

The Re-Emergence of Raphael's *Madonna of the Pinks*

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In May 1991, on a visit to examine pictures at Alnwick Castle (Fig. 1), home of the Duke of Northumberland, Nicholas Penny, who was then Clore Curator of Renaissance Art at the National Gallery, saw a small 'Madonna and Child', the composition of which he knew well, hanging in a corridor of the private quarters of the castle. When he was asked to describe what the circumstances were – he wrote: 'it caught my eye because it had such an expensive frame. I realised immediately that even if a copy – and one does see a great many copies of this Raphael – it must once have been believed to be original which interests me since I am interested in the history of taste (and in the history of error actually). It looked good and I quickly noticed that there was a pentiment – the line of the hill showing through the tower which would be very unusual in a copy. I passed it again on the way to lunch (the family was very hospitable) and I proposed that it should be taken to the National Gallery for closer examination.'

The Duke generously agreed to this, the picture was brought to London and examined using infrared reflectography by Rachel Billinge revealing a fine and detailed underdrawing, which was published and interpreted by Nicholas Penny in the *Burlington Magazine* in February 1992.¹ In the introduction to that article, he noted: 'the subtlety and assurance of the modelling and the delicacy and solidity of the handling, qualities difficult to discern when the painting hung in the corridor at Alnwick Castle, became more apparent in the conservation studio, and the evidence revealed by both X-radiography and, above all, infra-red reflectography, dispelled any residual doubts that the original painting had been rediscovered. It was clear too, and clearer still after the picture was cleaned by Herbert Lank in October and November 1991, that it had survived in exceptionally good condition.' (Fig. 2).

With this rediscovery, the Duke of Northumberland graciously agreed to lend the picture to the National Gallery, where it hung in the Sainsbury Wing with the other early Raphaels to the great pleasure of the visiting public. In September 2002 the Gallery learnt that the Duke had decided to sell the painting, had signed an agreement with the Getty Museum in Los Angeles and was seeking an export licence.

The National Gallery, however, was extremely keen to retain the picture in the Collection and through the Government's 'Reviewing Committee on the Export of Works of Art' obtained an export stop on the painting and at the same time it launched a public campaign to match the sum for the sale agreed by the Getty Museum; if this sum could be raised, the picture could stay on permanent show in the national collection.

After a very sustained public campaign and appeal, which lasted over 18 months, the little painting by Raphael was acquired for the nation on 18th March 2004: this finally involved the assistance of the Heritage Lottery Fund, the National Art Collections Fund (with a contribution from the Wolfson Foundation), the American Friends of the National Gallery, the George Beaumont Group, Sir Christopher Ondaatje and through public appeal.

However in late 2003, before the happy outcome of this campaign, sensationalist stories had begun to appear in the press, for example a piece, translated from an article by Professor James Beck of the Department of History of Art at Columbia University, New York, which was published in *La Stampa*,² which described the picture as the '*Madonna degli Inganni*' ('The Madonna of Deceptions'). This article argued



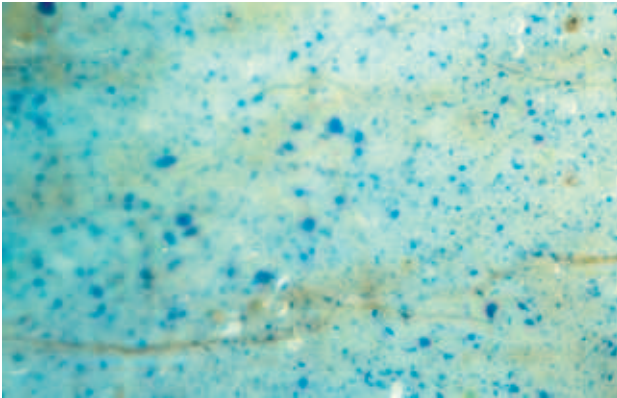
Fig. 1 - Alnwick Castle, Northumbria: the location of Raphael's *Madonna of the Pinks* before its acquisition by The National Gallery in 2004. © Graeme Peacock (graeme.peacock@virgin.net).

