Two Paintings by Lorenzo Lotto in the National Gallery

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OVER THE past two decades there have been numerous publications devoted to Lorenzo Lotto and, most recently, a major exhibition in Washington, Bergamo and Paris.1 Lotto’s paintings at the National Gallery, and all others of the sixteenth-century Venetian School, have been examined and analysed as part of a programme to revise the systematic catalogues of the Collection. Two of Lotto’s works – The Virgin and Child with Saints Jerome and Nicholas of Tolentino (NG 2281) and A Lady with a Drawing of Lucretia (NG 4256; Plate 9) – produced technical results of sufficient interest to merit a fuller account than would be appropriate in a catalogue entry.2

When The Virgin and Child with Saints Jerome and Nicholas of Tolentino (Plate 1) was cleaned and restored in 1979, an inscription on the coffin below the Child, which had previously been no more than partially legible, emerged as ‘Laurentius Lotus/ 1522’, the style also used by Lotto in two other paintings in the same year, including one in a private collection which is a variation of the same composition, but with different saints and without the landscape.3 It is significant that the National Gallery’s picture bears a signature, since another picture exists, identical in design, but not signed, in the Museum of Fine Arts, Boston (Plate 2).4 The Boston Lotto was described by Cecil Gould as ‘superior in quality’5 and indeed it has been hinted by other scholars that the London version might even not be autograph.6 The differences, however, can be accounted for by the superior condition of the Boston version. Much of the surface of the National Gallery painting is abraded; it has suffered from a vertical damage which runs the length of the picture through the body of the Christ Child, and there are extensive small flake losses, particularly in the Child and also in the curtain, the spray of lilies, the head of Saint Nicholas and around the edges. The best-preserved parts are the beautifully painted head of Saint Jerome and the brilliant red sleeve of the Virgin, now disconcertingly prominent when compared with the rest of the picture.

If it is accepted that the London and Boston pictures were originally of similar quality, it might be assumed that one was simply a replica made after the other, especially because the figures are the same size (although the canvases are now of slightly different dimensions). However, detailed scientific and photographic examination of the two paintings has revealed that their relationship is even closer, with the evidence suggesting that they were actually painted side by side. The pictures both seem to have been painted on linen canvases; that of the London painting is of fairly fine tabby weave, 20 warp and 21 weft threads per centimetre. The Boston version has, unfortunately, been transferred, probably more than once but almost certainly always from canvas to canvas,7 and when the National Gallery painting was treated in 1979, the possibility that it had been transferred from a wooden

Fig. 1 Lorenzo Lotto, The Virgin and Child with Saints Jerome and Nicholas of Tolentino (NG 2281). Composite X-radiograph.
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panel was considered. The main reasons for suspecting such a transfer were a long vertical damage (see X-ray photograph, Fig. 1), which was interpreted as the splitting or separating of the planks of a panel, and the presence of small, circular damages, evidently the exit holes of woodworm, visible in the area of the Child, particularly where no stretcher bar would have been present. On the other hand the type, weight and weave of the canvas are typical for the sixteenth century and the pattern and direction of the cracks in the paint and ground are those of a canvas painting. Further, the undulating profile of the bases of paint samples in all the mounted paint cross-sections is typical of samples taken from a canvas support. An alternative explanation for the location of the woodworm exit holes in a central area of the picture is that the canvas was at some time – perhaps originally – stretched over a wood panel rather than on a strainer. The Virgin and Child with Saints Barbara and Catherine (NG 3664) by Quinten Massys has a similar distribution of exit holes, but has undoubtedly always been a canvas painting. Moreover, if Lotto’s canvas was originally mounted on a panel, movement and perhaps splitting of the panel might easily have ripped the canvas. It is evident, therefore, that the London picture has always been a canvas painting.

Lotto’s method of preparing the canvases for these two paintings was closely similar. First he applied a thin layer of gesso, common practice at the time, and then an imprimitura to reduce the absorbenz of the ground. That of the Boston picture consists of lead white alone, but in the case of the National Gallery painting a very little lead-tin yellow is present with the lead white. The proportion of yellow pigment is too low to have had much influence on the priming colour and in both cases Lotto has chosen a light-reflective surface on which to paint.

