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Figure 1 Carlo Crivelli, *Altarpiece: The Virgin and Child with Saint Jerome and Saint Sebastian (The Madonna della Rondine)* (No.724); main panel 150.5 × 107.3 cm. After cleaning and restoration.

An Altarpiece and its Frame: Carlo Crivelli's 'Madonna della Rondine'

Alistair Smith, Anthony Reeve, Christine Powell and Aviva Burnstock

Historical introduction

Alistair Smith

Of the Gallery's Crivelli holdings, the *Madonna della Rondine*, so-called because of the swallow which occupies a prominent place on the Virgin's throne, is of particular importance (No.724; Plate 5, p.31 and Fig.1). It is the only altarpiece to remain in its complete state with what is probably its original frame [1]. This article describes the treatment of both the frame and the paintings, with the uncovering of an unexpectedly gaudy predella, and restoration of the principal frame to its original fifteenth-century appearance.

In total the altarpiece comprises six separate images. The centre panel shows the Virgin and Child between Saints Jerome and Sebastian; in the predella are the *Nativity*, *Saint Jerome in Penance* and the *Martyrdom of Saint Sebastian*, each scene being below the appropriate saint in the central panel; the right-hand pedestal to the pilastered frame shows another military saint, *Saint George and the Dragon*, while the left-hand pedestal displays a half-length *Saint Catherine of Alexandria*.

The centre panel carries, bottom right, the inscription: . CAROLVS . CRIVELLVS . VENETVS . MILES . PINXIT., the artist describing himself as both Venetian and a Knight. Indeed, he was born in Venice although forced to spend most of his life away from there after being imprisoned for adultery in 1457. The word *miles* refers to the fact that he was knighted on 9 April 1490, by Prince Ferdinand of Capua (later Ferdinand II of Naples).

Zampetti refers to two unpublished documents of 11 March 1490, commissioning from Crivelli an altarpiece which can be identified as the *Madonna della Rondine* [2]. The signatories were Ranuzio Ottoni ('signore della città', Matelica) and Giorgio di Giacomo ('guardino del convento di S. Francesco'). These documents, unknown to Davies, explain the presence of the Ottoni coat-of-arms at the lower edge of the centre panel, and also the inclusion of Saint George on the right of the predella. Ottoni paid sixty ducats to the painter, and the guardian paid 310 florins. The painting must, therefore, be of about the same date as two other paintings in the Gallery, namely the altarpiece showing the *Virgin and Child with Saints Francis and Sebastian* (No.807) which is dated 1491, and the *Immaculate Conception* (No.906) dated 1492.

Like the *Madonna della Rondine*, indeed like much of Crivelli's production, these paintings were made for Franciscan churches. One wonders if, by tradition, the Order had a special regard for men who had spent a less-than-perfect youth.

The painting is not again recorded until late in the

eighteenth century when it was still in the church for which it was created, San Francesco dei Zoccolanti (or Minori Osservanti) [3]. It was for this particular sect of Franciscans that Crivelli made his famous *Annunciation* of 1486 (No.739), and other works.

It was again described, in short, in the first part of the nineteenth century by Ricci [4], these notices presumably alerting both the Director of the National Gallery, Sir Charles Eastlake, and his travelling agent, Otto Müндler. It was Müндler's task to make voyages of reconnaissance throughout the Continent and to recommend to Sir Charles paintings of interest which might be available for purchase. On 5 June 1858, he visited Matelica and made the following note which is by far the most complete description of the painting to that date [5]:

The Virgin, a crown on her head; a white veil, flying, over the mantle, blue with golden flowers, lined with green. She holds the Child, with a cloth around the girdle, a large apple in the left, the r. hand extended towards S. Jerome. His expression is rather morose. S. Jerome, on the l. (beholder) stands, in his r. hand 2 books & a church on them. The lion, with plaintive expression, is presenting his r. fore-paw pierced by a thorn. On the other side S. Sebastian phantastically dressed, the l. on his yatagan, in his r. an arrow. His hair is fair, long, turned up on the fore-head which is almost covered by it. A long strip of richly embroidered drapery hanging down behind each figure. Behind the throne a marble-parapet on which a basket with flowers. Higher up an ornament on which a swallow is seated. A cucumber, a quince & a flower are equally placed in the upper part of the picture. Below, attached to the step of red marble, a rich garland of fruits. 3f. 6½ in. w. by 5 f. h. Predella: on the 1st pillar a half-length figure of S. Catherine, in a niche of reddish stone; a singularly pointed face & *zimpferlich* expression. — Then a S. Jerome in the desert, kneeling before the crucifix on which an eagle has posted himself. Near him an immense lion. All sorts of animals in the landscape. Further on a plain with a castle; turks running to and fro in the yard etc. — Virgin, ox and ass adoring the Infant Christ. — St. Sebastian tied to a tree in a portico. Three archers, undressed, aiming at him. — On the pilaster, a S. George on his white charger, killing the dragon. The 2 little side-pictures 8½ in. w. by 11½ in. h. each; the 3 predella-pictures together 3 f. 6½ in. w. by 11½ in. h. W. — With the exception of some trifles, untouched. A matchless specimen of C. Crivelli's finest stile. The property of Conte de Santis. — The cartellino fixed in the r. corner, on the parapet with golden ornaments. Near it a sling.

