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Tintoretto's Paintings in the National Gallery

Joyce Plesters

Introduction

Four pictures in the National Gallery are catalogued as by Jacopo Tintoretto, the attributions finding general acceptance, although like the majority of the artist's work none of the four is signed or dated:

- No.16 *S. George and the Dragon*
- No.1130 *Christ Washing His Disciples' Feet*
- No.1313 *The Origin of the Milky Way*
- No.4004 *Portrait of Vincenzo Morosini*

Since 1956 all four have undergone cleaning and restoration. The very recent cleaning of No.4004 *Portrait of Vincenzo Morosini* (Plate 1; Figs.1 and 3) by Kenneth Malcolm, who contributes a note describing the work on p.8, seemed an appropriate occasion to describe the condition and treatment of the other three pictures and to attempt a comparative study of the materials and techniques of all four.

The pictures represent from point of view of subject, size and execution, four very diverse aspects of the artist's prodigious output. The first two to be cleaned and restored, *Christ Washing His Disciples' Feet* and *S. George and the Dragon*, which underwent treatment in 1956 and 1963 respectively, also happened to be the first of Tintoretto's paintings to be examined by the author. At the time it was difficult to accept, from a technical standpoint, that they could have been by the same hand. Reports on them were filed away and the matter shelved, an unsolved mystery. It was not until 1971–3 that *The Origin of the Milky Way* was cleaned and restored, but in the meantime the author had had the good fortune to examine in the course of their cleaning and restoration a number of major works by the artist in Venice. As a result it was possible to compare the materials and technique of seven pictures, fortunately almost all key works, with those of the first three of the National Gallery pictures listed above. Although a comparatively limited exercise in view of the size of Tintoretto's *oeuvre*, some slight inkling was gained as to how the National Gallery's three Tintoretto's might fit in, like one or two isolated pieces of a gigantic jigsaw puzzle [1]. Between the examination and treatment of *The Origin of the Milky Way* and that of the *Portrait of Vincenzo Morosini* there have been opportunities for examining further paintings in Venice, including several more from the Scuola di San Rocco, and for studying in more detail the numerous samples, paint cross-sections, radiographs and other technical photographs amassed over a number of years.

The history, provenance and iconography of each picture, in so far as it is known, is set out in Cecil

Gould's *Catalogue of the Sixteenth Century Italian Schools* [2]. Some of the information is repeated in this article because of its special relevance to technical aspects.

Part I which is published in this issue of the *Technical Bulletin* gives an account of the condition, history of restoration and most recent treatment of the first three of the pictures. The most recent cleaning and restoration of each of these three were done by past members of the Conservation Department, the late Helmut Ruhemann (at the time Consultant Restorer), Norman Brommelle (then Restorer) and Arthur Lucas, Chief Restorer and head of the Conservation Department until his retirement in 1978. The author had the privilege to work closely with all of them during the examination and treatment of the paintings and with Kenneth Malcolm on the remaining picture. Part I of this article relies heavily on information provided by the restorers concerned for which grateful acknowledgement is given.

It is hoped to publish Part II: 'Materials and Techniques' in the next issue of the *Technical Bulletin*. This will compare and contrast data obtained in the course of examining paintings by Tintoretto in the National Gallery and in Venice.

Part I: Condition, history of restoration and recent treatment

No.16, 'S. George and the Dragon'

The picture came to the National Gallery in 1831 as part of the Rev. W. Holwell Carr's bequest. The canvas was then already lined. Between 1831 and the most recent treatment in 1962 there is no record of the picture having been cleaned, although it was revarnished 'at times' previous to 1853 with mastic varnish mixed with drying oil, as described in the National Gallery Manuscript Catalogue. In 1862 it was again revarnished and in 1866 relined and some flaking paint secured. In 1939 on its way to wartime evacuation at Bangor it suffered minor abrasions, mostly to the varnish. Whilst still at Bangor a few cleaning tests were made on it, but these were covered up again and cleaning was not then proceeded with. On return to London in 1945 the surface was polished before the picture was put on exhibition again, but nothing else was done until the cleaning and restoration of 1963 by the late Helmut Ruhemann, then Consultant Restorer, on whose notes the following account of condition and treatment is based.

The stretcher and relining canvas of 1866 proved to

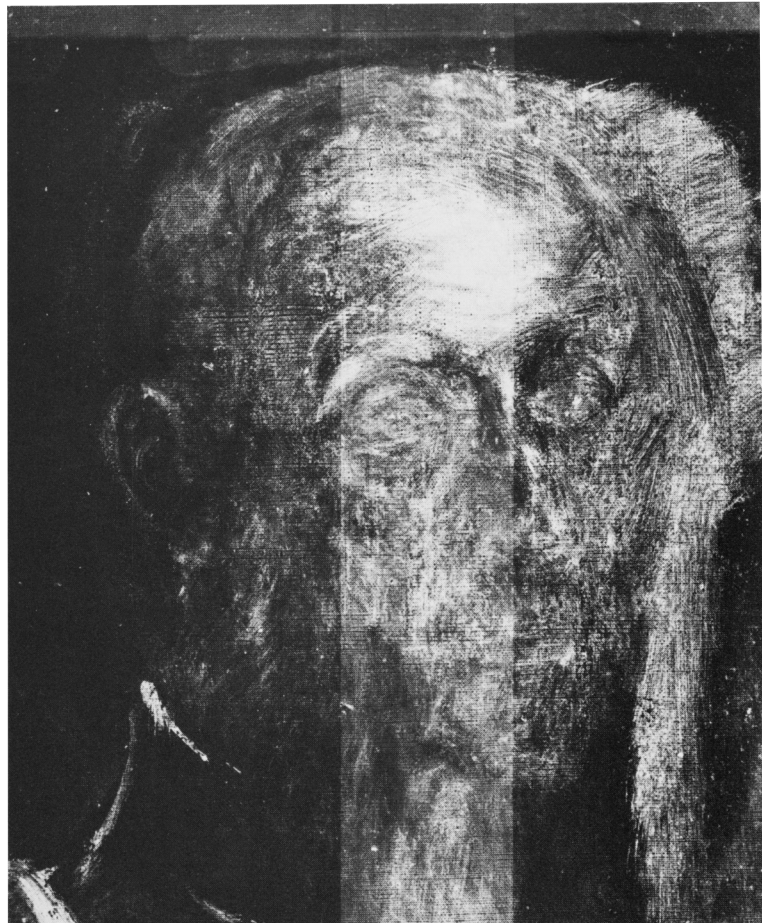


Figure 1 (Above, left) Jacopo Tintoretto, *Portrait of Vincenzo Morosini* (No.4004), infra-red photograph during cleaning tests, showing a tear in the canvas near the sitter's left shoulder.



Figure 2 (Above, right) Jacopo Tintoretto, *Portrait of Battista Morosini*, canvas, $37\frac{1}{2} \times 22\frac{1}{4}$ (0.96 \times 0.57). Accademia Gallery, Venice.

