Barnard’s two little girls in white lighting Chinese lanterns hung among rose trees and lilies. It is seven feet by five [it is likely that Abbey is estimating the size of the canvas with height coming before width], and as the effect only lasts about twenty minutes a day—just after sunset—the picture does not get on very fast.  

The near-square format of the finished work, the placement of the figures (though they are closer together in the finished work) and the line of lanterns are also recorded in a small pen-and-ink sketch (fig. 14). The steps that led to its final size of five feet, seven inches by five (1.73 x 1.52 m) are discussed later.

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**Figure 14.**
Technical examination allowed us to explore how all this developed on the main canvas. Comparing infrared, X-radiographic, and raking light images showed clearly that the figures of the girls and the standard rose were fixed early on, and that the decorative patterning of lanterns and flora were in flux across the whole time Sargent was completing his picture (figs. 15, 16, 17).

**Figure 15.**
John Singer Sargent, Infrared photograph of “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
Figure 16.
John Singer Sargent, X-radiograph image of “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
Edwin Blashfield, a fellow artist, described aspects of Sargent’s process. Importantly, he recorded that Sargent scraped back his painting repeatedly. This practice would not necessarily be identifiable to us without evidence from contemporary sources; investigating the absence of something by scientific means is tricky. Blashfield’s written account emphasizes Sargent’s efforts to paint in specific light conditions and that his ways of achieving this, although spontaneous in some respects, were also planned and considered:

Little Pollie [sic] and Dollie [sic] Barnard . . . would begin to light the Japanese lanterns among the tall stemmed lilies. For just twenty-five minutes, while the effect lasted, Sargent would paint away like mad, then would carry the canvas in, stand it against the studio wall and we would admire. In the morning when after
breakfast we went into the studio we always found the canvas scraped down to the quick. This happened for many days, then the picture, daughter of the repeated observation and reflection, suddenly came to stay.  

Pentimenti identified in X-radiographic and infrared images and by the location of drying cracks (fig. 18), indicate the extent to which Sargent adjusted his image through different painting processes: scraping back, painting out, and painting new motifs on top. For example, X-rays show that two lilies now painted out at the left, were each changed to a rose (fig. 19); the change is also visible in cross-section (figs. 20, 21). A lantern at the right was originally painted tall and rectangular, but its position was shifted and its shape changed to circular (fig. 22), as can be seen in both infrared photography and the X-radiograph. Scraping back is possibly evidenced by some abrupt horizontal features also visible in this area of the X-ray.
Figure 18.
John Singer Sargent, Detail of “Carnation, Lily, Lily, Rose” with drying cracks in green leaves, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
Figure 19.
John Singer Sargent, Pentimenti, details of lilies changed to roses, corner upper left in normal light and X-radiograph, from “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
Figure 20.
John Singer Sargent, Cross-section of pale pink rose painted over lily, visible light, from “Carnation, Lily, Lily, Rose”, 1885-86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)

Figure 21.
John Singer Sargent, Cross-section of pale pink rose painted over lily, ultraviolet fluorescence, from “Carnation, Lily, Lily, Rose”, 1885-86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
In addition, certain aspects of the composition show fewer alterations. Some which appear less dense in the X-radiograph were painted at an early stage; for example, thinly painted lilies, Polly’s face, and the figures of the girls (fig. 23). They all appear as wet-in-wet applications in cross-section, but with a relatively simple stratigraphy with one range of colours. Other thicker areas, perhaps applied during the second Broadway season, show, in cross-section, pink wet-in-wet layers sitting on top of green ones, where a rose has been added on top of the grassy background (fig. 24). At the upper right, a lily is revealed to have been applied later in the process by its having adhered poorly to the already dried green paint below: the paint curls up in small local drying cracks (fig. 25). Certain textures in the paint which are clearly visible in raking light show that Dolly’s face, neck, and collar were further built up, and there is some adjustment to the profile of her nose (fig. 26). Whilst the technical clues vary in each part of the painting, together they build a consistent story of Sargent’s determination to paint “au premier coup”, and highlight just what perseverance and repetition that really took. 9
Figure 23.
John Singer Sargent, Detail of X-radiograph, centre right, showing the faces of both Dolly and Polly, from “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)