Müндler's enthusiasm clearly influenced Eastlake, who found his way to Matelica later that year. The resulting entry in his notebook echoes his agent's view of the painting's interest, and adds some supplementary information. He records, for example, the precise location of the altarpiece [6] (see Fig.2):

S. Francesco. Third chapel on left wall a very fine Carlo Crivelli.

Eastlake also introduces some art-historical comparisons, which now seem quaintly out-of-date:

Predella — centre. Nativity — exquisite/like Alb. Dürer in some respects, landscape with his straight stemmed leaves — the sleeping Joseph like M. Angelo. Left St. Jerome doing penance — animals, a vulture perched in the Crucifix before which he kneels — landscape his red hat hanging in a straight tree — Rt. the Martyrdom of Saint Sebastian — admirable — Executioners with bow & arrow & cross-bows as fine as Pollaiuolo, all undraped. The St. is shot through the left foot which he raises — these three pictures correspond with the width of the altarpiece — under the pilasters of the frame (gilt foliage on blue ground). Rt. St. George and the Dragon. Left a half figure of St. Catherine.

He describes the technique more precisely than Mündler:

All the hair — hair of St. Sebastian, of the C, what is seen of the M's (her blue embroidered robe passes over her head & a crown above it) — the beard of St. Jerome & hair of St. Catherine in the usual [drawing] parallel lines — the M. has a transparent veil over the blue and under the crown — the ends of which are flying — delicately executed. The vases of fruits & flowers above are not very remarkable. The M. has the usual very long fingers — outlines always showing. The C. points with one hand to St. Jerome & rests the left on an apple on his left leg.

He also commentates on the condition:

Preservation good — except that the white ground is exposed in the centre of the Nativity but the head of the M. in that picture is unhurt.

and corrects Mündler in recognizing the object lying next to Saint Sebastian to be his bow.

Eastlake did not always make such detailed notes on the paintings he inspected. His judgement of the painting's quality — 'exquisite [...] admirable' — 'as fine as Pollaiuolo [...] delicately executed [...] beautifully painted' — sustained his interest until four years later when it became available for sale. The way this happened is described by Zampetti [7], although he was unaware of any part which might have been played by Eastlake. As Zampetti recounts, in 1861 the town of Matelica was taken over by Piedmontese troops when, from being a papal possession, it ceded to the new Kingdom of Italy. At that time the new government required that an inventory of significant works of art in Umbria and the Marches be compiled, and commissioned G. B. Cavalcaselle and Giovanni Morelli to carry out the task. Morelli's note on the Ottoni altarpiece curiously echoes Eastlake's. *The Martyrdom of Saint Sebastian*: 'pare opera del Pollaiuolo, tanta robustezza e tanto carattere havvi nel disegno di queste figure [...] Questa stupenda opera di C. Crivelli che io ho per una della sue piu perfette e, a parer mio, per la più simpatica fra quante ne vido, fu dal Sig. Cavalcaselle e da mi stimata del valore di circa f. 60,000'. He was impressed [8].

This estimate of the value of the painting clearly had a galvanizing effect on its 'owner', the descendant of Ranuccio Ottoni, Conte Luigi de Sanctis who, Zampetti informs us, was in some debt. On 2 July 1862, his agent removed the painting from the church amid speculation that it was already sold.

The next steps in the tale of the painting's acquisition by the National Gallery are summarized in Eastlake's Report to the Trustees of 27 November 1862, 'respecting proceedings on the Continent' during his travels of



Figure 2
The chapel where the altarpiece was displayed in the nineteenth century.

that year [9]. He mentions two Crivellis, first the assemblage known as *The Demidoff Altarpiece* (No.788), which he made a bid for, although he suspected that the 'beautiful frame, recently made in Florence', might add so much to the price of the paintings that his bid might fail. Then follows his report on the *Madonna della Rondine*. It transpires that he had, earlier in 1862, met Morelli in Milan where he became aware of his view of the painting, of its valuation and of the fact that it was for sale.

