An authoritative visual guide to the materials and painting techniques of one of the world's best known and loved artists

How Turner Painted

Materials and Techniques

Joyce Townsend

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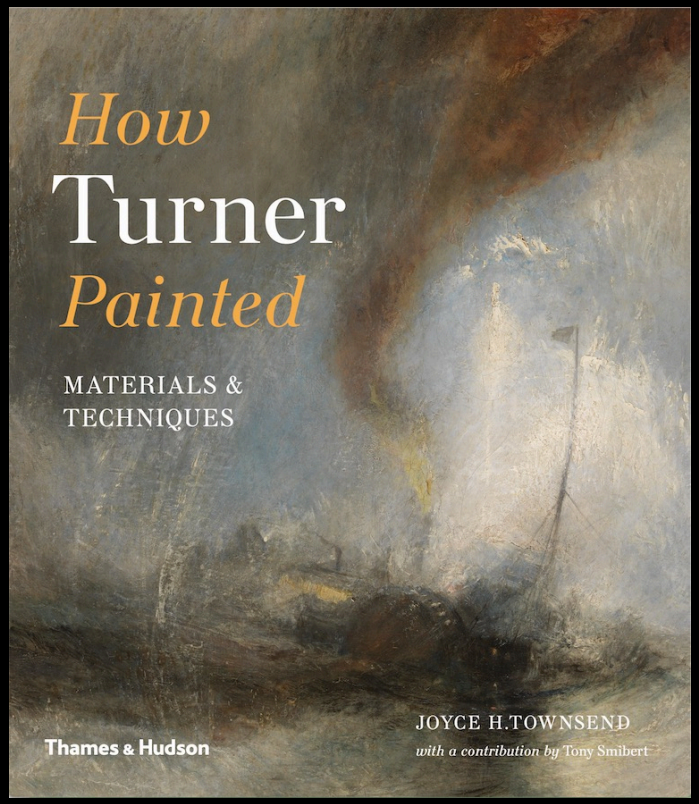

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Key Sales Points

- Timed to coincide with two major new exhibitions on Turner and his work, one at Tate Britain – 'Turner and the Modern World' – and the other at the Queen Victoria Museum and Art Gallery, Tasmania, both opening in 2020
- Based on over thirty-five years research into historic artists' materials, and the ways

  in which 19th-century oil paintings and watercolours were created
- Communicates the findings of rigorous research in an engaging, jargon-free style
- Includes a chapter by Tony Smibert illustrating Turner's methods step-by-step, using modern paint
- Covers both watercolour and oil painting, and includes the unique archive of 19th-century artists' materials that Turner left to the nation