Figure 24.
John Singer Sargent, Cross-section of pale pink rose painted over green paint, visible light, from “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
Figure 25.
John Singer Sargent, Photomicrograph of upper year 2 lily drying feature where paints curls up, from “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
Perhaps even more surprising is that for all Sargent’s efforts at Broadway to paint the composition *en plein air*, it is clear that two lanterns, one depicted unlit at the upper left, and another glowing brightly on the right, were painted back in his London studio and subsequent to framing. This is apparent because the lanterns stop short of the edge of the canvas, where a slip or inner frame has covered the front edges by about 2.5 centimetres. Another closed lily was painted over with green to provide space for the inscription of the signature in red at the upper left. This was probably done at a very late stage, possibly also after framing.
A rare photograph

Unusually at this date in Sargent’s career, there is a photograph of him at work on *Carnation, Lily, Lily, Rose* (fig. 27). He is painting lilies in a pot that is balanced on a stool in front of a building. The photograph makes it clear that Sargent is treating the painting of his “big picture” by approaching his motifs one at a time—in a sequence of moments. The angle of the canvas means that the composition is only partially legible. We can see the figures are in position, and assume the rest is in the process of change, but what else in our understanding of process can the photograph help us with?

![Figure 27.](image)

Unidentified artist. Photograph of Sargent Painting “Carnation, Lily, Lily, Rose” at Broadway in Worcestershire, gelatin silver print on paper, 11.2 x 9.4 cm Digital image courtesy of Harvard Art Museums/Fogg Museum, Gift of Mrs Francis Ormond (1937.7.27.1.A)
What the photograph does reveal is nineteenth-century inventiveness, as it shows Sargent with his canvas on a “Hook Easel”—a light-weight piece of *plein air* equipment. It would have helped enormously to have such a flexible and easy system as Sargent hopped from one location to another, repeating the process daily, when the weather allowed. The holes where eyelets were screwed into the stretcher, allowing the two poles to be fixed in place, are still visible at the edges when the painting is unframed. The bottom edge of the stretched canvas itself formed the third piece of this simple, *clever tripod system*.

![Figure 28.](image)

**Figure 28.**
Old Sheikh’s restaurant (formerly the barn, Farnham House), Broadway, Worcestershire, 2015 Digital image courtesy of Andrew Dakin

Sargent’s second late summer/autumn at Broadway was spent at Russell House (fig. 28), but on-site research in the two Broadway gardens failed to identify the building represented in the photograph. However, a short walk between the two houses (they are only about 180 metres apart) resolved the matter. The photograph (fig. 27) shows Sargent painting on the roadside, with the side elevation of Farnham House behind him (this part of the building was a barn at the time). There have been some modern alterations to the door and window, but the dormer window visible in the photograph is still there, and the footpath at the base of the walls and the position of the drain and drainpipe are consistent. The site, between the two principal houses, does not help us ascertain whether the photograph dates from 1885 or 1886. The height of the present building and Sargent’s own height (1.8 m) have been used to estimate the size of the canvas in the
Professor Stuart Robson suggests it is five foot, ten-and-a-half inches (1.56 m) high—that is, approximately four inches (10 cm) taller than the finished painting. The estimation of measurements we gain from the photographic evidence suggests there was a sequence of resizing; careful incremental choices were made about the size and format of the image.

In the photograph, a fair amount of excess canvas appears to be folded over at the back of the stretcher. The accrued evidence leaves us with two good estimates for the size of the canvas at the start (from Abbey, who suggests seven feet by five/2.13 x 1.52 m) and in the middle (from the photograph, height five foot, ten-and-a-half inches/1.56 m), with which to compare the final dimensions (five feet, seven inches by five feet/1.73 x 1.52 m).