Figure 3 (Right) Jacopo Tintoretto, *Portrait of Vincenzo Morosini* (No.4004), X-ray detail of head to show *pentimento* (42 kV, 20 mA, 25 s).



be in satisfactory condition so no work was required on the support of the picture. Fig. 5 shows the picture before cleaning. Not surprisingly, considering the history of repeated revarnishing, the varnish was very dark in colour and uneven in thickness, looking in some places as if it had coagulated into thick opaque dark brown spots. It was suspected that the picture had at some time undergone partial cleaning, for in the darker areas were found remains of an even older varnish which was dry and friable. It is often the case that old pictures have had all, or nearly all the old varnish removed from the lighter or more colourful parts leaving the darks uncleaned. One reason may have been to produce the maximum effect with the minimum of work, but the practice increases artificially the contrast between light and dark areas of the picture so giving a quite misleading impression. Seen through the spotty varnish the original paint appeared rather worn in some parts, but happily much of this effect was the result of accumulation of discoloured varnish in small hollows and proved less serious once the old varnish was removed. The latter

Figure 4
Jacopo Tintoretto,
*S. George and the
Dragon* (No.16),
X-ray detail of the
Princess
(42 kV, 15 mA,
25 s).



operation was not difficult; a suitable solvent mixture for the purpose was found to be 1 part of ethyl alcohol to 3½ parts of white spirit by volume.

As in many other sixteenth century Italian paintings, the greens of the landscape had in places become brownish from discolouration with age and exposure of copper 'resinate' type green glazes. It is not easy to tell with the unaided eye at what stage a brownish or yellowish discoloured varnish has been completely removed from a brown (or browned) area of original paint, another reason why previous restorers have frequently left such passages untouched. One method of following varnish removal is to inspect the surface of the painting at intervals under an ultra-violet lamp. Old natural-resin varnishes (as distinct from comparatively freshly-applied ones) fluoresce strongly under ultra-violet light with a milky white or yellowish fluorescence which covers the whole surface of the painting. As varnish is removed so the fluorescence disappears to reveal the darker tones of the original paint. Sometimes there may be two or three separate superimposed layers of varnish and each layer may have a slightly different fluorescence enabling them to be removed progressively [3]. This method of monitoring cleaning was used during removal of varnish from the darker areas of the landscape in *S. George and the Dragon*. In places where it had been established from microscopical

examination and chemical analysis of samples that copper 'resinate' type glazes were present, it was considered advisable to use a second method of checking to ensure that no original glaze, even though discoloured from green to brown, was being removed. For this purpose the small solvent-impregnated cotton wool swabs used for cleaning were collected at intervals after use, the varnish residues extracted with a solvent and the extract tested for the presence of copper ions by means of spot tests using sensitive organic reagents which give strongly-coloured reaction products with metal ions [4]. Varnish removal could be, and was effected, using neutral organic solvents, without any loss of copper 'resinate' glaze. It was found, however, that in some areas glaze had already been removed in a pre-1831 cleaning, either as a result of abrasion or of alkaline cleaning reagents, only traces of it remaining in hollows. Removal of discoloured varnish also showed up a number of clumsy and darkened retouchings and overpaints. The Princess's left hand had been almost entirely repainted and unnecessarily so, for the paint of the original hand beneath was only slightly worn. There was also a good deal of repaint in the sky, particularly in the aureole surrounding the apparition of God the Father. Samples of yellow pigment were taken for analysis from suspected repaint and from clearly original paint for comparison. The pigment of



Figure 5 Jacopo Tintoretto, *S. George and the Dragon* (No.16), before cleaning.



Figure 6 Jacopo Tintoretto, *S. George and the Dragon* (No.16), canvas, 62 × 39½ (1.575 × 1.003). After cleaning, restoration and reframing.

the original paint was lead-tin yellow (double oxide of lead and tin), which found extensive use in the sixteenth century and has been identified in several other paintings by Tintoretto [5]. That of the suspected overpaint turned out to be Naples yellow (lead antimonate, $\text{Pb}_3(\text{SbO}_4)_2$), the history of which is obscure, but which has so far not been identified on pictures earlier than the seventeenth century and was little used before the eighteenth [6]. All the old retouchings of losses and damages encroached on original paint to some extent. Softening of the overpaint by means of a suitable solvent followed by gentle scraping served to reveal a good deal of original paint surface.

A major discovery through cleaning was that although the canvas itself is rectangular, the painted composition has an arched top. The spandrels of the arch, which have the same gesso ground as the rest of the canvas, seem not to have been painted by the artist, except perhaps with a thin black wash which may be original. They were overpainted by a later hand with sky and clouds, the overpaint extending over original paint of the sky within the arch. The overpaint had the general characteristics of patches of overpaint found elsewhere in the picture covering loss or damage. A *pentimento* of the original curved top also became visible after removal of repaint. The significance of the reinstatement of the curved top will be discussed below. At the same time it was found that on either side of the picture a strip about 4 cm wide had been painted in order to hide the frayed edges of the original canvas stuck down onto the lining canvas. These strips of paint were left since they did not cover any original, but were hidden by the edges of the new frame after reframing (see below). Plate 2 (p.9) shows the picture with all but a few small patches of varnish removed but the overpaint on the spandrels still intact.

After cleaning and removal of all old retouchings and overpaint, the paint surface was in much better condition than had been anticipated. The wearing was less obtrusive now that the ingrained varnish and dirt had been removed. Actual paint losses, though fairly numerous, were small, mostly in the form of small spots about 2–3 mm in diameter, sparsely scattered over the whole picture. Their presence was already known from the X-radiographs (Fig.4), where they appear either as black spots (when filled with chalk putty) or white spots (when filled with lead putty). Certain small dark patches, previously taken to be wearing, were now seen to be small areas of bare canvas left unpainted by the artist himself, either by accident or design. The dark colour was due to absorption of varnish and dirt by the gesso ground, and, in the final operation of retouching, the darkest patches in the sky were slightly lightened to make them less disfiguring.

One of the most important changes was the emergence from under an area of tinted varnish of the swollen river which cascades down to the sea just behind S. George and his horse and in which the tail of the dragon now seems to be partly submerged. Previously it had looked like part of the undulating

Plate 1 Jacopo Tintoretto, *Portrait of Vincenzo Morosini* (No.4004), after cleaning and restoration.

The portrait was presented to the National Gallery by the National Art Collections Fund in 1924. The identity of the sitter, Vincenzo Morosini (1511 — 1588) has been established by comparison with known representations of him in two other works by Tintoretto. Among the high offices which he held was that of Senator of the Republic of Venice. In the National Gallery picture he wears the golden sash of a Knight of the Order of the *Stola d'Oro*.

At the time of its acquisition the portrait was reported to be in satisfactory condition. In 1940 surface dirt and bloom on the varnish was removed. In October 1978 it was decided to carry out cleaning, restoration and relining.

Examination revealed that the greatly discoloured varnish, which had also bloomed, reduced the depth of tonality and blurred the brushwork. Old retouchings were disturbing, and the old lining canvas had become weakened.

The varnish was easily removed by the usual mixture of organic solvents and this proved to be a straightforward operation. Discoloured retouchings were gently scraped off with a surgical scalpel, working under the travelling binocular microscope.

In the course of cleaning, a three-cornered tear in the canvas came to light located in the crimson robe on the lower right of the picture. It can be seen in the X-radiograph (Fig.3) and in an infrared photograph taken during cleaning (Fig.1). The old lining canvas was removed and a new lining canvas applied using a glue/paste adhesive which it was considered would give better support to the tear than a wax/resin adhesive. The back of the new lining canvas was then sealed with a coating of beeswax in order to reduce the movement of the canvas caused by expansion and contraction with changing humidity and temperature and also able to prevent the glue/paste adhesive from becoming brittle by contact with the air.

