

National Gallery Technical Bulletin

VOLUME 36

Titian's Painting Technique from 1540



National Gallery Company
London

Distributed by
Yale University Press

This edition of the *Technical Bulletin* has been supported
by Mrs Charles Wrightsman

Series editor: Ashok Roy

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First published in Great Britain in 2015 by
National Gallery Company Limited
St Vincent House, 30 Orange Street
London WC2H 7HH

www.nationalgallery.co.uk

British Library Cataloguing-in-Publication Data.
A catalogue record is available from the British Library.

ISBN: 978 1 85709 593 7
ISSN: 0140 7430
1040521

Publisher: Jan Green
Project Manager: Claire Young
Editor: Lise Connellan
Design: Libanus Press
Picture Research: Suzanne Bosman
Production: Jane Hyne and Penny Le Tissier
Repro by Alta Image
Printed in Italy by Conti Tipocolor

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. 1

The Vendramin Family, venerating a Relic of the True Cross

NG 4452

1540–5¹

Canvas, 206.1 × 288.5 cm

Thread count of canvas: 22 warp, 17 weft per cm (point twill weave)

Relined in 1961, cleaned and restored in 1973–5²

This large canvas has long been celebrated as a work by Titian, and indeed was recorded as such during his lifetime.³ It was generally dated by scholars to the 1550s until the discovery in 1925 that it represented members of the patrician Vendramin family.⁴ The Vendramin particularly venerated a relic containing a fragment of the True Cross, depicted on the altar in the painting, which belonged to the Scuola Grande di S. Giovanni Evangelista in Venice and was rescued in 1374 by their ancestor, Andrea, from the waters of the Grand Canal into which it had fallen. Although there has been some discussion as to the exact identity of the senior figures represented,⁵ the painting would appear to show the two brothers Andrea (1481–1547) and Gabriel (1484–1552), the latter being the great collector and patron of Titian, accompanied by Andrea's seven sons (he also had six daughters). The oldest, Lunardo, was born in 1523 and the youngest, Federigo, in 1535.⁶ While the ages of figures in portraits can be difficult to estimate, the apparent ages of the seven sons suggest that the painting was begun in the early 1540s. Gould proposed a latest likely start date of about 1543, on the basis that Lucha (the second son), born in March 1528, does not have a beard and is not therefore likely to be more than about fifteen years old. Lunardo, the young man on the left, was twenty in this year and Federigo, the child with the dog, was eight or nine.⁷ The free handling of the paint, which had misled earlier critics, would be perfectly possible at this date since a similarly bold technique features in another large canvas for a Venetian palace, the *Ecce Homo* (Kunsthistorisches Museum, Vienna), which Titian signed and dated 1543. It has been proposed in recent years that the execution of *The Vendramin Family* was protracted and that it may have been left incomplete on Titian's departure for Rome in 1545 and finished only in the 1550s, largely by members of the workshop.⁸ It is argued here, however, that the technical evidence does not support this hypothesis.

The painting is executed on a canvas with a 'point twill' weave, often, although not strictly correctly, called

a 'damask'.⁹ Its distinctive pattern is now visible on the painting surface as a result of the work's past history of relining and is especially apparent in photographs taken during the cleaning and restoration in 1973–5 (FIG. 64). These linens feature as tablecloths in paintings from both northern and southern Europe from the fourteenth century onwards, including in works by Titian himself, with the lozenge pattern of the weave clearly depicted. The earliest noted examples of their use as painting supports date from the beginning of the sixteenth century; but the low survival rate of canvas paintings from previous centuries means that such linens may well have been employed at an earlier date. While far less common than plain weave canvas, they seem to have been used occasionally for this purpose well into the seventeenth century in several areas of Italy. From the late sixteenth century onwards a number



FIG. 64 NG 4452, detail of the left hand of Gabriel photographed in 1974 during the last treatment, showing the pattern of the canvas weave, particularly clear in the sky beside the hand.



FIG. 65 Titian, *The Vendramin Family, venerating a Relic of the True Cross* (NG 4452), 1540–5. Oil on canvas, 206.1 × 288.5 cm.



FIG. 66 NG 4452, paint cross-section from the dark green of the altarcloth.



FIG. 67 NG 4452, detail taken in 1974 after cleaning and before restoration, showing the white gesso and canvas exposed in Andrea's left sleeve just below his wrist.



FIG. 68 NG 4452, infrared reflectogram mosaic.

of Spanish artists also adopted this fabric as a painting support, including Velázquez, Zurbarán and, most notably, El Greco. Although these textiles were later known in Spain as ‘mantelillo veneziano’,¹⁰ they do not seem to be only associated with Venice nor did they necessarily originate there. Many of the earlier Italian examples, from before or around the time of the painting of *The Vendramin Family*, are actually from Emilia, including, for example, paintings associated with Correggio and Parmigianino.¹¹ This raises the possibility that Titian may have obtained a length of this distinctive canvas when he visited Bologna in 1543, perhaps with the commission from the Vendramin in mind. The attraction to Titian of this type of textile may not have been so much the pattern of the weave as the fact that it was produced on rolls with considerably greater loom widths than normal tabby weave linens, which were generally a standard width of around one metre; this meant that no disturbing seam was needed for a canvas of the dimensions of the National Gallery painting even though it is more than two metres in height.¹² Furthermore, it seems likely that he took some of this fabric with him when he

went to Rome in 1545, since the unfinished *Pope Paul III and his Grandsons* (Museo Nazionale di Capodimonte, Naples; see FIG. 2), painted during this visit, is on a canvas with the same weave¹³ and is very nearly the same height and also has no seam.

The canvas for *The Vendramin Family* was prepared with a creamy white gesso, still attached to the sample in only one of the paint cross-sections, where some canvas fibres are also present (FIG. 66). It does not seem to have darkened through absorption of varnish and lining adhesives, its light colour being apparent in damaged parts of the painting (FIG. 67).

An extensive free underdrawing is visible with the naked eye in areas painted with translucent red lake. More underdrawing was revealed by infrared photography in 1973,¹⁴ and infrared reflectography has now generated a clearer image of the drawn lines, as well as revealing new evidence that clarifies the development of the painting (FIG. 68). The character of the underdrawing, with boldly brushed lines of black paint to establish the poses of the two senior figures, is very similar to the exuberant underdrawing found in *The*



FIG. 69 NG 4452, X-radiograph digitally adjusted to remove the effect of the stretcher.

Triumph of Love, also painted for the Vendramin and at much the same time.¹⁵ In common with that painting, however, some of the lines that appear in the infrared reflectogram must have been drawn at intermediate stages of evolution of the composition and so are not necessarily directly on the ground.

The alterations to the painting, visible in the infrared and X-ray images (FIG. 69), confirm that the canvas was destined for a specific site. A recently published inventory of 26 January 1602 records the painting hanging in the ground-floor entrance hall of the Vendramin palace at Santa Fosca,¹⁶ and not the *portego* of the *piano nobile*, as had previously been supposed.¹⁷ That it was to hang on a particular wall is indicated by the lighting from the right, rare in Titian's production (another example is CAT. 6). The height and viewing point also mattered, since extensive adjustments were made in the early stages of painting to the level and perspective of the top of the altar (including a plan to show more of the altarpiece, which originally extended to the left, as far as the present position of the relic). In addition there are minor adjustments to the steps in the

foreground. The most obvious alteration, however, is that on the left side where the painted-out head of the eldest son appears in a slightly lower position and close to the edge. Evidently the width of the canvas needed to be changed and a piece had to be cut off, perhaps because of alterations to the architecture of the intended setting, or alternatively because it was not originally destined for the recorded location in the entrance hall and it was only during the course of painting that it was decided to place it there. This change in format necessitated the moving of all four older sons, the implications of which are discussed below.

Infrared reflectography has also revealed significant alterations to the two senior figures (FIG. 68). There has been debate as to which brother is which, and whether they are indeed Andrea and Gabriel. It is generally assumed that the grey-bearded figure is the older brother, Andrea, although it could be observed that the age gap between the men as depicted by Titian seems greater than the three years that actually separated them. The possibility that the grey beard may be misleading creates additional uncertainty, for siblings can



FIG. 70 NG 4452, detail showing Gabriel's head.

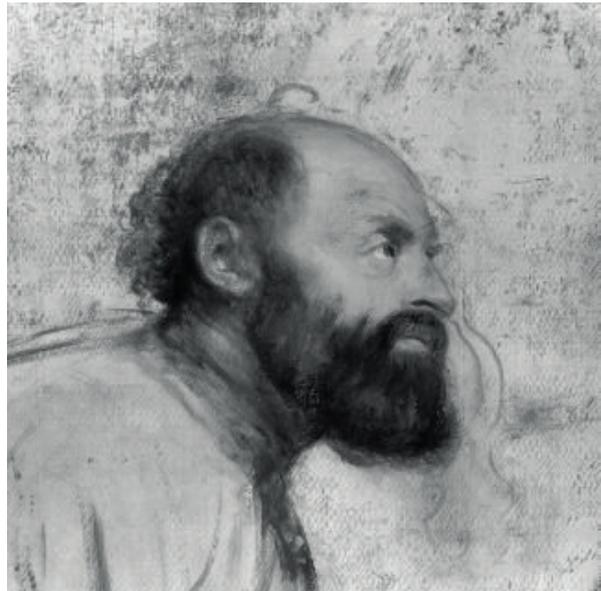


FIG. 71 NG 4452, detail of the infrared reflectogram, showing Gabriel's head.

turn grey at very different ages. The principal objection to the obvious identification of the brothers has been, however, the fact that Andrea, the senior member of the family, might be expected to be the one who is leading his heir and other sons in devotion to the relic on the altar, leaving the unmarried Gabriel to kneel at its side, albeit in an important central position.¹⁸

The infrared reflectogram reveals that it was in fact Titian's original intention to show the apparently older grey-bearded figure on the left in the position that might be expected for the father of the family. The curves and flourishes that appear in infrared in the area of the beard of the figure on the left are not simply examples of the extravagant freedom of Titian's underdrawing style (FIGS 70 and 71). A long flowing beard was clearly initially intended, and indeed the first layer of paint was roughed in, resulting in a shadowy area in the reflectogram (also just visible on the paint surface). Conversely, the infrared image shows that Titian began to paint the figure on the right with a neat dark beard (FIGS 72 and 73). This discovery, made thanks to the new infrared image during this recent study, seems to make the obvious identification of the figures more likely, and in any case, for the sake of convenience and clarity, the long-bearded figure will be referred to from now on as Andrea and the dark-bearded figure as Gabriel. The reasons for the switch will doubtless be debated: for instance, it could be argued that the figure on the right was turned into Andrea following his death in 1547 as a

way of showing that he was no longer a living member of the family group.¹⁹ However, the evidence presented below does not suggest a protracted execution for the painting, and so it was probably already finished by that date. Whatever the reason for the change, there is no doubt that the long flowing beard is set off well by the deep colours of the purple mantle, while the shorter dark beard works more effectively in profile and provides a better contrast with the pale blue of sky.

There is also evidence in the infrared and X-ray images to suggest that initially the brothers were not going to be shown draped in such voluminous lynx-lined cloaks. In the case of the draperies worn by Andrea, parts of the drapery have developed severe drying defects, but only in certain areas, an indication that the cause was not so much faulty paint composition as the superimposition of paint layers over colours that were not yet sufficiently dry as changes were made to the composition. There is now extensive retouching and old lead-containing fillings, not removed in the last restoration, specifically in the areas of these pentimenti, making it easy to see in the X-radiograph that Andrea's proper right sleeve was not originally as wide and loose. Similarly, there is a patch of X-ray-opaque paint, almost certainly the underpainting of the sky, in an area between Andrea's raised proper left arm and his body, now covered by the opening of the mantle and the more expansive sleeve. In the case of the figure that became Gabriel, the conspicuous underdrawing of his legs does



FIG. 72 NG 4452, detail showing Andrea's head.