Examination by infra-red reflectography of the Boston painting has shown a free and extensive underdrawing with many revisions which seem to have been made both before and during the application of the paint layers (Fig. 2). Lotto can be seen working out the initial design in the rapidly sketched underdrawing of the Virgin’s sleeve: the armband was drawn first below and then above her elbow, the position in which it was finally painted, while at the cuff it was drawn twice and more tightly gathered than it is in the painting. This drawing has the appearance of being executed with a dry medium such as black chalk, as does that on the figure of the Christ Child, but here the drawing registers very much more strongly in the reflectogram. The explanation for this can be found
in the head of the Child: a set of features apparently executed in paint can be seen to the left of the heavy lines of the drawn face. Evidently the head was originally conceived and painted in a more frontal position. Lotto appears then to have drawn it, over the first painted face, in its new position, turned towards Saint Nicholas, and at the same time seems to have reinforced the outlines of the whole figure and the Virgin’s hands (there is no evidence for radical alterations to the pose) which also register strongly. Alternatively and less probably, the darker lines are under all the paint layers and the head was first drawn more in profile but then Lotto experimented with painting it full face. Whatever the sequence, the Child’s face was finally painted with the contour even further to the right: the position we find in the National Gallery version.

In the London work the underdrawing is similar in character but without the extensive revisions (Figs. 3 and 4). The principal contours and features of the figures are indicated but areas of drapery such as the Virgin’s sleeve exhibit almost no drawing. The sketchy nature of the lines, with features such as the rough circle drawn to contain the outstretched fingers of the Child, and small alterations made while drawing, which bring the underdrawing closer to that in the Boston picture, all point to it having been made free-hand. An orthodox cartoon cannot have been used because a tracing of the London painting, placed over the Boston one, reveals that all major elements in the composition are approximately the same size but not exactly in the same position (the Child’s legs being considerably further to the left in the London picture). But the inventive nature of the Boston underdrawing indicates that Lotto used that canvas to work out the composition and that when satisfied with his design, and indeed when painting had perhaps progressed to some extent in the case of the Child, it was copied in a simplified form to the London canvas. The minor difference in the constitution of the imprimiture between the two paintings further suggests that the
London canvas was prepared separately, and that the client’s order for a replica followed shortly after the original commission rather than being commissioned simultaneously. However, the interpretation of the paint layer structures, including pentimenti, points to both pictures having been painted more or less concurrently.

On the two paintings there are many places where one form has been applied on top of another – unsurprisingly, for example, the lilies pass over the green of the curtain (Plate 3) – but some of these overlaps appear to be true revisions or pentimenti. Some are differences between drawn and painted contours, for example the downward shift of the Child’s right thigh, originally drawn higher in both pictures (Figs. 2 and 3). Others are made during painting: the most significant alterations that are clearly visible on each picture are the lowering of the top of the wall behind the heads of the Virgin and Saint Jerome by extending the landscape over it, the modification of the lower right corner of the coffin, the overlapping of the Virgin’s blue mantle onto the red of her dress at the lower edge of the painting, and the cancellation of a sash or band of drapery (possibly a corner of the mantle) which crossed the upper part of her sleeve. This is evident in the reflectogram of the Boston picture and in the infra-red and X-ray images of the London version.

If the case can be made that Lotto made these identical alterations because he was working on both pictures at the same time, then it follows that the build-up of the paint layers and their constitution should be closely similar. The cross-sections show that this is so. The green curtains are composed of the same sequences of three to four layers of increasingly translucent mixtures of pigment, principally verdigris, lead white and lead-tin yellow, becoming richer in verdigris towards the surface. This method, of course, is typical of late fifteenth- and sixteenth-century Venetian painting.

