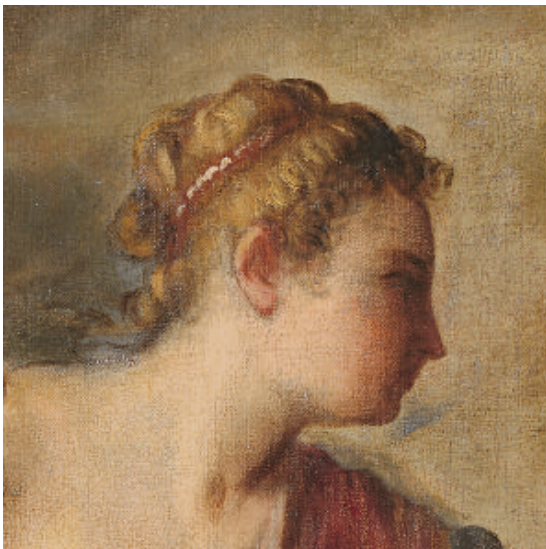
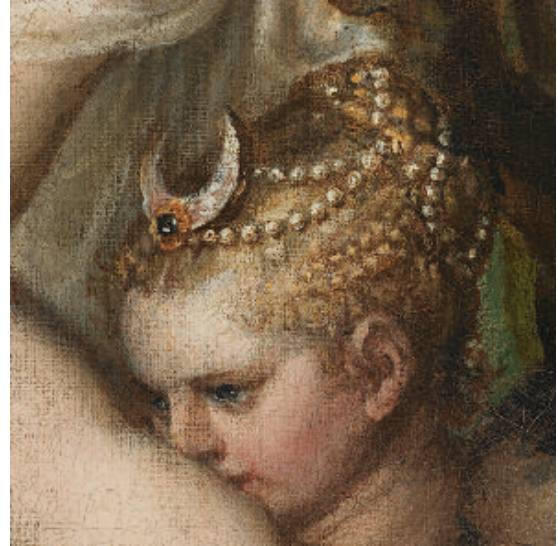


# National Gallery Technical Bulletin

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*Titian's Painting Technique from 1540*



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#### FRONT COVER

Titian, *Diana and Actaeon* (NG 6611; NGS 2839), 1556–9 (detail).

#### TITLE PAGE

TOP LEFT: Titian, *The Vendramin Family, venerating a Relic of the True Cross* (NG 4452), 1540–5 (detail).

TOP RIGHT: Titian, *Diana and Actaeon* (NG 6611; NGS 2839),  
1556–9 (detail).

BOTTOM LEFT: Titian, *The Death of Actaeon* (NG 6420),  
c.1559–76 (detail).

BOTTOM RIGHT: Titian, *The Tribute Money* (NG 224),  
1567–8 (detail).

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CAT. 5

*Diana and Callisto*

NG 6616; NGS 2844

1556–9

Signed: TITIANUS/.F.

Canvas, 187 × 204.5 cm

Thread count of canvas: 16 warp, 15 weft per cm<sup>1</sup> (plain weave)

Cleaned and restored in 1998–9<sup>2</sup>

The story of *Diana and Callisto* echoes that of *Diana and Actaeon* (CAT. 4) in that it depicts, on the left, a moment of revelation, in which Callisto's fellow nymphs expose her pregnancy following her seduction by Jupiter. On the right, Diana, supported by attendants, reacts by expelling Callisto from her company. Callisto was subsequently turned into a bear by Juno and hunted almost to death by her own son. Actaeon was, of course, to be hunted to death by his own hounds (see CAT. 8).

The canvas for *Diana and Callisto* was assembled in the same way as that for *Diana and Actaeon* with a single vertical seam. The weave of the textile is considerably finer than that of its pendant, yet the texture of the support seems more apparent. This is because of the difference in their preparation. The canvas for *Diana and Callisto* received a coating of gesso, present in some of the paint cross-sections (FIGS 153 and 185),<sup>3</sup> but there are no indications of an *imprimitura* as in the samples from *Diana and Actaeon*. The gesso layer seems to be very thin over the tops of the canvas weave but has accumulated more thickly in the depressions between the threads. The absence of an *imprimitura*, together with less extensive reworking of the paint surface (and therefore thinner paint), perhaps explains the disparity in condition between the two works. The more thinly painted parts of *Diana and Callisto* could have been particularly vulnerable to past conservation treatments involving water – whether glue and paste lining or cleaning with alkali such as soap and lye – with softening of



FIG. 153 NG 6616, NGS 2844, paint cross-section from the green foliage of the landscape at the far left edge.

both ground and paint resulting in the wear and abrasion that is apparent in some places. Furthermore, the canvas and remnants of gesso seem to have darkened with old varnishes and also perhaps the waxes applied by Kennedy North (see essay, p. 121). While this has almost certainly also happened on *Diana and Actaeon*, the lack of an *imprimitura* in the case of *Diana and Callisto* means that this has had a more significant effect on its appearance, giving the impression that it has been executed on a red-brown ground (see also essay, p. 11).<sup>4</sup> Unfortunately, the areas worst affected are the figure of Diana and the rocky outcrop that frames her head, the two nymphs seated on either side of her and parts of the figure of Callisto, notably her swollen belly.<sup>5</sup> Here, in particular, the decision following the most recent cleaning to retouch the damage to a minimal extent can mislead the viewer into thinking that Titian deliberately left parts of the surface in a rougher, less finished state. Both the restorers who worked on the painting in the twentieth century believed that Diana's outstretched hand and forearm had been repainted in a restoration, but left the supposed repaint in place for fear of there



FIG. 154 Titian and workshop, *Diana and Callisto*, c.1566. Oil on canvas, 186 × 200 cm. Vienna, Kunsthistorisches Museum, Inv. GG 71.





FIG. 155 Titian, *Diana and Callisto* (NG 6616, NGS 2844), 1556–9. Oil on canvas, 187 × 204.5 cm.

being little original underneath. If this is indeed the case (but see p. 85), the repaint would be very old indeed, for the paint texture and cracking are the same as that of the rest of the painting. The damage would then have occurred very early in the painting's history. Whether or not later paint really is present, these areas of flesh are indeed worn, and some idea of what has been lost can be obtained by comparison with the best preserved figure, the standing nymph on the left, and with a workshop copy with some variations, now in the Kunsthistorisches Museum, Vienna, although this version lacks some of the chiaroscuro effects of the original (FIG. 154).<sup>6</sup>

The absence of a lead-containing *imprimatura* means that the X-ray image (FIG. 156) differs from that of *Diana*

and *Actaeon*, with more contrast between the more thickly painted passages, especially those containing a considerable quantity of lead-based pigments, and areas that are not only thinner but also contain less X-ray-absorbing pigments. In the blackest parts of the X-radiograph – for instance, Callisto's belly and around Diana's head, the bank above her and the shadowed part of the purple cloth on which she is seated – the paint is not only thin but also worn. The composition of *Diana and Callisto* is arguably better balanced than that of its pendant, and fewer alterations were made, suggesting that Titian may have planned at least parts of the work in greater detail before he began to paint. In the infrared reflectogram (FIG. 157) it is, as usual, difficult to distinguish lines of possible underdrawing from contours and





FIG. 156 NG 6616, NGS 2844, X-radiograph digitally adjusted to remove the effect of the stretcher.

reinforcing marks made in the course of painting. Some of the drawing is very free: for example, the sketching of the putto with the vase of water in a position well to the right of the painted one. In the figures of the two nymphs seated on either side of Diana it is possible to detect broad fluid lines of liquid paint that seem to be part of a first positioning of the figures (FIG. 158). In the nymph to the left of Diana, lines are visible on her neck and upper arm, which was apparently to have been higher and more bent, while two parallel lines across her left leg appear to indicate the edge of the bank of the stream. The outline of the nymph's proper left knee seems to have been drawn in a lower position, and the X-ray and infrared images confirm that her right leg was added later, covering brushstrokes from the painting of the water. More lines of possible underdrawing appear on the left shoulder of the nymph holding an arrow and also around her waist, where a quick looped mark was

perhaps intended to indicate a small piece of drapery. The lines around her hip and thigh suggest that originally her left leg dropped away more steeply so that the inside of her right knee was visible.

The group on the left around Callisto has been more extensively altered (FIG. 159). Callisto's head and body were painted thinly and directly on the gesso ground. Her head is in shadow – a daring idea for the main subject of a painting, but not unprecedented in works by Titian. It therefore appears dark in the X-radiograph (FIG. 160). Since only the highlights of her swollen belly remain undamaged, the heightened contrast and loss of transitions in the modelling are exaggerated in the X-ray image. While Callisto's central position was established early, the idea of showing her with her left arm flung out in anguish was introduced only after the nymph who supports her had been painted – she herself exhibits alterations to the height of her left shoulder and the



FIG. 157 NG 6616, NGS 2844, infrared reflectogram.



FIG. 158 NG 6616, NGS 2844, infrared reflectogram detail of the nymphs on the fountain, showing drawing.

angle of her back. Callisto's other arm seems always to have been raised, although a broad rippled stroke of lead-containing paint immediately to the left of her head suggests some improvisation in its position and the extent to which it was to be draped. The arm of the nymph behind, who now grasps Callisto's arm, is another late introduction.

In the infrared reflectogram (FIG. 161) it can be seen that another nymph originally leant in towards Callisto, her head just above Callisto's raised hand. The highlight of her forehead can be detected in the X-radiograph and so she must have been painted to some degree before being covered with the paint of the bush behind the group. The most altered figure of all is the standing nymph in profile. Titian appears to have had difficulty in finding a balanced pose. Her left leg seems originally to have been bent, with her feet closer together. It was then painted in at least one other position, this time with her





FIG. 159 NG 6616, NGS 2844, detail showing the nymphs around Callisto.

foot further forward and closer to Callisto's leg, before Titian settled on the final pose. All these attempts seem to have been painted over the outstretched legs of Callisto. The standing nymph's other leg is relatively unchanged apart from a small adjustment to her toes, rotating the foot slightly outward. When this figure was originally conceived, Titian's difficulties with the further leg may have been masked, since the X-ray and infrared images show that the nymph, now celebrated as one of his most remarkable nudes, was originally swathed in swirling drapery. A cross-section from the paint of her belly reveals that this drapery was purple, as underneath the two layers of pale pink flesh tint, composed of lead white and a little vermilion, is a layer of paint containing lead white, red lake and some ultramarine (FIG. 162). Beneath that there is a substantial layer of lead white, probably an initial lay-in to indicate the boundaries of the flesh before the somewhat diaphanous mauve fabric began to be constructed on top. The folds covered her back, buttocks and thighs, leaving exposed her raised arm and breast. In addition, the drapery seems to have billowed out in a large loop behind her. Some of the dark marks in the infrared reflectogram may relate to the initial sketching of the drapery in this position. However, those marks a little further down, which hint



FIG. 160 NG 6616, NGS 2844, X-radiograph detail showing the nymphs around Callisto.

at another hidden face, level with the standing nymph's waist, can all be related to lines of drapery drawing and some features visible on the picture surface.

In the X-ray and infrared images there is a suggestion that originally the nymph's left hand was shown in front of her, tugging at the unfortunate Callisto's skirts. When Titian dispensed with the drapery he moved her arm into its present position behind her. Her raised arm, lifting the skirt in an echo of Diana's gesture in the pendant painting, seems always to have been in that position. Finally the elimination of the draperies created a space at the left edge into which Titian inserted the nymph who crouches down to remove Callisto's scarlet boot, her hand repeating the position of the nymph who dries Diana's foot in *Diana and Actaeon*.

The patches of the pale rose pink dress of the nymph behind Callisto seem to have been inserted at a relatively late stage around the limbs of the figure group and it is possible that the colour was introduced only after the purple draperies of the standing nymph had been covered over. The sample was taken from a point where a fold was extended over the background: it consists of a single layer composed of lead white and red lake (FIG. 163). Immediately below the pink paint is an orange-brown layer consisting of yellow earth and red earth



FIG. 161 NG 6616, NGS 2844, infrared reflectogram detail showing the nymphs around Callisto.

with some black, beneath which is lighter beige paint containing lead white, black and a little red earth. These layers are similar in appearance to the brown base layer for the landscape that occurs beneath the green foliage in a sample from just above the left-hand figure group (see FIG. 153).

Two paint samples exist from the deeper pink of the dress of the nymph to the right of Diana, from folds near her shoulder and waistline (FIGS 164, 165 and 167). Together they illustrate perfectly the technique that, throughout his career, Titian used for rendering silks and velvets. A thin orange-red layer containing vermilion, red lead and lead white was first applied – the lowest layer present in both samples. In the cross-section from her waist (FIG. 167), on top of the orange-red there are two pale pink layers containing lead white, red lake and a little vermilion and red lead, over which is a



FIG. 167 NG 6616, NGS 2844, paint cross-section from the pink drapery of the nymph to the right of Diana, taken from a fold near her waist.

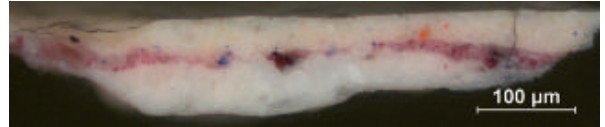


FIG. 162 NG 6616, NGS 2844, paint cross-section from the flesh of the torso of the standing nymph on the left.



FIG. 163 NG 6616, NGS 2844, paint cross-section from the pink drapery of the nymph behind Callisto.



FIG. 164 NG 6616, NGS 2844, detail showing the pink drapery of the nymph to the right of Diana.

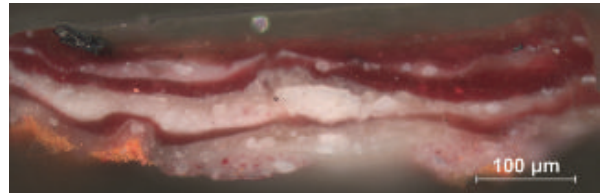


FIG. 165 NG 6616, NGS 2844, paint cross-section from the pink drapery of the nymph to the right of Diana, taken from a fold near her shoulder.