Joyce H. Townsend

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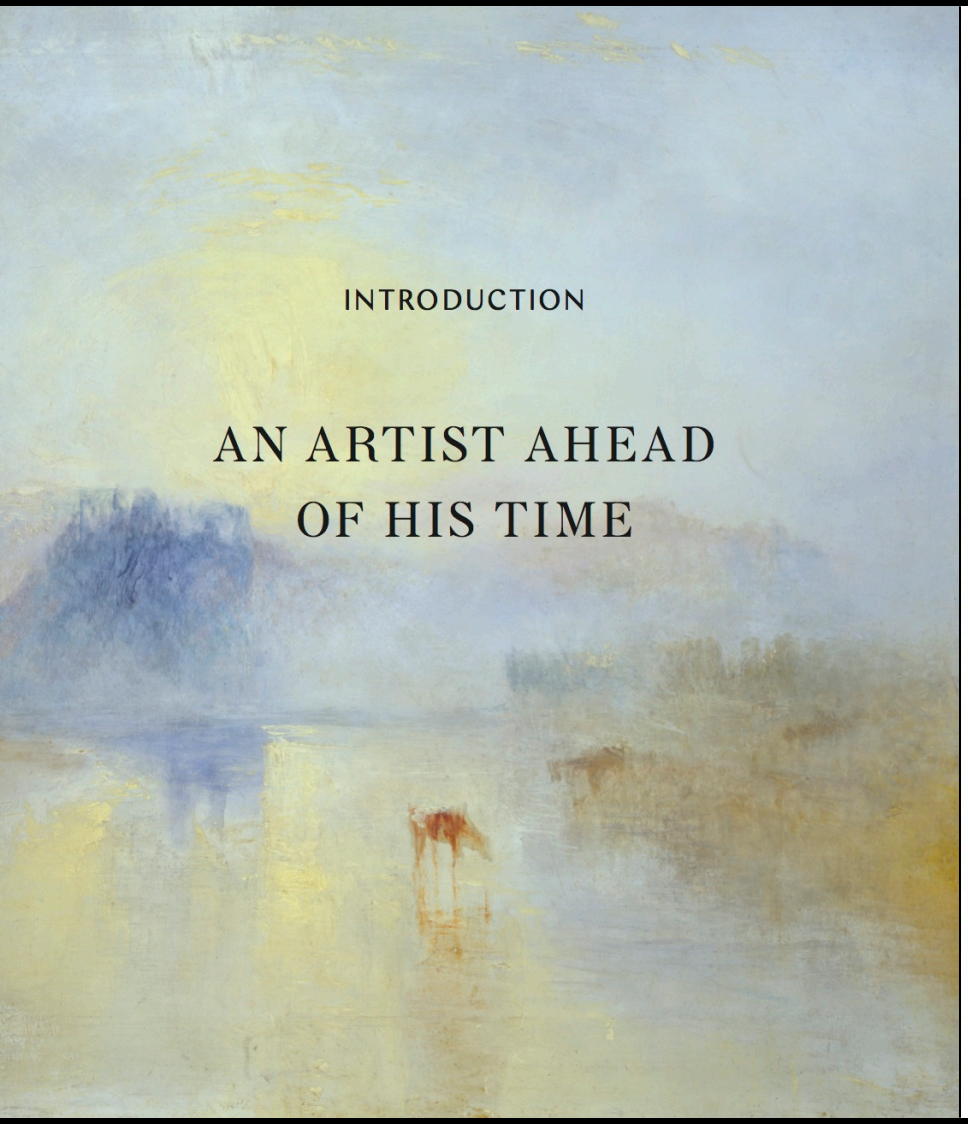


INTRODUCTION

AN ARTIST AHEAD OF HIS TIME

To understand the painting processes of J.M.W. Turner and the materials he used is to understand the options available to his contemporaries, for he was the most innovative artist of his time. Best appreciated long after his lifetime, like all great artists, Turner was the first and most fearless adopter of the new painting materials produced in abundance during the early decades of the Industrial Revolution.

This book is based on findings from the technical examination and materials analysis of his watercolours, oil paintings and studio materials over many years, made during my work as a senior conservation scientist at Tate Britain, London.[1] It is not about the analytical processes used,[2] nor the frames first used for the paintings (which formed the subject of a separate study in the case of Tate works),[3] but is intended to convey the skill, imagination and mastery of Britain's most well-known landscape artist, to engender greater understanding and appreciation of his paintings, watercolours and sketched ideas, and to inform about his working methods.

Many of the examples discussed form part of the Turner Bequest at Tate Britain, which includes the largest collection of his works in the world: some 300 oil paintings and 37,000 sheets of paper, ranging from pencil sketches to finished watercolours. (All of the paper-based works can be viewed online in good resolution, as can nearly all of the oils.[4]) Other collections have also been drawn upon, as roughly a third of Turner's oil paintings and over 1,000 works on paper are today in public collections in the UK, the US, Australia, and a few other regions.[5]

Joseph Mallord William Turner (1775–1851) lived in the right place – the artistic and artists' quarter of London, which would grow during his lifetime to become one of the largest cities in the world – and at the right time. The Royal Academy had been founded in 1768, only seven years before his birth, and one of its aims was to promote the status of artists. In effect, it was a professional body that enabled full members to display their works in oil to the public, but gave lesser opportunities to watercolourists and sculptors. British oil painters stood on the highest step of the hierarchy of artists and subject matter, and they were not restricted by guilds as in earlier centuries, nor challenged by rival imaging processes such as steel-plate engraving, colour-printing or photography, all of which would be developed during Turner's long life (he lived to the age of seventy-six, painting to the last).