Most strikingly, when the cross-sections are compared, the paint of the Virgin’s brilliant red sleeve shows not only precisely the same layer structure but also a highly unusual use of two distinct red lakes, their dyestuffs derived from different sources (Plates 4 and 5). When the sections are examined in UV-light under the microscope, the deep red surface glazes can be resolved into as many as six separate applications over opaque underpaints containing vermilion, red lake and white. The fluorescence effect also shows that the bulk of the true glaze layers contains a red lake derived from madder dyestuff (see Plate 6); this identification has been confirmed by HPLC analysis.\textsuperscript{11} The uppermost layer of glaze, however, lacks this fluorescence, indicating that it is more likely to be a lake derived from an insect source. Similarly it can be seen that the particles of red lake in the mixtures for the underpaint do not fluoresce. The direct equivalence in layer structure and materials, and particularly the use of a different red lake for the final touches in

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**Fig. 3** Lorenzo Lotto, *The Virgin and Child with Saints Jerome and Nicholas of Tolentino* (NG 2281). Infra-red reflectogram detail.

**Fig. 4** Lorenzo Lotto, *The Virgin and Child with Saints Jerome and Nicholas of Tolentino* (NG 2281). Infra-red reflectogram detail.
Plate 3 (London) Cross-section showing white of lilies painted over multi-layered green of background curtain. The warm light grey *imprimatura* is the lowest layer. No gesso ground present in the sample. Photographed in reflected light under the microscope at 275×; actual magnification on the printed page, 220×.

Plate 4 (London) Cross-section of the Virgin’s red sleeve with an underpaint of vermillion and some white with a thick glaze consisting of several layers of red lake pigment. The bulk of this glaze consists of madder lake with a thinner final glaze of a red lake derived from an insect dyestuff. Photographed in reflected light under the microscope at 275×; actual magnification on the printed page, 220×.

Plate 5 (Boston) Cross-section from the Virgin’s sleeve showing three underpaint layers based on combinations of vermillion, red lake and white with a thick red lake glaze on top. The red lake glazes fluoresce in the same way as those in the London painting (see Plate 6). Photographed in reflected light under the microscope at 400×; actual magnification on the printed page, 320×.

Plate 6 (London) The Virgin’s red sleeve in cross-section reproduced in Plate 4, photographed in UV light to show the strong pale orange fluorescence of the madder lake and the divisions between the many applications of glaze. The uppermost thin layer of red lake, based on an insect dyestuff, fluoresces less strongly. Photographed in reflected light under the microscope at 250×; actual magnification on the printed page, 200×.

Plate 7 (London) Cross-section of the Virgin’s blue drapery consisting of azurite and white over a pinkish mauve comprising white with azurite and red lake pigment. Photographed in reflected light under the microscope at 400×; actual magnification on the printed page, 320×.

Plate 8 (Boston) Cross-section of the Virgin’s blue drapery with natural ultramarine over a layer of pink consisting of red lake pigment and white. Photographed in reflected light under the microscope at 300×; actual magnification on the printed page, 375×.
each case, seem too improbable to be coincidental. Therefore we can imagine the artist moving from one picture to the other as he gradually built up the rich red glazes of the Virgin’s dress.

Also distinctive is Lotto’s underpainting, in both pictures, of the Virgin’s blue mantle with pink and lilac colours composed of red lake, white and azurite (Plates 7 and 8). The abraded state of the London canvas has resulted in this underlayer being more visible than intended, but in this case it must surely have been applied to modify the rather greenish cast of the azurite and is not a planned change of colour for the drapery. The fact that the pink underpainting is present in the Boston picture, where the mantle is completed with lapis lazuli ultramarine and the pink undertone consequently not so necessary, might suggest that up to this point it had not been decided which version was to receive the more expensive and purplenton blue. The same distinction continues in the painting of the skies and another subtle difference in colour between the two can be seen in Saint Jerome’s robe: in the Boston version it inclines towards a truer violet, while in the London painting it is a duller brownish maroon, typical of a purple mixture based on azurite and red lake. Here too the difference can be explained by the use of ultramarine in the picture in Boston. Such a consistent discrimination between the blue pigments gives each painting a certain chromatic unity but it also strongly suggests that when the two versions were commissioned it was stipulated that one of them was to be made at less expense.

A Lady with a Drawing of Lucretia (Plate 9) shows a fashionably dressed woman, standing between the back of an armchair and a table, holding in her left hand a drawing of the Roman matron Lucretia about to stab herself. While all the evidence indicates that the sitter was probably called Lucretia, her precise
Fig. 5  Lorenzo Lotto, *A Lady with a Drawing of Lucretia*. Infra-red photograph.