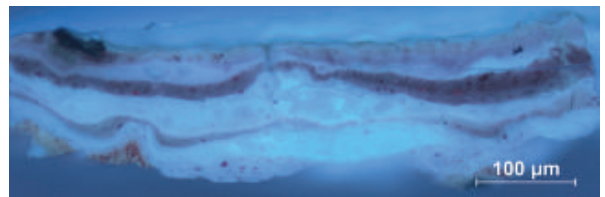


FIG. 166 NG 6616, NGS 2844, paint cross-section from the pink drapery of the nymph to the right of Diana, taken from a fold near her shoulder, under ultraviolet illumination.

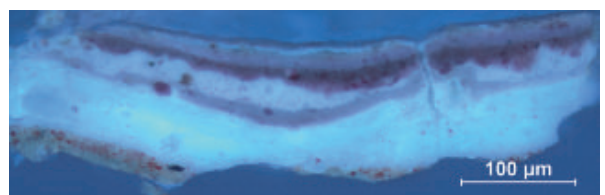


FIG. 168 NG 6616, NGS 2844, paint cross-section from the pink drapery of the nymph to the right of Diana, taken from a fold near her waist, under ultraviolet illumination.



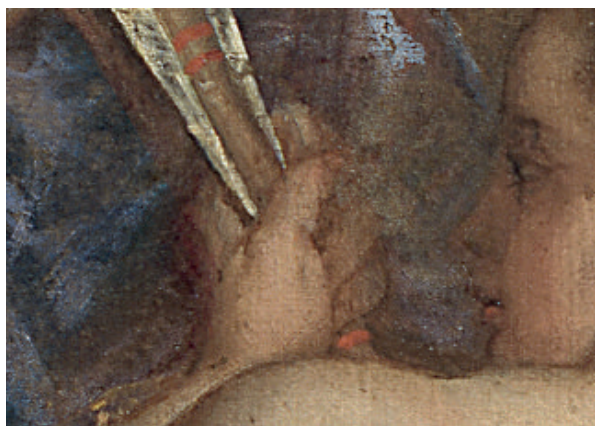


FIG. 169 NG 6616, NGS 2844, detail showing the hand of the nymph with an arrow, and behind it the purple drapery on which Diana is seated.

translucent layer of red lake glaze, followed by another opaque pink layer. Three further layers of red lake with a very small amount of lead white and black (most easily visible under ultraviolet light, FIG. 168) are present to strengthen the shadow since the sample is from a deep fold. A very similar sequence features in the other cross-section, from the shoulder, except that here there is yet another thin pale pink layer as the folds were reworked, which has been finished with another final layer of red lake (FIGS 165 and 166). By applying thin broken strokes of white or pale pink paint to accentuate the modelling over deep red lake glazes, Titian could obtain a range of cooler optical shades. The smoky purple-red tinge of these scumbled paints could then be modified by further glazes of red lake. The final layer is always a glaze, no matter how thin, with the brushstrokes of the lead-white-rich paint beneath often showing through, giving the draperies a lively surface that very effectively evokes the crumpled texture of the fabrics.

As with other paintings from the later part of Titian's career, the red lake contains cochineal, probably of New World origin. A second dyestuff, kermes, was also present in a smaller quantity.<sup>7</sup> ATR-FTIR analysis of the cross-section from the nymph's waist (FIGS 167 and 168) indicates that there are two differently prepared lake pigments present in separate layers. That which appears darkest in ultraviolet light (FIG. 168), just beneath the uppermost layer, is composed of a protein-containing lake with rather little alumina in the substrate, as is typical of pigments prepared from the shearings of dyed woollen textiles using an alkali to extract the dyestuff that is strong enough to dissolve the proteinaceous wool fibres. The lake present in every

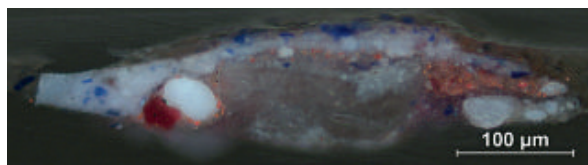


FIG. 170 NG 6616, NGS 2844, paint cross-section from the purple drapery on which Diana is seated.



FIG. 171 NG 6616, NGS 2844, paint cross-section from the blue drapery of the nymph at the far right.

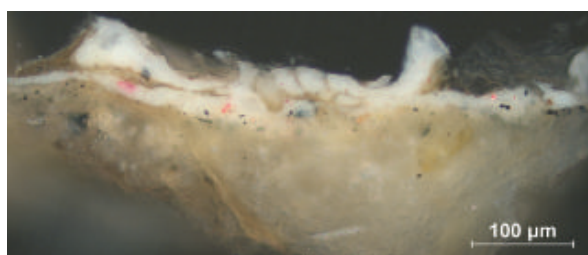


FIG. 172 NG 6616, NGS 2844, paint cross-section of flesh from the shoulder of the nymph in blue at the far right.

other layer has a conventional alumina substrate, made evident by the higher proportion of aluminium detected by SEM-EDX analysis. The relative amounts of each dyestuff detected by HPLC suggest that this is likely to be the cochineal lake, with the kermes lake being that prepared from wool shearings. A similar combination of dyestuffs was also found in the red lakes used in *The Tribute Money* (CAT. 6), although there it was not possible to distinguish two separate lake pigments.

Red lake is also a component of the purple drapery on which Diana is seated (FIGS 169 and 170). This area has been affected by cleaning and lining damage but the colour may always have been somewhat variegated, combining deep reddish purples with paler, more lavender highlights. The sample, from a highlight just above the hand of the nymph to the right of Diana, shows a complex sequence of layers formed from overlapping paint strokes in the folds in the area near to top of the drapery. At the very top of the cross-section is a fragment of a mauve layer containing lead white, ultramarine and red lake, which encroaches over the main light-bluish stroke of the highlight containing the same pigments but with only a very small amount of red lake. This, in turn, partially overlaps an adjacent orange-red stroke

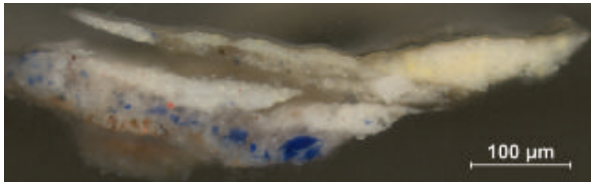


FIG. 173 NG 6616, NGS 2844, paint cross-section from the yellow shaft of sunlight in the upper left corner.

of paint consisting of vermilion, red lake and lead white, seen at the left and right sides of the cross-section but bisected by a large translucent white agglomerate of dolomite that protrudes through from a layer below. Beneath the orange-red is more purple paint, and also a thin grey layer containing lead white and degraded smalt, almost impossible to see in normal light but revealed by EDX mapping. The possibility that the colour of this drapery (and by analogy that of the lilac drapery in *Diana and Actaeon*) has altered is suggested by the redder hue of a late adjustment along the left contour of the knuckles of the nymph holding an arrow. It seems likely that this did not originally contrast so strongly with the adjacent paint, but has survived better on ageing because a different pigment mixture was used, and perhaps also because it is more thickly applied. The areas of shadow further down the drapery were not sampled, but given the pigment mixtures found near the top, these were probably a combination of smalt and red lake, with both components having degraded so that the paint has become a translucent brown.<sup>8</sup> It is now difficult to distinguish from areas of abrasion, but the survival of the golden yellow decoration around the hem and some deeper purple strokes of modelling that are likely to be ultramarine and red lake suggest that more original paint is present here than it seems at first sight.

More red lake, mixed with lead white and perhaps some vermilion, is present in the lowest layer of a cross-section (FIG. 171) from the intense ultramarine blue drapery of the nymph on the far right. While this may be a chance brushstroke – the sample is from rather near the edge of the canvas – it is unlikely to represent a change of plan as to the colour of the dress. The pink layer may have been applied to enhance the purple hue of the ultramarine, as may also be the case with the dress of a bacchante in *Bacchus and Ariadne* (see vol. 34, of this *Bulletin*, CAT. 8, pp. 74–5). In *Diana and Callisto*, however, the effect of the pink is nullified by the deterioration of the layer of smalt that lies between it and the ultramarine-containing layers.

A cross-section from the back of the shoulder of this



FIG. 174 NG 6616, NGS 2844, detail showing the sky at the top left, with the shaft of sunlight.

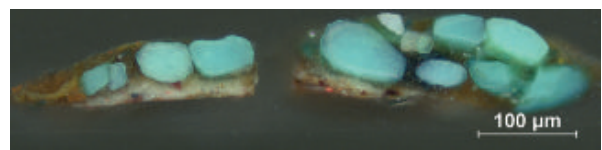


FIG. 175 NG 6616, NGS 2844, paint cross-section from the bright green foliage to the left of the upheld arm of the standing nymph at the left.

nymph (FIG. 172) demonstrates the simple and direct technique of the flesh painting in those figures that have not been altered. The layer structure consists of just two layers of pale pink, containing lead white with black and vermilion, and perhaps a little red lake, applied directly to the gesso, which is present in this sample. A strange feature of this cross-section is the cleavage between the two paint layers and the tendency for the upper layer to curl up in minute flakes, also seen in *Diana and Actaeon*, but here again there is no obvious cause. A similar separation of the topmost layer can also be seen in a cross-section of the paint of the bright yellow shaft of sunlight in the upper left corner (FIGS 173 and 174). The appearance of this paint, both in the sample and on the picture surface, had led to suspicions that it might not be original, but the yellow pigment mixed with the lead white is lead-tin yellow. It is highly unlikely that this pigment would be found even in a restoration of the late



seventeenth or early eighteenth century. The blue layers underneath are either mixtures of mainly lead white and ultramarine, or lead white and smalt.

In both the 'Diana poesie' some samples have shown signs of the formation of lead soaps but there is no evidence for the use – or overuse – of the zinc vitriol driers that may have caused paint defects in the form of drying cracks in some of Titian's earliest works (see vol. 34 of this *Bulletin*, pp. 24–5). Moreover, analysis of samples to identify the paint media has shown nothing unusual. From the few samples available from the two canvases, they would seem to conform to the practice observed in several works by Titian of using walnut oil for the lightest colours – found in this instance in the yellow paint of the sunbeam – and linseed oil for the darker colours. The latter was identified in two samples from the left edge of *Diana and Actaeon*, one from the dark greens and browns of the landscape, and one from the trailing pink and yellow drapery.<sup>9</sup> A further sample from the lower edge of *Diana and Callisto* indicated that linseed oil could well have been used for the dark paint here too, although contamination from wax used in past treatments means that this result is less certain.

The reduction of the architectural elements in *Diana and Callisto* to a single fountain base, which balances exactly the foremost pier in the pendant, allowed Titian

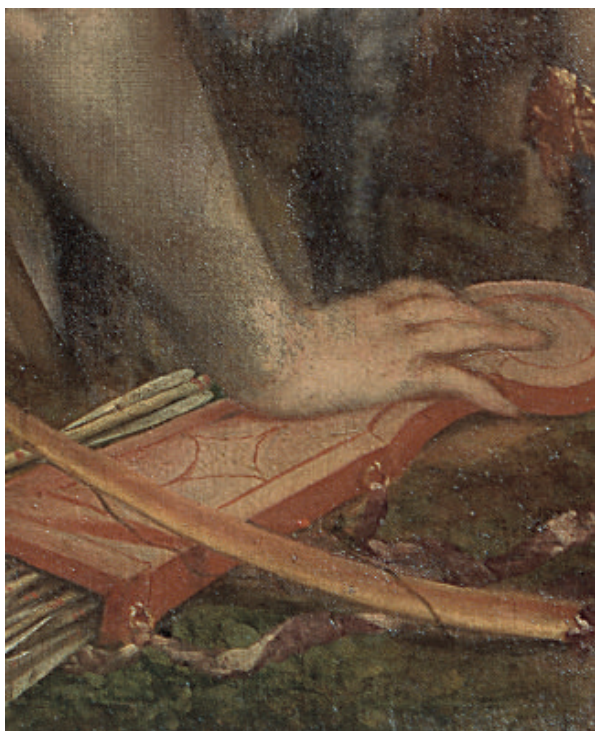


FIG. 176 NG 6616, NGS 2844, detail showing the nymph's hand on the quiver at the bottom right.

to include more natural features, and especially trees, contrasting the more feathery trees in the middle distance with the heavy branches of the tree that grows out of the bank above Diana. They were painted with the same range of pigments as in *Diana and Actaeon*. The deeper greens – as in, for example, the bushes that frame the Callisto group – contain verdigris, mixed with varying amounts of yellow earth pigment. In the cross-section (see FIG. 153) the green lies over a layer of orange-brown paint, containing red and yellow earth, vermilion, red lake, lead white, brown and black, which must be from the red-brown paint of the slope immediately above the bushes. Where the light catches the more distant trees the foliage was picked out with touches of brighter mineral malachite (FIG. 175), again over the brownish layers that form a base for the landscape. The grassy bank of the foreground varies between the deep, intense, brownish green below the hound and the lighter yellow green towards the right. A cross-section of the

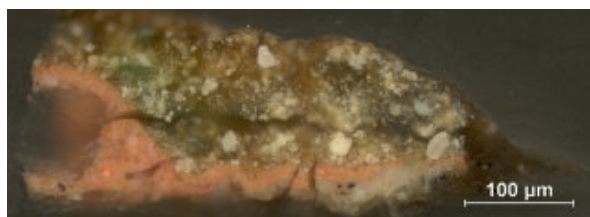


FIG. 177 NG 6616, NGS 2844, paint cross-section from a green area of the foreground, where it overlaps the quiver at the bottom right.