One interpretation of this evidence is that Sargent began on a substantially larger “working stretcher” in 1885. Then, possibly by 1886, he reduced the working stretcher to dimensions that approximate closely to the finished size and format (perhaps the stage represented in the photograph). On returning to London, and once a decision had been made as to framing, the canvas was then stretched to its final size, onto the good quality bespoke expandable wooden stretcher it retains today, probably by an assistant. The edges are trimmed neatly and—as we know from other examples—it is unlikely this was completed by Sargent. This reformatting of his image by resizing the canvas is a continuation of the dilemmas we see Sargent circling around in his preparatory workings.

**Family mythology**
Figure 29.
John Singer Sargent, Detail, X-radiograph, centre right, showing tear, “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm
Digital image courtesy of Tate, 2016 (N01615)

While a recent study of Sargent’s methods in oil confirms that the reformatting and restretching of large canvases was a key part of Sargent’s practice, there has long been a myth attached to his reasons for doing so with Carnation, Lily, Lily, Rose. 15 According to Millet family tradition, Sargent was obliged to change the format of the composition, truncating it by some two feet (60 cm) at the left side, when he unrolled the canvas in 1886 to find that it had been punctured by a pitchfork. 16 In an X-radiograph, a small puncture is visible in the top right quadrant of the painting (fig. 29). It is small (about 15 mm in length) and runs vertically. Tines in pitchforks from the era, as shown in Winslow Homer’s Girl with Pitchfork (1867), are good candidates for the cause of the tear, which has an early patch repair at the reverse with similar canvas to the original. 17

Family tradition also records that Sargent painted a portrait of Mrs Barnard on the discarded piece of canvas. The portrait of Mrs Barnard (private collection; fig. 11) was certainly painted over a study for Carnation, Lily, Lily, Rose, as discussed earlier, and is likely to have been painted in 1885; the
more formal three-quarter length of the same sitter in which she appears to be wearing the same gown (Tate; fig. 10) certainly belongs to that year, but transmitted light photography confirms there is also nothing underneath the image (fig. 30).

**Figure 30.**
John Singer Sargent, Transmitted light photograph of “Mrs Frederick Barnard”, 1885, oil on canvas, 104.1 x 57.1 cm
Digital image courtesy of Tate, 2016 (N05901)

It seems likely then, that the story transmogrified into an exaggerated family myth, but was founded on a real incident. No part of *Carnation, Lily, Lily, Rose* was cut off and repainted on, but there is physical evidence for an early incident causing a tear.
Flora

The composition and its format were a preoccupation for Sargent, but he continued to look carefully at individual elements of the painting. The rosebush, with its distinctive forked stem, is consistent across various iterations of the composition (it even appears in the slight study of the garden of Farnham House, fig. 2, probably one of the earliest preliminary studies for the painting). A pencil study (fig. 31) describes a standard rose very similar to the one close to the figure of Polly in fig. 9, and in the finished picture. A forked rosebush also appears in an oil study of a landscape (1885; fig. 32). This landscape is of additional interest because the horizontal band of roses is similar to the band in the finished work (though the blooms in *Carnation, Lily, Lily, Rose* are more abundant).

**Figure 31.**
John Singer Sargent, Rose Branch, Study for “Carnation, Lily, Lily, Rose”, 1885, graphite on paper, 34.5 x 24.5 cm Digital image courtesy of The Metropolitan Museum of Art, New York, Gift of Mrs Francis Ormond (1950.130.119)
Figure 32.
John Singer Sargent, Landscape with Roses, 1885, oil on canvas, 51.1 x 63.5 cm Digital image courtesy of private collection
The rose and the lily are two of the three floral motifs that give the picture its title. A number of pencil studies of lilies show Sargent’s concern to describe the complex flower properly. It is our view that painting out the lilies, and the changes from lilies to roses, was done for subtle aesthetic purposes. The modifications prevent the creation of too bower-like an effect over the girls, suggesting a movement away from a literal towards a more decorative aesthetic. Sargent had experimented with the flat, decorative effect of lilies in 1884 in his study of the children of Mr and Mrs Albert Vickers painted in their Sussex garden (fig. 33). The lilies are more realistically secured in their pots than are those in *Carnation, Lily, Lily, Rose*, but they arc over the children in a similar way and form a flat, decorative pattern across the upper part of the picture space. *The Garden Study of the Vickers Children* suggests...
that aspects of the decorative aesthetic of *Carnation, Lily, Lily, Rose* predate Sargent’s observation of the striking scene at Pangbourne, of children lighting lanterns in a garden near the river.