Retouching was carried out in a synthetic resin medium (Paraloid B72) and the final varnishing with a synthetic resin varnish (Ketone N).

Kenneth Malcolm

Since cleaning the portrait displays a rich variety of colours together with great delicacy of modelling of the face contrasted with vigorous brushwork in costume and landscape. Although technique and materials will be discussed in a future article, it may be noted here that there can be seen in the X-radiograph (Fig.3) a *pentimento* of the head and a clearer image of the painted-out curtain which in the picture itself can be dimly made out on the left. The X-radiographs also indicate that the portrait may have been cut down in size, for although the characteristic waviness of the canvas threads caused by tension from the nails which fixed the canvas to the original stretcher can be seen near the top edge of the picture, it is absent from the side and bottom edges. Another portrait by Tintoretto exists very similar in composition to the *Portrait of Vincenzo Morosini*, but in mirror image with the landscape to the left. It is the *Portrait of Battista Morosini*, another member of the same distinguished family, in the Accademia Gallery, Venice (Fig.2). The dimensions are a little greater (96 × 57 cm, as compared with 84.5 × 51.5 cm for *Vincenzo Morosini*), which seems to give the sitter just a little more elbow-room including as it does the arms and part of a hand.

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Plate 2 Jacopo Tintoretto, *S. George and the Dragon* (No.16), during the final stages of cleaning.

The overpainting has still to be removed from the spandrels of the arch and patches of discoloured varnish remain on sea and sky, on the body of the dragon's victim and on the skirt and cloak of the Princess.



Plate 1 (Right)
Jacopo Tintoretto,
*Portrait of Vincenzo
Morosini* (No. 4004),
canvas 33¼ x 20
(0.845 x 0.515).
After cleaning and
restoration.
Full caption on
facing page.

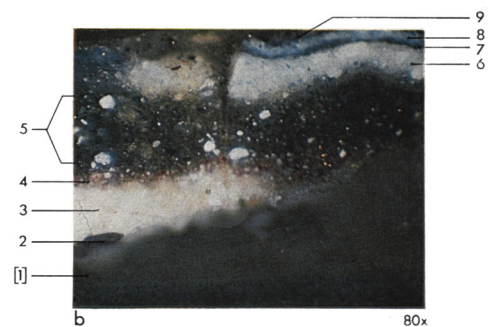
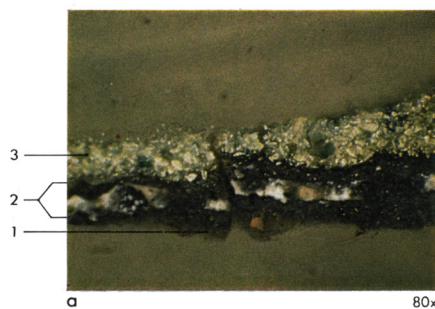


**Plate 2
(Far right)**
Jacopo Tintoretto,
*S. George and the
Dragon* (No. 16)
during the final
stages of cleaning.
Full caption on
facing page.



Plate 3
 Jacopo Tintoretto,
*The Origin of the
 Milky Way*
 (No.1313), detail of
 left-hand side of the
 picture after cleaning
 and removal of
 repaints and during
 final stages of
 retouching.

Plate 4
 Jacopo Tintoretto,
*Christ Washing His
 Disciples' Feet*
 (No.1130).
 Photomicrographs
 of paint
 cross-sections.
 Full caption on
 facing page.



grassy meadow. A few *pentimenti* became evident. An earlier version of the large leaning tree trunk on the lower left can be discerned about 5 cm to the right of the existing tree. Some flaps of drapery of the Princess's pink cloak and her blue dress just below her right knee have been thinly painted on top of green foliage, and now that the uppermost layer of paint has become more transparent with age, these bits of drapery are too dark in tone and too cold in colour because of the dark green showing through.

Small losses were puttied and inpainted to match the surrounding original paint. The picture was then revarnished with a thin sprayed coat of synthetic (polycyclohexanone type) resin varnish.

The uncovering of the arched top reinstated the picture as an altarpiece, rather than simply an easel painting. The spandrels may have been overpainted in order to fit the composition to a particular rectangular frame available, or it may even have been an attempt to 'modernize' what at a later date must have seemed the old-fashioned altarpiece form. Before being put back on exhibition the picture was given a late Renaissance altarpiece frame with arched top and detached columns either side (Fig.6). The new framing greatly enhances the sense of depth and distance already revealed in the painting by cleaning.

No.1130, 'Christ Washing His Disciples' Feet'

The picture was purchased in 1882 for the National Gallery. It is almost certainly from the church of San Trovaso (SS. Gervasio e Protasio) in Venice where the place it once occupied in a side chapel is filled with a full-size copy. In the year following its acquisition the National Gallery *Footwashing*, as it may conveniently be termed, was cleaned, repaired and

Plate 4 Jacopo Tintoretto *Christ Washing His Disciples' Feet* (No.1130).

Photomicrographs of paint cross-sections, photographed by reflected light at 110× magnification; magnification on the printed page quoted beneath photomicrograph.

(a) Green robe of figure seated by the fire.

1. Gesso ground (trace).
2. Black ground with streaks of lead white which seem to represent stages of white underdrawing or undermodelling done in paint with a coarse brush. The layer consists mainly of charcoal, and the cell structure of some plant remains from which the charcoal was made can be seen on the left.
3. Green paint layer (malachite + lead white).

(b) Blue drapery trailing on the floor from stool in right foreground.

1. (Gesso absent.)
2. Fragment of black ground.
3. Buff coloured paint of floor tiles.
4. Pink glaze of terracotta tile.
5. Translucent dark blue-green layer of smalt + traces of lead white (underpaint for drapery).
6. Pale blue highlight (lead white + ultramarine).
7. Glaze of ultramarine alone.
8. Second pale blue highlight.
9. Final glaze of ultramarine.

There is no layer present corresponding to the biscuit-coloured overpaint of the floor.

revarnished, as recorded in the 1883 Report on the National Gallery. In 1893 it was again cleaned and varnished by Buttery [7]; this restorer's account for the work is still in the National Gallery's archives. Apart from surface cleaning, i.e. removal of superficial dirt without removal of varnish, no further treatment is recorded until 1935 when 'a good deal' of surface dirt and old varnish was removed by Holder [7] and the surface revarnished with mastic. A small spot of damage on Christ's robe occurred in transit to Bangor for wartime evacuation, but until 1956 only surface polishing and intermittent blister-laying seems to have been done.

In 1956 it was decided to clean and restore the picture, the work being undertaken by N.S. Brommelle, then Restorer in the Conservation Department. The following account of examination and treatment incorporates the reports he made at the time, the author collaborating in the technical examination.