Trade founded on Britain's pre-eminence as a naval power and successful seafaring nation expanded during the first half of the 19th century. The growing number of individuals with self-made wealth would create new patrons for artists working at the time, purchasing paintings, watercolours, prints and illustrated travel books, and commissioning watercolours of picturesque and

1 J.M.W. Turner and Charles Turner, *The Bridge in Middle Distance*, 1808. Indianapolis Museum of Art

2 J.M.W. Turner and J.C. Easling, Frontispiece to *Liber Studiorum*, 1812. Indianapolis Museum of Art

romantic scenery in Europe – to name only the main sources of Turner's excellent professional income by the standards of the day. Like previous generations of successful artists, Turner responded to new opportunities. He made use of the reproductive technology of copperplate engraving and mezzotint for *Liber Studiorum*, a series of studies published in parts from 1808 (1, 2). It was projected to include 100 images, issued in groups by subject, but never quite reached that number. This promoted his work to a wider audience, though one with less to spend.[6] He became a competent engraver and an intelligent client – and probably a rather annoying and highly demanding one, too – of the many professional engravers with whom he would work throughout his life.

In the 1820s the development of steel engraving increased the number of copies that could be made from a single plate. By this time, Turner was creating fully finished and coloured watercolours to be engraved, as distinct from the brown monochrome subjects of the earlier *Liber Studiorum*, and then selling the originals with the reproductive rights and/or limited editions of prints after his work (3, 4). By later middle age, he could easily afford to paint pictures like *Norham Castle, Sunrise* (5), which were too advanced to sell well in his own lifetime, but are today regarded as among his most iconic works, and sometimes seen as anticipating Impressionism, Abstract Expressionism and other '-isms' that developed long after his death.

It is not surprising that Turner's range of subjects included the sea in all its moods, ships as transport and bringers of victory against the French,[7] and industrial subjects, as well as the landscape and topographical subjects he typically depicted in watercolour at the start of his career. Equally unsurprisingly, he moved from sketching to painting in watercolour, and then to the higher-status medium of oil while still in his teens. Turner explored the lofty and highly regarded subject of history painting in his early

3 *Catwater, Plymouth*, 1800–20. Allport Library and Museum of Fine Arts, Hobart

4 *Catwater, Plymouth*, from *The Ports of England* series, engraved by Thomas Lupton, 1826–28. Tate, London

5 *Norham Castle, Sunrise*, *c.* 1845. Tate, London

ONE

INNOVATIVE WAYS OF USING WATERCOLOUR

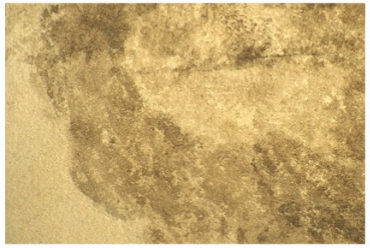
Turner's papers

All paper was handmade in Turner's lifetime, in sheets made in a variety of standard dimensions, ranging downwards from those large enough for maps and full-scale engravings of paintings. Papers were predominantly off-white in tone, and available in a huge range of thicknesses, roughness and absorbency. The dimensions of the larger sheets were based round the biggest and heaviest paper-making tray that could be held in two hands and dipped into a vat of wet fibres.

Wove paper (11) had been invented before Turner's birth. It has none of the lines of texture, imposed by the wires in the paper-maker's tray, which occur in laid paper, and is instead quite uniform, 'taking' paint similarly on both sides. Turner virtually always used this type, much of which was of medium weight and fairly smooth, with some examples being thinner and slightly more transparent.

Paper could be bought in bulk directly from a paper mill, where it would have been produced for anything from wrapping for food (which had to be absorbent) or ammunition (which required strength, as well as absorbency) to fine writing paper (which had to hold ink crisply on the surface without letting it flow in and smear). What was not made in large quantities was paper intended for drawing upon. This left aspiring artists to seek out paper types and tones from a far wider choice than we find today, with no standardized descriptions of colour or texture, or guarantees that the perfect paper would be available again in the future. The manufacturing process was slow, and only successful over the cooler months. Stationers supplied paper in smaller quantities, or would bind up sketchbooks to order when provided with paper by the artist.

