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INTRODUCTION

Despite Alfred Sisley’s (1839-1899) status as a core proponent of the Impressionist aesthetic, there has been little published about his paintings from a technical perspective. This study, undertaken at the Courtauld Institute of Art in 2015, aimed to provide a fresh view on Sisley’s artistic practice. Through the technical examination of six paintings by the artist the research sought to provide an in depth discussion on his painting technique and use of materials (Figs. 1-6). The paintings chosen for the study each represent a different phase within Sisley’s evolution as a landscape painter. The dates of the paintings range from the mid-1860s to the final years of Sisley’s life. Various aspects of Sisley’s technique were examined for the study, including his choice of support, ground preparation and range of pigments. The research also offered one of the first detailed analyses of the physical structure of Sisley’s paintings. By examining the artist’s approach to compositional planning and paint application, it was possible to compare the similarities and differences between his early and later works.

Sisley was one of the founding members of the Impressionist group, having become acquainted with Claude Monet, August Renoir and Frédéric Bazille, during the artists’ early training at the atelier of Charles Gabriel Gleyre in the 1860s. From early on, Sisley was an ardent supporter of pleinairism and often painted in the Fontainebleau Forest on the outskirts of Paris, as well as the picturesque villages of Louveciennes and Moret-sur-Loing. Throughout his career, Sisley would continue to uphold this particular tenet of the Impressionist movement, constantly striving to articulate the sensations he felt from nature by using the materials available to him as an artist.

Several analytical techniques were employed for the study, including elemental analysis of paint and ground pigments using non-destructive X-ray fluorescence spectroscopy (XRF), as well as cross-section microscopy and energy dispersive X-ray spectroscopy (SEM-EDX). In addition, various imaging techniques, such as X-radiography, infrared reflectography and surface microscopy were used to understand the layer structure of Sisley’s paintings. The results of the technical examination were interpreted together with existing technical information and art historical references to Sisley’s working methods, with the aim of placing them within the broader context of Sisley’s development as an artist. Where appropriate, the physical history and material condition of the paintings were also taken into account, as these factors are crucial to any study of the artist’s aesthetic intent.
MATERIALS AND TECHNIQUE

SUPPORTS AND PREPARATION

Like many of his contemporaries, such as Monet, Pissarro and Renoir, Sisley utilised the convenience of commercially prepared artists’ canvases. Five of the works included in the study were painted on commercially primed canvases, which were supplied by various Parisian colourmen. All of the canvases examined have ground compositions that are typical of nineteenth century French commercial preparations, consisting predominantly of lead white with the addition of various extenders, such as chalk, barium sulphate and alumino-silicates. Lead White grounds were also identified for six paintings by Sisley in the Ny Carlsberg Glyptotek and Ordrupgaard Museum collections. In addition, recent research undertaken by the Centre for Art Technological Studies and Conservation (CATS) revealed the same common extenders as those identified for the six paintings in this study, indicating that there was a consistency in Sisley’s choice of grounds.

While most of the grounds examined are white or off-white in colour, a notable exception is Snow at Louveciennes, which has a pale orange-tinted ground containing yellow ochre and umber particles. Sisley made extensive use of the ground colour throughout the composition, where it provides a contrast to the cool blues and greens within the wintery landscape.

Throughout the 1870s Sisley showed an increased use of the ground colour within his compositions. This method of working contrasts greatly with his earlier paintings from the 1860s, represented in this study by Avenue of Chestnut Trees At La Celle-Saint-Cloud, within which the ground is entirely covered using multiple applications of paint. In his paintings from the 1870s, Sisley’s use of ground colour appears to have been intended as a way of softening the edges of forms. This can be seen in Boats on the Seine, where the off-white ground is used to soften the transition between the white impasto of the clouds and the surrounding blue sky paint (Fig. 7). In other cases, the ground is used to impart a specific tonal value, as seen in Snow at Louveciennes where the warmth of the priming is used to create the illusion of dull winter light.