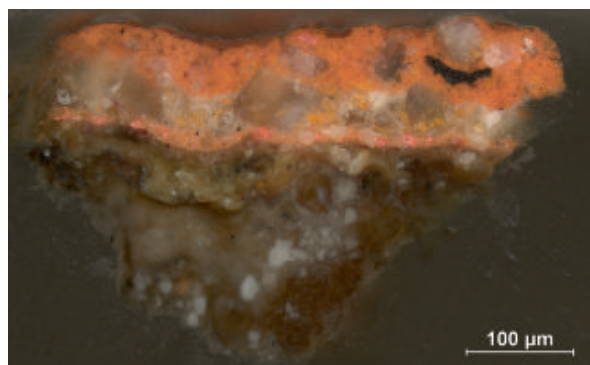


FIG. 178 NG 6616, NGS 2844, paint cross-section from the orange paint at the edge of the quiver at the bottom right.

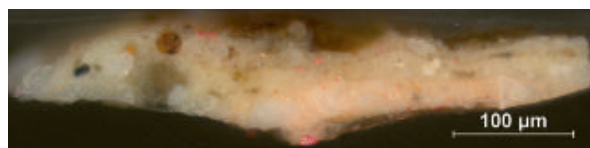
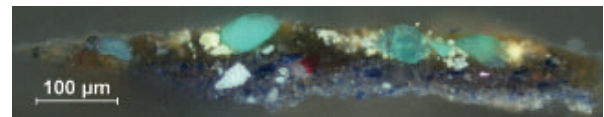
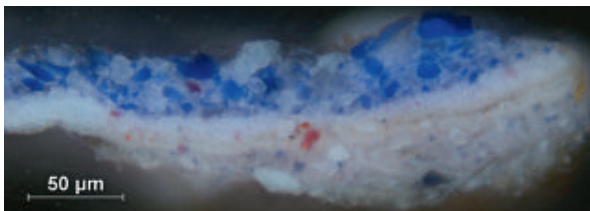


FIG. 179 NG 6616, NGS 2844, paint cross-section of flesh from the back of the nymph's hand that rests on the quiver at the bottom right.

FIG. 180 NG 6616, NGS 2844, detail showing Diana's outstretched arm.

FIG. 181 NG 6616, NGS 2844, paint cross-section from the blue of the distant mountain in the centre, below Diana's wrist.

FIG. 182 NG 6616, NGS 2844, paint cross-section from the distant green foliage below Diana's outstretched hand.



green where it meets the contour of the quiver (FIGS 176 and 177) shows that it includes lead-tin yellow and verdigris, and overlaps the edge of the orange paint of the quiver. Conversely, a sample from near the edge of the quiver (FIG. 178) shows the yellow green as the lowest layer, lying directly on the gesso ground, beneath the pinkish orange of the quiver, which consists of layers of vermilion, red lead, lead white and a little black. The inclusion of red lead has resulted in the formation of lead soaps, visible as large translucent agglomerates.

In the X-ray image (see FIG. 156) the nymph's hand registers very strongly, particularly when compared with her arm, which gives the impression that it has been painted on top of the painted quiver. However, this seems not to be the case, as the paint of the quiver was clearly worked around the fingertips, and although there were alterations to its shape – originally it was shorter and without the indentation – these do not affect the hand, apart from the end of the little finger which is now more bent. A cross-section (FIG. 179) shows four layers of light pink or yellowish flesh paint, consisting of combinations of lead white, vermilion and yellow earth, with perhaps some umber in the uppermost layer, as found in pale female flesh tints elsewhere on this painting and other works by Titian included in this study (see FIGS 79, 135 and 162). Titian's drawings and

underdrawings demonstrate that in planning poses of figures he often seems to have left their extremities unresolved, preferring to study them in greater detail on paper or to work them out in the painting process (see vol. 34 of this *Bulletin*, p. 64). In this instance, the nymph's arm was painted thinly and directly, with only the lightest areas being thicker, such as the highlight on the upper arm and elbow, and the hand, which was elaborated in several layers. This paint, therefore, was less vulnerable to damage than that of the rest of the arm and so the contrast in colour and condition, especially with the hand, is now very apparent. The same almost certainly applies to the paint of Diana's outstretched arm, previously believed to be the work of an early restorer (FIG. 180). The disjunction between the pinkish hues of the hand and the highlight of forearm and the shadows of the flesh of the figure, now so eroded, is very similar. In addition, the infrared reflectogram seems to show a first outline for the arm further up, apparently never painted, and the X-radiograph confirms that there is some reworking in this area, including revision of the position of Diana's fingers as Titian sought for a gesture that would be commanding, yet also graceful.

To set off Diana's right hand Titian also made adjustments to the distant landscape. The direction of





FIG. 183 NG 6616, NGS 2844, detail showing the fabric at the top right.

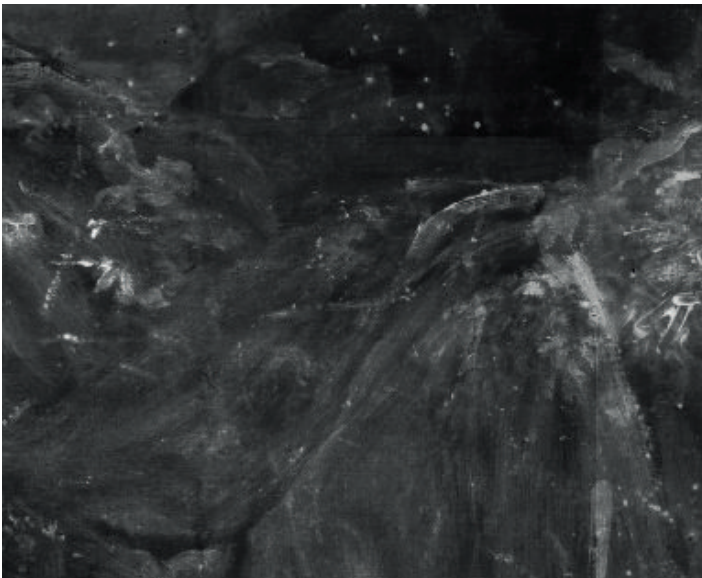


FIG. 184 NG 6616, NGS 2844, X-radiograph detail showing the fabric at the top right.

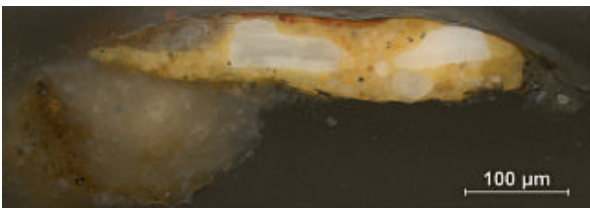


FIG. 185 NG 6616, NGS 2844, paint cross-section from the orange fabric at the top right.

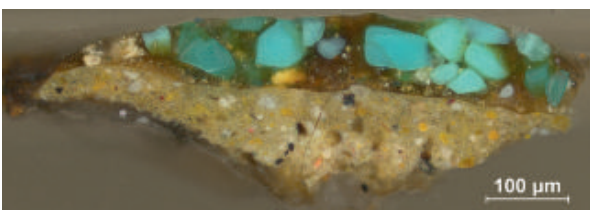


FIG. 186 NG 6616, NGS 2844, paint cross-section from the green tree at the upper right edge.

the brushstrokes of the pinkish paint at the horizon indicates that this paint originally passed under that of the mountains. As a result, in a cross-section from just below her wrist (FIG. 181) the ultramarine and white of the mountain, painted in two layers, lies over a couple of layers of pale pink, consisting of lead white, red lake and a little vermilion. Beneath this is another more purple layer, lying over the lowest layer which consists of smalt and lead white. This was presumably part of the general lay-in of the sky and distant landscape, exactly as in *Diana and Actaeon*. Again as in the pendant, the paint of the distant trees was dragged over that of the blue mountains with discontinuous strokes of green and brown. In the cross-section (FIG. 182) the green paint includes natural malachite, with lead-tin yellow and a little lead white.

It is easy to imagine that details such as the working up of the two hands might be among the 'few little things' that Titian wished to resolve in the summer of 1559.<sup>10</sup> Assuming that *Diana and Callisto* was indeed begun a little after *Diana and Actaeon*, it must eventually have reached a stage when Titian could begin to consider the two canvases as a pair and to make adjustments and introductions that would link them, quite apart from the obvious ones such as the appearance in both of the same black and brindled hunting dog. Connecting touches may have included the use of mineral malachite, a pigment not commonly found in his work, to lift the colour of the foliage in both paintings, even though its cold blue hue is not one that is observed in nature. The distribution of small areas of bright orange-red, based on vermilion, across both paintings may also have helped to unite them: for example, Callisto's red buskins, a late addition associated with the introduction of the nymph who removes them, replicate the lining of those worn by Actaeon.

*Diana and Callisto* also shares with *Diana and Actaeon* a variety of levels of finish in the handling of the paint. The careful execution of the details of the bows and quivers that occupy the foregrounds could be explained by workshop intervention, but are more probably the result of the location of these details, and their importance to the theme of hunting which lies behind the works. In complete contrast is the astonishingly bold execution of the curtain in the upper right corner and the branches in front of it (FIGS 183–6). The orange-pink and golden yellow colours of the curtain were directly and rapidly brushed in over the gesso. A sample from a more yellow highlight shows a single layer of yellow earth with some lead white and a little black, with over it a thin layer of more orange-red earth, probably just the edge over an overlapping stroke of darker colour. The trellis pattern was then dashed in using broken brushstrokes of the same pigments, but with the addition of more white, and beaded with dots of pure lead white, and the lozenges filled with the motif of a resting animal, just recognisable as a unicorn, a symbol of Diana's chastity (and that lost by Callisto). This handling of lead-white-containing paint is emphasised in the X-radiograph. Even more remarkable is the

painting of the branch in the upper right corner where a yellow-brown paint containing yellow earth, lead white and black has formed such a thick, raised texture that it might almost have been applied with a knife rather than a brush. In the cross-section it appears to be directly on the canvas, but the absence of gesso may be because the sample comes from very near the edge. Contributing further to the raised relief of the paint is a thick layer of natural malachite – like azurite, always a bulky pigment – mixed with lead-tin yellow.

On completion of the two canvases, Titian may well have felt that *Diana and Callisto* was the more successful work, although nowadays *Diana and Actaeon* is perhaps more widely admired. Before the paintings were sent to Spain we know that he recorded the composition of *Diana and Callisto* by making a tracing, since this formed the basis for the later Vienna version (see FIG. 154 and also essay, p. 14).<sup>11</sup> In addition, on top of the plinth that supports the putto with a vase – another virtuoso demonstration of the painting of water in movement – he chose to place his name in letters of gold leaf (FIG. 187).



FIG. 187 NG 6616, NGS 2844, detail of the fountain showing the signature.



CAT. 6

*The Tribute Money*

NG 224

1567–8

Signed: TITIANUS/.F.

Canvas, 112.2 × 103.2 cm (with later extensions), approximately 108 × 99.2–102.5 cm (irregularly distorted original canvas)

Thread count of canvas: 16 warp, 14 weft per cm<sup>1</sup> (plain weave)

Cleaned, restored and relined in 1937<sup>2</sup>

*The Tribute Money* can be identified as the painting referred to by Titian in a letter to King Philip II of 26 October 1568 as recently finished and dispatched to Spain.<sup>3</sup> It is not known whether the subject, very rare in the sixteenth century, was chosen by the King or by Titian, who back in 1516 had painted a small panel showing Christ and the Pharisee (Gemäldegalerie Alte Meister, Dresden) for another ruler, Alfonso d'Este of Ferrara. In 1574 *The Tribute Money* was included among the paintings given by Philip to the monastery of El Escorial where it hung, always much admired, in the sacristy for more than two centuries. In 1809 the painting was looted by Joseph Bonaparte and presented to one of his generals, Marshal Soult, from whose Paris collection it was sold to the National Gallery in 1852. The acquisition was controversial, and, despite the inclusion of a signature, the attribution to Titian was challenged by many connoisseurs of the nineteenth and twentieth centuries.<sup>4</sup> Aspects of the paint handling, discussed below, have also led some critics to identify the participation of his workshop in its execution. In recent years, however, the cleaning of many of Titian's late works has resulted in a re-evaluation of their variety of levels of finish and *The Tribute Money* has gained general acceptance as a work entirely by his hand.

Moreover, in common with *Diana and Callisto* (CAT. 5), Titian both signed the painting and allowed a print to be based on it, in this instance an engraving by Martino Rota (FIG. 188). Rota was apparently in Vienna by 1568 and must therefore have left Venice by that date.<sup>5</sup> This confirms that the painting must have been under way before then, but not necessarily many years earlier as has sometimes been suggested.<sup>6</sup> Indeed, some of the smaller differences between the painting and print indicate, as will be demonstrated, that a few final details in the painting had not yet been resolved when Rota presumably saw it. Other differences, however, are the invention of the printmaker, notably the addition of the large circular glory around Christ's head and the expansion of the format of the composition, especially its elongation at the lower edge.

The format of the painting itself was subsequently altered to one closely approaching that of the print, possibly as a result of knowledge of the latter.<sup>7</sup> The cusped distortions around the edges of the original canvas – of a plain weave with the slubs and raised threads to be seen in so many of Titian's canvases – confirm that it had indeed at some time been attached to a stretcher, the tacking margins having been trimmed off subsequently, but leaving the ragged edges of some of the tack holes. Strips of canvas, with a slightly coarser weave than the original, were then sewn onto all but the upper edge, widening the painting and extending it downwards. When the painting came into the National Gallery in 1852 the side strips had already been mostly turned round the stretcher (although a little of these can still be seen at each edge), but the lower extension was still visible. After the lining carried out in 1937 this too was turned round the stretcher, although part of it is still evident at the lower edge, especially at the left end where the original edge now slopes upwards.



FIG. 188 Martino Rota. *The Tribute Money*, c.1567–8. Engraving after Titian, 27.8 × 23.5 cm. New York, Metropolitan Museum of Art, Inv. 2012.136.303. Bequest of Phyllis Masser, 2011.