**Sargent’s materials and the paint box**

![Figure 34. John Singer Sargent, Sargent’s paint box with tube paints, folding rectangular palette, and round palette, all used for oil painting Digital image courtesy of private collection](image)

New evidence concerning Sargent’s materials has been greatly informative to the project, and has included study of a paint box belonging to the artist, full of tubes of paint, a glass vial, some brushes, palette knives, and charcoal (fig. 34). Although Sargent’s paint was often much thinned (with turpentine) and he enjoyed using extremely fluid oil paint for early and later elements of *Carnation, Lily, Lily, Rose*, the surface is full of thicker-textured paint applied wet-in-wet, with localized cracking and different drying features, all very clear in raking light. Poppy seed and linseed oil and a medium modifier such as Megilp (a gelled medium made by mixing together mastic varnish and an oil prepared with a lead drier), which dries fast and glossy, have been identified in samples from *Carnation, Lily, Lily, Rose*; and an inter-layer of “retouching varnish” designed to wet out the surface can be seen in cross-section from some parts of the picture (fig. 35). 18 Tubes of Megilp were also found in Sargent’s paint box. It has the property of being thixotropic—keeping its shape, forming impasto when needed, thinning out when brushed, and capable of being spread out into transparent more glaze-
like layers. Throughout the painting Sargent employs thinned paints to begin with, and later on in areas such as the designs depicted on the Japanese lanterns, as well as thicker impasto, with many layers applied wet-in-wet. His signature use of red lake is here deployed only to create the intense dark crimson carnations—a deep red fluorescent madder mixed with Megilp medium has been applied thickly on top of an opaque pink. This is a technique Sargent had employed since his first exhibited painting, and is testament to a certain consistency of method.

**Figure 35.**
John Singer Sargent, Cross-section, green background, retouching varnish, visible light, and ultraviolet fluorescence, form “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)

The paint box, also part of this wider study, has shown Sargent’s usual practice of shopping locally for at least some of his materials. Of the twenty-seven tubes of paint, all from well-known British colourmen, seven of the Winsor & Newton tubes are also labelled Parker or Ewens, who were suppliers in Cheltenham, Gloucestershire (fig. 36). The labels and the known history of these colourmen imply that eleven or more of the Winsor & Newton tubes predate 1884, and must have been resold in Cheltenham before Ewens died in 1888 (fig. 37). It is plausible that these tubes were used in 1885 or 1886, when Sargent was painting Carnation, Lily, Lily, Rose not far from Cheltenham, and needed to obtain materials locally.
Three tubes of Winsor & Newton paint, also labelled Parker or Ewens, from Sargent’s paint box. Digital image courtesy of private collection.
Pigments identified in the layers of 1885 and 1886 are of very good quality, with few extenders: his lead white, for example, was in general very pure (although a little zinc white appears from the period after his move to London). Whilst there is liberal use of bone black in much of Sargent’s oeuvre, in this painting little was identified, indicating that for this piece he followed a practice closer to that of his friend Monet. Strong reds are in evidence in this painting—vermilion was used to make the opaque oranges and pinks—and further types of red are present in this work: non-fluorescent red lead, madder (on aluminium substrate), another madder (on a different substrate), and a non-fluorescent red lake (fig. 38). We see from the paint box that Sargent also used cadmium red, Mars red, Mars orange, and intense yellows such as genuine Indian yellow, pale lemon chrome, two cadmium yellows, and Mars yellow. A superb range of many of these pigments is visible in particular in the lanterns. His greens and blues are of excellent
quality—the emerald green employed in the grasses, stems, and leaves of *Carnation, Lily, Lily, Rose* is found in high quantity, and the cobalt blue is an intense and dark grade. Others, such as viridian, cerulean blue, natural ultramarine ash, and synthetic ultramarine are all present in the paint box, but it is a strong cobalt blue and emerald green that are particularly prevalent in the small paint samples we took from this picture. These darker grades of pigments are mixed in and used (in place of blacks) to create darker passages. The exquisite intensity of Sargent’s paints is achieved by quantity and quality—a high volume of good pigments layered wet-in-wet, with occasional clever use of glazing in his reds and purples, as the carnations demonstrate so well.