Plate 10  Cross-section, top edge, left, to show the blue stripe (azurite) beneath the grey background in *A Lady with a Drawing of Lucretia*. The pale grey *imprimatura* lies beneath. Photographed in reflected light under the microscope at 400×; actual magnification on the printed page, 360×.

Plate 11  Cross-section, left edge, to show the pink stripe (red lake, white and some vermillion) beneath the grey background in *A Lady with a Drawing of Lucretia*. Photographed in reflected light under the microscope at 400×; actual magnification on the printed page, 360×.
identity is not certain.\textsuperscript{13} Details of the costume suggest a date in the early 1530s, as do similarities with other securely dated works of that period.\textsuperscript{14} This complex and unusual portrait has been revealed by technical examination to have been extensively modified in the course of painting. The changes are revealing as they show the artist adapting and simplifying elements of the design to achieve the final memorable result, but they may also suggest the artist’s responses to the wishes and requirements of his sitter.

The painting is on a linen canvas with a fine tabby weave (rather finer than that of NG 2281 discussed above). Although the tacking margins have been cut, cusped distortion of the weave is visible at all the edges (less evidently along the lower edge which is the most damaged), indicating that the canvas has largely retained its original format and dimensions.\textsuperscript{15}

In common with The Virgin and Child with Saints Jerome and Nicholas of Tolentino the first layer of preparation consists of a thin coat of gesso. Over this there lies a thin imprimitura of lead white tinted with a little carbon black, producing a pale but definite grey colour.\textsuperscript{16} This imprimitura would be sufficiently light in colour to provide contrast with a black underdrawing material if that were present, but no such drawing was detected in infra-red photographs. However, remarkably, both infra-red photographs and the composite X-ray photograph (Figs. 5 and 6) show a radical recasting of the setting. In place of the present stone grey background with its subtle lighting effects,\textsuperscript{17} Lotto originally devised a quite different interior setting for his sitter with a background of broad vertical alternating coloured stripes, to represent either a textile or possibly a painted decoration.\textsuperscript{18}

The stripes which appear dark in the infra-red photograph conversely appear light in the X-rayograph and therefore contain more lead white in their constitution. Using these images, paint cross-sections

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Fig. 6 Lorenzo Lotto, A Lady with a Drawing of Lucretia. Composite X-radiograph.
were taken in order to discover the colours that lay beneath the surface. Those stripes which absorb infrared radiation were painted in a mixture of natural azurite and lead white (and so are dense in the X-ray). The second colour of the striped background proved to be a mid-pink composed of red lake, lead white and a little vermilion (see Plates 10 and 11). Variations in the colour of a second sample from the pink stripe at the left edge suggest that the lighting effects, with their cast shadows, had already been established.

Although the painter is known for his idiosyncratic use of colour, the combination of a pink and blue striped background with the sitter’s dress of vivid green and bright orange (Plates 12 and 13) was perhaps too extreme even for Lotto to sustain. The observation that the final layers at least of the dress overlap the grey of the present setting indicates that the colourful striped background may have been obliterated at an early stage, perhaps before the painting of the dress was begun. However, Lotto seems to have been reluctant to abandon this colour scheme altogether, since we find that beneath the pink of the present tablecloth, there lie precisely the same pink and blue stripes. The existence of the blue stripes can be glimpsed around the contours of the sprig of wallflowers on the table and also around parts of the piece of paper bearing the inscription, and this shows that these stripes were cancelled relatively late on in the development of the painting.