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Fig. 2 - Raphael, Madonna of the Pinks (NG 6596), 1506-7. Panel, 28.8 x 22.9 cm.



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Fig. 3 - Madonna of the Pinks, photomicrograph detail of the sky showing the use of natural ultramarine and white. About 160X.

Fig. 4 - Madonna of the Pinks, photomicrograph of the surface of the Virgin's deep blue robe, showing ultramarine over a greenish blue layer containing azurite. About 160X.

Fig. 5 - Madonna of the Pinks, detail of the landscape, upper right



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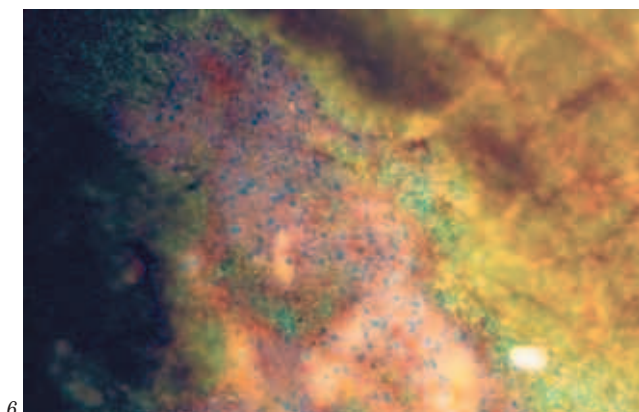
that the picture was unlikely to be by the hand of Raphael and Professor Beck later stated to *The Times* that the Gallery, 'had paid a record price for a fake,'³ considering the Northumberland picture to have been produced in 1827 in Camuccini's workshop. This assertion was based on the fact that the picture had been bought in 1853 in Rome by the 4th Duke of Northumberland from Giovanni Camuccini, and that the Camuccini family were known to have produced copies of Raphael's works.

At about this time, the Board of Trustees of the National Gallery, who, with the advice of the staff of the Gallery, are responsible for approving purchases of pictures for the Collection, requested a paper summarising the evidence and arguments in re-affirmation of Nicholas Penny's attribution of the picture to Raphael. The Board were about to spend over £21M of public money on a small picture – it was understandable that they would seek re-assurances on the picture's status and attribution. Carol Plazzotta, the curator now responsible for sixteenth-century Italian painting, was asked to compile this Board Paper and, in addition to supplying arguments based on the very high quality of the painting, the nature of the underdrawing, its provenance, international expert opinion, and so on, it was clear that we should also include such additional technical evidence that

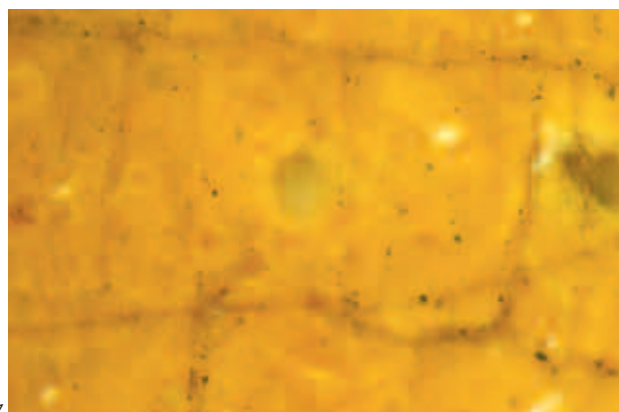
was available, or could be acquired, in support of the Gallery's belief in the picture's autograph origin. The key to this reassurance to the Board relied on what could be discovered about the materials and techniques of the painting and whether it could be demonstrated that these are consistent with what is known of Raphael's painting practices around the proposed date of the painting, that is, 1506–7.⁴

At the time of the National Gallery Board meeting in December 2003, of course, the National Gallery did not own the picture; there was therefore no possibility of taking samples for analysis. Other than the standard methods of IR and X-ray investigation, the National Gallery possesses no non-destructive techniques of examination to identify pigments or paint binding medium, only optical examination under the stereomicroscope.