FIG. 73 NG 4452, detail of the infrared reflectogram, showing Andrea's head.

indeed establish his pose, but it may be that they were to be painted, and that more of the upper edge of the step was to be visible. The decision to show the figures wearing patrician robes was evidently taken at an early stage and the more broadly brushed lines of underdrawing applied to establish the outline of the sleeve of Gabriel's cloak, crossing the denser finer lines of the legs, may have been added then. The X-radiograph shows further adjustments to the figure in the course of painting, most notably the addition of the left arm and hand over the completed folds of the cloak, the fervent gesture according with Gabriel's particular reverence for the relic as evinced by his will.²⁰

The decision to reduce the size of the canvas by cutting part of it off at the left, resulting in the reorganisation of this part of the composition (FIGS 74, 75 and 76), seems to have been taken only after the switch between Andrea and Gabriel: a paint cross-section (FIG. 77) from near the edge of the nose of Lunardo in his initial position (beneath sky paint near the left edge) has as its lowest layer the pale greyish-blue underpainting of indigo and lead white that also occurs in a sample from the sky to the right of the figure now identified as Andrea (FIG. 78). Over the first blue layer in the sample from Lunardo's first nose is a yellow-brown underlayer, consisting of red and orange-brown earths with lead white, and then two layers of flesh-coloured paint, both containing lead white and vermilion, but with a little yellow earth added to the upper layer. The

head was then cancelled with a single thin blue layer of lead white, ultramarine and a little azurite (with only one particle of this last pigment visible in the sample), without repeating the underpainting with indigo and lead white. The sample from the sky between Andrea and Gabriel confirms the basic sequence of a layer of indigo followed by one of lead white and ultramarine (FIG. 78). The underpainting of skies with indigo has been noted on many earlier paintings by Titian and also on *The Triumph of Love*.²¹ It is clear from the infrared and X-ray images that the portrait of Lunardo was more or less complete before the figure had to be moved further forward and therefore could simply be repeated – even so, slight adjustments to his profile and to the position of his ear are visible in the X-radiograph. The dark outlining of his back and hand and sleeve visible in infrared is similar in character to the lines of drawing on the gesso, but these marks were made at a very late stage, when the right edge of the sleeve was extended, and the left edge of Gabriel's red cloak slightly reduced by the introduction of a couple of strokes of the lead white and ultramarine paint used for the upper layer of sky (see FIG. 86).

While the figure of Lunardo could be accommodated within the revised format, Titian was left with very little space for the next three brothers, Lucha, Francescho and Bortalamio, born in successive years from 1528 to 1530. The presence in the X-radiograph of a profile head in the position eventually occupied by the



FIG. 74 NG 4452, detail showing the four brothers at the left edge.

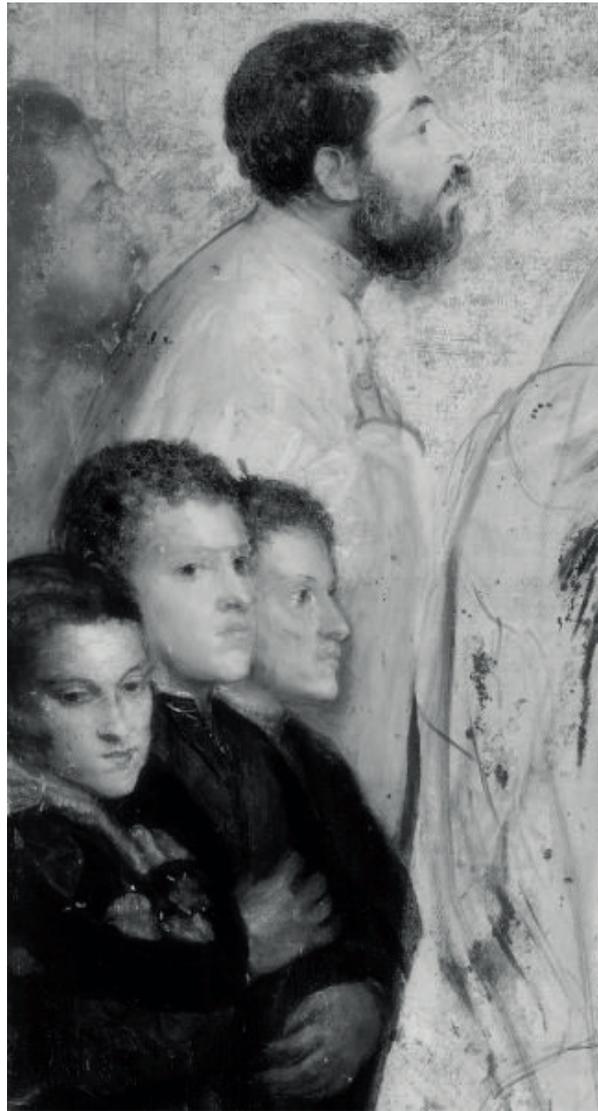


FIG. 75 NG 4452, detail of the infrared reflectogram, showing the four brothers at the left edge.

youngest of the group suggests that these three portraits had also been laid in before the cutting of the canvas. They are now badly cramped, and this has to some extent been responsible for them having been perceived as lacking in quality, which has led to suggestions that they were painted by a member of Titian's workshop. In making any assessment, their damaged condition needs to be taken into account. The boy on the right of the group was painted partly over the red damask cloak worn by Lunardo, resulting in drying cracks, while his brother next to him is affected by large flake losses, including from his nose and the inner part of his right eye socket. The current restoration, over old retouching left during the last cleaning, contributes to the somewhat flat impression of the head. The use of mainly

vermilion and lead white, with a little earth and carbon black, for the flesh of his nose (FIG. 79) is consistent with the technique for the first head of Lunardo.

The portraits, assumed to be of Lucha and Francescho, are boldly painted but care seems to have been taken that they should be reasonable likenesses, for in the X-ray and infrared images it can be seen that the positions of their eyes were moved up, lengthening slightly their faces, and adding to the impression that these are boys on the point of adulthood, with their more sharply defined jaws and even a hint of their first facial hair. The third, apparently youngest, brother at the left edge is more difficult to evaluate as the paint is badly wrinkled and cracked. Not only is the head over a previous head in profile, probably originally that of one



FIG. 76 NG 4452, detail of the X-radiograph, showing the four brothers at the left edge.



FIG. 77 NG 4452, paint cross-section from the blue sky near the left edge where it covers Lunardo's nose in its initial position.

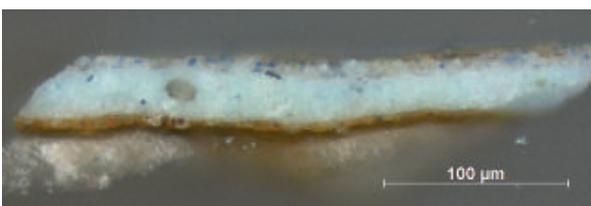


FIG. 78 NG 4452, paint cross-section from the blue sky between the heads of Andrea and Gabriel.

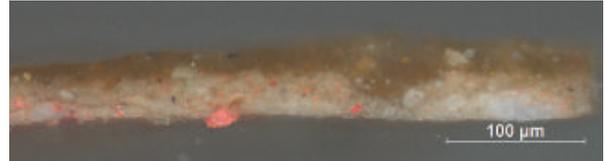


FIG. 79 NG 4452, paint cross-section from a half shadow in the nose of the central boy in the group at the left of the painting.



FIG. 80 NG 4452, paint cross-section from the deepest black of the sleeve of the boy at the right of the group at the left of the painting.



FIG. 81 NG 4452, paint cross-section from a shadow in the hand of the central boy in the group at the left of the painting.



FIG. 82 NG 4452, paint cross-section from a deep shadow in the purple-red doublet just visible at the neck of the central boy in the group on the left.



FIG. 83 NG 4452, paint cross-section from the orange doublet just visible at the neck of the boy at the right of the group at the left of the painting.



FIG. 84 NG 4452, paint cross-section from the deep purple brocade coat of the youngest boy, at the left edge.

of the older boys, but there is also a hint of a second profile nose in the X-radiograph. This could be either a shift up and to the right of the profile of the older boy in the first design or, in the revised format, the younger boy was first tried in that pose, only to be turned towards the viewer to achieve greater variety in the group. The drying defects in the paint are the result of a sequence of alterations, with layers superimposed before those underneath were fully dry. Therefore, it seems unlikely that these heads were added many years after the execution of the rest of the painting.

Several samples from the costumes and hands of this group confirm the impression of rather hasty improvisation of the design to fit in the figures, with no signs of any discontinuity between the superimposed layers that might suggest a later intervention. Therefore, a sample from the black sleeve of the boy on the right of the group (FIG. 80) shows that the layer of carbon black (mixed with a little lead white and some earth pigments, including umber) overlies a layer of red lake and white from Lunardo's red cloak (this is in turn over a pinkish brown containing a charcoal-type black, lead white and red earth). Another sample shows that the hands of the central boy, painted using layers of the

same vermilion and lead white mixtures with a little earth as in the rest of the flesh (FIG. 81), lie over black, most probably the costume of one of the other boys who was at first in that position on the painting before the change in format. Even in the cross-section there is a suggestion of the paint shrinkage that has resulted from applying quick-drying layers containing lead white over a layer of black paint, always slow to dry. The hands are now placed across the boy's chest, but the X-radiograph suggests that they may at first have been raised, perhaps in prayer, and it seems that adjustments were still being made to this figure while painting him in his new position.

Under the black coats worn by these two boys are glimpses of silk doublets, painted with a deep red lake over black for the central boy (FIG. 82), and a bright orange containing red earth with a little black, lead white and vermilion for the one on the right (FIG. 83). In the sample from the latter the orange overlaps the white of his shirt. The brown layers containing earths and sometimes some vermilion that occur as the lowest layers in both these samples may relate to the painting of the necks of the boys.²² The youngest of this group is dressed in a particularly sumptuous coat of dark purple brocade with the slashed sleeve openings edged with



FIG. 85
NG 4452, detail
showing the robes
of Andrea and
Gabriel.

black. The brocade pattern is suggested with great economy by superimposing mixtures of red lake, lead white and black over a black underlayer of the same composition as the coats of the other boys. As for them, included in the mixture is some copper-containing pigment that could have functioned as a drier for the poor-drying black paints. It has reacted with the medium so that no discrete particles are visible (FIG. 84).²³

The expensive black, purple and red-dyed fabrics that were displayed so conspicuously by the patrician families of Venice are at their most sumptuous in Titian's depiction of the robes worn by Andrea and Gabriel (FIG. 85).²⁴ Both draperies seem to have been begun with a warmer pinkish brown underpainting: for the more red colour of Gabriel's cloak (FIGS 86 and 87) this layer contains lead white, red lake and possibly a little red lead, while in the sample from the deep purple of Andrea's cloak (FIG. 88) it contains red lake, vermilion, an orange-red earth and a little natural ultramarine. Gabriel's red drapery was then modelled with red lake mixed with some white in the lighter areas and thick glazes of almost pure red lake in the shadows.²⁵ To obtain the purple of Andrea's robe, ultramarine was mixed with the red lake, together with some lead white in the lighter areas. The underpainting of a purple colour with mixtures containing mostly red pigments is consistent with Titian's practice as observed in his earlier paintings.²⁶

Another feature in common with works from the first part of Titian's career is the use of lakes based on dyestuffs derived principally from the kermes insect *Kermes vermilio* Planchon, probably by the way of a dye bath of cloth shearings rather than by direct use of the insect itself. Analysis of the red lakes from *The Vendramin Family* identified, in addition to the kermes, traces of components thought to relate to lac dye – from the lac insect *Kerria lacca* (kerr 1782) – as well as a little cochineal. Although it is not possible to determine whether the cochineal source was one of the Old World insects or the Mexican cochineal *Dactylopius coccus* Costa, the latter was beginning to be introduced in the early 1540s and was to become the main source of dyestuff for the red lakes in Titian's later output.²⁷ The cross-section sample from Gabriel's red cloak (FIG. 87) shows that the red lake glaze was applied in two layers, and analysis by ATR–FTIR microspectroscopy indicates that the upper layer contains two distinct types of lake pigment. The first type has a conventional hydrated alumina substrate, and also seems to be the main component in

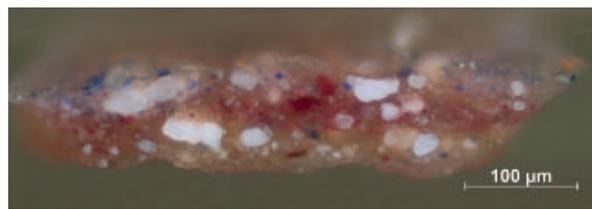


FIG. 86 NG 4452, paint cross-section from the blue sky, where it covers a pentimento at the left of Gabriel's red cloak.