It was difficult at the time to assess the condition of the paint under its layers of dirt and discoloured varnish (Fig.7 shows the uncleaned state). A certain amount of wearing was apparent, otherwise the condition seemed generally good. The arm and right foot of the tall man on the extreme right were slightly rubbed, as was the paint of the corresponding tall figure on the extreme left and his hand somewhat damaged. The small figure looking through a doorway in the top left background seemed worn on the left shoulder and the background had also suffered wearing in a number of places. Many small local damages were noted, but none in a prominent position. A table then present in the lower left corner was seen to be damaged by a form of bitumen crackle. At the time it was remarked that the bitumen crackle was 'perhaps due to overpainting' (the table was subsequently removed when it proved to be later repaint). The paint was everywhere slightly raised and required extensive blister-laying as an initial treatment.

When blister-laying of the loose paint had been completed the very thick and discoloured varnish was removed. Cleaning tests made in three representative areas had shown that it was readily soluble in a mixture of 1:1 turpentine distillate: ethyl alcohol by volume and this solution was used for the purpose.

After the old varnish had been removed three factors of interest became apparent. First of all it was clear that the floor had been almost wholly repainted at some time. The then existing floor of an all-over biscuit colour (though, after varnish removal seen to have a faint linear pattern of tiles, the significance of which was not appreciated at the time, but see p.19 below) was found to conceal a chequered tile pattern of alternating buff-coloured and reddish squares. Although seemingly an old repaint, it could not have been a deliberate alteration by the original artist since it could be seen to cover numerous small damages. The repaint had to be removed from the original by gentle scraping. After this was done it became evident that the repaint of the floor and the shadows painted on it had altered the contours of some adjacent objects.



Figure 7 Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), before cleaning and restoration.



Figure 8 Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), canvas, 79 x 160¾ (2.006 x 4.083). After cleaning and restoration.



Figs.9 and 11 show the right-hand half of the picture before and after the removal of the biscuit-coloured overpaint. Fig.10 shows a detail during removal of the overpaint from the area just below Christ's knees. Secondly the cat was found to be a repaint and when this latter was removed the shape of a smaller cat could be seen (Fig.12). It had been thinly painted on top of the tile pattern and become worn, presumably the reason for a new cat being painted on top of it at some later date. Very careful progressive retouchings of the many small paint losses on and near this area subsequently made it possible to reconstruct the cat in its original form. Thirdly, the table near the lower left-hand corner was found to be a repaint, obviously done to hide the unfinished state of the legs of the tall figure on the extreme left, so the table was also removed (cf. Figs.7 and 8).

Christ Washing His Disciples' Feet was an exceptionally dark picture before cleaning, and after cleaning, which revealed some very beautiful passages of light and colour, it still seemed a dark picture even for a night scene. This led to some speculation as to whether the all-over blackish appearance could possibly have been the result of damage by heat or smoke on the occasion of a fire at the church of San

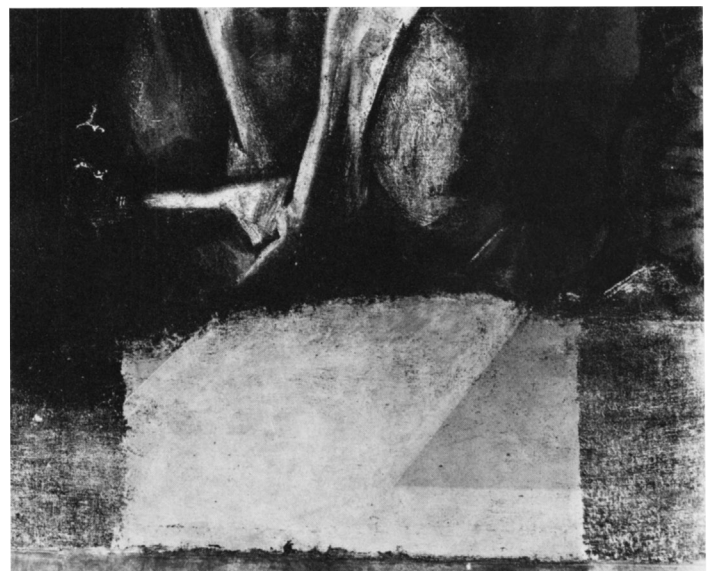


Figure 9 (Above, top) Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), right-hand half of the picture after varnish removal, before removal of overpaint from the floor.

Figure 10 (Above) Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), detail of removal of overpaint from floor just below Christ's knees.



Figure 11 (Above, top) Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), right-hand half of the picture after cleaning and removal of overpainted floor and before restoration.

Figure 12 (Above) Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), infra-red photograph of the original form of the cat after removal of the later repainted cat.

Trovaso in 1583. At that time the church was burnt down and subsequently rebuilt, but the side chapel, the Cappella del Sacramento in which the *Footwashing* used to be (and where the copy, together with the original companion piece, a *Last Supper* by Tintoretto, still are) can be seen to be of an earlier architectural style than the main part of the church and at the base of an arch separating the chapel from the transept is inscribed the date MDLVI. Cecil Gould deduced that if the date of the chapel was 1556, the pictures by Tintoretto datable perhaps to a year or two afterwards, the chapel and its contents must have escaped the fire of 1558 which consumed the rest of the church. Examination of the picture itself and of paint samples and paint cross-sections could detect none of the bubbling or blistering of the paint film which is characteristic of damage by heat. Under the microscope it could be seen that paint and pigments most likely to be susceptible to high temperatures, such as glazes of copper 'resinate' or red lake pigments, were all in good condition. Nor was there any sign of deposition of soot or smoke on the paint surface. It might be noted in passing, that the *Last Supper* in San Trovaso, mentioned above, from superficial inspection shows no obvious signs of fire

damage. The true explanation of the singularly dark appearance of the National Gallery *Footwashing* was discovered from microscopical examination of the paint samples and sections. It came as a surprise to find that sandwiched between a thin gesso ground directly on the canvas, and the paint layers proper, was a *black ground*, of appreciable thickness and consisting almost entirely of charcoal black, but with here and there streaks of lead white pigment on top of or within the black layer (see Plate4a, p.10). It was later realized that the white streaks represented rather coarse drawing with the brush on the black ground. The implications of the black ground in relation to painting technique will be discussed elsewhere. It suffices to say that from the point of view of condition the black ground is probably responsible for causing the picture to look darker than it did at the time it was painted. For one thing, the upper paint layers are likely to have become more transparent with age so that the dark ground shows through to some extent. This is particularly the case where the artist has used a translucent glazing pigment directly on the black ground. A second reason is that in some of the more thinly painted passages paint has been worn off the raised threads of the rather coarse twill canvas leaving exposed numerous tiny spots of black ground.

A study of paint cross-sections also confirmed that beneath the biscuit-coloured overpaint the tiles of the floor were alternately fawn and terracotta coloured, the latter achieved by glazing the fawn tiles with a red-brown lake pigment. Further confirmation that the all-over biscuit-coloured paint which formerly covered the tiled floor was in fact an overpaint came from a cross-section of a sample of the blue drapery on the stool in the foreground on the right, the sample taken from the edge of the drapery trailing on the floor. The section (Plate4b, p.10) shows the dark blue underpaint of the drapery immediately on top of the red glaze of one of the terracotta tiles, with no sign of a layer of biscuit-coloured paint between, hence confirming that the overpaint went round, not beneath, the draped stool. The tiled floor may have been overpainted at a later date in order to disguise its rather shaky perspective. The lines of the pattern make an uncomfortably sharp angle with the bottom edge of the picture, whereas the faintly delineated and different tile pattern in the all-over biscuit-coloured overpaint was in more 'correct' perspective.