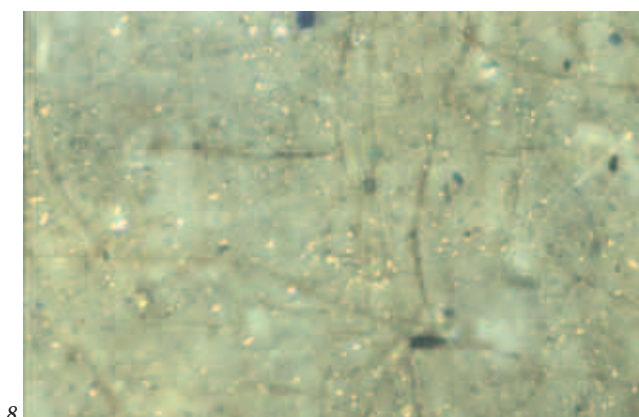
It is fortunate that, provided information from comparable pictures is available, examination at up to about 80x under the stereomicroscope can provide considerable data on the materials and the manner of painting as well as other characteristics of the surface that are relevant to the age of a picture. In addition, the picture is small enough (28.8 x 22.9 cm) to allow examination on the stage of a Leitz Aristomet research microscope at magnifications of the surface up to 400x. Many of the surface features are subtle and not easily codified; their assessment and interpretation relies largely on the experience of looking at many pictures through the microscope, and it is fortunate that this accumulated exper-



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Fig. 6 - Madonna of the Pinks, photomicrograph of a small damage in the green curtain to the left showing the earlier colour of the curtain, a mauveish grey made up of azurite, red lake and white. About 180X.

Fig. 7 - Madonna of the Pinks, photomicrograph of the Virgin's golden-yellow drapery, lower left, painted in lead-tin yellow. A lead soap inclusion is visible at the centre of the image, confirming that the medium of the paint layer is a drying oil. About 200X.

Fig. 8 - Madonna of the Pinks, photomicrograph of greyish ribbon at the Virgin's sleeve showing Raphael's use of bismuth as a pigment. About 150X.

tise is available at the National Gallery. As a process this is essentially the assessment of the 'facture' of the painting's surface – not a popular term nowadays – and involves what amounts to a form of connoisseurship applied at the level of close inspection aided by magnification.

With the stereomicroscope it was possible to identify the sky as having been painted in natural ultramarine (Fig. 3), to deduce that the Virgin's robe comprises layers of natural, lapis lazuli ultramarine over mineral azurite (Fig. 4), and to note the presence of verdigris in the green curtain at the left. Microscopically, also, the green paint layer of the miniature landscape seen through the window at the right (Fig. 5) appeared to contain a separate green pigment in the form of mineral malachite in addition to verdigris.

It was possible to make some additional observations: the pigment mixture for the Madonna's greyish-mauve chemise was revealed as containing a mixture of red lake pigment mixed with natural azurite and some white, with a little black pigment incorporated in the shadows – a pigment combination of which Raphael was particularly fond and one he used in a number of pictures of this period, including three in the National Gallery Collection: *The Mond Crucifixion* (NG3943), *The Procession to Calvary* (NG2919) and *St John the Baptist Preaching* (NG 6480).⁵ Significantly, also, for the conclusion that the Madonna of the Pinks is Raphael's autograph composition – and not a copy derived from it, however early – is the presence of this same mauve colour, seemingly a significant pentimento, beneath the green of the curtain at the left. The underlayer is just visible

under the microscope in flake losses in the upper paint layer (Fig. 6), and indicates that Raphael must have re-cast significantly the colour composition there.