Lotto made other changes which are more significant for the reading of the painting. The text on the piece of paper has been modified, apparently from EXEMPLUM to EXEMPLIO,19 but most interesting is the reworking of the representation of an ink drawing of Lucretia on the sheet of paper the sitter holds. This is partially visible on the surface of the painting, but more evident in the infra-red and X-ray images (Plate 14; Figs. 7 and 8). These reveal a coloured image of a woman, presumably Lucretia, with her head facing in the opposite direction and placed lower down, at a level with the left shoulder of the drawn Lucretia. Her left arm is raised up high, bent at the elbow and with the hand outstretched, the palm facing upward and away from the body. The drapery fans out to the left with more angularity than in the arrangement eventually preferred. This representation seems to have been on a smaller sheet of blue-coloured paper (presumably a sheet of carta azzura, much used for drawing in Venice). The reworking and enlargement of the sheet in white paint over the earlier blue, and the increased transparency with age of this upper paint layer, gives the illusion of a white border: the effect is to make the drawing resemble a print with a faint plate mark (Plate 14).

Evidence that the repainting of this detail was executed rapidly and very likely in a single painting session comes from the X-ray image (see Fig. 8); here it can be seen that the black lines of the drawing were worked rapidly into the still-soft white paint representing the sheet of paper. The lines register as dark in the X-ray because the wet paint has been displaced by Lotto’s brush.

Plate 12 Cross-section from the intense deep green of the lady’s dress consisting of several layers of verdigris and verdigris with white. The type of paint structure for dark, saturated greens is common to many Venetian sixteenth-century pictures. The grey imprimitura and a trace of gesso ground can be seen beneath. Photographed in reflected light under the microscope at 240×; actual magnification on the printed page, 260×.

Plate 13 Cross-section from the brightest orange on the bodice of the lady’s dress, showing the highlight of pure realgar (orange mineral arsenic disulphide, As₂S₃) over more muted orange-brown underlayers. The imprimitura and gesso are present beneath. Photographed in reflected light under the microscope at 400×; actual magnification on the printed page, 360×.
ABOVE:  
Fig. 7 Infra-red photograph detail of drawing held by the sitter.

TOP RIGHT:  
Fig. 8 X-ray detail of drawing held by the sitter.

Plate 14 Colour detail of Plate 9.
Acknowledgements
We are immensely grateful to the Museum of Fine Arts, Boston, for their helpful collaboration in the investigation of the relationship between the two paintings. Data and samples were exchanged by Joyce Plesters and Elizabeth Jones in the second half of 1979; more recently Rhona Macbeth examined Boston’s version with Nicholas Penny, and in June 1997 in preparation for this article the infra-red mosaics reproduced here were supplied by Lydia Vagts and Rhona Macbeth. Samples taken by Lydia Vagts were examined by Richard Newman in the Research Laboratory of the Museum of Fine Arts. We are also grateful to Rachel Billinge, Raising Research Associate at the National Gallery, for making the infra-red reflectogram details of the London painting.