Equally important for Sisley must have been the role of the exposed ground in conveying a sense of spontaneity and freedom of handling, which in turn gave the impression of a painting being completed au premier coup. The emphasis on producing works that were seemingly painted in one sitting was a principle shared by almost all of the Impressionists during the 1870s, although this became less of a concern after 1880
when several of the artists increasingly chose to complete their works in the studio.\textsuperscript{10} By working indoors the Impressionists were able to explore new aestheticisms without the restrictions imposed by \textit{plein air} painting. For example, Monet’s monumental \textit{Nymphéas} would have been inconceivable had the artist been required to carry such large-scale canvases to and from the site of painting. Similarly, Pissarro’s brief experimentation with the time-consuming technique of \textit{pointillism}, developed by Seurat and Signac, shows a clear departure from the \textit{au premier coup} aesthetic.

Sisley’s later works do not show the same extensive use of the coloured ground. In \textit{Le Loing, Gelée Blanche, Moret-sur-Loing (Rue de Fosses)} and \textit{The Cliffs at Penarth, Evening, Low Tide} the ground is almost entirely covered using thick applications of impasto and broad, superimposed strokes of colour. Compared with the two Courtauld Gallery paintings, the grounds in these later works do not play a dominant role in the final appearance of the compositions.

**COMPOSITIONAL PLANNING AND UNDERDRAWING**

Regarding Sisley’s approach to compositional planning it has been said that the artist ‘seems to have preferred painting directly onto the canvas throughout his life, making relatively few modifications in the studio’.\textsuperscript{11} However, examination of a number of Sisley’s works has shown that the artist sometimes mapped out the essential components of his compositions directly onto the primed support using dry underdrawing media.\textsuperscript{12}

Evidence of black underdrawing was found on \textit{Moret-sur-Loing}, where black pigment particles were identified using surface microscopy in areas where the paint had been applied sparsely and the ground is still visible. These particles are particularly prominent around the contours of the buildings on the right-hand side. The shape and distribution of these particles further suggest that Sisley made use of a dry medium, such as charcoal or black chalk.

Contrastingly, \textit{Snow at Louveciennes, Boats on the Seine} and \textit{The Cliffs at Penarth} appear to have been painted without the use of dry underdrawing. For \textit{Snow at Louveciennes} Sisley created an initial laying in for the trees using a dry scumble of pinkish-purple paint. The first stage of painting in \textit{Boats of the Seine} also consists of a dry application of paint, this time using a greenish-purple colour, which was used to sketch the outline of the horizon and parts of the foreground on the left-hand side. Similarly, for \textit{The Cliffs at Penarth} Sisley chose to create an initial outline of the shoreline using a thinly applied pinkish-purple paint, after which
the composition was built up using broadly applied strokes of impasto. This initial campaign is still visible in several areas along the shoreline, where it is present underneath subsequent layers of more thickly applied paint.

The technical evidence gained from the works included in the study, as well as previous scholarship on Sisley, suggest that artist had more than one approach when it came to creating his compositions, and also that these were not necessarily limited to a specific period within his career.\textsuperscript{13}

**PALETTE**

The most notable development in Sisley’s approach to colour throughout his career is the artist’s adoption of a brighter palette from the 1870s onwards. The shift from using a dark tonal range akin to the artists of the Barbizon school to a brighter palette that reflects the emerging Impressionist aesthetic can be felt when comparing Sisley’s later works to *Avenue of Chestnut Trees*. Analysis of cross-sections from the painting revealed a large proportion of bone black and red earth in the paint layers (Fig. 8).

The pigments and paint mixtures that Sisley used for *Avenue of Chestnut Trees* differ greatly from his Impressionist works of the 1870s onwards. In *Snow at Louveciennes* and *Boats on the Seine* he used a broader palette, including chrome yellow, yellow ochre, red lakes, vermilion, viridian, emerald green, cobalt blue, lead white and zinc white - a common selection for artists of the late nineteenth century.

Although black was found on both *Snow at Louveciennes* and *Boats on the Seine*, its use is limited and it does not impart the same dark tonality that Sisley adopted for *Avenue of Chestnut Trees*. Even the tree trunks in *Snow at Louveciennes*, which at first glance appear to consist of black, contain a mixture of colours that Sisley used in other parts of the painting, including cobalt blue, viridian and vermilion. The more restrained use of black has the effect of brightening the appearance of the composition, giving the impression of a landscape bathed in light.