Absorbency was controlled by the amount of water-repelling 'size', made from animal glue, present in the slurry of fibres used for making the paper. Dipping each sheet into a vat of size as it was created and dried provided a surface coating of water repellency sufficient to keep the printer's ink crisp. When such paper was used by an artist working with paint made from coloured pigments suspended in water and gum, the surface size became disrupted and ultimately washed off, whether by soaking the whole sheet,



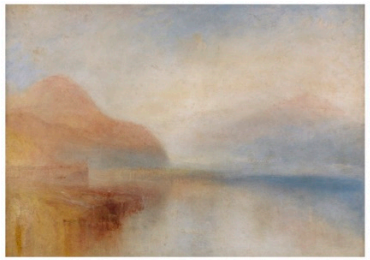
11 Micrograph of *Bridge and Cows*, showing the regular texture of wove off-white paper (full work ill. p. 34)

22 *Fort of L'Essillon, Val de la Maurienne, France*, 1836. Metropolitan Museum of Art, New York

Nuanced grey clouds can easily be created using such mixtures of the type seen in *Fort of l'Essillon* (22). This method gives such a wonderful variety of tones that many artists accustomed to using optical greens never, or rarely, made use of the newly invented pure-green pigments. Turner simply added such greens to his stock, and then applied them as pure colours. He would not live long enough to see the invention of pure purple pigments, which could be a reason he possessed and used such a variety of red lakes, all excellent for optical purples in watercolour.

The blue papers Turner used regularly from the 1820s (ill. p. 119), with bright opaque reds like vermilion and mid-toned opaque yellows like chrome yellow, soon led him to apply these primary colours to white paper, with more transparent washes. Vermilion worked equally well for this, as did both mid-toned and pale-lemon chrome yellow. For off-white papers, the best blue as a complementary colour is ultramarine, while smalt is also good. Natural ultramarine, which Turner always used in preference to the manufactured variety, was very expensive, but not much is needed for a sky. This became his favourite combination for warm and cool washes on white paper, and was likely used for *A Yorkshire River* (23) and *Inveraray Pier, Loch Fyne: Morning* (24).

23 *A Yorkshire River*, c. 1827. National Gallery of Art, Washington, DC



24 *Inverary Pier, Loch Fyne: Morning*, c. 1845. Yale Center for British Art, New Haven

25 *A View of Metz from the North*, c. 1839. Tate, London

35 *The Blue Rigi, Sunrise*, 1842. Tate, London

It is impossible, even with a microscope, to deduce how many different blue pigments Turner used for this view of a mountain in the Swiss Alps, and how many other distinct colours there are elsewhere. The Rigi would appear less blue if not surrounded by the palest of yellow skies; the yellow less pale without the dark birds flying low over the black jetty in the foreground; and the width of the lake less dramatic without the birds flying high, close to the mountain. One can only marvel at the result.

Colour beginnings of the same locality – not necessarily made as studies for the finished work, but more likely done on a later trip – show different starting points for depicting the same subject. *The Rigi and Lake Lucerne: Yellow and Rose* (36) – these have been titled by cataloguers, not by Turner himself – was begun with very wet paper and the palest of light washes for the clouds, then, as the paper dried, slightly more loaded washes of blue and rose were nudged around, so that they would dry as a more definite outline of the mountains. Then the yellow was applied to complete the trio of primary colours. A colour beginning of a more distant view (37) was taken one step further, but completed before the paper had begun to dry.

Turner began another view with drier paper and denser brushloads of the same blue (38), but mixed in some yellow to the red, working quickly before the paper dried further. Any of these could have been the first steps in the making of the finished watercolour, which includes rubbing and wiping – even scratching, but not with as sharp a tool as a needle or a fingernail – as well as fine brushwork and delicate manipulation of wet paint on partly wet paper.

36 *The Rigi and Lake Lucerne: Yellow and Rose*, c. 1844. Tate, London

37 *The Kapellbrücke at Lucerne, with the Blue and Rose Rigi in the Distance*, c. 1844. Tate, London

38 *The Red and Blue Rigi*, c. 1844. Tate, London

57 Paint applied with a knife, partly brushed out in the sky

58 Megilped paint in the sky

59 after Sir John Gilbert, *Joseph Mallord William Turner*, 1846. National Portrait Gallery, London

The lovely veils of broken colour that lie beneath much of the impasto and dabs of paint with medium modifier could be created easily with a good turpentine-soaked rag that had been passed over the surface often enough to pick up many colours (60). This gives a very thin paint layer, in contrast to the thick ones for the impasto. Cross-sections from *Solitude* (61–64) reveal a bewildering variety of thin and thick layers in modified paint media, reflecting Turner's very localized application and removal of paint with both brush and rag.