FIG. 87 NG 4452, paint cross-section from a deep red shadow near the left edge of Gabriel's red cloak.



FIG. 88 NG 4452, paint cross-section from the deep purple of Andrea's cloak.

the lower glaze layer; it is therefore probably the kermes lake since this was the major dyestuff component, which also shows evidence of having been extracted from silk shearings. Individual particles of the second type of lake, found only in the upper layer, gave ATR–FTIR spectra that indicated that they contain protein. This type of substrate is usually associated with lake pigments produced from woollen textile shearings and can probably be associated with the cochineal dyestuff, since lac is invariably extracted directly from sticklac.²⁸

The sombre reds and purples are lifted by the bright colour note of the stockings worn by the youngest child, Federigo (FIG. 89). The paint was not sampled but it almost certainly contains vermilion with some red lake. Neither was the green of his tunic sampled, but the infrared image suggests that it was undermodelled using mixtures that contain carbon black, both to establish the folds and to give depth to the colour (FIG. 90).²⁹ It was then presumably completed with verdigris glazes as in the deep folds of the cloth draped over the altar (FIG. 91), only here the underpainting consists of verdigris and lead-tin yellow and so the area appears light in infrared.



FIG. 89 NG 4452, detail showing the three brothers on the right.



FIG. 92 NG 4452, detail of the X-radiograph, showing the three brothers on the right.



FIG. 90 NG 4452, detail of the infrared reflectogram, showing the three brothers on the right.



FIG. 93 NG 4452, paint cross-section from the greyish marbling of the altar just above the young boy's head.



FIG. 91 NG 4452, paint cross-section from the dark green of the altarcloth.

At first glance the X-ray image (FIG. 92) might suggest that there have been extensive alterations to this part of the painting as well as on the left. There were indeed adjustments to the position of the altarpiece and the height of the altar (and also some of the steps), and the green and pink-bordered cloth was clearly added over the completed paint layers of the altar mouldings. However, the streaks of X-ray-opaque paint that appear above and in the area of the heads of the child with the dog and the boy on the far right are not easily related to any possible painted form. The marks are notably broader and more random than the brushwork visible in the rest of the painting. A sample from the greyish marbling of the altar just above the youngest boy's head (FIG. 93) shows a sequence of cream and warm grey layers all containing a considerable amount of lead white. It may be the lowest layer, almost entirely lead white, that is registering so strongly in the X-radiograph. The marks are perhaps no more than arbitrary brushwipings, originally barely visible on the creamy white gesso ground. This paint at least seems to have been



FIG. 94 NG 4452, detail showing the reliquary and candlesticks.

properly dry, with no associated drying defects, before the painting of the altar and the three boys.

This group on the right seems to have been relatively carefully planned, the only significant alteration being the addition of the left arm and hand of the boy on the far right across the shoulder of his brother. The paint of his orange-brown tunic, probably consisting mainly of earth pigments, is in poor condition, and the heads of both these boys are damaged and heavily retouched, particularly on the shadowed sides of their faces. Another indication of hasty execution is the formation of wide drying cracks in the pink paint of the central boy's belt, evidently applied too soon over the slow-drying black paint of his tunic.

The breadth of technique and bravura handling of details in *The Vendramin Family* – such as the lynx fur and the reliquary and candlesticks (FIG. 94), the brushwork always descriptive and purposeful – are far from unprecedented in Titian's painting. As in great altarpieces such as the *Assumption of the Virgin* for the church of the Frari, Venice, completed in 1518, and large-scale canvases painted for Venetian clients in

the later 1530s and early 1540s – for example, the *Presentation of the Virgin in the Temple* for the Scuola Grande della Carità (1534–8) and the *Ecce Homo* (Kunsthistorisches Museum, Vienna) of 1543 – Titian took into account the location and viewing distance of the painting. Elements that can appear rough and even coarse on close inspection may read perfectly well at a distance. The use of materials such as red lakes derived from kermes and indigo for underpainting the sky, which are commonly identified in works from the first half of Titian's career, supports a date of around 1540–5 for the *The Vendramin Family*, as does the use of the unusual 'damask' twill canvas. Titian could have made use of workshop assistance at any stage in the production of the painting, but delegation would not have been straightforward, given the number of alterations that had to be made. Moreover, on the evidence of the paint layer structures and the drying defects caused by the apparently rapid improvisation and adaptation of the design, the painting was probably executed over a relatively short period. It was almost certainly finished before his departure for Rome in 1545.

CAT. 2

An Allegory of Prudence

NG 6376

c.1550

Canvas, 75.7 × 68.4 cm

Thread count of canvas: 12 warp, 8 weft per cm¹ (plain weave)

Cleaned and restored in 1966²

Ever since this canvas first became known to connoisseurs and art historians when it was in France in the mid-eighteenth century, its meaning has been debated and extensively reinterpreted.³ It is now generally agreed that the main subject is that of Prudence. The inscription, carefully divided so that each part relates to the head underneath, reads: EX PRÆTE / RITO above the old man, PRÆSENS PRVDEN / TER AGIT above the central figure and NI FVTVRV / ACTIONE DE / TURPET above the youth. The rough meaning is 'Learning from Yesterday, Today acts prudently, lest by his action he spoil Tomorrow'.⁴ In referring to past, present and future there are also associations with the subject of the Three Ages of Man, initially identified as the title until Erwin Panofsky and Fritz Saxl pointed out the meaning of the inscription in 1926.⁵ Panofsky continued to be intrigued by the canvas, elaborating on his original suggestion to give the image an autobiographical interpretation, identifying the old man as Titian himself and the other two figures as Titian's son, Orazio, and nephew, Marco. He then associated the work with events in Titian's life in the late 1560s.⁶ There have been several objections to this argument, not least that the resemblance between the old man and Titian's late self-portrait in the Prado is not so very strong, being more a similarity of type.⁷ Moreover, to suit this interpretation the *Allegory of Prudence* would have to be a very late work dating from the late 1560s and there is no real evidence that that is necessarily the case. When considering the date of the painting its technique and possible function also have to be taken into account. In addition, infrared reflectography and X-radiography (FIGS 96 and 97) have revealed alterations to the image that are as difficult to interpret and may be potentially as misleading as anything in the final design itself.

The canvas is a rather coarse plain weave textile, prepared with a gesso ground.⁸ It has the lowest thread count of the canvases included in this study. While it is true that Titian was inclined to use more textured canvas in his later works, in this instance the choice could be

related to the function of the painting. Its emblematic qualities have led to the suggestion that it might be an example of a *timpano* – a stretched canvas used as a cover to a portrait – as was the case with *The Triumph of Love* (see vol. 34 of this *Bulletin*, CAT. 13). Indeed it has even been suggested that *An Allegory of Prudence* could have been the cover for Titian's late self-portrait now in the Prado, Madrid.⁹ This cannot be the case as the presence of cusping and some ragged old tack holes at the upper and lower edges confirms that the height of the canvas remains unaltered, and it has therefore never been as tall as the Prado canvas. Some marked cusping in the canvas weave can be seen in the X-radiograph along the left edge of the main piece of canvas, which stops some 1.7 cm from the edge of the stretcher, as a narrow non-original addition has been attached. At the right edge the canvas continues to the edge of the stretcher, where it has been neatly trimmed so that it is straight, and as a result only slight cusping in the weave is evident in the X-ray image.

In interpreting the confusion of marks visible in the infrared and X-ray images, it is best to start by distinguishing those alterations that can be clearly associated with the present painting. Although the central head appears blurred and indistinct in the X-radiograph, it appears not to have been altered during painting,¹⁰ nor has the young man been changed. The X-ray-opaque marks that appear to continue from his chin have been taken to indicate that originally he was bearded,¹¹ but they seem to relate to something deeper in the paint layer structure, probably unrelated to this figure. In addition, the suggestion that the head of the youth was a late contribution by a member of the workshop is unlikely¹² since the paint is blended at the junction with the central head and in places is covered by the darker curls of this figure.

Only the old man on the left has been changed. The head that we now see was thinly and rapidly painted, turned slightly towards a three-quarter view. The paint is not particularly abraded but it has almost certainly become more transparent with time. There is so little



FIG. 95 Titian, *An Allegory of Prudence* (NG 6376), c.1550. Oil on canvas, 75.7 × 68.4 cm.

lead white in the paint that the head in this position barely registers in the X-radiograph. It can be seen, however, in the infrared reflectogram. Initially the old man's head was painted in profile to balance the profile of the young man on the right. In the infrared image this is the head to the right of the final one, but in the X-radiograph the transparency of the final head means that this earlier head appears as the one furthest to the

left. To complicate matters further, the X-radiograph indicates the possible presence of a third head in profile (not clear in the infrared image), in a lower position, still with a somewhat hooked nose, but without any detectable beard. Unlike the heads in the final painting, this profile can conceivably be linked with the very evident marks in the X-radiograph, which seem to suggest some sort of collar or fabric draped around a neckline. These



FIG. 96 NG 6376, infrared reflectogram.

brush marks are thick and strongly textured, making them visible on the painting surface even through the superimposed paint layers. While there is always an element of uncertainty in interpretation of X-ray images, it is possible to imagine a single figure seen from the back with head turned in profile to look over his shoulder, in a pose reminiscent of some of the figures of Emperors in Titian's famous series, now lost, which he painted in 1537–8 for the Gonzaga of Mantua (FIG. 98).¹³ An objection to this reading of the X-radiograph might be the fact that the hair of the central figure in the final image appears relatively dark. However, if the head of the putative first image were just thinly sketched in, it may have only become legible to the left of the central head as the result of the accumulated density of lead white from the two versions of the head of the old man painted over it.