Sisley’s adoption of a brighter palette in the 1870s suggests an awareness of the changes that were being introduced by the other Impressionists at the turn of the decade. In the early 1870s Sisley became one of the founding members of the *Société Anonyme Coopérative d’Artistes*, alongside Monet, Pissarro, Renoir, Cézanne and Morisot. The group was established in 1873 and Sisley participated in the first Impressionist group exhibition in 1874, as well as the second and third exhibitions held in 1876 and 1877.\textsuperscript{14} The close proximity of the artists during this period meant that they were all keenly aware of the works that each
painter was creating. It is therefore not surprising that Sisley should have been influenced by the changes that were being implemented by the various members of the group, in terms of both colour and paint application. The emphasis on brightness appears to have remained a primary concern for Sisley throughout his career, indicated by a letter that he sent to his friend Adolphe Tavernier in 1892:

‘Objects must be portrayed in their particular context, and they must especially be bathed in light, as is the case in nature.’

Sisley’s desire to depict the atmospheric effects of light is also felt in Moret-sur-Loing and The Cliffs at Penarth. For these two paintings, Sisley appears to have omitted the use of black altogether, as no black pigment was observed by means of surface microscopy or examination of cross-sections.

PAINT APPLICATION

The changes that Sisley made to his palette throughout his career are paralleled by developments in the artist’s approach to paint application. The first such change can be seen between Sisley’s landscape paintings of the 1860s and his later Impressionist works. Compared to paintings such as Avenue of Chestnut Trees, which features soft, feathered brushwork, Sisley's paintings from the 1870s onwards show a broader repertoire of brushstrokes. These range from rapidly painted passages using wet-in-wet blending, to leanly bound, broken brushstrokes that have been dragged across the canvas grain. This diversity in handling was being introduced by all of the Impressionists at the end of the decade and it is likely that Sisley was inspired by his contemporaries during this period.

One of the most distinctive features of Sisley's paintings from the 1870s is the artist's use of the tache, described by House as the distinct coloured stroke or mark. Sisley's use of taches is particularly prominent in Boats on the Seine, where the entire expanse of the water is depicted using short, comma-like brushstrokes (Fig. 9).

Compared to their contemporaries, the Impressionists allowed the tache to play a far more visible and active role in the overall effect of their paintings during the 1870s. House suggests that by adopting this ‘shorthand’ style of painting the Impressionists were able to represent the fleeting effects of sunlight within a landscape, without being distracted by the hierarchies of forms within the composition.
Sisley’s paintings from the 1870s, represented by *Snow at Louveciennes* and *Boats on the Seine*, show other features that set them apart from the artist’s earlier works. These include the aforementioned use of the ground layer within the final composition. Another feature is Sisley’s increased emphasis on dry and broken brushwork, which features more strongly in his Impressionist paintings than any of his works pre-dating 1870.

Examples of such brushwork can be seen in *Boats on the Seine*, particularly in the green and purple paint used for the initial laying in of the horizon, as well as the cypress tree on the left-hand side. To depict the tree, Sisley used a thin, dry scumble of paint applied directly on top of the ground. This type of handling has been described as ‘typical of the artist’s technique’ during the mid-1870s and can be seen in several of the artist’s snow scenes from this period, such as *Snow at Louveciennes* where Sisley created the initial lay-in for the trees using a very lean application of pinkish-purple paint (Fig. 10).

In discussing the appearance of Sisley’s brushwork it is important to consider the overall effect of the artist’s painting technique. In both *Snow at Louveciennes* and *Boats on the Seine*, it is clear that Sisley wished to emphasise the immediacy of his handling. This can be felt not only through the rapid and fluidly painted skies of the two paintings, but also through their ‘unfinished’ appearance. Although Sisley signed both paintings, suggesting that he saw them as completed works in their own right, the extensive use of the ground layer and the dry handling of paint give the impression that they were painted rapidly, perhaps even *au premier coup*. This was the artist’s process for *Boats on the Seine*, whereby the whole painting was completed using wet-in-wet blending, with no evidence of later wet-over-dry application. Even the signature in the lower-right corner was painted on top of wet paint, indicating that the artist signed the work not long after its completion.

The same emphasis on rapid handling can be seen in *Snow at Louveciennes*, where the feathered brushwork of the foliage, the row of houses and the green-blue landscape in the background were all painted using fluid, wet-in-wet brushstrokes. However, unlike *Boats on the Seine, Snow at Louveciennes* shows evidence of later additions. These can be seen in some of the branches of the trees, which were added on top of dry paint. Although these later additions are miniscule and do not distract the viewer from the overall impression of immediacy within the painting, they reveal an interesting aspect of Sisley’s artistic practice.