Lacking the various overpaints some parts of the picture, especially the gigantic figure at the extreme left, appeared unfinished while others were rather worn. However, in view of the picture's large size and the fact that it was destined to be hung high up over the main staircase of the Gallery where it could be seen only from a distance, it was decided to keep retouching to a minimum (the picture has in recent years been rehung in one of the exhibition rooms at eye-level). A semi-matt varnish was applied in order to reduce reflections from the dark surface. Fig.8 shows a photograph after cleaning and retouching. Despite its vicissitudes, the *Footwashing* since its cleaning and restoration can be appreciated not only as a monumental composition, but also as an unusual and

individualistic combination of rich colours and *chiaroscuro*, and above all as an example of the artist's genius in conjuring up magical effects of light.

As a consequence of the cleaning some new light was also shed on another technical or semi-technical aspect of the painting. It initially stems from the rather mysterious half-length female figure to the left of the background who, framed in a doorway and peering out from beneath a half-raised curtain, seems about to enter the room. Both figure and doorway are sketchily painted. Attention was drawn to this feature in a note to the *Burlington Magazine* in 1936 by A.L. Mayer [8]. Expressing pleasure at the recent cleaning (in fact partial cleaning of 1935), he refers to an engraving (Fig.13) by Andrea Zucchi in Louisa's *Il Gran Teatro delle Pitture e Prospettive di Venezia* (1720), plate no.45. Mayer points out various differences between the National Gallery picture and the engraving, one of which is the fact that the figure in the background of the picture of the woman entering from a doorway is in the engraving replaced by the figure of a man apparently leaving the scene by a passageway. Mayer had been able to consult the National Gallery archives and discovered there evidence that not only was the existence of the engraving known, but it had been concluded that the engraving represented the original state of the picture in this respect. Mayer quotes from a note he found in the archives which, though undated, probably records the result of an examination of the picture connected with the partial cleaning of 1935. This mentions the engraving and then goes on to draw conclusions about the state of the painting, a passage which Mayer in his communication to the *Burlington Magazine* quotes:

The figure in the centre left background lifting the curtain is a patch inserted in place of a man with his back towards the spectator looking down a passage. The lines of the join are visible on the front and back of the picture (in spite of relining) and are especially visible in the photograph. This patch is on a twill canvas of finer grain than the rest, another patch (or, rather 'mend,' as no significant change is made) appears in the table-cloth between Christ and S. Peter. This is smaller than the other but on similar canvas. The picture has been folded — presumably in packing — once across the centre (longways) and three times across. These insertions are extremely skilful faking, being Tintorettesque in handling, tone and even in motif though dating, apparently, later than 1720.

The above sounds quite convincing, yet Cecil Gould, who would have had ample opportunity to examine the picture at the time of the 1956 cleaning and restoration and the added advantage of the availability by that time of some X-radiographs, categorically denies the statement in his *Catalogue of the Sixteenth Century Venetian School* published in 1959 and affirms that the female figure in the doorway is original paint and painted on the same canvas as the rest of the picture.

The present author, curious to discover how, in what seemed to be a simple matter of fact, two observers could come to such diametrically opposite conclusions, looked at the picture again. In the fairly subdued Gallery lighting the figure in the doorway did



Figure 13 *Christ Washing His Disciples' Feet*. Engraving by Andrea Zucchi published in Louisa's *Il Gran Teatro delle Pitture e Prospettive di Venezia* (1720), plate no.45.



Figure 14 *Christ Washing His Disciples' Feet*. Copy of the National Gallery picture (No.1130) in the church of San Trovaso (SS. Gervasio e Protasio), Venice, where it replaces the original.



appear to be framed on all four sides by contours which could have been joins in the canvas and the canvas weave did in some indefinable way look different from that of an adjacent area a little lower down on the picture. Closer inspection and consultation of the X-radiographs helped to explain the confusion. The X-radiograph (Fig.16) of the feature in question reveals no joins in the canvas, but the door frame is roughly outlined in lead white as a sort of underdrawing done with the brush. It is these dim outlines which could have been mistaken for joins in the canvas. Where joins *are* present the stitching of the seams shows up clearly in the radiographs. The difference in appearance of the weave of the canvas in the area within the door frame and just outside it can be explained by the mode of construction of the canvas support. The lower half of the picture consists of a single length of canvas with the twill weave running horizontally, the upper half of four short lengths of the same canvas with the twill weave running vertically. The figure in the doorway is painted on one of the four pieces of canvas with the twill weave running vertically and therefore the canvas weave or 'grain' looks different from that a little lower down on the picture (which would be the most convenient area to compare it with) where the twill weave runs horizontally. Paradoxically, the four folds, referred to in the quotation above turn out to be joins, a fact easily determined from the X-radiographs, but the latter were not yet made in 1936. A diagram of the construction is shown in Fig.15. Recent acquaintance with some of the very large Tintoretto's in Venice indicates that this rather patchwork construction accords with Tintoretto's practice (or at any rate his instruction to assistants preparing canvases). In fact, even if the figure in the doorway had been painted on an inset of a different type of canvas, that in itself would not necessarily have proved that it was by a later hand, for in some of the large ceiling paintings at the Scuola di San Rocco it was found that odd-shaped

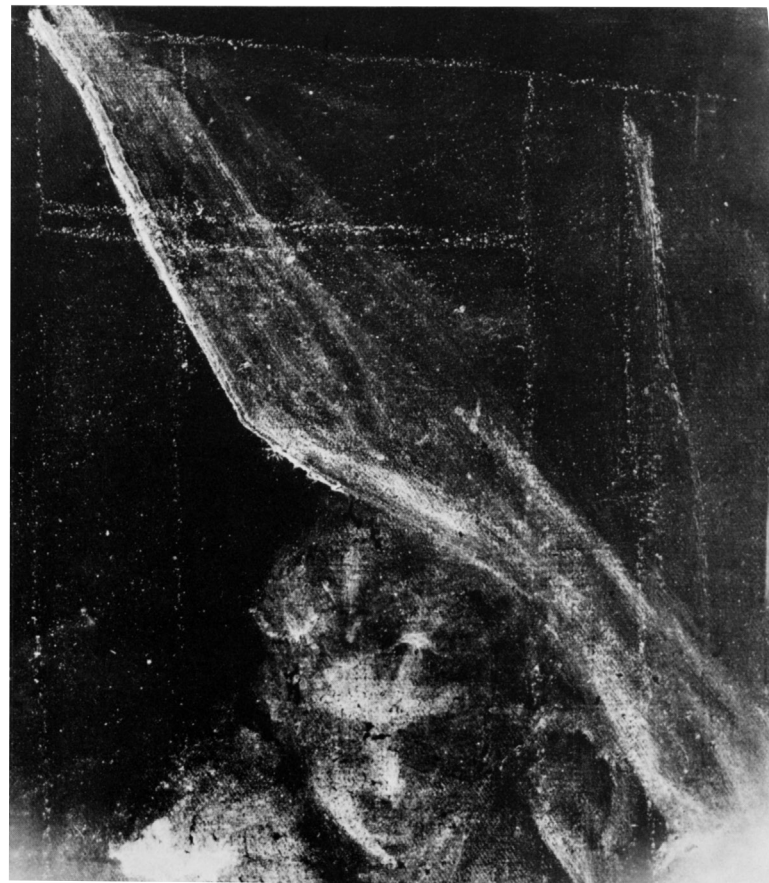


Figure 15 (Above, top) Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130). Diagram of the construction of the canvas support. Arrows indicate the direction of the twill weave of the canvas. In addition to the principal seams indicated, there are narrow added strips along side and top edges.