Notes and references
2. Both paintings are catalogued by Cecil Gould in The Sixteenth-Century Italian Schools, National Gallery Catalogues, London 1975, pp. 136–8. The title of NG 2281 has been amended in accordance with the iconographical observations made by David Ekserdjian in ‘A note on Lorenzo Lotto’s “Virgin and Child with Saint Jerome and Saint Nicholas of Tolentine”’, Museum of Fine Arts Journal, 1971, pp. 87–8; Saint Nicholas was previously described as Saint Dominic.
3. This painting is in the Palma Camozzi Vertora collection, Costa di Mezzate (Bergamo). It is included in the exhibitions in Washington and Bergamo (see note 1) as it was in the Lotto exhibition in Palazzo Ducale, Venice, in 1953. Mauro Lucco in the catalogue entry (no. 18, pp. 125–7) claims that this is the prime version from which the Boston painting is derived. The evidence of the underdrawing (to which he does not allude) is hard to reconcile with this theory. The pose of Christ makes sense if he is responding to Saint Nicholas, but the saints in the Costa di Mezzate picture are less happily integrated. The composition (which is significantly smaller) looks like an autograph replica. It is not true that it is in superior condition to the Boston painting; it has been flattened in lining.
6. See, for example, T. Pignatti (in collaboration with K. Donahue), The Golden Century of Venetian Painting, Los Angeles County Museum, 1979, p. 16.
7. William Suhr, in his account of the treatment of the Boston painting in 1956, described the canvas which he found on removal of a lining as ‘of a fine silky structure’, observing that its texture did not correspond with the ‘canvas imprint in the original ground’. He concluded that it could not be the original support. Since the adhesion of this canvas was poor, he re-transfered the painting to a new canvas (letter dated 18 January 1960 in the Conservation File at the Museum of Fine Arts).
8. For the suggestion that the National Gallery picture had originally been on panel see the Treatment Report of November 1979 in the National Gallery Conservation Dossier.
10. Other examples of imprimitura layers containing lead-tin yellow have been identified in the Collection, in works from both Florence and the Netherlands. The amount present and the pale colour suggest that it is not intended to colour the imprimitura to any great extent. The pigment is suitable for such a preparatory layer because it dries well. This subject will be explored by Jill Dunkerton and Marika Spring in greater detail in a paper to be presented at the XVIIth International Congress of the IIC, Dublin, September 1998.
11. Analysis carried out by Jo Kirby. The principal dyestuff component was found to be trihydroxyanthraquinone-3-carboxylic acid indicating the source to be the madder plant (Rubia tinctorum). Madder lakes appear not to be very common in sixteenth-century Italian painting; however, another confirmed example can be found in Altobello Melone’s Christ carrying the Cross (NG 6546). See Jo Kirby and Raymond White, ‘The Identification of Red Lake Pigment Dyestuffs and a Discussion of their Use’, National Gallery Technical Bulletin, 17, 1996, p. 65.
12. The identification of ultramarine by FTIR-microscopy in samples from the Boston painting was made by Richard Newman of the Department of Objects Conservation and Scientific Research. For discussion of the use of pink underpainting to harmonise areas of blue in paintings by Raphael, see Marcia Hall’s Introduction to The Princeton Raphael Symposium, eds. John Shearman and Marcia B. Hall, Princeton 1990, p. xviii.
13. Michael Jaffé made the interesting proposal, now widely accepted, that the painting represents Lucrezia Valier who married into the Pesaro family (in whose possession the portrait was in the late eighteenth century). The marriage took place in 1532 which is about the right date for the painting: ‘Pesaro family portraits: Pordenone, Lotto and Titian’, Burlington Magazine, CXIII, 1971, pp. 696–702 (esp. p. 700). This theory has recently been challenged by Jennifer Fletcher in a review of Peter Humfrey’s Painting in Renaissance.
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14. The dress has been said to be ‘provincial’ rather than Venetian but it resembles the dress worn by a woman in Bonifazio de’ Pitati’s *Dives and Lazarus* in the Accademia, Venice, of about 1535. The style is certainly that of the early 1530s, which would exclude the possibility that the sitter was one of Lotto’s family painted in the 1540s (see Fletcher, cited in note 13). In style the painting has many similarities with the Saint Lucy altarpiece at Jesi dated 1532, among other works of this period.

15. Cecil Gould, cited in note 2, p. 137, claimed that the painting was ‘probably somewhat cut down’ and furthermore that it was ‘probably transferred from panel’ but we find no evidence for either claim.

16. Of the two other paintings by Lotto in the Collection, one (NG 699) also has a light grey *imprimitura*; the other (NG 1047) has a preparation like that of the *Virgin and Child with Saints Jerome and Nicholas of Tolentino*.

17. The use of shadow is remarkably similar to that in the Saint Lucy altarpiece (see note 14).

18. Frescoed fictive hangings recently discovered in the Palazzo Pretorio of Cittadella which can be dated to 1503 are of broad stripes of this kind; see Giuliana Ericani, ‘Scoperta e restauro di preziosi affreschi in un antico palazzo di Cittadella’, *Veneto, Ieri, Oggi, Domani*, April 1994, pp. 101–5. At the National Gallery a striped textile can be seen, suspended behind the figure, in an anonymous *Portrait of a Boy* (NG 649), probably Italian and of c. 1540.

19. The text (with ‘exemplum’ and not ‘exemplo’) corresponds with the last words given to Lucretia before she stabs herself in Livy’s *History of Rome* (I, LVII.4–LX.4). They are not found in Ovid’s account (*Fasti*, II, 725–852) but were adopted with variations by Boccaccio in his *De Claris Mulieribus*. Livy was certainly Lotto’s source. He does, however, omit one word: ‘deinde’.