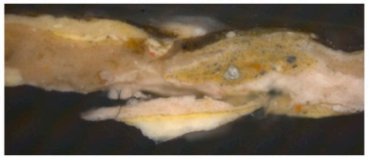
It is also clear from close looking that Turner moved the paint about with his fingers on occasion, adding or subtracting material as the moment required and leaving his fingerprints behind, or scratching into the paint. The end of a wooden brush handle gives a straight scratch. There are curved scratches, too, which are consistent with descriptions of Turner using his thumbnail, kept long for the purpose. As expected for

60 Pale paint at left edge, worked over many times with a rag, beneath pale yellow paint applied with a palette knife

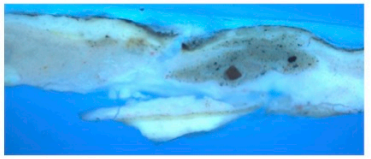
the right-handed artist he was, who brushed up from left to right most often, the curved strokes, in most cases, were made in oil paint with his right hand. This suggests that he paused and transferred the brush from that hand before making a deliberate scratch.

A further dimension: adding transparency

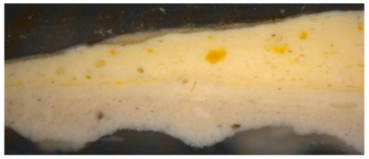
It is clear that adding megilp to some paints and cloudy-looking wax-based materials to others introduced wider possibilities for varying the gloss of paint than would thinning it down to an ever-more matte appearance. Deep golden shadows could be created by simply applying pure megilp,



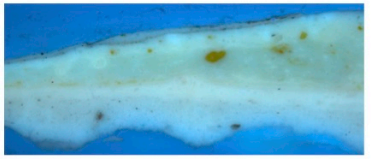
61 Cross-section from the left edge, showing several thin wiped-off layers between thicker applications of paint



62 Varied fluorescence of the same section in ultraviolet light shows that Turner used wax-based and resin-based medium modifiers



63 Cross-section for the sky left of centre, showing thick applications of pale paint



64 The same cross-section in ultraviolet light, indicating resin in the thin pale upper layer and wax-based paint in the thicker yellow layer

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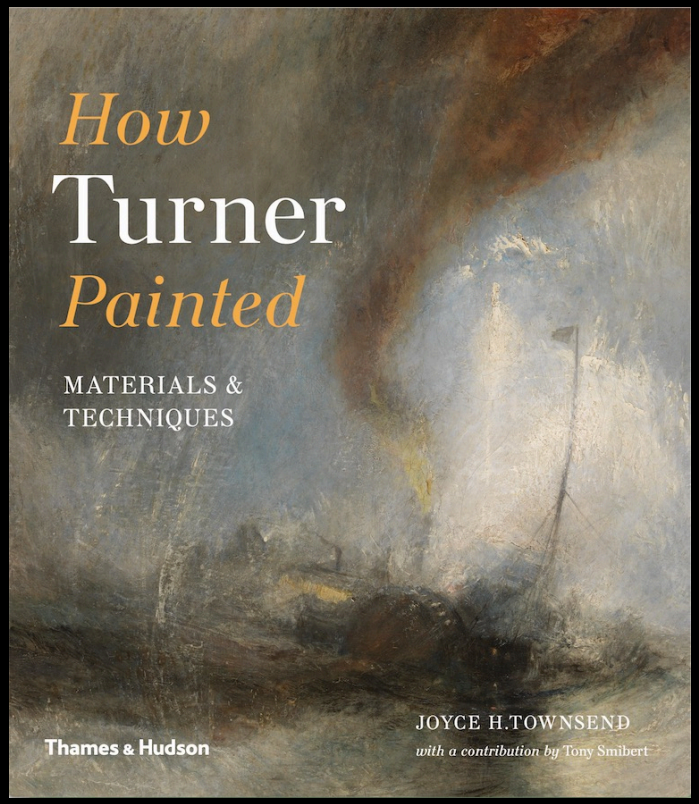

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