The possibility that several of the features visible in the X-radiograph can be explained by the presence of an incomplete and different design beneath the final composition would account for other inexplicable elements in the painting. This first design is also likely to have been emblematic in character. The curved shapes visible in the X-ray and infrared images in the upper half of the composition are suggestive of some form of architectural cartouche, although a curling ribbon or banderole is perhaps more likely. A paint cross-section from the background at the right of the painting (in line with the youngest figure's chin) coincides with the bottom curl of this feature. It shows that at this point the possible banderole is off-white or light beige, with the paint consisting principally of lead white tinted with a very small amount of black and red and the occasional particle of smalt (now colourless), laid over deep red and



FIG. 97 NG 6376. X-radiograph digitally adjusted to remove the effect of the stretcher.

reddish-brown paint layers (FIG. 99). These consist of a lower layer of brown, yellow, red and orange earth pigments with a little vermilion, lead white and black, followed by a thinner, deep red layer made up of a red lake pigment and a little black and white. Covering the off-white paint of the underlying feature is the dark grey-brown paint of the present background, composed of lead white, earths, black and possibly some vermilion. In a sample from the top right of the background where the X-ray image seems to show the upper curl, the layer that can be associated with the possible banderole is a similar mixture to that for the lower curl, but contains verdigris in addition, giving a more greenish light brown colour. Further towards the centre and near the top of the painting this underlying feature can be seen to be pale pink where it is exposed in areas of damage to the upper paint layer. Perhaps some sort of *cangiante* effect,



FIG. 98 Aegidius Sadeler II, after Titian, *The Emperor Tiberius Caesar*, c.1585–1629 (detail). Etching and engraving on paper, 36.2 × 24.6 cm. London, British Museum, Inv. 1878.0713.2646.



FIG. 99 NG 6376, paint cross-section from the grey-brown background at the right, towards the edge and level with the young man's chin.

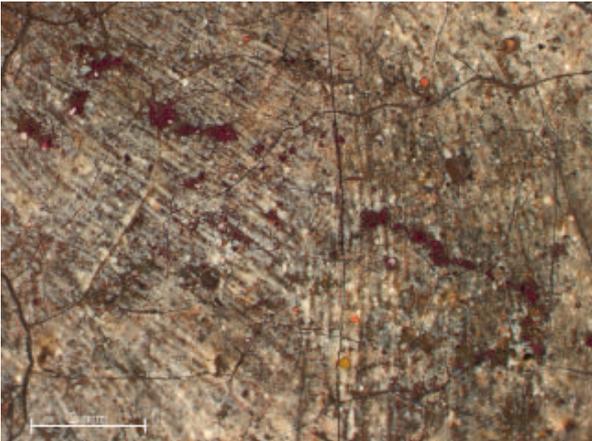


FIG. 100 NG 6376, photomicrograph of the collar of the youth, showing deep pink paint underneath the white of the collar.

as in the ribbon fluttering from Actaeon's quiver in *Diana and Actaeon* (CAT. 4), was intended.

An area of a deeper pink colour is visible with the naked eye through the upper paint layers immediately to the right of the torso of the young man and continues under the collar of his costume (FIG. 100). This shape coincides with the dark sketched contours visible in the infrared reflectogram (FIG. 101) and strongly suggests the folds of a draped cloak that cannot be associated with the final image but is perhaps related to the possible figure with a large collar that seems to be visible in the X-ray image. At the left where the red paint beneath seems to be brighter, a sample shows that it consists of a mixture of red earth with lead white and a small amount of red lake and brown umber.

Other colours appearing in gaps in the upper paint film include the light grey that perhaps served as a base colour for the animals, partially concealing the first figure beneath. The grey is visible in the mouth of the central figure (FIG. 102), and also the damaged upper lip of the youth on the left (a loss that contributes to the unsatisfactory appearance of this head), as well as the muzzles of the wolf and lion. The strong dark lines



FIG. 101 NG 6376, detail of the infrared reflectogram.

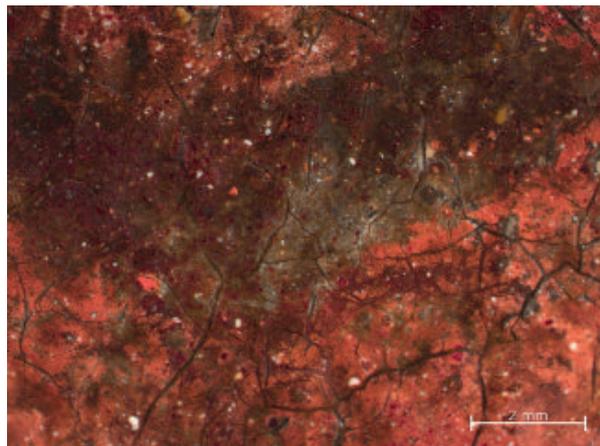


FIG. 102 NG 6376, photomicrograph of the central man's lips, showing grey paint beneath.

of drawing for the lion that appear in the infrared reflectogram lie over the grey and have been left visible to contribute to the modelling of the beast.

The animal heads must have been painted very rapidly wet-in-wet with thinly applied paints. Slight abrasion of the thinnest colours and changes in transparency with time mean that some of the detail is no longer very legible. The placing of the touches of bright orange-red on the lion, however, is masterly and typical of Titian (FIG. 103). The back of the dog's tongue is indicated with a quick broken brushstroke of beaded red paint (FIG. 104).

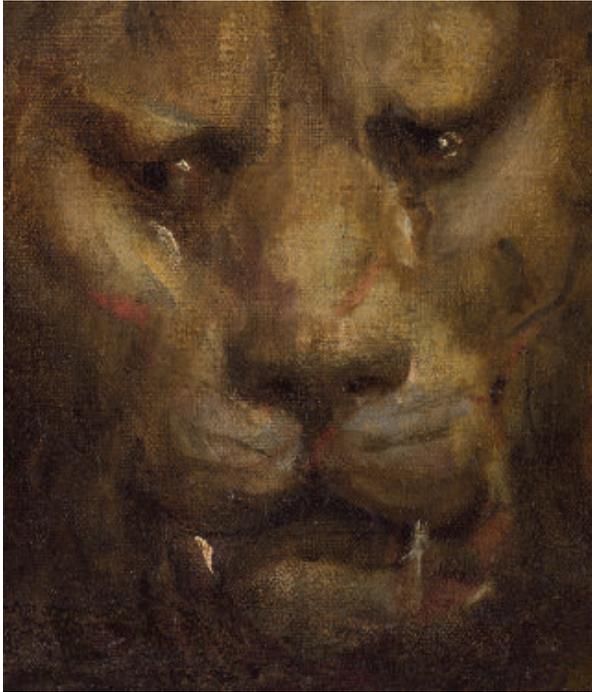


FIG. 103 NG 6376, detail showing the lion's head.

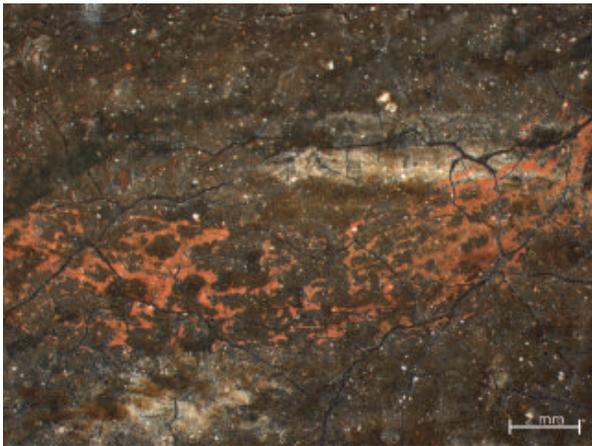


FIG. 104 NG 6376, photomicrograph of the dog's tongue.

The profile of the young man may have been affected by the several small losses but it was always economic in its execution. His jacket was painted so rapidly that it verges on being crude. A cross-section shows that the base colour contains verdigris and was originally dark green (now discoloured), and that the spots were then dashed in using an intense red earth instead of the vermilion that might be expected (FIG. 105). None of the pigments found in the painting is particularly rich and expensive.

The impression gained of *An Allegory of Prudence* is of a work intended to be viewed at a distance, rather than closely inspected, very probably hung at some

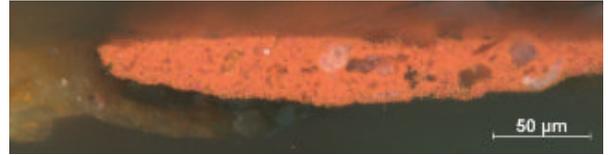


FIG. 105 NG 6376, paint cross-section from a red-brown spot on the young man's jacket.

height. Moreover, it has been pointed out that it is lit from the right¹⁴ and that, as with *The Vendramin Family* (CAT. 1), it is therefore likely to have been painted for a specific destination, perhaps as a room decoration in the form of a frieze together with the other three classical Virtues of Justice, Fortitude and Temperance. The possible first figure and other features revealed in the X-radiograph of *An Allegory of Prudence* might represent an earlier idea for such a frieze. Gabriel Vendramin's *camerino d'anticaglie* in the family palace at Santa Fosca included such a frieze. This was described in an inventory of 1567 as consisting of large vases and busts interspersed with 'tempani atorno depinti di man di misier Titian'.¹⁵ The canvases may have been called 'tempani' in the inventory because the subjects were of the allegorical or emblematic character associated with portrait covers. The main obstacle to linking *An Allegory of Prudence* with the Vendramin *camerino* is the general tendency to date the work towards the end of Titian's life, largely because of the identification of the old man on the left as a self-portrait in old age. If this identification is rejected, however, there is nothing in the technique and handling, bearing in mind the probable function of the painting, that would not allow it to have been painted very much earlier than has usually been suggested. The brushwork may be bold and economic in depiction of detail, but it lacks the diffuse, broken quality of the last works. The strong chiaroscuro effect is comparable with larger-scale works generally dated to the later 1540s, especially the *Sisyphus* (Museo Nacional del Prado, Madrid), one of a series of *Damned Men* commissioned by Mary of Hungary in 1548 and delivered the following year. The abbreviated painting of the monsters in the left background is comparable with the rendering of the emblematic creatures in *An Allegory of Prudence*. If the *Allegory* is a work of around 1550 painted for Gabriel Vendramin,¹⁶ the complexity of the iconography, derived from multiple antique sources,¹⁷ would be entirely appropriate for the *camerino* of the great Venetian collector of antiquities.

CAT. 3

Venus and Adonis

NG 34

1554–6

Canvas, 177.9 × 188.9 cm

Thread count of canvas: 19 warp, 17 weft per cm¹ (chevron twill weave)Cleaned, restored and relined in 1973²

In a letter of 10 September 1554 Titian announced to Philip, then still Prince of Spain, that he was sending him a painting of the subject of Venus trying to prevent the departure of her lover, Adonis. This was duly received in London by Philip, who had recently become King of England by marriage to Queen Mary.³ It is generally assumed that this is the work now in the Museo Nacional del Prado, Madrid (FIG. 106). The year before, Titian had sent Philip a painting showing Danaë receiving Jupiter in the form of a shower of gold, recently identified as the cut-down and rather damaged canvas in the collection of the Duke of Wellington at Apsley House, London (FIG. 107).⁴ These were the first two of the set of six *poesie* that Titian was to paint for Philip, the others being *Diana and Actaeon* (CAT. 4), *Diana and Callisto* (CAT. 5), *Perseus and Andromeda* (Wallace Collection, London) and the *Rape of Europa* (Isabella Stewart Gardner Museum, Boston). The *Venus and Adonis* and the *Danaë* were both derived and adapted from earlier designs by Titian, that of the former possibly dating back to as early as the 1520s,⁵ while the *Danaë* seems to have been developed from a painting of the mid 1540s in the Farnese collection (where it was also paired with a *Venus and Adonis*), now in the Museo



FIG. 106 Titian, *Venus and Adonis*, 1554. Oil on canvas, 186 × 207 cm. Madrid, Museo Nacional del Prado, Inv. P00422.