In *Snow at Louveciennes* it is clear that Sisley’s emphasis lay in creating a final aesthetic that gives the impression of a rapidly painted work. The later additions to the painting indicate that the means by which this aesthetic was achieved was not restricted to painting *sur le motif* and *au premier coup* alone. It was also the
result of a longer working process, where importance was placed on the impression created by the final image, as opposed to the speed with which it was created.

Jean-Baptiste-Camille Corot, Le Loing, Moret-sur-Loing and The Cliffs at Penarth reveal a very different aesthetic to the one seen in Sisley's works of the 1870s. The paint in these later paintings was applied thickly, using rich, textured impasto. This change in handling can be seen in Moret-sur-Loing, where Sisley used thick layers of lead white to depict the light reflecting off the buildings. A similar, thick application of paint was used for The Cliffs at Penarth, exemplified by the broad strokes of impasto along the shoreline (Fig. 11). Sisley's later paintings also show more obvious examples of where the artist has worked in multiple campaigns. This can be seen in the foreground of Moret-sur-Loing, where the artist dragged strokes of Vermilion across a layer of dry white paint.

These changes within Sisley's working process suggest that he became less concerned with conveying a sense of immediacy in his paintings towards the end of his career. The thickness of the paint application, tied with Sisley's use of wet-over-dry brushwork, gives the impression of works that developed over time, as opposed to a single sitting en plein air.

Despite this difference in Sisley's aesthetic goals there are still notable similarities between his later works and his paintings of the 1870s. One is Sisley's sustained interest in conveying a variety of textures within his paint surfaces. This effect can be felt most clearly in The Cliffs at Penarth, where different textures are emphasised not only through the artist's brushwork, but also through the thickness of the application itself. In the painting Sisley contrasts the small taches of bright colour in the foliage with the broadly painted areas of the sky and water. The thickly layered paint in the sky and water is also contrasted with areas of more thinly applied paint, where Sisley allowed the white ground to show through.

The fact that Sisley remained interested in creating varied surfaces within his paintings is reflected through the artist's letter from 1892:

"You see that I am in favour of a variation of surface within the same picture...particularly when it is a question of rendering a light effect. Because when the sun lets certain parts of a landscape appear soft, it lifts others into sharp relief. These effects of light, which have an almost material expression in nature, must be rendered in material fashion on the canvas."

Another notable aspect of Sisley's painting practice, which remained a primary focus for the artist throughout his career, is the emphasis on painting en plein air. Sisley's letters indicate that he continued to
paint outdoors until the very end of his career. In several cases he refers to battling with adverse conditions, such as rain and cold winters, whilst also delighting in the spells of clear weather that allowed him to depict the shimmering effects of sunlight. In a letter that he sent to Tavernier from Wales in 1897, it is clear that Sisley still wished to capture the immediacy of the scene through painting in the open air:

‘The sea is superb and the subjects are interesting but...you have to fight against the wind, which reigns supreme here. I had not experienced this nuisance before, but I am getting used to coping with it and I have already discovered the knack.’

Two of the paintings examined for the study show features suggesting that Sisley continued to paint outdoors even during his late career. Pinhole marks were observed in all four corners for Moret-sur-Loing and The Cliffs at Penarth, which are characteristic of the wooden spacers used to separate wet paintings from one another during transport between the artist’s studio and the outdoor site (Fig. 12).

CONCLUSIONS

‘...The artist's impression is the life-giving factor, and only this impression can free that of the spectator. And though the artist must remain master of his craft, the surface, at times raised to be the highest pitch of liveliness, should transmit to the beholder the sensation, which possessed the artist...’

Sisley (1892)

This touching statement, written during the final decade of Sisley’s life, serves as a poignant reminder of the artist's close affinity to nature. Through Sisley’s letters it is clear that he continued to value the practice of painting outdoors and capturing the ephemerality of the seasons and light effects until the very end of his life. This study has aimed to discuss the ways in which Sisley’s materials and technique informed his depiction of nature. The study revealed notable differences between Sisley’s early and later works. These include changes that Sisley made to his palette, represented by an increased focus on brightness and tonal contrasts as he progressed as an artist. Over the course of his career, Sisley also chose to re-direct the focus of his final aesthetic, moving away from seemingly rapidly painted compositions to works that appear more deliberate...
and extensively worked. The changes discussed in relation to Sisley’s painting technique indicate that whilst he remained a firm advocate of *pleinairism*, the ways in which he chose to depict his impressions of nature varied over the course of his career.