FIG. 189 Titian, *The Tribute Money* (NG 224), 1567–8. Oil on canvas, 112.2 × 103.2 cm.

Confirmation that the image has been returned to more or less its original format comes from the workshop replica, which was recycled to form part of the canvas of the *Saint Sebastian* in The State Hermitage Museum, St Petersburg (see p. 10, FIGS 8 and 9).<sup>8</sup>

The paint on the extensions is more transparent to X-rays than that of the original painting, and cross-sections show that the two canvases were also prepared in a different way. The additions have a ground consisting of calcium carbonate (which could be chalk or calcite) with some aluminosilicates that are probably a natural impurity, tinted with some charcoal black pigment (FIGS 190 and 191). None of the samples from

the original painting mounted as cross-sections includes the ground, but analysis of an additional unmounted fragment confirms that it consists of gypsum (calcium sulphate dihydrate), as found on other paintings included in this study.<sup>9</sup> Although a calcium carbonate ground would not be impossible on a Venetian canvas of this period, the composition of some of the paint on the additions adds further weight to the conclusion formed from historical evidence that they are not contemporary with the main part of the canvas.<sup>10</sup> The blue of the extended part of Christ's robe is painted with smalt, also found in the original painting but as an underpainting for natural ultramarine, the latter not being present on





FIG. 190 NG 224, X-radiograph digitally adjusted to remove the effect of the stretcher.

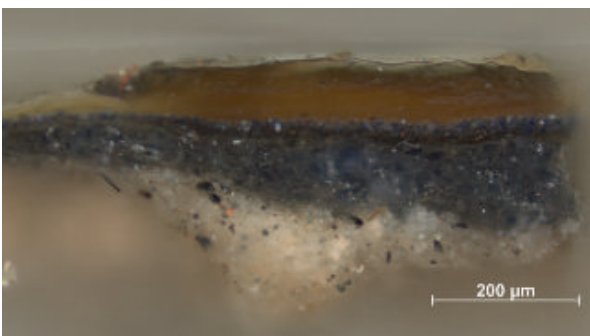


FIG. 191 NG 224, paint cross-section from the discoloured blue of the extension to Christ's mantle at the bottom edge.

the added strip (FIG. 191). Semi-quantitative analysis shows that the elemental composition of the smalt on the addition is different to that in the original, the most significant distinction being that in the latter there are high levels of the arsenic that is present due to its association with the cobalt ore used to manufacture the pigment (almost twice as much as cobalt), while on the additions the smalt contains only around half as much arsenic as cobalt.<sup>11</sup> Although it is perfectly possible for more than one grade or batch of smalt to be employed in

a single painting, high arsenic smalt has been found in all the other works in this study in which this pigment was used and seems to be typical of Venetian paintings of this period.<sup>12</sup>

The use of smalt does nevertheless suggest that the extensions are relatively old. Similar sewn extensions were added in the early to mid-eighteenth century to several canvases from the Spanish royal collections.<sup>13</sup> The enlargement of *The Tribute Money* in this way suggests that at this date it remained unlined and it was probably not lined until taken to France in the early nineteenth century. This may have been the lining present when the painting came into the National Gallery collection, which was replaced in 1937. If it did indeed escape hazardous early lining techniques and multiple relining, this may be why *The Tribute Money* has survived as the best preserved of the works to be included in this study.

*The Tribute Money* is also a work to which Titian gave particular attention regarding not only its execution but also its design. An unusually detailed and careful underdrawing has been revealed by infrared reflectography in

FIG. 192 NG 224,  
infrared reflectogram.



those areas of the painting that are transparent to infrared (FIGS 192 and 193). As in other examples of Titian's underdrawings, the lines are drawn freehand with a brush and a liquid medium, but some details, such as the arm and hand of the Pharisee (in a higher position to that of the final painting) and Christ's raised hand, are outlined with considerable precision. The lines do not, however, have the character of an underdrawing transferred by means of a cartoon, and Christ's drapery folds are indicated in a more approximate fashion. More lines of underdrawing can be detected in the head and neck of the Pharisee and probably exist for Christ's head but cannot be made visible through the accumulation of paint layers resulting from the alterations apparent in the X-radiograph. In spite of the careful underdrawing, Titian made numerous and very typical alterations in the course of painting. The most striking of these is to the angle of Christ's head, originally tilted towards his interlocutor, as in the earlier Dresden panel, and now making him appear more authoritative and severe. The painting of the head in the first position seems to have made considerable progress before the

decision was taken to change the pose. Under magnification, glimpses of the underlying paint can be seen in open drying cracks, including flesh paint from the first head in the blue sky to the left of the present head (FIG. 194) and deep red from Christ's robes under an area of blue over his right shoulder. The different neckline visible in the X-radiograph is also probably connected with this first pose. As with the alterations to *The Vendramin Family* (CAT. 1) and *Diana and Actaeon* (CAT. 4), the presence of drying cracks in the paint layers applied to cover Titian's first idea for the head is an indication that the design was changed without the passing of a significant interval of time.

The X-radiograph shows that Titian began to paint the Pharisee's arm following the underdrawn contours closely, but quickly decided to move it down slightly (FIG. 195). The coin was always held by the Pharisee in the second position, but at a late stage it was rotated slightly away from the viewer (FIG. 196).<sup>14</sup> Other alterations to the figure of the Pharisee are to his white undershirt: the X-ray image shows that the crumpled folds of the rolled-up sleeve were initially brushed in with very broad





FIG. 193 NG 224, detail of the infrared reflectogram showing the Pharisee's arm.

free strokes and the shirt was originally planned to cover his back, the dense lead white paint of the collar clearly following the fine sketched lines of underdrawing.

Adjustments were also made to the Pharisee's belt and purse. The hard-edged curved shape around his waist outlined in the underdrawing and then painted with materials that allow it to register in the X-radiograph is perhaps a stiff leather belt (FIGS 190 and 192). This is above the present fabric sash, with its revised position indicated with the quick strokes of lead white-rich paint so often seen in altered passages of paintings by Titian. In the infrared image it can be seen that the purse was originally to have been larger and more rounded in shape – it seems to have been simply roughed in with a dark-coloured paint. Here too the position of the revised,

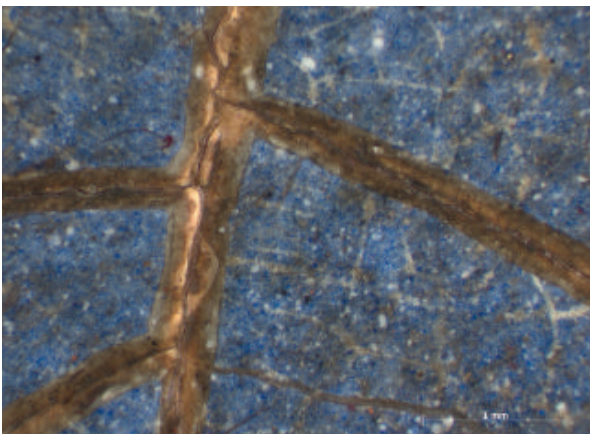


FIG. 194 NG 224, photomicrograph of the sky by Christ's head, showing flesh paint below blue.

smaller purse is marked with a quick vertical stroke of lead-containing paint.

Given these adjustments in the painting, it may be significant that in the Rota engraving (see FIG. 188) the Pharisee is shown wearing a leather belt from which is suspended a large rounded purse. It has also been observed that the touches of white undershirt across the Pharisee's back and at Christ's neckline are absent from the print.<sup>15</sup> Further differences that might suggest that Rota worked from the painting before it was completely finished appear in the background. In the print the edge of the wall extends much further to the left than in the painting. This may be in part because of the enormous glory that Rota gave to Christ, but in the X-radiograph and especially the infrared reflectogram of the painting, some indecision as to the extent of the sky is evident. Several vertical divisions are apparent, some visible even with the naked eye; the lighter block at the left suggests that originally only a small patch of sky was to be visible. At an intermediate stage (best seen in infrared) the wall then seems to have terminated at a point between Christ and the Pharisee, which is approximately where it appears in the print, before being moved further to the right. Even then, there were changes to the corner of the receding face of the wall.

The painting seems, therefore, to have been almost finished before Rota's departure for Vienna (the exact date is not known, only that he was there by 1568). This confirms Titian's statement that he completed the work in 1568. There is, however, no physical evidence to

FIG. 195 NG 224, detail of the X-radiograph showing the Pharisee's arm.



suggest that it had been started many years previously and was only taken up again much later. The pentimenti are of the type seen in many paintings by Titian that were not necessarily prolonged in execution and they are, as is so often the case, the result of his searching for design solutions that would best represent the moment of engagement between the figures in the composition.

The importance of this painting to Titian is also suggested by his attention to detail and the splendour of the palette that he employed. As well as the revisions discussed above, many small adjustments are also evident: for instance, he decided that the flickering spurt of pink and yellow paint for the glory at the top of Christ's head was not quite correctly positioned, being too close to the edge of the wall, and painted it out (FIG. 197) before redoing it with the same colours, which on the left side of Christ's head have formed the broken, beaded brushstrokes often to be seen on his works (FIG. 198). The quality and colour of the ultramarine used to paint out the first flame is exceptional and the patch now shows as a very bright blue on the painting surface. The same ultramarine was also used for Christ's mantle, the large intense blue particles visible in the thin cross-section of a paint sample from this drapery (FIG. 199). The pigment was applied in a thick layer mixed with only a little lead white and incorporating a few particles of smalt, probably present as accidental inclusions brushed up from the layer below. The smalt used in the underpaint for ultramarine was combined with a little red lake, presumably to give a

purple cast. Drying defects have developed and the deterioration of the smalt, as well as some blanching of the upper ultramarine-containing paint, have resulted in some loss of definition in the drapery folds. Degradation of smalt (again in the underpaint, beneath ultramarine mixed with lead white) also contributes to the patchy appearance of the sky, reducing the impact of the broadly painted clouds.<sup>16</sup> The pinkish cloud just glimpsed at the very edge of the painting in the upper left corner is painted with lead white tinted with an orange-red pigment (probably red earth) and some azurite, and this softer blue pigment seems to have been used for the modelling of the clouds, particularly at the edges where they meet areas of intensely blue sky. The binding medium of the pink cloud has been identified as



FIG. 196 NG 224, detail of the hand holding the coin.



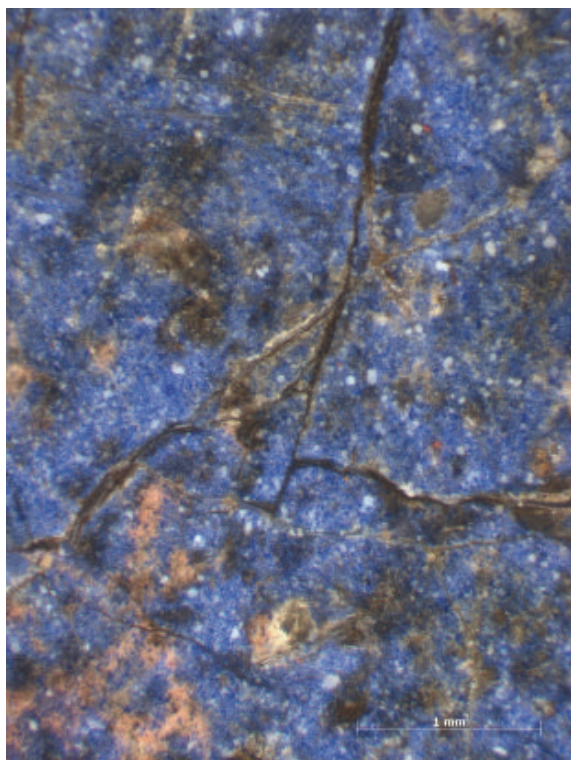


FIG. 197 NG 224, photomicrograph of blue above Christ's head.

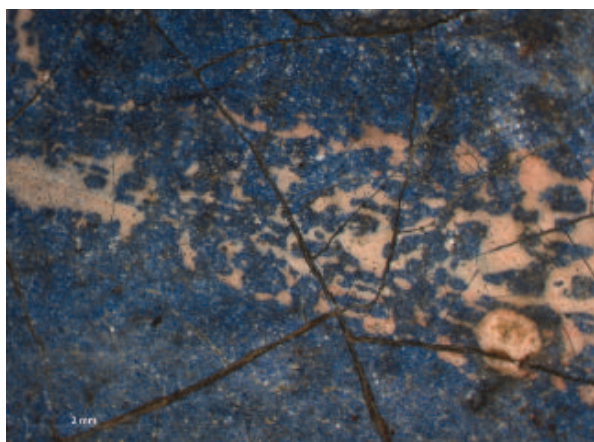


FIG. 198 NG 224, photomicrograph of Christ's radiance on the left.

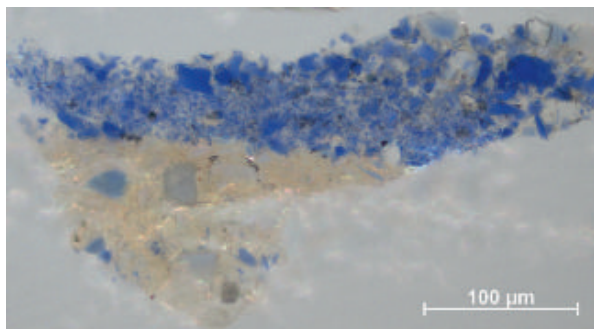


FIG. 199 NG 224, thin paint cross-section from Christ's blue mantle, photographed in reflected light.

heat-bodied walnut oil, while for the green-brown foliage at the edge of the building linseed oil that had been heat-bodied to some extent was employed. Although in some late works Titian used a linseed oil binder throughout, here he took care to choose the lighter coloured walnut oil for passages of pale paint while using linseed oil elsewhere,<sup>17</sup> a choice that may have been made here because of the overall bright tonality of this painting or because he was using expensive materials in a work for an important patron.