Nazionale di Capodimonte, Naples. Titian and his workshop continued to produce repetitions of both subjects, those of *Venus and Adonis* being particularly numerous.⁶

Although it has a distinguished provenance and was once much admired,⁷ the *Venus and Adonis* in the National Gallery is now recognised to be one of those workshop copies, based on, although not repeating exactly, the composition of the painting now in the Prado. It differs from the Prado painting in some minor details: for example, the bow in the National Gallery painting is behind the quiver, and the latter is cylindrical in shape rather than rectangular, a feature that it shares with other later derivations. There are also variations in the angle of both the bow and the quiver in the different versions, with the National Gallery canvas having each of these tilted in the opposite direction to the Prado painting. These differences reappear, but with further variations – notably the addition of drapery over Adonis' right shoulder – in two of the better versions of the Prado design, one of which is in a private collection and the other in the J. Paul Getty Museum, Los Angeles.⁸ The handling of the paint in these two versions, as well as the National Gallery one, suggests that they were probably all produced in the second half of the 1550s, but the composition continued to be popular into the next decade, judging by the looser technique of the reduced-scale version in the National Gallery of Art, Washington DC. Indeed, X-radiographs of yet another



FIG. 107 Titian, *Danaë*, 1551–3. Oil on canvas, 192.5 × 114.6 cm. London, Apsley House (Stratfield Saye Preservation Trust).



FIG. 108 Titian workshop, *Venus and Adonis* (NG 34), 1554–6. Oil on canvas, 177.9 × 188.9 cm.

version (Cobbe Collection, Hatchlands Park, Surrey) have revealed a series of alterations that suggest that this one may have been kept in the workshop and over the years used as a trial piece for new variations of the composition.⁹

The original canvas of the National Gallery painting has ragged edges and occasional old tack holes along all but the left edge. Comparison with the Prado painting (and its other derivations) suggests that this edge may have been trimmed slightly and that there was once more space for Venus' foot.¹⁰ The canvas itself is of an unusual chevron twill weave, rather like a wide herringbone but with a little zigzag at each point of the 'spine' (FIG. 109). As with the damask weave textile used for



FIG. 109 NG 34, detail of the X-radiograph reproduced in positive to show the canvas weave. The white line shows one line of the pattern.



FIG. 110 NG 34, infrared reflectogram mosaic.

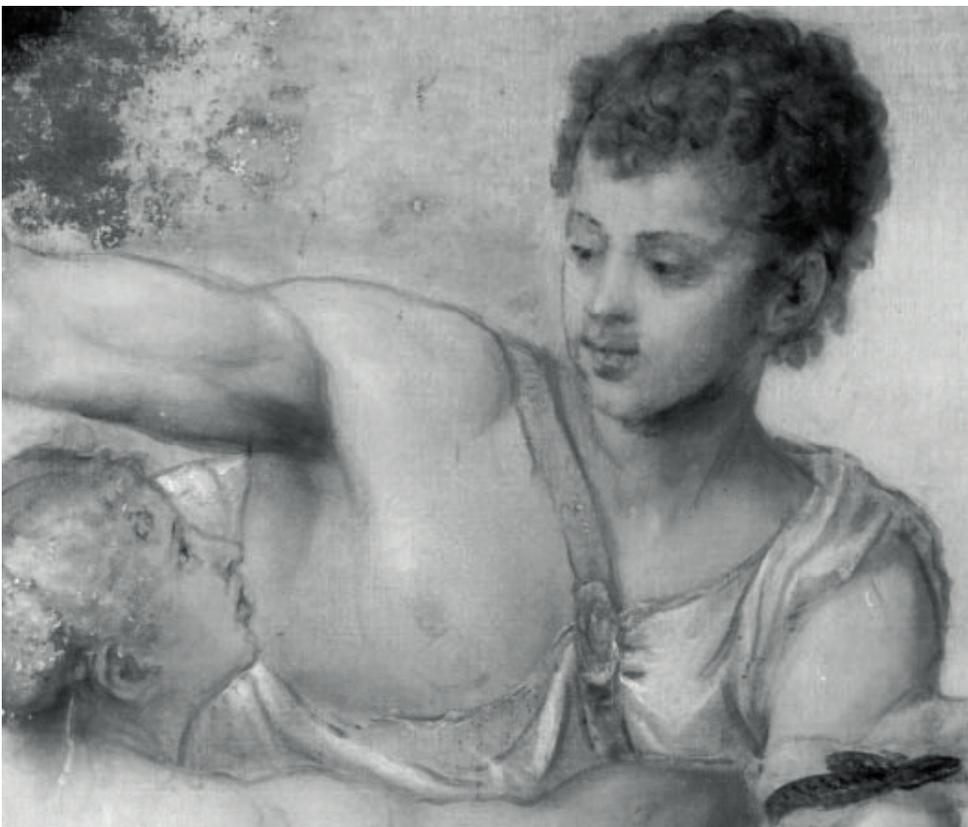


FIG. 111 NG 34, detail of the infrared reflectogram, showing the head and shoulders of Adonis.



FIG. 112 NG 34,
X-radiograph digitally
adjusted to remove the
effect of the stretcher.

The Vendramin Family (CAT. 1), the canvas is without any seam.¹¹

The gesso used to prepare the canvas seems to be composed of roasted gypsum, as analysis confirms it consists of calcium sulphate of the anhydrite (CaSO_4) form; as in some of the other paintings catalogued here, small amounts of dolomite (calcium magnesium carbonate) and siliceous minerals are also present, most probably as impurities rather than a deliberate addition. Underdrawing for the clouds is visible with the naked eye as a result of abrasion and increased transparency of the paint layers of the sky (see FIG. 116). These lines of liquid dark paint are broadly brushed; their free and spontaneous character is such that they could be taken to have been sketched in by Titian himself.¹² The infrared reflectogram reveals that, in contrast, the two principal figures have been carefully outlined in every detail, almost certainly following lines from some sort of mechanical transfer such as a tracing (FIGS 110 and 111). Although only a few drawn lines can be detected in the sleeping Cupid in the background, his position must have been fixed by underdrawing, since even quite small shapes were reserved in the course of

painting: for instance, his arm was carefully painted as two parts bisected by the sapling in front of it, instead of superimposing the paint of the tree over a complete arm. The lines of underdrawing in the large-scale figures are broad and liquid (FIG. 111), but the use of a black paint to mark out the composition was clearly studio practice, whether the drawing was freehand or transferred by mechanical means. The transfer of a pre-existing design is likely to have been a routine task delegated to the workshop, even when Titian intended to contribute very significantly to the painting of the picture himself, as in the case of the version painted for Philip (see introductory essay, p. 14).

The appearance of the X-radiograph, and also the few paint samples,¹³ confirms the impression given by the actual paint surface that the execution of this painting was largely reproductive and mechanical and that Titian himself played very little, if any, part in it. Each colour area, even a detail such as Adonis' shoulder strap, was carefully reserved, always following the underdrawing. No creative alterations are evident, and the appearance of the flesh areas in the X-radiograph is remarkably even and consistent, with no distinction

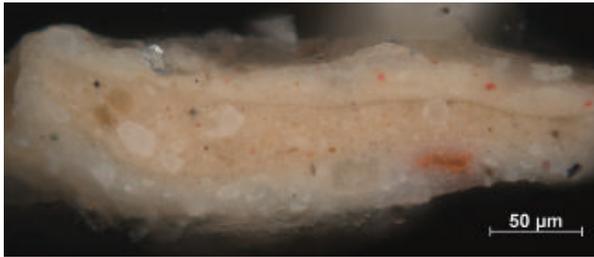


FIG. 113 NG 34, paint cross-section from the flesh of Adonis' thigh.

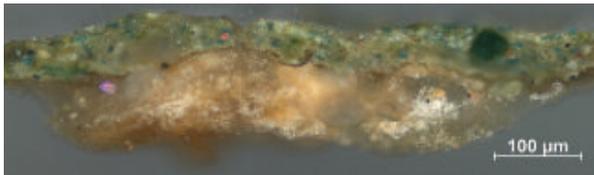


FIG. 114 NG 34, paint cross-section from the blue-green hill in the distant landscape at the right.



FIG. 115 NG 34, paint cross-section from the yellow vase at the bottom left.

between male and female flesh and none of the contrast between thinly painted shadowed heads and limbs and densely painted highlights that is usually seen in X-radiographs of paintings by Titian himself (for example, FIGS 137, 157 and 190).

A paint cross-section from the flesh of Adonis' thigh (FIG. 113) shows that the flesh tint was built up in three



FIG. 116 NG 34, detail showing the sky with Venus in her chariot.

or four careful layers, the lowest consisting of lead white with only a little red earth and black, followed by a darker more colourful tint containing the same pigments but with the addition of some yellow earth, and then finally another lighter layer of lead white with vermilion as well as red and yellow earth. The impression of a direct copy is also supported by the sample from the bluish green hill immediately behind the hill with the small white buildings (FIG. 114). Here the cross-section shows only two overlapping brushstrokes of relatively thin paint composed of a mixture of azurite, verdigris, lead-tin yellow and some lead white, applied over the gesso – the very thin discontinuous dark layer between the paint and ground may be a line of underdrawing. The base colour for the foliage of the small trees on the right also contains azurite, together with verdigris, lead white and a little black and vermilion, which is overlaid with a translucent glaze containing mainly verdigris with a little lead-tin yellow. The leaves are highlighted with a light green mixture of lead-tin yellow, azurite and lead white. The darker green trees on the left and the deep green plants in the foreground are completed mostly with paint consisting of verdigris alone. Indeed, in a cross-section from the paint of the vase (FIG. 115), one of the few details not to have been left in reserve, the highlight of lead-tin yellow with a little orange earth lies immediately over the dark brownish-green of the foreground, which has been used as the basis for the body of the vase, another indication of the economy of technique used for this painting. Not surprisingly, the grass has discoloured and darkened considerably, as has much of the green of the trees on the left. Even allowing for the large area of damage and repaint, these are flat and formless when compared with their counterparts in the Prado painting.

No sample was available from the paint of the sky, but its grey appearance and the increase in its transparency on ageing suggest that smalt may have been used. Certainly there is little evidence of the intense ultramarine blue that characterises the sky of the Prado version and so many other paintings sent by Titian to Philip. Just a very small amount of ultramarine may be present in the patches of pale blue above the little figure of Venus in her chariot, although even here it may be smalt that has been protected from loss of colour by admixture with lead white (FIG. 116). The areas painted with red lake (prepared with cochineal dyestuff)¹⁴ in the National Gallery painting seem well preserved and still relatively intense in colour, but they are unvarying



FIG. 117 NG 34, detail of the X-radiograph, showing the head of Adonis.