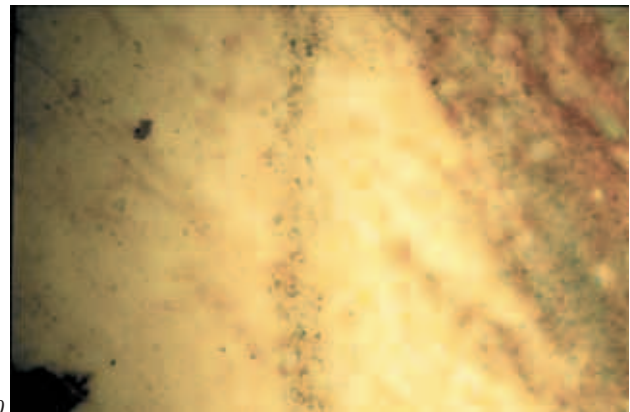
One feature that all analysts employ as a reliable indication of the early origin of a painting, is the use of the pigment lead-tin yellow.⁶ Unfortunately, although lead-tin yellow is to some extent microscopically recognizable, certain identification can only be provided by detection of the lead and tin content by chemical or instrumental analysis of a sample, or by non-invasive identification on the paint surface using a technique such as X-ray fluorescence analysis (XRF), or a spectroscopic technique to record the characteristic vibrational spectrum of the pigment, for example, Raman spectroscopy. The National Gallery, unfortunately, however, does not possess these latter methods of examination. It had been hoped to demonstrate the presence of lead-tin yellow in the Virgin's sleeve and in the golden yellow drapery at her waist – certainly under the microscope these areas of the painting appeared in colour, texture and brushwork as though they may well contain the pigment, and the X-ray image is consistent with this judgement, but these features do not constitute proof. However some new research on the pigment proved most helpful. It is a recent discovery that lead-tin yellow is particularly susceptible to chemical reaction with drying oil paint media forming compounds known as lead soaps – chemically, lead carboxylates – and these reaction products develop as colourless microscopic inclusions in the paint film.⁷ Among other conclusions of this work carried out at the National Gallery, it has emerged that the formation of colourless inclusions is a sufficiently characteristic behaviour of lead-tin yellow in oil for their detection to be a strong indication of the use of the pigment in conjunction with an oil medium. These inclusions were observable under the microscope in the *Madonna of the Pinks* (Fig. 7).



9

One of the more intriguing observations that was made on the picture under the stereomicroscope – and ultimately, one of the most significant technical discoveries – was the detection of an example of the unusual dark grey pigment we suspect to be powdered metallic bismuth.⁸ This was seen on examination of the Virgin's sleeve: the particles of shiny pigment are only just resolvable at 80X magnification (Fig. 8). The material and its appearance would have been difficult to interpret had it not been for a recent survey of the other Raphaels in the Collection⁹ and if bismuth as a pigment had not been identified firmly in the 'Ansidei Madonna', and located microscopically in the *Procession to Calvary*, it would not have been suspected in the *Madonna of the Pinks*. In this picture, as in the other cases, it shows a characteristic relatively high absorption for infra-red light (Fig. 9), which behaviour provides a further pointer to its identity.

In advising the Gallery's Trustees, it was therefore fortunate that there proved to be quite a number of technical characteristics that are strongly characteristic of Italian early sixteenth-century painting on panel: taken individually these observations may not have been wholly convincing in regard to the picture's date; taken together they represent virtually incontestable evidence of production in the sixteenth century, and, considering most importantly the unmistakable quality of the picture and its many characteristic features of design and execution, it is possible to be confident in underpinning Nicholas Penny's attribution of the picture to Raphael's own hand.¹⁰ The popular press and other media remained harder to convince.¹¹



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Fig. 9 - *Madonna of the Pinks*, infrared reflectogram mosaic detail, showing Raphael's detailed metalpoint underdrawing. Image courtesy of Rachel Billinge, The National Gallery.

Fig. 10 - *Madonna of the Pinks*, photomicrograph of a line of the metalpoint underdrawing on the unpainted left-hand edge of the painting. About 60X.