Smalt was also used to paint the striped stole worn by the Pharisee (FIGS 200 and 201). This now appears a deep brown colour but the discovery of some red lake in the mixture indicates that originally it was to be purple in hue. In the cross-section, beneath the paint of the stole, there is a layer of yellow earth pigment combined with a little black, overlaid with a layer consisting of arsenic-rich pigments, probably orpiment and realgar, and it appears that at the sample point, close to the edge of the stole, the yellow of the Pharisee's tunic runs beneath it. Analysis of another sample has confirmed that the golden yellow highlights of the tunic contain orpiment, unmixed with other pigments.<sup>18</sup> It is less easy to understand why particles of orpiment, with their characteristic shape, can be also seen scattered across the stole when examining the paint surface under magnification, as any distinctions in hue that there may originally have been across this drapery are disguised by the discoloration of the smalt-containing paint to brown. The area between Christ and Pharisee in the lower part of the painting presumably represents a low, perhaps mossy, wall, since some verdigris and probably a little malachite is visible in the greyish-brown paint mixture,<sup>19</sup> while a paint sample confirmed that the foliage sprouting from the building at the top of the picture is a mixture of verdigris combined with a little ultramarine.<sup>20</sup>

The red lake of Christ's robe balances the intensity of the ultramarine. It has a slight purple cast and in the

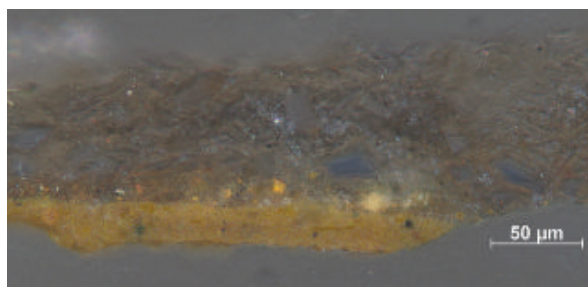


FIG. 200 NG 224, paint cross-section from the Pharisee's stole near the edge where it runs over the yellow tunic.



FIG. 201 (*right*) NG 224, detail showing the Pharisee's back.

FIG. 202 (*below*) NG 224, photomicrograph of Christ's left cuff.

FIG. 203 (*below right*) NG 224, photomicrograph of the Pharisee's white shirt.

FIG. 204 (*bottom left*) NG 224, photomicrograph of red paint at left of Christ's right thumb.

FIG. 205 (*bottom right*) NG 224, detail showing Christ's right hand.

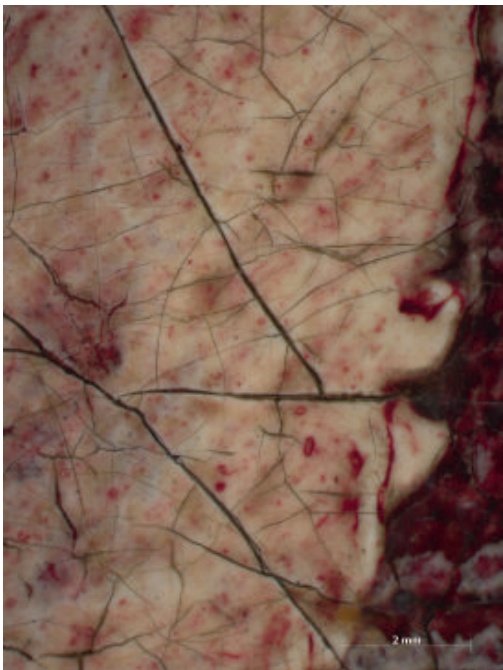
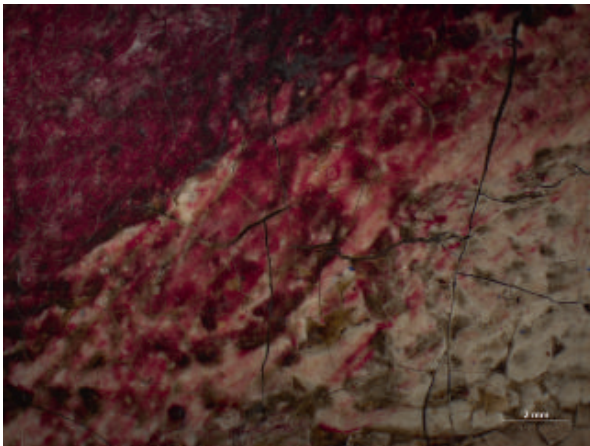






FIG. 206 NG 224, detail showing the Pharisee's face.



FIG. 207 NG 224, detail of the X-radiograph, showing the Pharisee's face.

shadows, in particular, some ultramarine has been added to deepen the tone. Black pigment was introduced only for the slightly broken strokes that reinforce the lower edge of Christ's right sleeve and the division between red and blue across his shoulder – these lines appear dark in the infrared reflectogram. Black has also been used together with red lake for the plum-coloured cap of the observer on the left of the painting. Analysis of the red lake glaze on Christ's robe identified kermes as the principal dyestuff, commonly found in paintings from the first half of Titian's career and also occasionally in some later works, but here it is present together with a significant quantity of cochineal, a dyestuff that has not so far been identified in samples of lake pigment from Titian's earlier works.<sup>21</sup>

The red lake appears remarkably unaltered, even where a stroke of pure red glaze goes over the white of Christ's left cuff (FIG. 202). The only exception is the rather pale red glaze that must surely once have better covered the thick bold stroke of lead white to the left of Christ's raised hand (FIGS 204 and 205). The fold is present in the print and so seems not to be a very late addition. Other more thickly applied touches, however, are probably associated with a final evaluation of the general effect of the composition. These include the dry, broken stroke of pure lead white that extends over the red lake of Christ's right sleeve and especially the thick buttery paint of the Pharisee's shirt as it crosses his back (FIGS 201 and 203). Here it is evident that the underlying paint was completely dry and so the brushstrokes lie proud of the surface with a slight (and well-preserved) impasto. So too do the touches of notably pink flesh paint, dragged over the yellower flesh tones of the Pharisee's shoulder at the junction with his shawl, and also highlighting the outer edge of his ear (FIGS 201, 206 and 207). Such final strokes serve not only to enhance the lighting and volume of the figure but also to enliven the picture surface.

The good condition of *The Tribute Money* means that it remains an instructive example of the variety of textures and levels of finish to be seen on some of Titian's late works. In contrast to the bold opaque touches of lead white, parts of the painting are so thinly executed that the paint appears no more than rubbed into the texture of the canvas weave. This is particularly the case with the head of the Pharisee, his face painted in shadow so that there is little lead white to register in the X-radiograph, and following, it would seem, an underdrawing of unusual precision. Some of the fine

detail, including the hairs of his bushy brow and the fine strokes of lead white that highlight his beard led Philip Hendy, writing in the booklet accompanying the *Exhibition of Cleaned Pictures* at the National Gallery in 1947, to suggest that this and other parts 'of the surface could not be by Titian himself', since they are painted in 'a niggling manner'.<sup>22</sup> The rendering of the arm and hand of the Pharisee with its rather dry depiction of the wrinkling of his flesh (FIG. 196) was also criticised for the same reason, yet a very similar surface effect appears in the representation of the marks of the scourge on Christ's forearm on *Christ on the Way to Calvary* (FIG. 53), another late work painted for the King and unlikely to have been assigned to the workshop. The head and face of Christ in *The Tribute Money* (FIG. 208) was described in 1605 in the first account of the paintings of El Escorial as '*la major que creo se ha pintado*' (the finest, I believe that he [Titian] ever painted).<sup>23</sup> Titian's depiction of Christ's commanding gaze is indeed very effective (FIG. 209), and the details of his beard and moustache are highlighted with perfectly judged fine strokes of colour, sometimes consisting of what appears to be pure vermilion pigment (FIG. 210).

By 1568 Titian was very likely to have been suffering from failing eyesight and perhaps also from a trembling hand, as reported in the slightly malicious gossip of the art dealer Niccolò Stoppio,<sup>24</sup> but with aids such as spectacles for close work and a mahlstick to support his hand there is no reason why he should not have been able to produce a painting such as *The Tribute Money*. It was, after all, for his most important patron (as was almost certainly always the case for this subject). As always, it seems that Titian was able to adapt the execution of a painting to its intended reception and destination.



FIG. 208 NG 224, detail showing Christ's face.

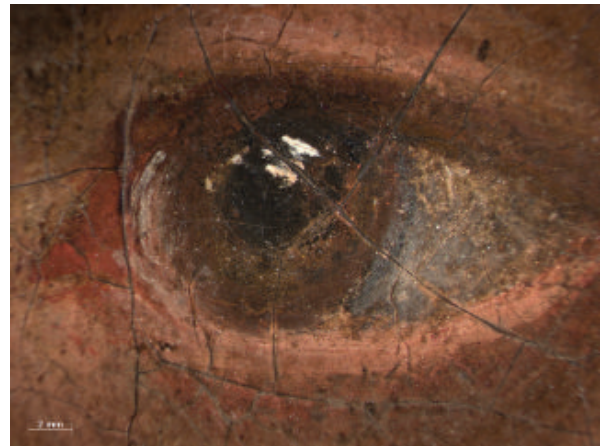


FIG. 209 NG 224, photomicrograph of Christ's left eye.

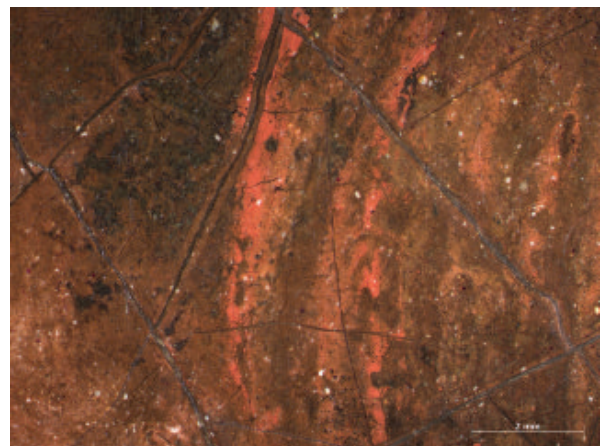


FIG. 210 NG 224, photomicrograph of Christ's moustache.



CAT. 7

*The Virgin suckling the Infant Christ*

NG 3948

c.1565–75

Canvas, 76.2 × 63.5 cm

Thread count of canvas: 12 warp, 10 weft per cm<sup>1</sup> (plain weave)

Cleaned, restored and relined in 1962<sup>2</sup>

It has been suggested that in this small canvas Titian was revisiting an idea first explored in a work, now lost, that was perhaps executed some 20 or 30 years earlier.<sup>3</sup> The triangular composition, with the figures contained within a block, as in a marble sculpture, and the massive bulk of the Virgin and Child suggest Titian's response to the works of Michelangelo that he would have seen in Rome in 1545–6.<sup>4</sup> It was not unusual for Titian in his last years to return to earlier subjects and designs: for example, the *Crowning of Thorns* (Alte Pinakothek, Munich), a development of the painting of the mid 1540s in the Louvre, Paris; the *Saint Jerome in Penitence* and the *Saint John the Baptist* (both in El Escorial); and indeed the rare subject of *The Tribute Money* (CAT. 6).

Although the earliest engraving after the painting, made either in Paris or the Low Countries in about 1631/2, shows the image extended at the lower edge with considerably more drapery,<sup>5</sup> the cusping of the canvas weave along the bottom edge does not suggest

that the painting ever had this format. Indeed the pattern and extent of the damage along the bottom indicates that a narrow band of original paint may have been turned around the side of a stretcher at some point in its history and then folded out again at some later time.

The infrared and X-ray images (FIGS 211 and 212) are as soft and indistinct as the surface of the painting itself. No underdrawing can be discerned and only one major alteration is apparent: the change to the lower part of Christ's body, most evident in the X-radiograph. Originally, his legs, in a similar pose to that in the final design, were further forward, with the front one slightly higher, which would have made his back more upright. Adjustments were made to the Virgin's shawl, which was reduced on her proper right side and extended over the purple paint of her dress to cover more of her left shoulder. The X-radiograph gives the impression that she had a sharper, narrower face, but this may be an



FIG. 211 NG 3948, infrared reflectogram.



FIG. 212 NG 3948, X-radiograph digitally adjusted to remove the effect of the stretcher.



FIG. 213 Titian, *The Virgin suckling the Infant Christ* (NG 3948), c.1565–75. Oil on canvas, 76.2 × 63.5 cm.

illusion caused by the reduced amount of lead white in the paint mixtures for the shadowed further side of her face.

Changes in taste regarding style and painting technique in the later nineteenth century led to a greater appreciation of Titian's achievements in his last works

and the reputation of the National Gallery's small canvas became much enhanced.<sup>6</sup> It was praised in 1898 for its 'almost monochromatic harmony of embrowned silver'<sup>7</sup> and subsequently in 1923 in similar terms, as representing Titian's later use of 'darker, almost hueless, pigment lit as it were from within by murky and fitful



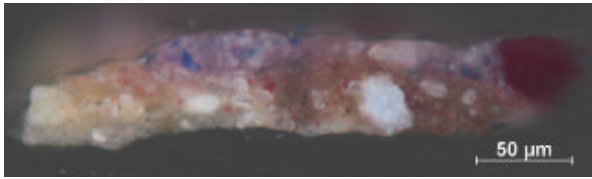


FIG. 214 NG 3948, paint cross-section from an area of shadow in the Virgin's purple dress, below the Child's right foot.

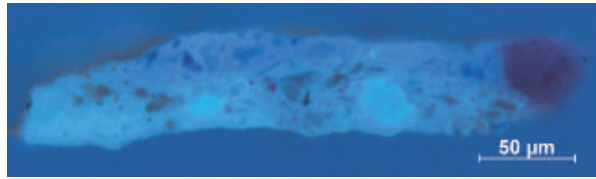


FIG. 215 NG 3948, paint cross-section from an area of shadow in the Virgin's purple dress, below the Child's right foot, under ultraviolet illumination.