Figure 16 (Above) Jacopo Tintoretto, *Christ Washing His Disciples' Feet* (No.1130), X-radiograph of figure framed in doorway, background left (42 kV, 15 mA, 15 s).

scraps of two or three different weaves of canvas were sometimes incorporated to make up the required size or shape of canvas support.

A final note must be added concerning the relationship of the National Gallery's *Christ Washing His Disciples' Feet* (Fig.8), the copy of it in San Trovaso (Fig.14) in Venice, and the engraving of 1720 (Fig.13) referred to above, for it has some bearing on the history of our picture and of the overpaints discovered on it and now removed. Cecil Gould has suggested that the differences between the three indicate that the engraving was made from the San Trovaso copy and not from the original now in the National Gallery. Working back from this premise, it is an interesting exercise to try to reconstruct the series of events, especially with reference to the condition of the National Gallery picture before and after the most recent cleaning and restoration described above. The principal differences between the original, the copy which now replaces it in San Trovaso and the engraving of 1720 could be explained by the following events:

1. While the original was still in San Trovaso the chequered floor was overpainted an all-over biscuit colour, which also incorporated a faintly-outlined tile pattern of narrow double lines outlining largish rectangles only discernible after varnish removal during the recent cleaning. (See Fig.10.)

2. The copy (which seems to the author, from a rather cursory examination, to be of some considerable age, possibly seventeenth century), was made presumably to replace the original which was either to be sold or moved to another place. The copy, though itself now dirty, gives the impression of having been made from an already dirty picture. The copyist would have taken over the all-over biscuit-coloured floor from the overpainted original and confirmation that he did this comes from the fact that the faintly delineated tile pattern of narrow pairs of lines framing rectangles, which was present in the overpainted floor of the National Gallery *Footwashing* can be seen in a photograph of the San Trovaso copy (it is less easy to see on the copy *in situ* in the dim light of the chapel). He may have considered the female figure in the doorway in the background of the picture too bizarre, for it is entirely missing from the copy. The omission of the cat cannot be explained unless it was overpainted at that time. Finding the unfinished state of the legs of the tall figure on the extreme left disturbing, he added some rather rudimentary leggings or gaiters, and similarly a more substantial cap for the giant figure on the extreme right in place of the sketchy turban-cum-halo in the National Gallery picture.

3. The engraver, working from the San Trovaso copy, has copied the tile-pattern found there, not the chequerboard pattern of alternating dark and light square tiles uncovered in the National Gallery *Footwashing*. He has reintroduced a cat, a frequent inhabitant of Tintoretto interiors. He also found the background lacked interest and introduced the figure of a man, assumed to be Judas, going out, as an

appropriate gap filler. The leggings or gaiters of the tall man on the extreme left are copied, and slightly elaborated, as is the cap of the corresponding tall figure on the right. The stool on which the latter kneels is in the engraving closer in form to that in the San Trovaso copy than to that in the National Gallery picture.

4. At some stage the unfinished state of the legs of the figure on the left in the original picture was found too disturbing and a table painted over them, since removed in the recent cleaning.

This hypothetical reconstruction would fit in with Cecil Gould's conjecture that the original may still have been in San Trovaso after the fire of 1558, but had been removed and presumably replaced by the copy by 1720, the date of the engraving. It also indicates some of the many possible reasons why later additions have been made to pictures.

No.1313, 'The Origin of the Milky Way'

The picture was purchased from the Earl of Darnley's collection in 1890 and is described in the Manuscript Catalogue as 'in sound condition'. The same year the canvas was lined then relined to the first lining canvas, cleaned and varnished. The edges of the canvas appear to have given trouble for in 1938 the top edge was strip-lined [9] and in 1957 it was strip-lined all round.

The condition before the 1970 - 73 cleaning and restoration

As always, a detailed examination was carried out before embarking on any treatment. There was indeed a double lining canvas as recorded in 1890. The paste adhesive used was thick and had become hard so that it prevented the even stretching of the canvas support. The earlier lining canvas was ragged at the edges. The paint had suffered from the impasto having been flattened by ironing. Slight wearing at the edges of the craquelure was noticeable. It was deduced that before the 1890 lining the paint was probably cupped; that the first lining operation was not wholly successful; hence the second lining, probably requiring even heavier ironing which would have been likely to wear the raised edges of the cupped paint.

The edges of the picture were damaged and overpainted, the damage caused apparently by the canvas having been folded round too small a stretcher at some time (but see p.22 for later information concerning the edges). There were two horizontal lines of retouched damage covering either seams or fold-lines in the original canvas, one about 20 cm from the bottom of the picture and going through Juno's ankle, the other about 13 cm from the top edge. A number of small scattered damages were discernible but none serious. Not only had the varnish become yellowed with age but it had been toned with pigment, including some black, presumably with the intention of disguising wearing, damages and retouchings. Fig.17 shows the picture as it was in 1970 before cleaning.



The 1970–73 cleaning and restoration

This was carried out by Arthur Lucas, then Chief Restorer. The varnish was cleaned off with a suitable solvent mixture after which the more obvious repaints and old retouchings were removed. At this stage the old lining canvases were detached and the hardened adhesive scraped from the back of the original canvas. The picture was then relined, using a wax/resin adhesive, by the late Louis Howard of the Conservation Department.

Once the discoloured varnish had been taken off and the picture put into safe structural condition a new assessment was possible. Just as in the case of the *Christ Washing His Disciples' Feet* where an understanding of the condition was dependent on an awareness of the history of the picture, so in the case of the *Origin of the Milky Way* it was dependent on an understanding of the iconography. The subject, drawn from classical mythology, is one seldom depicted. The principal figures portrayed are Juno, the queen of the gods, her husband Jupiter, king of the gods, and the infant Hercules. So rare is the theme that Carlo Ridolfi in his biography of Tintoretto published in 1642, not quite

fifty years after the painter's death, confuses the child with the infant Bacchus, another of Jupiter's progeny. The relationship of the characters to one another is complex but has relevance to the present condition of the picture. Jupiter had a habit of seducing mortals in a variety of clever disguises (in the form of a bull and a shower of golden rain he frequently figures in paintings). Hercules' birth was the result of a particularly low trick on Jupiter's part, when he appeared to the lady in question disguised as her own husband. Wishing to make the boy immortal, Jupiter carried him to where Juno lay asleep and put him to her breast so that he might drink the food of the gods. The sucking of the lusty infant, later to be renowned for his strength, awoke Juno with a start and, as can be seen in Tintoretto's picture, as she drew away from the child a shower of milk shot upwards to the sky to form the constellation of stars known as the Milky Way. Tintoretto, who has an unfailing instinct for the psychological moment in any drama, captures it here and the whole composition seems to be exploding like a Catherine wheel in a whirl of shooting stars, radiating limbs and swirling draperies. Incidental

Figure 17
Jacopo Tintoretto,
*The Origin of the
Milky Way*
(No.1313), before
cleaning and
restoration.