Now that the picture belongs to the British public and to the National Gallery, it has been possible to confirm by analysis some of the technical observations and judgements made solely from initial optical examination. This has involved a few carefully chosen samples from the extreme edges of the composition. For example, the yellow pigment was confirmed by EDX analysis as lead-tin yellow; my colleagues Raymond White and Catherine Higgitt have identified the binding medium of the picture, in two paint samples, as heat-bodied walnut oil;¹² and it has been possible to identify the medium of the underdrawing in the *Madonna of the Pinks* as metalpoint, drawn using a stylus composed of lead and tin (Fig. 10) (incidentally, the same underdrawing method Raphael used for the rather later 'Garvagh Madonna' (*The Madonna and Child with Infant Baptist*, NG744, c.1509–10 also in the National Gallery Collection¹³). We also know from analysis that the thin off-white *imprimatura* applied over the gesso ground on the *Madonna of the Pinks* – its constitution tantalisingly too fine to be resolved under the stereomicroscope – is of a type highly characteristic of Raphael's early panels, and contains a mixture of lead white, a little lead-tin yellow and a specific type of powdered soda-lime glass with a content of manganese, a material described in the paper by Marika Spring in this volume.

The National Gallery is quite satisfied that the technical studies confirm this little picture as certainly of early sixteenth-century origin, and in technique and materials wholly consistent with other pre-Roman works by Raphael and with a detailed underdrawing revealed by infrared reflectography that is highly characteristic of Raphael's own hand (see Fig. 9). The final attribution of the picture is then ultimately based on the beautiful quality of execution and the detailed character of its design – both of which visitors are now able to judge permanently at Trafalgar Square.

Notes and references

1. Penny, N., 'Raphael's "Madonna dei garofani" rediscovered,' *Burlington Magazine*, CXXXIV, 1992, pp. 66–81.
2. Beck, J., *La Stampa*, 31 December 2003, p. 24.
3. Reuters on-line, 20 February 2004, 4pm. At the time of this report, the National Gallery had not yet concluded the agreement to purchase the *Madonna of the Pinks*.
4. Shearman, J. and Hall, M.B. eds, *The Princeton Raphael Symposium: Science in the Service of Art History*, Princeton Monographs in Art and Archaeology, XLVII, Princeton, New Jersey 1990.
5. Roy, A., Spring, M. and Plazzotta, C., 'Raphael's Early Work in the National Gallery: Paintings before Rome,' *National Gallery Technical Bulletin*, 25, 2004, pp.4–35.
6. Kühn, H., 'Lead-tin Yellow,' in Roy A. ed., *Artists' Pigments: A Handbook of Their History and Characteristics*, Vol. 2, National Gallery of Art, Washington, 1993, p. 86 and pp. 99–111.
7. Higgitt, C., Spring, M. and Saunders, D., 'Pigment-medium Interactions in Oil Paint Films containing Red Lead or Lead-tin Yellow,' *National Gallery Technical Bulletin*, 24, 2003, pp. 75–95.
8. Spring, M., Grout, R. and White, R., "'Black Earths": A Study of Unusual Black and Dark Grey Pigments used by Artists in the Sixteenth Century,' *National Gallery Technical Bulletin*, 24, pp. 96–114.
9. Roy, Spring and Plazzotta, cited in note 5.
10. This evidence was subsequently publicly posted on the National Gallery website: 'Raphael, "The Madonna of the Pinks", 1506–7'. <http://www.nationalgallery.org.uk/collection/news/acquisitions/raphael.htm>
11. See, for example, Alberge, D., 'Is 35m Madonna all she's cracked up to be?,' *The Times*, 19 October 2004.
12. Roy, Spring and Plazzotta, cited in note 5.
13. Bomford, D., ed., *Art in the Making: Underdrawing in Renaissance Paintings*, exh. cat., National Gallery, London, 2002, Cat. 9, p. 130.