**Varnishing**

How did Sargent finalize his painting and create a surface gloss to suit his intense use of pigments and complement his overall aesthetic? The ultraviolet light image ([fig. 39](#)) suggests a hint of final varnish, which is patchy and stops short of the edges of the canvas by about two and a half centimetres, suggesting that this “finish” was applied after the painting was framed.
The question of varnishing is pertinent to any discussion of surface and Impressionism. Artists such as Claude Monet, with whom Sargent painted *en plein air* (see *Claude Monet Painting by the Edge of a Wood*, probably 1885, Tate, London) were against varnishing their pictures. However, Sargent, despite producing this great piece of “English Impressionism”, illustrates that varied preferences for varnishing occurred amongst practitioners like him, who were knowledgeable of Impressionist approaches and highly adept technically. Sargent himself is known to have commented that he didn’t like a glossy varnish, so we are assured that he was interested in a range of surface effects, from matt to satin.

Of course, many paintings were varnished after leaving Impressionist artists’ studios by owners or dealers who may not have comprehended an artist’s wishes, or who perhaps wanted to protect the paint surface or preferred a

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**Figure 38.**

John Singer Sargent, Ultraviolet light photograph, “Carnation, Lily, Lily, Rose”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)
glossier aesthetic. Fortunately, this painting’s conservation history means that the surface has been preserved untouched except for surface cleaning with deionized water, and Sargent's image is as close as possible to an “original” finish as one might find in a surface of this date. The only notable change is in one type of the three lake pigments identified, which shows evidence of fading, revealed by paint which was covered by the frame’s rebate.

Sargent’s practice, then, was sophisticated and focused in this area. His use of Megilp ensured a satin surface due to its resinous varnish content. Using Megilp medium and applications of very thin varnishes both between paint layers (visible in cross-section in fig. 35) as well as on the upper surface, suggests he had an exacting eye for his desired level of gloss and saturation. Sargent wanted a well-bound paste surface and was keen his colours did not “sink”, which we know from his application of intermediary or “retouching varnishes” in between the first and second years of work on *Carnation, Lily, Lily, Rose*. Should sinking have occurred, it would have changed the refractive index of the surface, caused a more matt surface, and affected the vibrancy of the palette. It is worth repeating here that the physical evidence suggests that the work was finished in his studio, when two extra lanterns were added at each side of the composition—one bright and lit up and one dull with no flame yet (fig. 39). It is possible that some of the adjustments he made in London were also related to surface.

**Natural light and artificial light**

There are two topics to consider in a discussion of light and *Carnation, Lily, Lily, Rose*. First, we need to understand the challenge to Sargent of painting artificial light generated by lanterns and depicting both these, the figures, and the other motifs in his painting whilst natural light was fading. It is useful to consider what was happening while Sargent was generating the “big picture”, which he did iteratively, over two years, at a variety of locations in Broadway *en plein air*. Within those two summer/autumn periods the light at sunset would have differed between August and the end of October. The identification of the location for some of this activity, in the photograph of Sargent painting *Carnation, Lily, Lily, Rose* (fig. 27)—the still life set up by the road side—was surprising. The road would not have been a busy thoroughfare in the mid-1880s, but it is still an unusual working site with no obvious advantage of background scenery. Setting the canvas and lilies there could have been for other reasons, perhaps one of them being to get the right light.