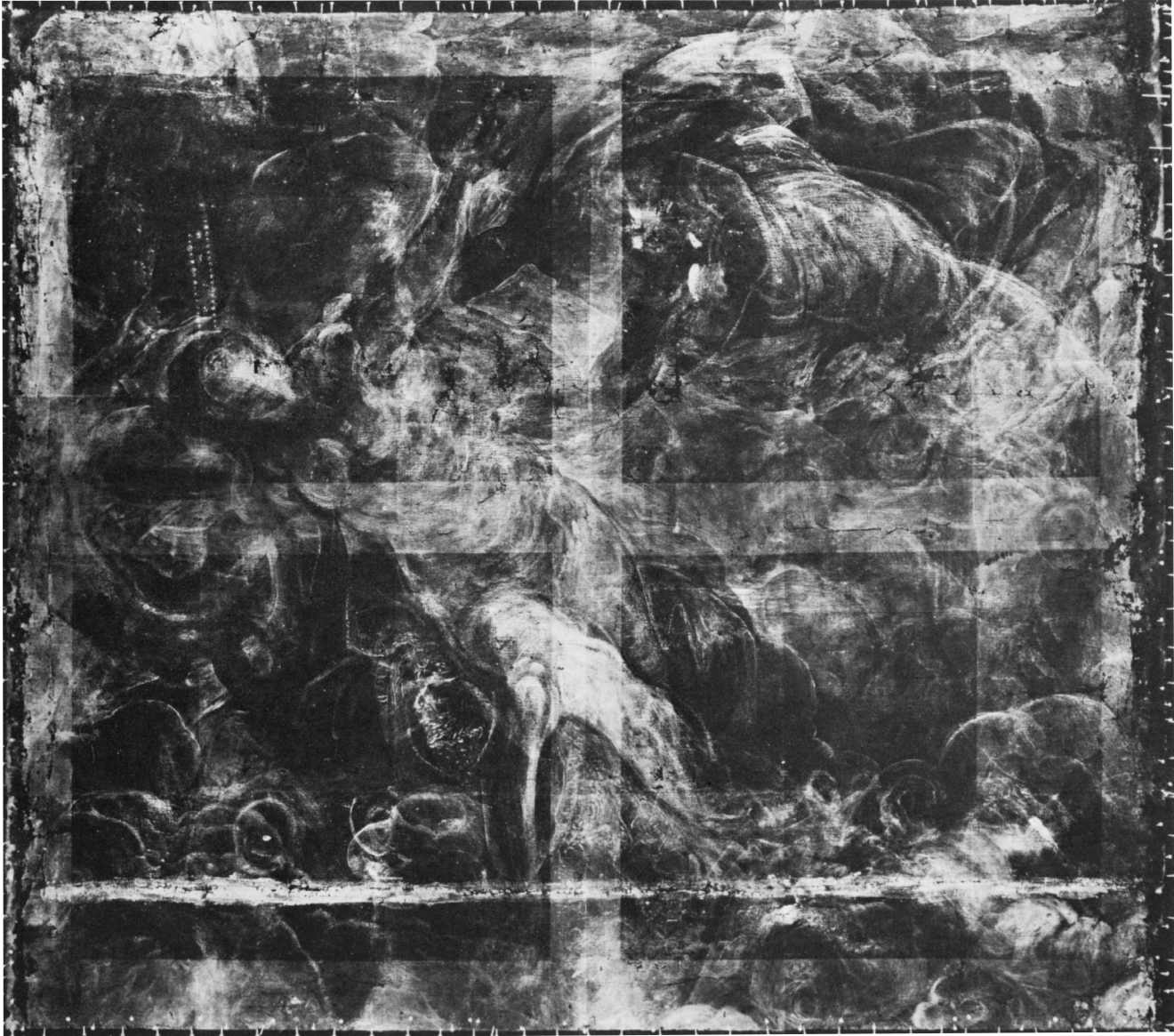


Figure 18
Jacopo
Tintoretto,
*The Origin of the
Milky Way*
(No.1313), X-ray
mosaic, before
cleaning and
restoration
(42 kV, 20 mA,
35 s).

props are the attendant *putti*, bearing what Cecil Gould terms 'the usual erotic symbols' of torches and arrows. The peacocks are Juno's particular emblem, the eagle and the crab-like object in its claws which is meant as a thunderbolt are Jupiter's and the net symbolizes deceit, the trick being played on Juno.

Two drawings related to the painting are known. In the Accademia Gallery in Venice there is a drawing (Fig.19) of which the top half obviously shows the same composition as the National Gallery painting. The lower half of the drawing shows a nude female figure lying on the ground with sprigs of foliage sprouting from her body and seems to represent the goddess of earth. The drawing is very feeble compared to those by Jacopo Tintoretto himself and bears a signature of Tintoretto's son Domenico who worked in his studio, though even this attribution is doubted. However, it is generally agreed to be a drawing after the National Gallery picture and not a preliminary sketch for it. There exists a second drawing of the same composition by Jacob Höfnagel. A link with the National Gallery painting is that Höfnagel was court painter to the Emperor Rudolph II. There is some

evidence [2] that the National Gallery *Origin of the Milky Way* was one of a cycle of paintings depicting the life of Hercules and commissioned from Tintoretto by Rudolph II, one of the great patrons and collectors of the age. The full significance of the two drawings was not realized until 1938 when attention was drawn by E. Mandowsky [10] to a variation of the 'Milky Way' legend which occurs in a Byzantine herbal, the *Geoponica*, of which an Italian translation was published in Venice in 1549 at a convenient date to inspire the subject of Tintoretto's picture which might be datable about 1578. In the part of the herbal giving the history of the lily, it is described how in the Hercules legend, whereas the milk which shot upwards from Juno's breast was transformed into the starry constellation of the Milky Way, that which shot downwards fell to earth and gave rise to lilies. Another source, Gregorio Giraldi's *History of Hercules* of 1557 describes the same thing.

In the course of the cleaning and restoration of the picture in 1970 – 73 several new facts gradually emerged. Of the two horizontal lines of repainted damage mentioned above, the one near the top of the

picture was discovered to be an actual join in the canvas (cf. the X-ray mosaic in Fig.18), while the one near the bottom was discovered to be the mark of a fold made in the already painted canvas. The type of cracking of the paint above and below the fold line suggested that the canvas had been folded then unfolded again before the paint had had time to develop age cracks [11]. The most obvious reason why a canvas should be folded not long after painting would be in order to transport it more easily, perhaps to Rudolph II's castle in Prague. In days of transport by coach or even muleback it would be not unusual to take a canvas off its stretcher and fold or roll it for convenience in handling. By comparing the position of the line of damage in the painting with the two drawings mentioned above (cf. Figs.18 and 19), it can be seen that the fold comes just about in the centre of the pictorial composition shown in the drawings. Folding the painting in half would be an obvious method of reducing the space it would occupy.

It would appear from this that the picture may have lost almost the whole of the lower half of the composition. Confirmation of the cutting down of the canvas at the top and bottom can be found in the X-ray mosaic (Fig.18), for whereas the two side edges of the original canvas are very ragged and along them the weave of the canvas is distorted by tension from the nails which previously attached them to the old stretcher, at the top and bottom of the picture the edges of the original canvas are cleanly cut, the canvas threads straight and parallel and the paint, which shows little damage, goes right up to the edge of the canvas as if the cutting operation had been done with care in order to avoid paint losses.