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**NOTES**

1 Conclusion have been made about Sisley’s painting technique based on visual examinations of several works by the artist:


4 The paintings chosen for the project also suggest that Sisley preferred fine, plainly woven canvases throughout his career. All six paintings were executed on plain weave canvases, with thread counts ranging from 23 to 30 threads per cm.

5 Canvas stamps were identified on three paintings in the study: *Snow at Louveciennes* (Latouche, 54 Rue de Lafayette, Paris), *Le Loing, Gelée Blanche* (H. Vieille et E. Troisgros, 35 Rue de Laval, Paris), *Moret-sur-Loing* (Tasset et L’Hote, 31 Rue Fontaine, Paris).

6 Bomford, *op. cit.* (note 1), p. 44

8 Stevens, op. cit. (note 1), p. 22

9 Au premier coup: lit. ‘at first stroke’, referring to wet-in-wet painting.


13 See note 1 for previous scholarship on Sisley.

14 Shone, op. cit. (note 3), pp. 48-49


16 The only exception is the black underdrawing identified on Moret-sur-Loing. However, this does not inform the tonality of the final composition.


18 The word tache comes from the French word for ‘blot’ or ‘stain’ and is used to denote strokes that are applied directly to the canvas without blending.

19 House, op. cit. (note 19), p. 181

20 Bomford, op. cit. (note 1), pp. 148-151

21 The dry appearance of the paint results from the artist painting directly on top of the ground.

22 Sur le motif: lit. ‘on the ground’, or painting nature as one sees it.

23 Sisley cited in Goldwater et al., op. cit. (note 17), pp. 145-146

24 For publications with Sisley’s letters see P. Gachet, P, Lettres Impressionnistes, Bernard Grasset Éditeur, Paris, 1957;


27 Sisley cited in Goldwater et al., op. cit. (note 17), pp. 308-310
Figure 1. (top left) *Avenue of Chestnut Trees at La Celle-Saint-Cloud*, 1867, oil on canvas, 95.5 x 122.2 cm, (by permission of Southampton City Art Gallery)

Figure 2. (top right) *Snow at Louveciennes*, c. 1874, oil on canvas, 46.3 x 55.8 cm (Samuel Courtauld Trust, The Courtauld Gallery)

Figure 3. (middle left) *Boats on the Seine*, c. 1877, oil on canvas (mounted on plywood board), 37.2 x 44.3 cm (Samuel Courtauld Trust, The Courtauld Gallery)

Figure 4. (middle right) *Le Loing, Gelée Blanche*, oil on canvas, 37 x 54 cm (by permission of Leicester Arts & Museum Service)

Figure 5. (bottom left) *Moret-sur-Loing (Rue de Fosses)*, oil on canvas, 38.5 x 46.9 cm (by permission of Amgueddfa Cymru, National Museum of Wales)

Figure 6. (bottom right) *The Cliffs at Penarth, Evening, Low Tide*, oil on canvas, 54.4 x 65.7 cm (by permission of Amgueddfa Cymru, National Museum of Wales).
Figure 8. Cross-section sample taken from the green foliage in Avenue of Chestnut Trees at La Celle-Saint-Cloud. The cross-section shows the high proportion of Bone Black and Red Earth in the paint layers, particularly in the lower green-brown layer, which was used as a darker underpaint layer throughout the painting. (Samuel Courtauld Trust, The Courtauld Gallery)
Figure 10. Detail of *Snow at Louveciennes*. The dry brushwork that Sisley used to sketch the initial forms of the trees is visible underneath subsequent applications of more fluid paint. (Samuel Courtauld Trust, The Courtauld Gallery)

Figure 11. Detail of *The Cliffs at Penarth, Evening, Low Tide* (by permission of Amgueddfa Cymru, National Museum of Wales)
Figure 12. Example of a canvas pin. Taken from a product catalogue dated c. 1884-1890. Roberson Archive, Hamilton Kerr Institute (MS 1158-1993) (by permission of The Fitzwilliam Museum, Cambridge).