Capturing this moment of tension between fading natural light and brightening artificial light was a great challenge for Sargent, and he approached the task carefully using different methods. He positioned darker-
toned red elements—deep crimson red carnations and roses—against varying shades of grass and greenery. The brightest and lightest tones are achieved in the lit lanterns (which glow and reflect on the faces of Dolly and Polly) and the equally bright whites of the lilies and dresses. However, the position of some of the crimson carnations, for example, exploits colour contrasts more than tonal ones.

The second topic in a discussion of light and this work concerns viewing the painting once it was finished. The experience of seeing the painting in the conservation studio over a prolonged period at various times of day and under different conditions of light was informative. Without any influence from artificial light, depth of field in the image seemed to deepen during the period of twilight, the image becoming progressively less flattened. Tate photographers carefully documented this over fifteen-minute intervals, allowing us to compare the painting at different times as daylight faded (fig. 40).

![Figure 39.](image)

**Figure 39.**
John Singer Sargent, Carnation, Lily, Lily, Rose (details), Two lanterns at left and right do not go to the edge, and suggest the painting was finished in the studio Digital image courtesy of Tate, 2016 (N01615)

Sargent also made observations about the effects of different lights under which his painting was viewed and when it was displayed in new conditions back in London. Ultimately he was concerned he had not represented the scene quite as he wished to capture it, in particular in his use of colours. In a letter to an artist who was asking permission to copy his image, he notes:
a possibility of improvement that I have often thought the picture itself wanted, that is a slight glaze of yellow, say raw sienna or gold ochre. The picture itself was painted in a very warm light, after sunset, and in London it looks best on a grey or foggy day, and decidedly too cold on a clear one. If the picture were still in my possession, I should, on a fine day when it looks too cold, glaze it all over, and I suggest that you do this to your copy if you feel disposed. 25

In examining new evidence about *Carnation, Lily, Lily, Rose*, we have traced Sargent’s creation of a painting inspired by the memorable sight of children lighting lanterns at dusk in a riverside garden, born of numerous experiments and refined through continual adjustments. He devised a pictorial language and fashioned luminous colour that together depict a moment, but which also encourage repeated visits and close attention. This sustained re-examination and technical analysis has revealed new aspects of the gestation of an apparently familiar work, and we hope it will inspire further research and encourage dialogue across disciplines, integrating and embedding the technical with traditional approaches.

*Figure 40.*
John Singer Sargent, Studio light versus natural light image, “*Carnation, Lily, Lily, Rose*”, 1885–86, oil on canvas, 218.5 x 197 cm Digital image courtesy of Tate, 2016 (N01615)

**Appendix**

**Au premier coup**: painted in one process, not as several stages with the paint drying in between.

**Cadmium red**: an opaque scarlet pigment made from cadmium sulphoselenide, sold in London from the 1880s.
**Cadmium yellow**: cadmium sulphide, an opaque bright yellow pigment available from the 1840s.

**Cerulean blue**: an opaque, greenish blue made of cobalt stannate and used from 1860.

**Cobalt blue**: an opaque blue, manufactured pigment made of cobalt aluminate in use from 1802.

**Deionized water**: water that has had all of its mineral ions removed.

**Drier (siccative)**: a material added to an oil to increase the rate of drying through oxidation and cross-linking of the molecules.

**Emerald green**: a brilliant opaque bluish green made of copper acetoarsenite, first made in Germany in 1814. Highly toxic.

**Ground**: a field on which to paint, usually lean, opaque paint applied as a single, unmodified colour to the support in readiness for painting.

**Indian Yellow**: bright translucent yellow originally manufactured from the urine of cows fed on mango leaves. Made synthetically from the late nineteenth century.

**Lake pigments**: translucent pigments made by precipitating a dye onto a base such as aluminium hydrate.

**Lemon yellow**: bright, opaque yellow pigment made from either barium chromate or strontium chromate or any other yellow of a pale cool hue.

**Madder**: Purple red dye extracted from the madder plant (Rubia tinctorum).

**Mars red/orange/yellow**: manufactured earth pigments.

**Megilp**: a gelled medium made by mixing together mastic varnish and an oil prepared by heating and adding a lead drier.