Yet another piece of evidence for this mutilation was the appearance on the German art market in the late 1920s of a small copy in oils of the complete picture. Fig.20 reproduces a photograph from the National Gallery archives (the present whereabouts of the copy itself is not known). The flowers on the lower right look more like a rose bush than lilies, whereas in the Accademia drawing (Fig.19) with the eye-of-faith the flowers were just about recognizable as such. In this context it might be remarked that whilst Tintoretto was adept at producing a generalized impression of nature (as in the evocative landscape background to the *Flight into Egypt* in the Scuola di San Rocco), unlike Dürer or Titian his seems not to have been the temperament lovingly to depict each petal of a columbine or violet. A discovery on the original picture as a result of removal of an overpainting of cloud along the bottom edge was a sprig of foliage just below the body of the *putto* in the bottom right corner and another smaller sprig a little further to the left. They correspond well in position



Figure 19 (Right, top) *The Origin of the Milky Way*. Drawing after the National Gallery picture (No.1313), Accademia Gallery, Venice. The drawing bears a signature of Domenico Tintoretto, Jacopo's son, but the attribution is uncertain.

Figure 20 (Right, bottom) *The Origin of the Milky Way*. A small copy of the National Gallery picture (No.1313) before it was cut down. The copy appeared on the German art market in the 1920s, but its present whereabouts are unknown.



Figure 21
Jacopo
Tintoretto,
*The Origin of the
Milky Way*
(No.1313),
canvas,
58½ × 65
(1.48 × 1.65).
After cleaning
and restoration.

and form to the topmost sprays of the 'lilies' in the small painted copy just described.

Looking again at the picture after the old varnish and a good many repaints had been removed and with the later version of the Hercules legend in mind, it was remarked that not only were there stars formed from the stream of milk shooting upwards but also from that shooting downwards, which made no sense in terms of iconography or with the composition shown in the drawings or in the small painted copy (it may be noted that no stars are apparent in the drawings or copy, but that may be because of the sketch nature of the former and the small scale of all three). Under the travelling binocular microscope it could be seen that the stars in the bottom left corner of the picture, although superficially similar to those near the top of the picture, were painted over small cracks and damages. Chemical analysis of the yellow pigment from upper and lower stars identified both as lead-tin yellow (see p.8 and Note 5, p.24). Numerous identifications of this pigment have been reported in different pictures of various schools, including some works of Tintoretto, but not so far in any picture

dating from later than the mid-eighteenth century [5], when it seems unaccountably to disappear from the artist's palette. The implication is therefore that the stars at the bottom of the picture were added before about 1750. That this could have been the case is confirmed by the 1727 catalogue of the Palais Royal collection in Paris, in which the picture once was, which gives the dimensions the same as at present. The lower stars were therefore removed (cf. the before- and after-cleaning photographs in Fig.17 and Plate3, p.10) in the later stages of cleaning.

One last and unexpected discovery was that the wisp of diaphanous drapery on Juno's right thigh was also a later repaint covering small paint losses. Here pigment analysis was of no help in dating the repaint, for the pigment was lead white, as might have been anticipated. The drapery was removed to reveal the fully nude figure, but it is interesting to see from the X-radiograph that Tintoretto seems in an earlier stage of the painting to have envisaged the torso as draped, but then changed his mind and covered over the swathed drapery with flesh paint.

Finally, when all the later additions to the painting

had been eliminated, the comparatively small and scattered losses were puttied and retouched. The retouchings were for the most part carried out in a synthetic resin medium (the then comparatively recently-introduced acrylic emulsion, Paraloid B72, which has since found wide use in conservation) and varnished with a synthetic resin varnish (the polycyclohexanone resin then in current use, AW2). The cleaned and restored picture is seen in Fig.21.

In its restored state, the work proves that, when he chose, Tintoretto could rival Titian as a colourist. With a knowledge of the picture's mutilation, we may look at it with new eyes and find, perhaps, the missing lower half of the *putto* on the lower left or the abrupt cutting-off of the draperies by the top edge a little disturbing, but it is a tribute to Tintoretto's genius that even in its mutilated state the picture still functions as an eminently successful work of art.

National Gallery before the establishment of the Conservation Department in 1946.

8. MAYER, A.L., ' "Christ Washing His Disciples' Feet" by Tintoretto', *The Burlington Magazine*, **LXIX**, 2 (December 1936), pp.281–2.

9. When only the edges of a canvas are weak or worn it sometimes suffices to attach strengthening strips of canvas instead of lining the whole of the picture with a reinforcing canvas, hence the term.

10. MANDOWSKY, E., ' "The Origin of the Milky Way" in the National Gallery', *The Burlington Magazine*, 72 (1938), Part I, pp.88–93.

11. A report on the condition of the paint in the area of the fold line was made by N.S. Brommelle at the time Cecil Gould was compiling his catalogue of the sixteenth century Venetian School (see Note 2, above), and is in the National Gallery archives.

Notes and references

1. PLESTERS, J. and LAZZARINI, L., 'Preliminary Observations on the Technique and Materials of Tintoretto', in N. Brommelle and P. Smith (eds.), *Conservation and Restoration of Pictorial Art*, Butterworths (London 1976), pp.7–26.

2. GOULD, C., *National Gallery Catalogues: The Sixteenth-Century Venetian School* (London 1959), pp.84–92; this catalogue has now been combined into one volume with that of *The Sixteenth Century Italian Schools* (London 1975), pp.254–62 for the relevant entries which remain unchanged. Those for No.16, *S. George and the Dragon* and No.1130, *Christ Washing His Disciples' Feet*, were written after the most recent cleaning and restoration, those for No.1313, *The Origin of the Milky Way* and No.4004, *Portrait of Vincenzo Morosini*, were written before.

3. RUHEMANN, H., *The Cleaning of Paintings*, Faber and Faber (London 1968), p.266, plate 27, shows a good example of the use of ultra-violet light for following varnish removal.

4. Organic reagents for detection of copper were rubeanic acid (dithiooxamide) and diethyldithiocarbamate. For chemical reactions involved, mode of application and detection limits, see: FEIGL, F. and ANGER, V., *Spot Tests in Inorganic Analysis*, Elsevier Publishing Company (London 1972), pp.213–16 for rubeanic acid, and *Organic Reagents for Metals*, W.C. Johnson (ed.), Hopkins and Williams Ltd., 5th ed. (Chadwell Heath, Essex 1955), pp.72–181 for diethyldithiocarbamate.

5. KÜHN, H., 'Lead-tin Yellow', *Studies in Conservation*, 13 (1968), pp.7–19.

6. HARLEY, R., *Artists' Pigments c. 1608 — 1835. A Study in English Documentary Sources*, Butterworths (London 1970), pp.90–1 summarizes what little is known of the origin and history of the pigment.

7. *National Gallery Technical Bulletin*, 2 (1978), p.37, Note 14 mentions the family firm of BATTERY of which several generations carried out picture restoration for the National Gallery in the nineteenth and early twentieth century. HOLDER was the name of another family firm of restorers working on contract for the