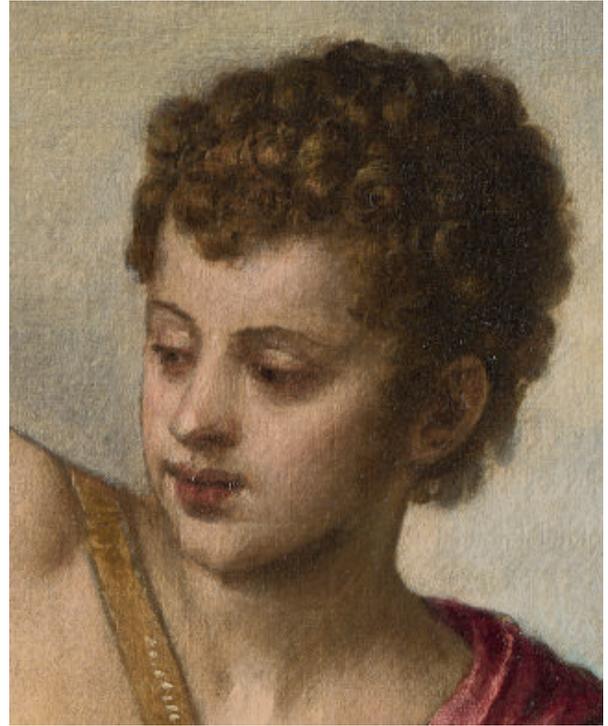


FIG. 118 NG 34, detail showing the head of Adonis.

in hue, modified only in their tone by the admixture of lead white, whereas the Prado canvas exhibits a greater range of more subtle pinks, reds and purples as in other works by Titian. The deep red of the cloth on which Venus sits does, however, include some smalt that has lost its colour together with the red lake,¹⁵ and therefore there may have been a little more distinction between this and Adonis' drapery than there is now. There is evidence that both linseed and walnut oil were used as binding media in this painting: analysis of a brown paint sample taken from the bow indicated linseed oil, while walnut oil was identified in a sample from the blue-green landscape.¹⁶

The painter of the London *Venus and Adonis* must have been a very competent member of the workshop and the work remains effective and even impressive when viewed from a distance. When viewed more closely, however, it reveals a monotony of paint handling that is not characteristic of Titian. It also lacks the enlivening touches of bright red vermilion that characterise the Prado version and the other *poesie*. Nevertheless, the possibility that Titian applied his brush to a few final details cannot be excluded. In the X-ray and infrared images of Adonis' head (FIGS 117, 118 and 111) there are indications of some reworking of his features; his eyes seem to have been lower and his mouth slightly higher

and at a different angle. This might suggest Titian improving on the features and expression of this most important part of the image, while Venus' elaborately plaited hair is painted with broad, confident touches not unlike those seen in some of the heads in the later *poesie* (see, for example, the nymph who supports Diana in *Diana and Callisto*).¹⁷ The piece of white fabric between Venus' legs is more extensive than in the Prado version and is painted over the red lake of the cloak on which she is seated (FIG. 119). Here, the brushwork is free and open, the broken strokes suggesting the possibility of Titian's intervention.



FIG. 119 NG 34, detail of the white cloth over Venus' legs.

CAT. 4

Diana and Actaeon

NG 6611; NGS 2839

1556–9

Canvas, 184.5 × 202.2 cm

Thread count of left piece of canvas: 13 warp, 9 weft per cm (plain weave)

Thread count of right piece of canvas: 14 warp, 10 weft per cm (plain weave)

Cleaned and restored in 1998–9¹

In 1554 Titian announced in letters to Philip of Spain and to Giovanni Benavides, a young Italian contact of his who was part of the Prince's retinue, that he intended to follow the *poesie* showing *Venus and Adonis* and *Danaë* (FIGS 106 and 107) with another pair, *Perseus and Andromeda* and *Jason and Medea*.² While the former is usually identified with the canvas now in the Wallace Collection, London, the latter subject seems to have been abandoned and *Perseus and Andromeda* eventually paired with the *Rape of Europa* (Isabella Stewart Gardner Museum, Boston), completed in 1562 and the last of the six *poesie* sent to Philip. These were novel subjects for Titian and the composition of *Perseus and Andromeda* in particular seems to have caused him considerable difficulties: X-radiography has revealed extensive alterations including the repositioning of Andromeda from the right to the left side of the canvas.³ The stories of *Diana and Actaeon* and *Diana and Callisto* (CAT. 5), taken from Ovid's *Metamorphoses*, were also new to Titian and these two paintings were to form the second pair sent to Philip. When Titian wrote to Philip on 22 September 1559 to confirm their imminent dispatch he stated that he had been working on them for more than three years.⁴ While there can be no doubt that Titian brought the two canvases to completion at the same time – in August 1559 the Spanish Ambassador in Venice wrote to the King to tell him that Titian 'will bring to perfection the two paintings' since 'he wants to resolve a few little things that others would not notice'⁵ – they were not necessarily begun simultaneously.

The canvas weaves of the two paintings are of different weights and although there is evidence that Titian may not always have been particular about such matters (see CAT. 8), it might be expected that if they were stretched at the same time the canvas for each would have been cut from the same roll of fabric. The design of *Diana and Actaeon* works best when it is placed to the left of its pendant if they are hanging side by side,⁶ although there is a difference in the direction of the lighting in each composition, which might suggest that Titian instead intended them to be opposite one another.⁷

Diana and Actaeon was more extensively changed during painting and a general sense that it may have been well under way before the detailed planning of *Diana and Callisto* is reinforced by the numerous small echoes in the latter of the *Actaeon* composition in its final state. Of course the opposite case could be argued, which is that the changes were made in order to achieve a better balance with the *Callisto* story, but since the adjustments to the figure of Actaeon, in particular, slightly alter the emphasis of the narrative, this seems less likely to be the case. In addition, there is a notable difference in the way that the canvases were prepared for painting.

The canvas for *Diana and Actaeon* was made up of two lengths of medium-weight plain-weave fabric of the standard width of just over one metre, with one being very slightly finer than the other, which suggests that they came from different bolts of cloth. They were stitched together vertically (FIG. 120), which minimised wastage but also avoided the problem of a disruptive horizontal seam such as that in the Prado *Venus and Adonis*, probably the reason for Philip's complaint that his painting had been damaged by a crease across the middle, which he believed had occurred when it was in transit.⁸ The cusping and remnants of tack holes around the edges of *Diana and Actaeon* indicate that it has retained its original dimensions.⁹ In common with the



FIG. 120 NG 6611, NGS 2839, X-radiograph detail, showing the seam.



FIG. 121 Titian, *Diana and Actaeon* (NG 6611, NGS 2839), 1556–9. Oil on canvas, 184.5 × 202.2 cm.



FIG. 122 NG 6611, NGS 2839, paint cross-section from the brown-green foliage of the tree at the top right.

other paintings in this study, the canvas was first prepared with gesso (gypsum, calcium sulphate dihydrate), present in only one of the paint cross-sections, from the greenish brown foliage of a tree in the upper right area (FIG. 122).¹⁰ The next layer in the cross-section is a pale beige colour consisting of lead white with some red lead and a very small amount of fine black. A similar off-white layer occurs as the lowest layer in a significant proportion of the other samples, and although in some cross-sections it features as an uneven and discontinuous layer and there are variations in the proportion of the added pigments, the possibility that this represents an *imprimitura* – rare by this stage of Titian's career – is supported by the X-ray image, which shows broadly brushed strokes of an X-ray-opaque material over the



FIG. 123 NG 6611, NGS 2839, X-radiograph digitally adjusted to remove the effect of the stretcher.

whole canvas surface. The direction of the brush marks is not related to the design and they can be seen to run across the boundaries of compositional features, particularly evident in the area of Diana's thighs. Such marks could be related to a material on the reverse of the canvas, such as a lining adhesive, but they are not present in *Diana and Callisto*, which has a shared conservation history. Moreover, there is no equivalent layer in cross-sections from that painting. The inconsistency of this layer in terms of thickness and homogeneity can be explained by the character of the brushstrokes, which suggest the extreme speed with which this priming was applied; it seems likely that in some areas the white gesso was not completely covered. Why Titian reverted to his earlier practice of applying an off-white *imprimitura* is not clear. Perhaps he required this bright day-lit scene to have a particular luminosity.

One consequence of the presence of this layer of X-ray-opaque material in the painting structure is that much of the X-ray image lacks contrast and in places is barely legible (FIG. 123). It has needed infrared reflectography to reveal and clarify the most significant alterations to this painting (FIG. 124). Some dark lines and marks that are similar in appearance to the free underdrawing found in many of Titian's paintings can also be detected by infrared (FIG. 125), but the confusion of alterations to the design means that it is difficult to determine where in the layer structure these marks occur and whether any of them qualify as underdrawing in the strictest sense. Most of the changes detected by infrared reflectography were made during the painting process. The most important of these is to the pose of Actaeon (FIGS 126 and 129). Originally he was shown at the moment when he accidentally bursts in on the



FIG. 124 NG 6611, NGS 2839, infrared reflectogram.



FIG. 125 NG 6611, NGS 2839, detail of the infrared reflectogram, showing drawing in the legs of the nymph on the fountain.

scene of Diana bathing naked with her nymphs, having pushed through the curtain, holding in his left hand a hunting spear, very like that held by Adonis in the *Venus and Adonis* paintings (see CAT. 3). The spear appears to have been tried in several positions; his left arm and hand were first raised above his head holding the spear in a near-vertical position. They were then moved forward to a new position, the spear still vertical and passing in front of his face, and then adjusted again, with the spear being angled so that it passes behind the head. His head (turned in *profil perdu* as in the final design) and his upper body were painted leaning in towards the nymphs and goddess, with his back turned towards the viewer. The strap for his quiver as it crosses his back in this first pose is clearly visible in infrared. The initial position for the lower part of this figure is less clear, but it seems that originally his right foot was



FIG. 126 NG 6611, NGS 2839, detail of the infrared reflectogram, showing Actaeon.

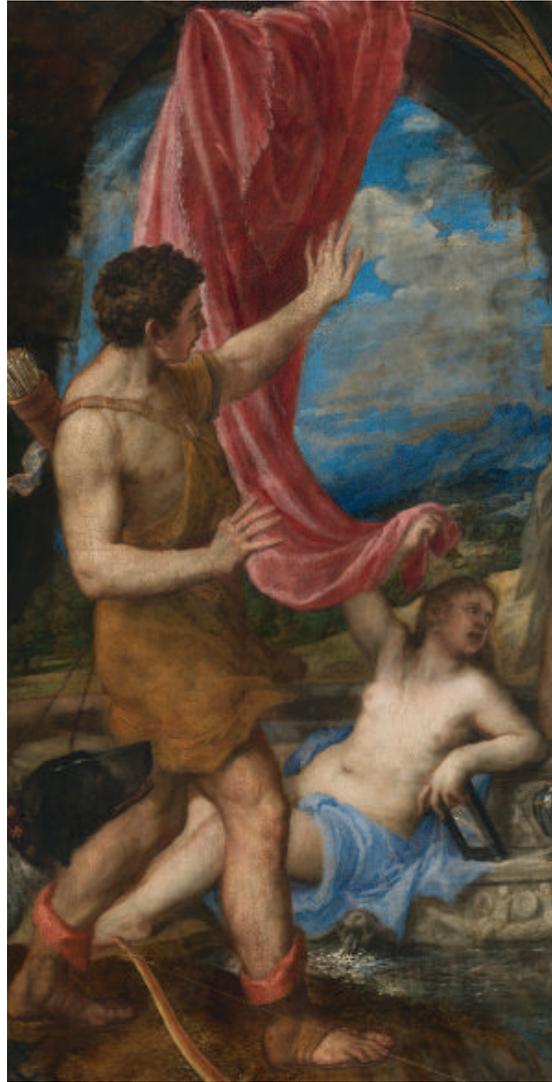


FIG. 129 NG 6611, NGS 2839, detail showing Actaeon.

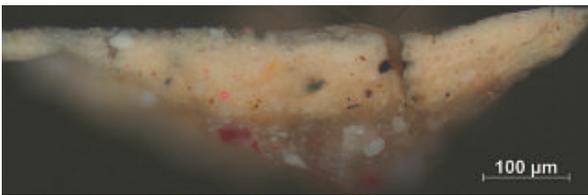


FIG. 127 NG 6611, NGS 2839, paint cross-section from the flesh of Actaeon's upper right arm.