**Poppy seed or poppy seed oil**: drying oil extracted from the seeds of the opium poppy (Papaver somniferum). It yellows less than linseed oil but takes longer to dry and forms a less hard paint film.

**Priming**: the application of size and/or the ground to a support to prepare the surface for painting. Sometimes also used instead of the term “ground”.

**Rebate**: L-shaped recess in a frame moulding, typically designed to take the painting.
**Red lead:** very bright, opaque, orangey red pigment (tetroxide of lead).

**Refractive index:** the degree to which the rays of light are bent while passing through a transparent substance—a pigment with a comparatively low refractive index similar to that of oil, e.g. chalk, appears transparent in an oil medium, while one with a high refractive index such as lead white appears opaque.

**Size:** traditionally a weak solution of animal glue used in the priming of canvas and panels, but may also be made from other adhesives.

**Synthetic ultramarine:** chemically identical to the natural variety, first produced in France around 1826–27 and manufactured ever since.

**Ultramarine ash:** a very palely coloured grade of natural ultramarine.

**Viridian:** deep transparent green pigment hydrated chromic oxide, discovered in the 1830s but only in widespread use from the 1860s.

**Wet-in-wet:** the application of one colour on to another, before the first has dried, so that some mixing into the earlier application can occur.

**Zinc white:** an opaque cool white manufactured pigment from zinc oxide. It was produced in a suitable form for oil painting from the 1850s.

**Footnotes**


2. Lucia Millet to her parents, 24 Aug. 1885, continued on 2 Sept. 1885, Archives of American Art, Smithsonian Institution, Washington, DC (hereafter AAA), Francis Davis Millet and Millet Family Papers.

3. Lucia Millet to her parents, 6 Sept. 1885, AAA, Francis Davis Millet and Millet Family Papers.

4. Undated letter from the artist to his sister Emily, headed “Broadway/ Worcestershire/Tuesday”, private collection. A facsimile of the letter is illustrated in Charteris, John Sargent, between pages 76 and 77.

5. The outlines of the image have been identified and interpreted by conservators in the UK and the US.


7. Raking light is where a strong angled light is used to show up texture in the paint surface or undulation in the support.


9. “Au premier coup” means done in one process, not as several stages with the paint drying in between.

10. An historical accident—there happen to be few photographs of him at work on identifiable pictures at this time.

11. Sargent was at Farnham House in 1885 and at Russell House, to which the Millets had moved, in 1886. The identification of the building does not provide a definitive date for the photograph.

12. This is based on a pixel count for comparison with these known measurements. Stuart Robson, Head of the UCL Department of Civil, Environmental & Geomatic Engineering and Professor of Photogrammetry and Laser Scanning, “scaled off the artist’s height in pixels against the height of the middle of the painting in pixels to arrive at an approximate canvas height” at the time of the photograph (personal correspondence, December 2015).
13 Personal correspondence with Professor Stuart Robson, UCL, December 2015.

14 This was common practice for Sargent, as established in Hellen and Townsend, “The Making of Sargent’s Oils”.


17 My thanks to Rod Tidnam, Tate photographic department, for his suggestions regarding the pitchfork.

18 Medium analysis under contract by Dr Brian Singer, Northumbria University, UK. See Conservation Record, N01615, Tate.

19 For three tubes, PARKER / ARTIST REPOSITORY / MONTPELLIER / CHELTENHAM, and, for four tubes, FREDK. EWENS / Winsor & Newton’s Artists’ Materials / Picture frames / English and Foreign Fancy Goods / Stationery and Colour Stamping / 18, Promenade Villas, Cheltenham.


22 Materials identification carried out by Joyce Townsend, Senior Conservation Scientist, Tate, see Analysis report, N001615, Conservation Record, Tate.


24 Letter to Vernon Lee, see Charteris, John Sargent, 55.

25 John Singer Sargent to Miss Gaitskill, 2 Feb. (no year date), private collection.

Bibliography


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