FIG. 216 NG 3948, photomicrograph of the shadow in the Virgin's dress.

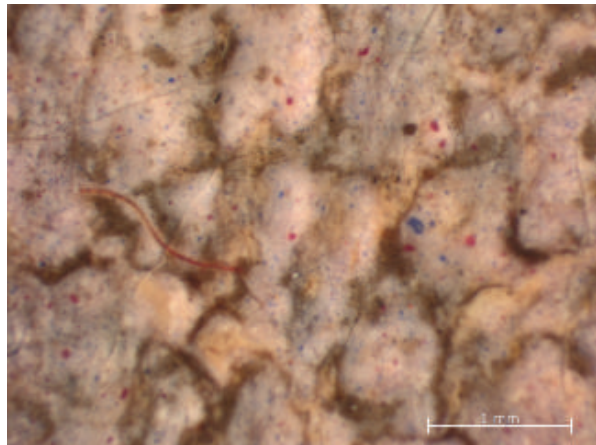


FIG. 217 NG 3948, photomicrograph of the Virgin's dress, showing a red fibre in the paint.



FIG. 218 NG 3948, photomicrograph of the lighter part of the Virgin's dress.



FIG. 219 NG 3948, detail showing the Virgin's skirt near Christ's foot.

fires'.<sup>8</sup> By then the painting is likely to have been affected by discoloration of the varnish layers, later removed in 1962, but it can now be demonstrated that this muted impression is also in part the result of alterations and defects in Titian's painting materials.

Only a few paint samples have been examined, but when they are viewed in conjunction with examination of the paint surface under a stereobinocular microscope it is possible to gain some idea of the original more intense colour range. As is the case with the other works

in this study, the paint layers were applied directly over a creamy coloured layer of gesso, consisting mainly of calcium sulphate together with some dolomite (calcium magnesium carbonate), present as an impurity as also found in other works in this study.<sup>9</sup> The layer structure for the purple of the Virgin's dress (FIG. 214) reflects that of purple draperies in Titian's other paintings in that it starts with a layer that is predominantly orange-pink in tone, although in this instance it tends to a warmer brownish colour as a result of the use of orange-red



FIG. 220 NG 3948, detail of the Christ Child's head at the Virgin's breast.

earth pigments and a little black mixed with varying amounts of lead white. This underpainting is visible where there are small areas of damage to the paint surface, and it can be seen that it was modulated according to the structure of the drapery folds, so that it appears as a rich warm brownish pink in the darker areas and a pale flesh colour in the highlights (FIGS 216 and 218). In the cross-section illustrated, the base layer is followed by a more strongly pink mixture containing lead white, red lake and smalt. The particles of this last pigment have become colourless but must originally have given this paint a more intensely purple hue, rather than the slightly brownish pink that it has now. This is then

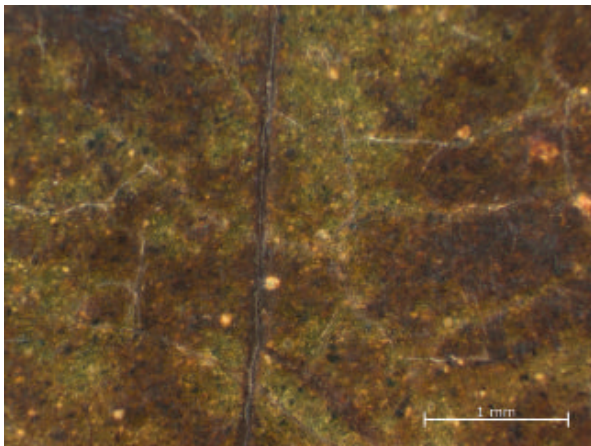


FIG. 221 NG 3948, photomicrograph of the curtain.

completed with another layer containing the same pigments but with the addition of ultramarine and a little azurite. The distinction between the lower layers and the upper layer containing ultramarine is particularly clear under ultraviolet light (FIG. 215). Analysis of the red lake in a sample from the drapery indicated that a cochineal-derived pigment had been used.<sup>10</sup> The presence of a red fibre in the paint confirms that the lake was made, as was common, using dyed textile clippings as the source of the dyestuff (FIG. 217). Both the fading of the red lake – almost inevitable given its use in mixtures with large amounts of lead white – and the presence of smalt will have contributed to alteration of the colour,<sup>11</sup> but the cause of the marked wrinkling of the paint surface evident in this drapery is less easy to define. In common with several of Titian's late paintings (see pp. 17–18), both the dark background paint and the light lilac-coloured paint of the skirt appear to be bound with linseed oil. While the binder was analysed in only two samples from this painting, it does appear from these results that the use of the less yellowing walnut oil specifically for light-coloured paints may have become less important to Titian in his later works.

The more vivid hues of the occasional better-preserved patch of purple paint – for example, that just below Christ's proper left foot (FIG. 219) – suggest that the original, more appropriately splendid colour of the Virgin's dress would have better balanced certain details,



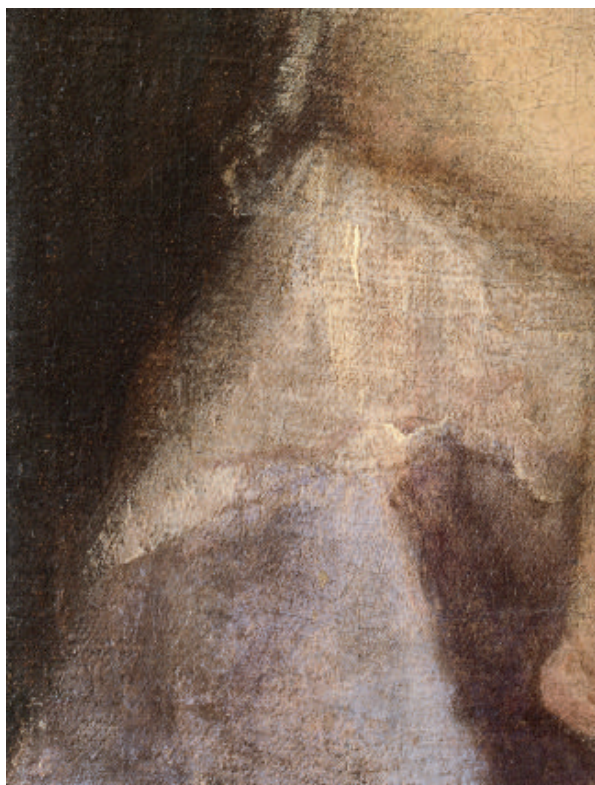


FIG. 222 NG 3948, detail of the Virgin's skirt.

such as the Christ Child's bright pink cheeks, apparently unchanged and now, together with the rich red fringe of the Virgin's shawl, the strongest colour note in the composition (FIG. 220). Conversely, alterations in pigments have diminished the contrast between the shawl (always a golden brown colour), the brown background and the curtain on the right. This last area was painted with mixtures containing a substantial amount of verdigris mixed with lead-tin yellow and perhaps yellow earth, which can be glimpsed through a thin translucent brown layer that is probably a discoloured copper-containing glaze (FIG. 221). The curtain was therefore originally greener in appearance but nevertheless was probably always a soft green, subdued by an underpainting of bluish grey.<sup>12</sup> The highlights – painted with the broken touches that suggest crumpled silk also seen, for example, in the fabrics in *Tarquin and Lucretia* (FIGS 51, 52) – contain mainly lead-tin yellow, again overlaid with a thin brown glaze that would have been green.

If the altered condition of some of the pigments gives a slightly misleading impression of certain aspects of Titian's technique, his distinctive handling of his paints remains very apparent. There are small areas of local damage so that, for example, the strokes of lead

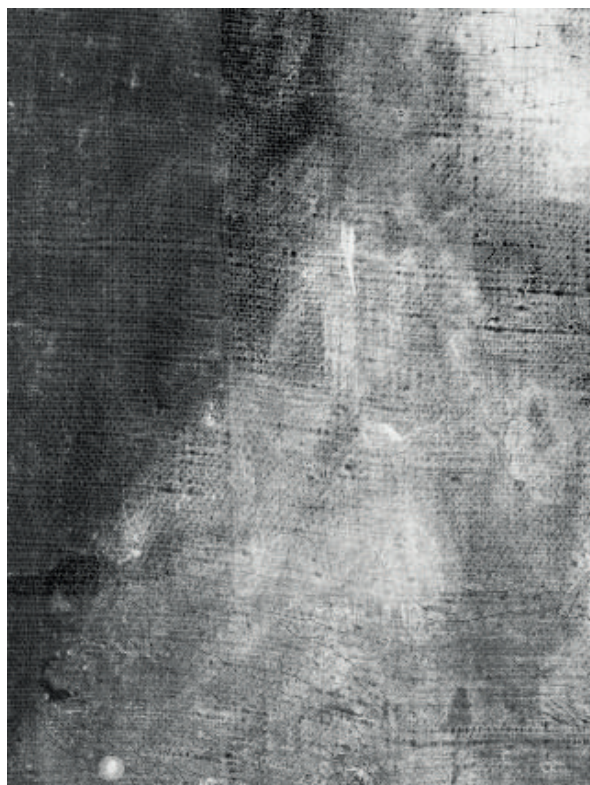


FIG. 223 NG 3948, detail of the X-radiograph showing the Virgin's skirt.

white in the Virgin's shawl above Christ's hand – characteristic quick marks in white to define the fold – have become more evident as a result of abrasion and increased transparency of overlying paint. Nevertheless, the painting is not particularly worn and abraded, contrary to what has previously been stated.<sup>13</sup> The sense of a rubbed surface is the result more of uneven paint discoloration and wrinkling and the accumulation of ingrained residues of dirt and old varnishes in depressions in the brushstrokes and canvas weave. These residues certainly contribute to the blurring of contours, but in a detail such as the Child's hand on the Virgin's breast, his digits were clearly never intended to be sharply defined; indeed, they almost seem to be in movement.

The use of lead white in the painting of the gauzy cloth on which Christ is seated demonstrates how Titian exploited its properties to achieve the flickering, indefinite contours of his last works (FIG. 222). In the X-radiograph (FIG. 223) the more densely applied paint registers strongly but in the lower part of the cloth, where it falls over the Virgin's shin, the lead white paint was dragged thinly with a relatively dry brush over the first layer of brown background, softening this edge and





FIG. 224 NG 3948, detail of the infrared reflectogram showing the Virgin's skirt.

suggesting the form dissolving into darkness. The lead white paint is so thin that it barely registers in the X-radiograph and the strokes are broken and interrupted, but not necessarily damaged. The vibrant transparency is surely intentional. The tips of the Virgin's fingers on her right hand are no more than suggested with a few smudges of flesh-coloured paint, also over the brown background. Finally, the depth of the background was enhanced by brushing round the soft outer contour with a darker brown paint, the strokes clearly evident in the infrared image (FIG. 224).<sup>14</sup> Only in the last touches, the folds of the veil bulging out between the Virgin's fingers and the white cuff of her sleeve, does the paint have any bulk and density (FIG. 225). As in the final highlights on the back of the Pharisee in *The Tribute Money* (CAT. 6), Titian introduced impasto in the lead white both for variety of texture and to illuminate these points. By placing the strongest highlights here, he enhanced the solid sculptural qualities of the work, while at the same time exploiting the properties of paint on rough canvas to produce the shimmering evanescence of a vision.



FIG. 225 NG 3948, detail showing the Virgin's left hand.



CAT. 8

*The Death of Actaeon*

NG 6420

c.1559–76

Canvas, 178.8 × 197.8 cm

Thread count of canvas: 14 warp, 17 weft per cm<sup>1</sup> (twill weave with damask insert)

Probably cleaned and restored in 1919–20<sup>2</sup>

In a letter dated 19 June 1559, when the paintings of *Diana and Actaeon* (CAT. 4) and *Diana and Callisto* (CAT. 5) were nearly finished, Titian told King Philip of Spain that he had already started two more *poesie*, ‘*l’una di Europa sopra il Tauro, l’altra di Atheone lacerate da i cani suoi*’.<sup>3</sup> The *Rape of Europa*, the painting now in the Isabella Stewart Gardner Museum, Boston, made good progress and Titian announced its completion in a letter of 26 April 1562. No more is heard of the ‘Actaeon torn apart by his hounds’, but it is thought that the National Gallery work is this painting and that it was put aside for many years, partly perhaps because of its gruesome subject, which was also not well suited for the display of female beauty seen in the other five *poesie*. There is no record of a painting of the subject ever being sent to Philip and the first certain reference to the National Gallery canvas appears in the Venetian collection of Bartolomeo della Nave in the 1630s.<sup>4</sup> The widespread belief that *The Death of Actaeon* is unfinished has led to the assumption that it was among those paintings still in Titian’s workshop when he died on 27 August 1576, although there is no surviving documentation that can confirm this supposition.<sup>5</sup> In the confusion caused by Titian’s sudden death without having made a proper will, followed shortly after by that of Orazio, presumed to be

his heir, and also intestate, all evidence as to his studio contents seems to have been lost.<sup>6</sup>

The width of the canvas of *The Death of Actaeon* is almost the same as that of the *Rape of Europa*, and a little narrower than the other ‘Diana *poesie*’. It is not quite as tall as these other paintings, but a small amount of painted canvas is turned over the upper edge of the stretcher and in addition it is possible that this edge has been trimmed slightly. The sides do not seem to have been cut, since some cusped distortion of the weave is visible and indeed at the left edge there may even be parts of the selvedge.