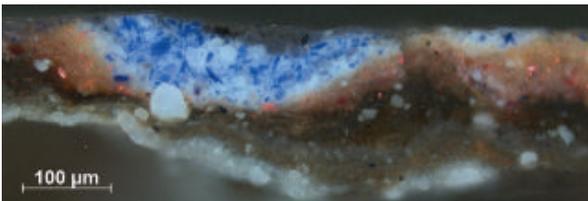


FIG. 128 NG 6611, NGS 2839, paint cross-section from the blue sky to the right of Actaeon's raised hand, level with the base of his thumb.

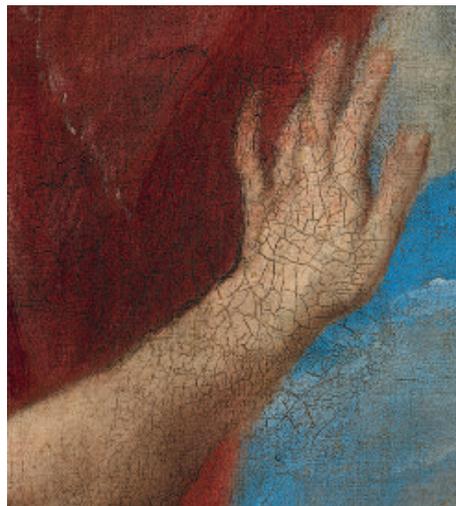


FIG. 130 NG 6611, NGS 2839, detail showing Actaeon's left hand and the cracking in the area where his head was first painted.

painted in a higher position, which registers in both infrared and X-ray images.

There are two paint cross-sections that relate to the alterations to this figure. The first is from the muscle of his upper right arm, which was not originally in this position (FIG. 127). This shows three upper layers that are clearly flesh tints, based on lead white, yellow and brown earths, vermilion and a little umber. They become increasingly light towards the surface and all three layers may be part of the construction of the arm, but the location of the sample means that the darkest of these could relate to the paint of his back in the first pose. The lowest layer in the sample contains lead white, red lake and some smalt (now discoloured) and was probably originally a purple pink. This can be associated with a first blocking in of the curtain, which seems at first to have fallen away behind and to the left of Actaeon – a light shape is visible in this area in the X-ray image. The second sample of interest to the development of Actaeon's pose comes from the blue of the sky immediately to the right of the base of his thumb, where two layers of lead white mixed with ultramarine cover his head in its first position (FIG. 128). The painting of the head must have been almost complete before the decision was taken to reposition the figure, since there are two layers of pink paint containing lead white, red lake, vermilion and a little black in the lower layer and then a more orange mixture above containing the same pigments but with less red lake and a little earth pigment in addition. As in the final version, the head was in shadow and so the flesh tints are relatively dark. Underneath these putative flesh tints are four more layers (not counting the lowest thin white layer, taken to be the *imprimitura*), mostly shades of brown but with an interspersed layer containing smalt, perhaps related to the underpainting of the sky. This suggests some uncertainty as to the shape of the head even in the initial pose.

In common with *The Vendramin Family* (CAT. 1) and *The Tribute Money* (CAT. 6), the alterations have resulted in drying defects in the upper paint layers. Indeed the most evident area of cracking, extending from the sky across Actaeon's proper left hand and forearm and into the curtain, conforms particularly closely to the shape of the head in its first position (FIG. 130). The formation of such cracks is an indication that the lower layers were not completely dry and that the change was carried out fairly expeditiously.

In moving on the moment of the narrative so that Actaeon recoils in alarm at Diana's furious reaction to

the intrusion, Titian had to adapt the behaviour and arrangement of the nymphs. He also adjusted the architecture of their setting. Therefore, the nymph who now holds up the curtain was originally painted looking up in astonishment at the handsome youth. Now she looks across to Diana with anxious concern as she registers the goddess's reaction. The first face can just be detected in the X-radiograph, but again it is more easily visible in the infrared reflectogram. The nymph may always have had her right arm raised in surprise but the idea of giving her the curtain to support was possibly the result of the changes to Actaeon. In both X-ray and infrared images it can be seen that at first her shoulders and body were draped in fabric. Conversely, a paint cross-section from a shadowed fold in the present lilac drapery where it now covers her left thigh (FIG. 131) reveals that under the purple layers there are several thin beige-coloured layers containing lead white, vermilion, red lake, earth pigments (including umber) and some black, all presumably flesh tints for her thigh. The lilac drapery on top has been built up from two purple blue layers containing lead white, red lake and ultramarine and completed with a final layer forming the shadow and containing mainly ultramarine with only a little lead white and some red lake. The colour of this drapery may well have changed as a result of fading of the red lake component. This issue is discussed in the entry on *Diana and Callisto* (CAT. 5).

Infrared reflectography reveals that the nymph who now turns her back to hide her modesty originally faced forward, also looking at the intruder (FIGS 132 and 133). Her eyes and the line of her jaw are clearly visible. Unfortunately, the reworking of the figure has resulted in the development of wide dark drying cracks, not retouched in the last restoration, which obscure much of the subtlety of the modelling of the flesh tones. The paint defects may also have been exacerbated by the presence of further paint layers connected with the moving further to the right of the rusticated piers that support the ruined vault. Their first position, with the gap behind the nymph who now turns her back, is

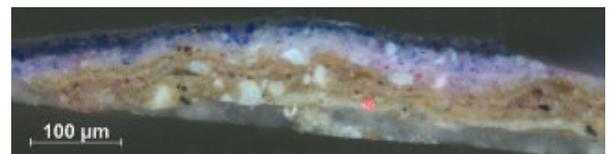


FIG. 131 NG 6611, NGS 2839, paint cross-section from the lilac drapery covering the nymph's left thigh.



FIG. 132 NG 6611, NGS 2839, detail of the infrared reflectogram, showing the nymphs by the fountain, including the one with her back turned.

visible both in infrared and on the painting surface as a result of changes in transparency of the thin superimposed paint layers. A first lower arch can be seen in the infrared reflectogram (FIG. 132). The frightened nymph who peers out from behind the pillar was a very late introduction, painted over the section of sky and landscape inserted into the new space between the adjusted architecture. Her left hand, clutching the further side of the pillar, was initially painted further up, and again it is now visible with the naked eye through the paint of the architecture.

The nymph seated on the upper part of the fountain seems to have been relatively unaltered, apart from the slight turning of her head to look at the other nymph on the fountain and adjustments to her arm across her lap and to the angle of her left shin and knee, which may have been more sharply bent. The only major change to the nymph who dries Diana's foot is the introduction of her lower right leg, presumably in order to support Diana's extended leg (FIGS 136 and 137). This leg barely registers in the X-radiograph, which shows only the painting of the water and bank behind it. The figure of Diana, however, forms a clear image. This may be in part because the *imprimitura* is thinner and causes less interference, but it also because she seems to have been painted firmly and decisively – albeit with the flesh tints built up in several layers (see FIG. 135) – perhaps with the aid of a study on paper. Only slight pentimenti, such



FIG. 133 NG 6611, NGS 2839, detail showing the nymphs by the fountain, including the one with her back turned.

as the lifting of her knuckles to raise the top edge of her veil, can be detected. Indeed, it may be that the immediately successful rendition of her terrifying expression led Titian to make Actaeon react more appropriately.

While Diana was painted almost without alteration, her attendant certainly underwent extensive revision. When the first set of X-radiographs was made by Stanley Kennedy North he recognised that originally there was a different maidservant, posed with her arm across Diana's body as if to draw the white drapery over her, and with her face, clearly fearful, slightly higher and closer to that of the goddess. As elsewhere, an area of drying cracks identifies the location of the first head.



FIG. 134 NG 6611, NGS 2839, paint cross-section from the flesh of the attendant maidservant's shoulder.



FIG. 135 NG 6611, NGS 2839, paint cross-section from the flesh of Diana's right thigh.

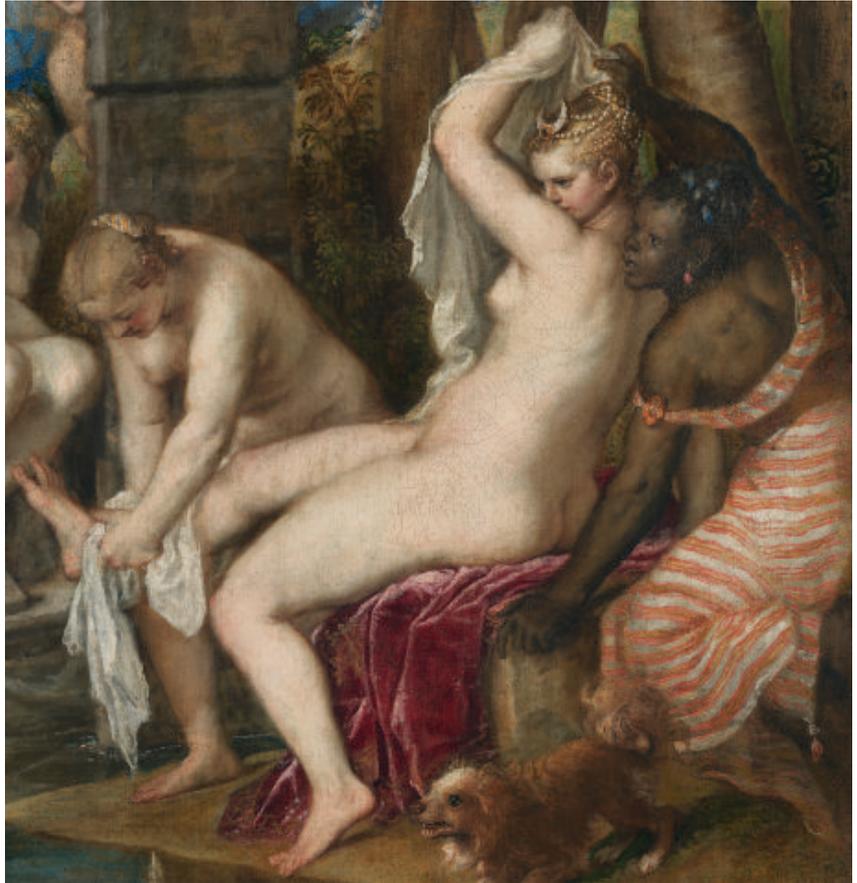


FIG. 136 NG 6611, NGS 2839, detail showing Diana.

FIG. 137 NG 6611, NGS 2839, detail of the X-radiograph showing Diana.





FIG. 138 NG 6611, NGS 2839, paint cross-section from an orange-red stripe on the attendant maidservant's drapery.

Kennedy North also realised that the opacity to X-rays of the paint of this first attendant meant that she must originally have been white. This supposition is confirmed by a cross-section that shows that under the multiple greyish brown layers containing lead white, yellow earth, black, umber, lead-tin yellow and even a little blue pigment, with which Titian built up the sheen of black skin, there is a pale beige layer of lead white, with a little vermilion, yellow earth and black (FIG. 134). The flesh tints of Diana herself, in a sample from her right thigh (FIG. 135), are similar in composition to the paint of the hidden figure, consisting of at least four layers of varying shades of pink based on lead white, vermilion, red lake, yellow earth, some black and in one layer a little ultramarine. Darker and lighter layers are interleaved, which gives the flesh its pearly opalescent quality. This sample also displays voids and translucent pockets, with the largest (in the centre) being a lead soap agglomerate most probably originating from the red lead in the off white *imprimitura* at the base of the sample. Those visible between layers may be related to the paint defects that can be seen on the surface in some areas of the flesh paint, such as wrinkling and spalling creating occasional tiny flake losses in the uppermost layer.

Titian's relish in the contrast between the burnished beauty of black flesh and Diana's pale luminosity is an outstanding feature of the painting, but here perhaps the alteration can be attributed to the sudden availability of a model, rather than to any shift in the dramatic moment that he chose to represent. The change to the maidservant also allowed him to introduce an exotic textile in her striped cloth. This was painted a pinkish grey colour, containing in the cross-section a mixture of lead white, vermilion, red lake and a little lead-tin yellow, followed by bands of yellow, based on yellow earth, and then finally thin stripes of orange-red made of vermilion with a little lead white (FIG. 138). The sample was taken from her knee, near the edge of the drapery, so the yellow brown layers underneath, containing lead white,



FIG. 139 NG 6611, NGS 2839, detail showing the red stripes along the curve of the vaulted arch.



FIG. 140 NG 6611, NGS 2839, paint cross-section from the red stripe along the curve of the vaulted arch.



FIG. 141 NG 6611, NGS 2839, detail showing Actaeon's right foot.

lead-tin yellow, yellow earth and umber may come from the paint of the masonry on which Diana is seated.

The brilliant orange-red hue of vermilion reappears in the decorative lines added to the arches of the vault (FIGS 139 and 140), perhaps with a little red lead added. It is applied over the strokes of yellow earth, which represent the golden mosaic background of the decorated spandrels with their suggestions of a male figure with a spear and a naked woman (perhaps Actaeon and Diana).¹¹ The lowest, darker brown layers,

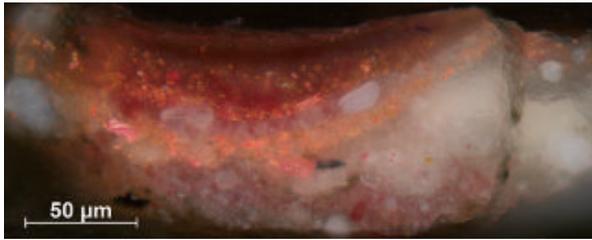


FIG. 142 NG 6611, NGS 2839, paint cross-section from a shadowed area near the top of the crimson curtain.



FIG. 143 NG 6611, NGS 2839, detail showing the red velvet drapery on which Diana sits.



FIG. 144 NG 6611, NGS 2839, paint cross-section from the brown foreground at the bottom left, below Actaeon's feet.

containing mainly earth pigment, are probably the dark greys and browns of the stone. In order to balance the intense red of the stripes in the vaults and on the textile, more vermilion was introduced in the lower left corner for the turned-back lining of Actaeon's boots (FIG. 141). Here it was applied over a slightly darker red containing some red lake as well.

The crimson curtain behind Actaeon has a cooler hue, and most of the layers include red lake and white as well as vermilion, with cooler pinks alternating with brighter layers containing a higher proportion of vermilion and sometimes some red lead as well (FIG. 142). The lowest coloured layer in the cross-section is a cool pink consisting of red lake and lead white alone. This may be connected with an earlier version of the curtain, now just visible as a more purple

pink on the picture surface where it extends to the right of the present curtain, below the lion mask keystone of the arch. There is no cross-section of the coolest, most purple red in the painting, the velvet cloth on which Diana is seated (FIG. 143), but it can be assumed that it was painted in a similar way to the pink dress of the attendant in *Diana and Callisto* (see FIGS 163–8), with glazes of red lake interspersed with more opaque mixtures of red lake and lead white. In fact this is one of the few areas where true glazes of translucent pigment, without the inclusion of lead white, have been used. Another area is the immediate left foreground, particularly around Actaeon's feet, where warm translucent browns are interspersed with more opaque layers, which include lead-tin yellow and yellow earth (FIG. 144).

These pinks and reds, and also Actaeon's golden brown tunic – not sampled but likely to have been painted mainly with earth pigments (it is without the defects associated with orpiment and realgar) – contribute a rich warmth to the painting, especially in contrast to the brightly lit distant landscape where details are heightened with touches of exceptionally intense and cool hues of blue and green. As with Titian's other paintings for Philip, the ultramarine used for the sky and distant mountains is of very high quality and was used mixed with only a little lead white for the uppermost paint layer in the cross-section from the mountain seen through the opening of the arch (FIGS 145 and 146). Beneath the ultramarine is a thick layer of smalt and lead white which now appears grey due to the more or less total loss of the colour of this pigment on ageing.¹² All of the sky, as well as parts of the distant landscape and even the areas between the main trunks of the trees at the right have been underpainted with this mixture. Deterioration of the smalt accounts for the somewhat uneven and patchy appearance of much of the sky, as well as the now rather grey background to the foliage of the large trees, which must now contrast more strongly than originally intended with the small patches of ultramarine blue sky appearing in places between the leaves. In the sample from the mountain (FIG. 146) the lowest paint layers, consisting of brownish grey mixtures of mainly yellow and red earths, umber, red lead, black and lead white, must come from the supporting stone pillar in its earlier position.

The blue paint layers of smalt and ultramarine extend well down into the middle distance of the landscape and therefore appear in a sample taken from the wooded slope below the white buildings (FIG. 147). The



FIG. 145 NG 6611, NGS 2839, detail showing the distant landscape.

small layer appears a rather brownish grey, almost indistinguishable from the paint of the first pillar, present at the very bottom of the cross-section. The sequence of layers is particularly clear when the cross-section is viewed under ultraviolet illumination (FIG. 148). The paint of foliage in the cross-section, on top of the thin ultramarine layer, consists of a brown translucent layer probably marking in the general shape of the trees, which may not originally have been so dark as it contains verdigris that has reacted with the oil medium to form copper carboxylates, with some discoloured smalt, as well as a little lead white, lead-tin yellow and ultramarine.¹³ On top is a bright blue-green highlight containing large particles of a mineral copper green pigment, identified as malachite (basic copper carbonate).¹⁴ A little lead-tin yellow and ultramarine is also included.

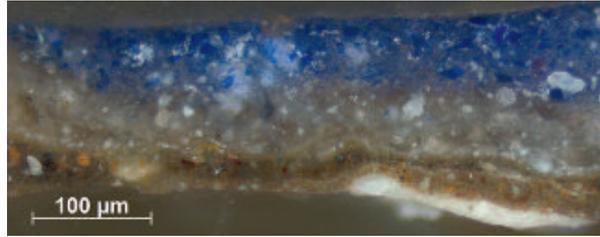


FIG. 146 NG 6611, NGS 2839, paint cross-section from the distant blue mountains, close to the left hand column, near the centre of the painting.



FIG. 147 NG 6611, NGS 2839, paint cross-section from the brighter green of the trees on the wooded slope in the middle distance, below the white buildings.



FIG. 148 NG 6611, NGS 2839, paint cross-section from the brighter green of the trees on the wooded slope in the middle distance, below the white buildings, under ultraviolet illumination.



FIG. 149 NG 6611, NGS 2839, paint cross-section from the yellow of the sunlit field, to the left of the standing nymph.

This highlighting of distant trees with an unusually cool green is reminiscent of the trees in the middle distance of *Bacchus and Ariadne* (see vol. 34 of this *Bulletin*, CAT. 8), except that those are even bluer in hue since the principal pigment was azurite. Below the trees is a bright sunlit field, painted with a thick layer of a golden yellow consisting of lead-tin yellow with some red lead and yellow earth, and in the sample some stray particles of malachite and red lake (FIG. 149). The lead-tin yellow is inhomogeneous, with areas that are rich in white tin oxide, which suggests that the pigment was incompletely roasted during manufacture. This would give it a



FIG. 150 NG 6611, NGS 2839, detail showing the tree above Diana.

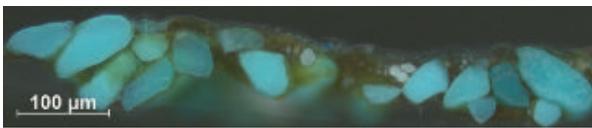


FIG. 151 NG 6611, NGS 2839, paint cross-section from the bright green leaves just above the stag's skull.

rather pale hue, explaining the addition of red and other yellow pigments to give the desired warmer richer tone.¹⁵

The foliage of the screen of trees immediately behind Diana and her attendants was painted with extraordinary economy of technique (FIG. 150). At the junctions between tree trunks and sky or branches it seems that the now greyish smalt-containing underpaint has barely been covered. As is usual in Titian's painting, there is

great variety in the greens and browns of the leaves. Some are likely to have always been brown, but others were painted using verdigris and lead-tin yellow. In the cross-section (see FIG. 122) the upper part of the verdigris layer can be seen to have turned brown. In addition, the colour may be affected by the discoloration of the underlying layer of smalt from the paint of the sky. Even when this dark green was freshly applied it must have contrasted strongly with the brilliant green leaves of the foremost branches that cross in front of the stag's skull and antlers. These are again painted with the cool green of natural malachite, mixed with a little lead white and lead-tin yellow (FIG. 151).

These leaves are rendered with almost abstract splotches of paint, as is the water bubbling from the fountain to the right of Actaeon's legs (see FIG. 141). The surface of *Diana and Actaeon* exhibits Titian's full range of textural effects, from the thick, clotted lead white impasto on the vase placed on the edge of the fountain and the dry broken brushwork of Diana's white towel (FIG. 152), through to the thinnest of paint layers that appear almost to be rubbed into the canvas, such as the painting of the water in the foreground. This variety of touch is rather different from the more careful and uniform handling of the paint in the first pair of *poesie* to be sent to Philip. Titian seems to have become confident that the King would understand and appreciate not just the subject but also the blatant display of the painter's artifice.

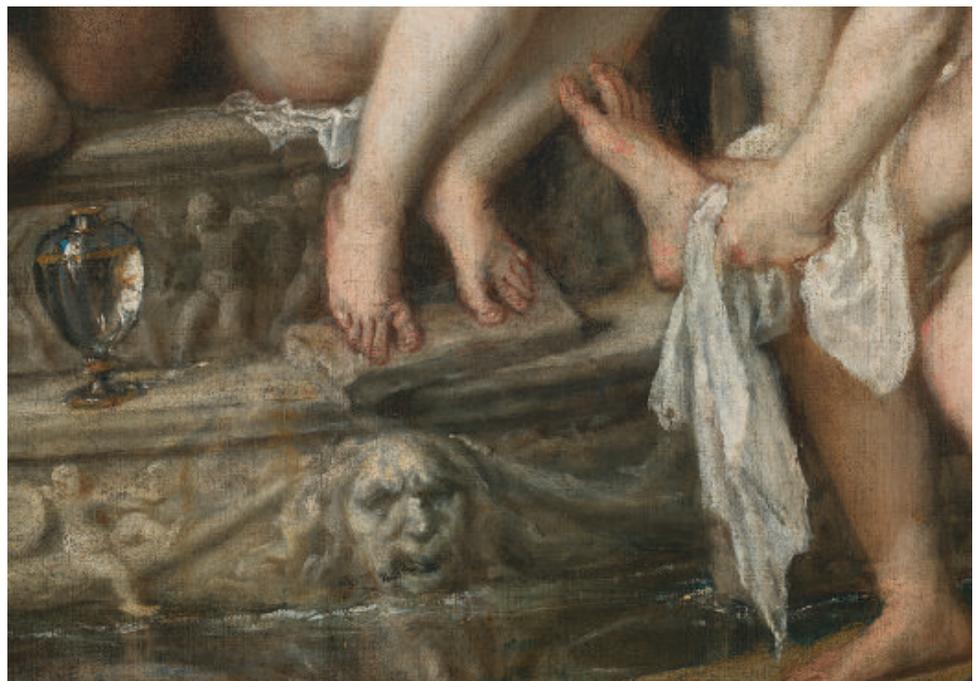


FIG. 152 NG 6611, NGS 2839, detail showing the fountain.