Unlike the other *poesie*, all painted on plain weave fabrics, the canvas for *The Death of Actaeon* has a diagonal twill weave. Essentially it consists of two lengths joined together by a vertical seam, but towards the top of the seam a triangular piece of canvas has been stitched into the construction (FIGS 226 and 227). There is considerable distortion of the canvas weave of the two main pieces in the area around this insert, and it may be that an accident occurred during the first stretching of the canvas, necessitating a repair in this way. Another irregularly shaped piece of canvas inserted in the lower right corner was clearly added much later to replace an area lost to damage, but the insert at the

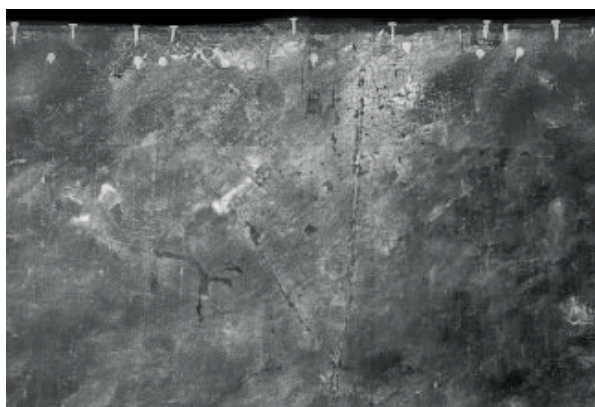


FIG. 226 NG 6420, detail of the X-radiograph, centre top, showing the inserted patch of canvas (digitally adjusted to remove the effect of the stretcher).

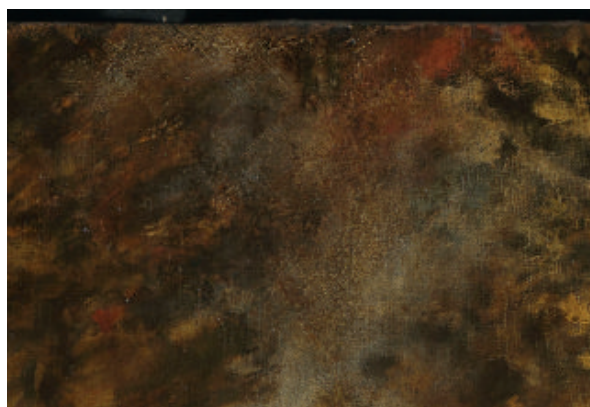


FIG. 227 NG 6420, detail showing the centre top of the painting, in the area where a patch was inserted in the canvas.



FIG. 228 Titian, *The Death of Actaeon* (NG 6420), c.1559–76. Oil on canvas, 178.8 × 197.8 cm.

top of the seam is definitely original. Moreover, in a raking light and in parts of the X-radiograph it can be seen that it is not of the same simple twill weave as the rest of the canvas. Rather, it has a 'point twill' or damask weave very like that used for *The Vendramin Family* (CAT. 1), *Pope Paul III and his Grandsons* (FIG. 2) and the *Portrait of Isabella d'Este* (Kunsthistorisches Museum, Vienna). Titian is not known to have used this type of canvas again, which suggests the appealing possibility that the strip of canvas that had to be cut from the left edge of *The Vendramin Family* was retained and was used nearly twenty years later to patch the canvas for *The Death of Actaeon*.<sup>7</sup>

This difference in the weave of the canvas, with its notably rougher texture compared to the other *poesie*,<sup>8</sup> together with the somewhat botched method of con-

struction of the support – which might seem inappropriate when the work was for such a distinguished client – raise questions as to whether the National Gallery's *Death of Actaeon* really is the composition that Titian claims to have begun in 1559, and indeed whether he was actually painting it then or just thinking about the project. On the other hand, elements of its design, especially the profile figure of Diana who rushes somewhat awkwardly into the foreground, are very close to the *Annunciation*, begun in around 1559 and still in the Church of San Salvador, Venice.<sup>9</sup> This work is also relevant to the discussion as to whether *The Death of Actaeon* was ever finished.

The X-ray image of *The Death of Actaeon* (FIG. 229) has long been one of the best known examples of the revelation by radiography of Titian's tendency to revise





FIG. 229 NG 6420, X-radiograph digitally adjusted to remove the effect of the stretcher.

his compositions extensively in the course of painting.<sup>10</sup> To this can now be added the images generated by infrared reflectography (FIG. 230). While infrared examination has supplied information on the painting process, especially in the later phases, it does not reveal many lines or marks that can be identified with certainty as true underdrawing made before painting began. There are, however, several dark marks and lines in the infrared image that can be associated with Titian's revisions of Diana's pose in the course of painting. The clearest examples of this type of drawing are the broad lines of dark paint that redefined the position of her outstretched left arm (FIG. 231). Typically, the contours were not followed exactly in the painting. Another characteristic mark is the short curved stroke on the inside of her elbow. The X-radiograph shows that originally this arm

was painted higher and with the elbow more bent (FIGS 232 and 233). Her hand, grasping the bow at an almost vertical angle, was well to the left of the final position. Even when the arm was moved, the bow seems to have been tried in an upright position using a quick stroke of lead-containing paint in a way that is reminiscent of the multiple repositioning of Cupid's bow in *The Triumph of Love* (see vol. 34 of this *Bulletin*, CAT. 13). The angle that Titian eventually settled on better suggests the forward movement of the figure, as well as a relaxation of tension, since the arrow has clearly been released. The arrow was not directed at Actaeon, whose death is caused by his hounds.<sup>11</sup> Indeed, originally Titian did not intend Diana to be shown drawing her bow, since her right arm was first painted stretched out behind her in a pose indicative of energetic forward movement.



FIG. 230 NG 6420, infrared reflectogram.

The X-ray and infrared images confirm that the position of Diana's head was fixed at an early stage, exactly as in the previous two 'Diana' paintings, although her eye was moved up and back and her forehead and the tip of her nose were extended slightly over the paint of the sky. However, in this area the images also show dark zones in her hair and around her profile, suggesting passages of paint that have either always been very thin or that may have become so through damage and abrasion. In the painting's present condition (see below) it is difficult to determine the extent of the old retouching, both on her face and on the sky around her. A more obvious change to Diana's head is that originally the ends of the ribbon that binds her hair streamed out behind her, again to suggest her forward movement. Probably when he changed the position of her right arm,

Titian realised that the idea of a fluttering ribbon would work better as a sash at her waist. This is clearly painted over the completed drapery. At the same time, her quiver was lengthened to extend beyond the sash.

The folds of Diana's dress or tunic appear quite extensively reworked in the X-ray image, but this impression may be largely the result of Titian's method for rendering these crumpled pink fabrics: for example, that of the nymph to the right of Diana in *Diana and Callisto*, with its repeated strokes of opaque paint interspersed with layers of red lake glaze (see CAT. 5, pp. 80–1). The only significant changes were to her white chemise, painted out to expose all of her right breast, the right contour of her body which was originally more undulating, and to the hemline at the front of her skirt which originally fell in more complicated folds but now curves





FIG. 231 NG 6420, detail from the infrared reflectogram showing Diana's outstretched arm.



FIG. 232 NG 6420, detail from the X-radiograph.

simply around her thigh. There is a suggestion of adjustments to the edge of Diana's right shin and initially her foot was parallel to the picture plane. The rotation of the foot outwards is reminiscent of the similar pentimento in the standing nymph in *Diana and Callisto* (CAT. 5, p. 80).

At first sight the X-radiograph of the right half of the canvas (FIGS 234 and 235) suggests a flurry of alterations in the figure of Actaeon and his hounds, but when the image is examined carefully a surprising proportion of the strokes of X-ray-opaque paint can be related to marks visible on the painting surface. There are, nevertheless, several changes in other areas. The large tree at the right edge may have been moved, or more probably another tree was positioned immediately behind Actaeon. Its cancellation allowed Titian to

introduce the patch of bright sky that continues the upward sweeping curve of light paint from the backs of the hounds through Actaeon's raised arm. In the X-radiograph the paint of this arm crosses a broad, almost horizontal area of light paint. Initially this may have represented a patch of sunlit bank, interrupted perhaps by another tree trunk or stump. This was eventually masked by the bushes that now frame the group, a device used for the nymphs on the left in *Diana and Callisto*. These bushes, to the left of Actaeon behind the hounds, also cover a patch of X-ray-opaque paint, which perhaps represents another hound. Once this editing of the landscape elements is taken into account, the X-ray image of the figure group becomes less confusing. Details of the two orange and white hounds can be distinguished and the body and rear end of much of the



FIG. 233 NG 6420, detail showing Diana.



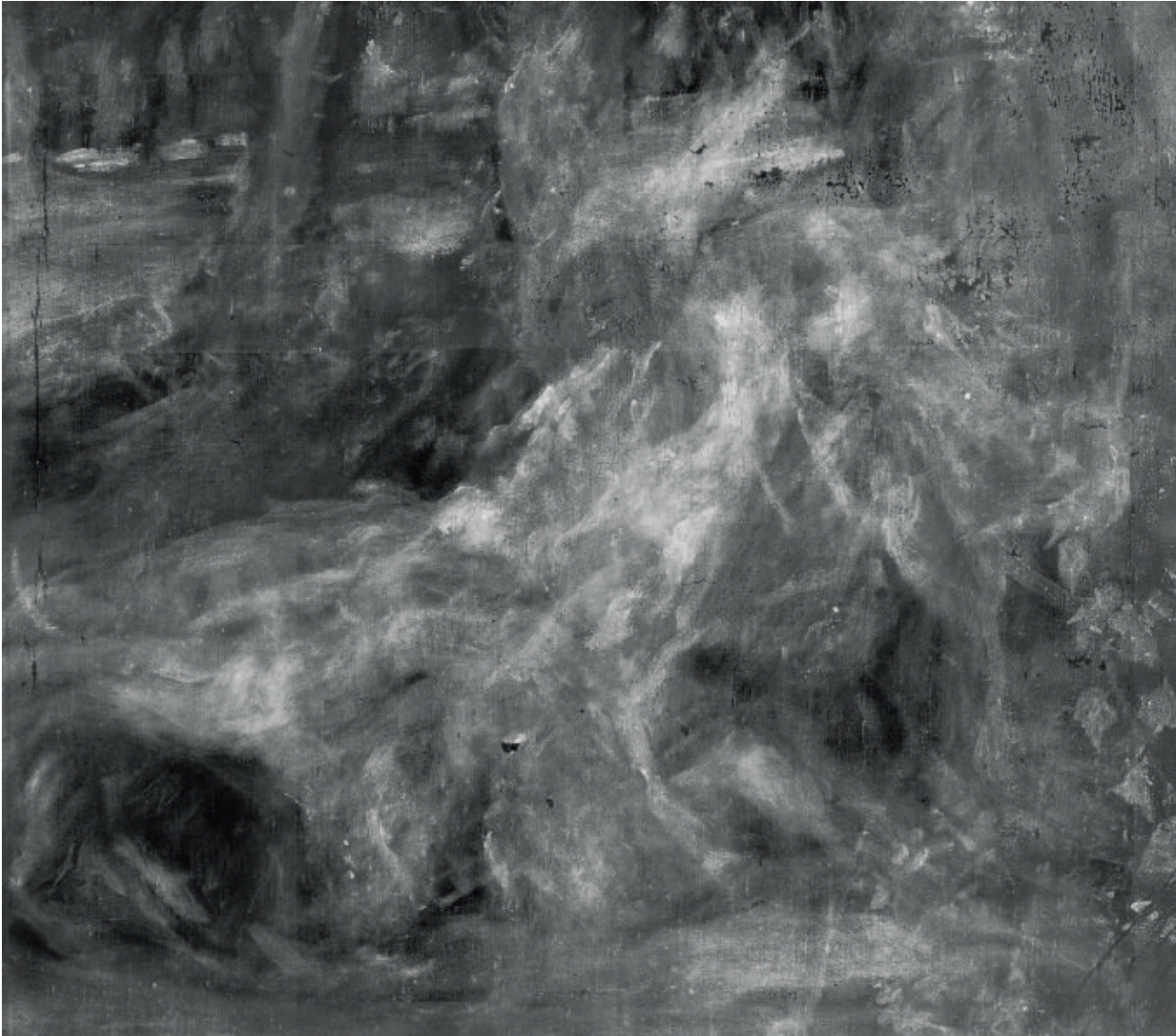


FIG. 234 NG 6420, detail from the X-radiograph.

paint of the black and grey hound in the foreground appears dark in the X-ray and so must have been left in reserve. The main area of reworking appears to have been around Actaeon's legs and the head and shoulders of the black and grey hound snapping at them. Yet again, Titian was working out how to pose the legs of an important figure, but he seems also to have been using the potential of paint to suggest, rather than to define, the continuous process of Actaeon's metamorphosis from man to stag. It is tempting to read a light shape visible in the X-radiograph well to the right of the figure in his final position as a human shin and calf; if this is correct it may not have been Titian's original intention to show Actaeon's extremities turning into those of a stag, with the ambiguity now enhanced by the use of the russet colour of the drapery on his lower limbs.

The lack of definition in the figure of Actaeon is one of the reasons put forward for the argument that Titian left *The Death of Actaeon* unfinished. Another is the apparent absence of the strong local colour still present in those paintings from Titian's last years that were sent to Philip II, such as *Tarquin and Lucretia* (FIG. 51), *Religion succoured by Spain* (Museo Nacional del Prado, Madrid) and the *Saint Jerome in the Wilderness* (Monasterio de San Lorenzo de El Escorial).<sup>12</sup> In its present state, however, the appearance of *The Death of Actaeon* is misleading. In a review published in 1911 Roger Fry complained that the 'colour was too hot and brown' and it has been assumed that the painting was cleaned in 1919–20, possibly in Milan by Luigi Cavenaghi.<sup>13</sup> There is no certain evidence that this cleaning occurred and, even if it had, nearly a century has passed. Moreover, Cavenaghi





FIG. 235 NG 6420, detail showing Actaeon and the hounds.

generally varnished his restorations of canvas paintings quite thickly and they can become heavily discoloured.<sup>14</sup> Whether the present varnish is Cavenaghi's or whether it dates back to the nineteenth century, it has indeed become quite yellow, although it does retain reasonable saturation and transparency. In addition, there are significant areas of old retouching and repaint. The most critical of these is the almost complete repainting of the sky in the upper left corner, now covered with a dark dirty greenish-grey colour, while the upper streak of cloud is smeared over with an orange-yellow substance (FIG. 236). At the junction between the patch of sky and the puffy clouds an occasional glimpse of a brighter blue is visible. A cross-section (FIG. 237) confirms that the original blue paint consists of a layer of ultramarine applied on an underpaint of smalt, exactly

as in the other *poesie* and *The Tribute Money* (CAT. 6). This sky, therefore, was not without its final touches of colour, as has previously been supposed. The pigments were not, however, mixed with as much lead white as in these other works so a deeper tone seems to have been intended, and the lack of white has exacerbated the effect of the almost complete deterioration of the smalt in the lower layer, so that there will have been a greater change in the appearance of the blues over time.<sup>15</sup>

The rose-pink hues of Diana's dress (FIG. 238) would almost certainly appear cooler without the yellow-brown varnish, and closer to the pink draperies in *Diana and Actaeon* and *Diana and Callisto*. Even through the discoloured varnish it is apparent that Titian made play between patches of a warm more opaque red and cooler reds achieved by glazing and scumbling (as in the





FIG. 236 NG 6420, detail showing the sky and clouds.

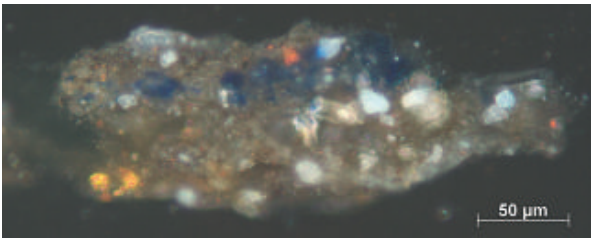


FIG. 237 NG 6420, paint cross-section from the patch of blue sky at the upper left of the painting.



FIG. 238 NG 6420, detail showing Diana's skirt.

pink dress in *Diana and Callisto*). Rather surprisingly, one of the brightest patches of red, that at the edge of the skirt just above Diana's left leg, appears dark in the X-radiograph. This confirms that it is not a late addition applied on top of the lead-containing layers of the rest of the drapery, but rather that it is an area of underpainting that has been left exposed, adding vibrancy to the drapery. A cross-section from a shadowed part of the skirt shows two opaque pink underlayers, a first consisting of only red lake and white, and a second that is slightly more orange pink, containing some red earth and red lead in addition (FIG. 239). The shadow is then constructed with several deep translucent red layers containing almost only red lake (made with cochineal dyestuff),<sup>16</sup> interspersed with very slightly more opaque paint of red lake with a little lead white. Analysis identified some angular particles visible under ultraviolet illumination (FIG. 240) as colourless soda-ash glass, most probably added as a drier. Others were found to be discoloured smalt, suggesting that the glaze was to have a slightly purple cast.<sup>17</sup> Such a layer structure is not that of an unfinished painting.

Diana's open-toed boots were added only when the position of her right foot had been resolved. The bright

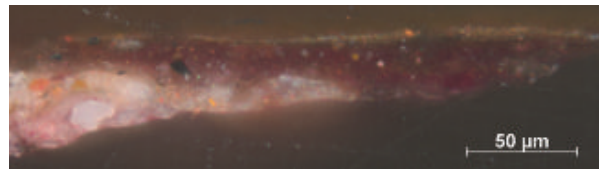


FIG. 239 NG 6420, paint cross-section from a shadow in Diana's red drapery.



FIG. 240 NG 6420, paint cross-section from a shadow in Diana's red drapery under ultraviolet illumination, showing multiple deep red layers containing mainly red lake over the lighter more opaque base colours.

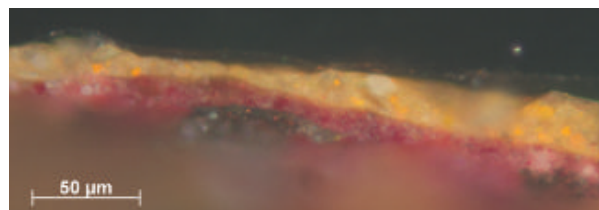


FIG. 241 NG 6420, paint cross-section from the orange of Diana's sandal.



FIG. 242 NG 6420, detail showing the ivy on the tree at the right edge.

orange used for the turned-back lining, mainly red lead in a matrix of a bright yellow earth, seems like a final touch. It is applied over the deep pink of the boot, which contains red lake and white (FIG. 241). The lowest layer in the sample, from her more shadowed left leg, consists of fragments of dark grey or black. Actaeon's orange-red drapery is a much brighter colour than the dull golden yellow of the tunic that he wears in *Diana and Actaeon*. Although the pigments have not been analysed, it is likely to consist mainly of intense red and yellow earths, perhaps with some orpiment and realgar, as found in *The Tribute Money*.

The landscape too is more colourful than might appear at first sight and through the yellowed varnish. The touch of red paint below the ivy on the tree trunk (FIGS 242 and 243) seems almost accidental, yet there are two red layers in this area, the lower one more orange in hue, containing lead white, an earth pigment and perhaps some red lead. Over it, in part of the cross-section only, is a pinker layer containing lead white and red lake. The tree trunk itself was painted with several greyish-brown layers. In a sample from the edge of one of the ivy leaves (FIG. 244) it can be seen that the tree trunk, painted first with the greys and browns seen in the other sample, was highlighted with a mauve paint, containing lead white, red lake and ultramarine. The next layer in the cross-section, a thick layer of lead-tin yellow and lead white, is from the leaf itself, as is the



FIG. 243 NG 6420, paint cross-section from the touch of red on the tree trunk just below the ivy leaves.

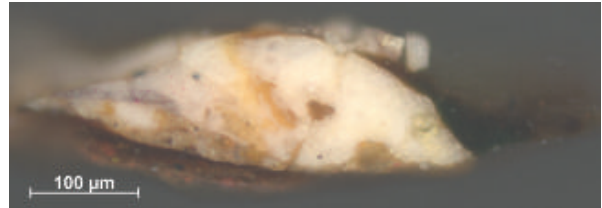


FIG. 244 NG 6420, paint cross-section from the edge of one of the ivy leaves on the tree trunk at the far right of the painting; the uppermost layers of browned green are present only at the far right of the sample.

green translucent paint based on verdigris that lies on top of it, the surface of which is now brown but once presumably green. In this sample, and also one from a dark green patch of foliage in the trees in the middle distance (FIGS 245 and 246), the layer structure is not continuous across the section. The intermeshing of strokes of paint of different hues and varying opacity in Titian's last works means that sometimes the layer structure of a cross-section is really only representative of the particular point sampled. For instance, in the cross-section from the foliage of the trees, the thick layer of lead-tin yellow highlighting the leaves features in only part of the sample, and is over five separate layers of alternating light brown and green layers, the green containing verdigris with some yellow earth. The lattice of brushstrokes continues on top of the yellow highlight with more green paint containing verdigris, present only at the left end of the sample, and finally thin translucent layers that are now brown but were probably once green. Discoloured brown varnish is also visible at the surface.

Compared with the complex layering of interlaced brushstrokes in the trees, the painting of the bush in the foreground is remarkably direct, the cross-section showing just a thick layer of lead-tin yellow over several thin brown layers containing lead white, black, some umber and a copper-containing pigment that appears brown (FIGS 247 and 248). These lower layers are the





FIG. 245 NG 6420, detail showing the tree above the hounds.

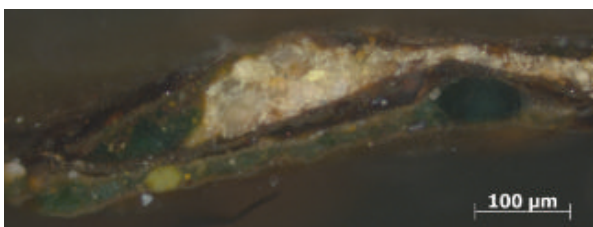


FIG. 246 NG 6420, paint cross-section from the foliage of a tree in the middle of the painting.

red brown paint of the foreground, visible in the gaps between the leaves. There is no sign in the sample, or on the painting surface, of there ever having been any copper green glaze to modify the bright yellow of this startling piece of vegetation.<sup>18</sup> Such rough open brushwork in a prominent foreground detail has also been thought by some to indicate that the painting was left unfinished, yet it is difficult to imagine how it could be 'finished'. No amount of glazing could suppress the energy of the brushwork and it has often been observed that similarly vigorous painting of foliage can be seen in the vase of flowers in the foreground of the *San Salvador Annunciation*, a completed altarpiece. The absence of a string to Diana's bow has also been used to argue for the work not being finished.<sup>19</sup> In changing her pose, however, Titian created a problem for himself: if the string were painted drawn back before its release it would cut across her face in an unfortunate way, but if it were shown as having sprung back to the bow, the gesture of her right arm would make little sense. Titian may simply have decided to leave it out. Perhaps it should be imagined as though still in movement, as indeed are so many elements in this painting.

In addition, the light levels in which the work was to be seen need to be taken into account. A relatively late intervention to Diana and her immediate surroundings was made using a steely grey paint, containing sufficient black for it to register strongly in the infrared reflectogram (see FIG. 230). This paint was brushed on in broad strokes in order to darken the shadowed folds of the white chemise, where it appears at the edge of the sleeves



FIG. 247 NG 6420, detail showing a foreground bush and the head of the black hound beside Diana.

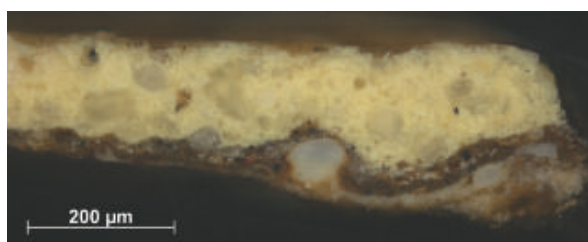


FIG. 248 NG 6420, paint cross-section from a highlight on one of the leaves of the bush in the foreground.

(initially lighter, judging by its appearance in the X-radiograph); to emphasise the patch of cloud to the left of Diana's raised right arm; and to reinforce the trunk of the foremost tree on the left, originally rather thinly painted with translucent brown colours (FIG. 249). The grey paint sits on the painting surface, without any attempt to integrate the colour and it has a rather smooth texture, unlike the textured application of so much of the paint. It could, therefore, be taken for later repaint added by a restorer, were it not for the fact that it has an astonishing effect when the canvas is viewed with only a small amount of natural light. In such conditions, the grey additions make the figure of the goddess appear grandly monumental, projecting forward so that a sense of space appears between her and the landscape in the background. The blurred effect from the open brushwork and impressionistic handling in the landscape also helps its recession. If the National Gallery painting were no longer destined for Philip (if this were ever the case), perhaps Titian continued to work on it for another client, in the knowledge that it was destined to be seen in a low light. Alternatively, the effects of great age on Titian's eyesight (see introductory essay, p. 32) may also have begun to alter his perception of light. By radical reduction of light levels we seem to come closer to replicating what he actually saw.

Certainly the way in which this grey paint (apparently all of the same composition) was applied to such different parts of the painting brings to mind aspects of the famous description of the aged painter at work, told by his pupil Palma Giovane to Marco Boschini, who published it in 1660.<sup>20</sup> He reported how Titian 'used to turn his pictures to the wall, sometimes for several months, without looking at them'. Intervals of several months, and possibly much more, may well have occurred between campaigns on *The Death of Actaeon* since, unlike most of the other altered and adjusted paintings in this study, there are no signs of drying defects in the reworked areas. The drying of the paint may also have been helped by greater use of heat-bodied linseed oil, identified in samples from both the dark green and brown glazes of the foliage (from the part of the painting turned over

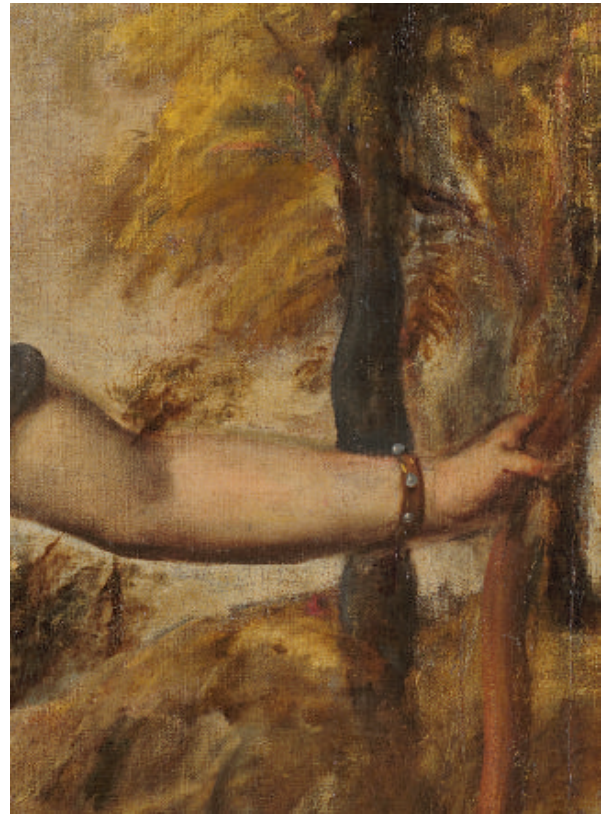


FIG. 249 NG 6420, detail showing Diana's outstretched arm.

the upper edge of the stretcher) and from lighter colours such as the ultramarine blue sky and the white cloud at the upper left edge.

Palma Giovane's account continued with a description of how Titian would take up the work again, examining it 'with utmost rigour' and then set about correcting it, before turning to another work. In the final stages he might 'with a wipe of the finger ... place a dark stroke in some corner to strengthen it, or a smear of bright red, almost like a drop of blood'. While Palma's statement that 'in the finishing stages he painted more with his fingers than his brushes' is clearly an exaggeration, it is possible to imagine that the paint of the collar of Diana's hound was applied in such a fashion and that such a 'smear of bright red' was indeed regarded by Titian as a finished passage of painting.