The proprietor, having removed it from the church to his own residence & having established his right to it had offered it for sale to the [Italian] government. The offer was declined, upon which he considered himself free to look for another purchaser. Sign. Morelli, who communicated to me this intelligence, added that, on first hearing it he had lost no time in seeing the minister (Matteucci) at Turin, begging him not to allow the picture to leave Italy. The Minister replied that having given his word the application was too late. I immediately wrote to the proprietor, the Conte Luigi de Sanctis, at Matelica, offering 50,000 francs — £2000 — for the picture [a vast sum by the standards of the day]. I had seen the report of the Commissioners (of whom Sign. Morelli was one) appointed to report on the pictures in the March of Ancona, & know that they had estimated it at 60,000 francs. The Conte de Sanctis seemed disposed to accept my offer. By this time I had reached Paris. Meanwhile, the state of the case becoming known, a person of some influence in matters of art at Turin — Sign. Cavalcaselle (who had also been a co-commissioner with Sign. Morelli) made the most urgent appeals to the Minister to prevent the exportation of the picture. His efforts succeeded, & notwithstanding the promise given, the Minister, towards the close of October, issued a decree with an absolute veto on the exportation.



Plate 5 Carlo Crivelli, *Altarpiece: The Virgin and Child with Saint Jerome and Saint Sebastian (The Madonna della Rondine)* (No.724), after cleaning and restoration.

The proprietor is now at Turin, pleading his right to dispose of the picture in consequence of the refusal of the government to buy it, & endeavouring to set aside the decree. I have told him that since the affair has become a Government question, I can only now treat with him, even if he obtains permission, by referring the matter to the British Minister at Turin, & this, with the needful forms, would occupy some time. At the same time, I have made him another offer: his own price is 55,000 francs, I have promised to give him that sum on condition of his taking the picture to Genoa, where it would be verified by an agent of mine; the money being paid after the departure of the steamer with the picture bound for England. This offer, in the event of his obtaining the permission of exportation, he is now disposed to accept, as it will enable him to receive the price sooner.

Eastlake then advised the Trustees that an application for extra funding be made to the Chancellor of the Exchequer. This was made, by Eastlake, in a letter of 3 December, when he referred to the 'not very probable event of obtaining both pictures' (that is, *The Demidoff Altarpiece* and the *Madonna della Rondine*). Despite Eastlake's pessimism both were eventually purchased, with the Ottoni altarpiece already paid for by 23 December, the date on the receipt [10].

The altarpiece entered the Gallery in April 1863, and was noted to be in its original frame. From that time, it received only minor conservation work, with minor cleaning taking place in 1880 and some panel work in 1929–31. In 1975 a systematic programme of conservation of the Gallery's Crivellis was put in hand with the *Virgin and Child with Saints Francis and Sebastian* (No.807) and the *Vision of the Blessed Gabriele* (No.668) being treated first. Thus the *Madonna della Rondine* was examined prior to treatment.

Examination and treatment

Anthony Reeve

Examination before treatment (Fig.4)

The principal panel (Fig.3)

The main panel was found to have its natural movement hampered by cradling which was causing cracks both on the front and back of the panel. This cradling consisted of vertical fixed battens and thirteen horizontal battens, designed to slide. Battens had been added in 1930 in an attempt to restrain the ever-moving cracks. A layer of black filler had been applied to the reverse of the panel, between the elements of the cradle, to act as a stabilizer (Fig.5).

A discoloured surface layer of varnish obscured the exact state of the paint layer, although it appeared to be in very good condition. Some blues and greens in particular seemed to have discoloured.

The most obvious areas of loss was an area of about 1½ inches in Saint Jerome's robe. There were also very obvious signs of some shrinkage in the medium (which was thought to be egg tempera) causing very fine crazing in the paint. This was especially visible in the Madonna's robe and in the inner red areas of Saint Sebastian's cloak.



The predella (Figs.6 and 7)

Examination by X-radiography confirmed the area of damage around Saint Jerome referred to in the early descriptions of the painting. This was found to be the result of a nail which had caused a crack under the gold leaf frame around Saint Jerome; it protruded from the back of the panel.

The frames

The frame had always been described as original, Davies describing it as 'regilt and somewhat cut about' [1]. Zampetti [2] stresses the importance of the ensemble as one of the few Renaissance altarpieces to remain in its original form. All were agreed that the flat holding the main panel was not original.

Examination revealed that the pilasters and entablature of the main poplar frame had at one time been mounted on a modern wooden sub-frame. It was this which made it difficult to be fully certain that it was the original frame. This sub-frame had been screwed into the predella. The X-radiograph (Fig.8) shows the join at the bottom left corner of the predella. The capitals were found to be carved from separate pieces of wood. The predella frame was at all points integral with the paintings.

It was apparent to the naked eye that both main and predella frames had been regilded at some point, probably in the nineteenth century, and certainly before

Figure 3

The main panel in raking light, before treatment.



Figure 4 Crivelli, *The Madonna della Rondine*, before treatment.

the altarpiece entered the Gallery. To establish what lay beneath the later finish, a section of the surface on one pilaster was scraped away. The nineteenth-century covering was found to consist of synthetic ultramarine paint, mordant gilding and gesso. When removed, original blue azurite over indigo was revealed, with authentic gilding over original red bole on the gesso. This appeared to be in good condition and it was decided to proceed with further removal of the later accretions.

Treatment

The principal panel (Plate 6b, p.35)

The large panel, showing the *Virgin and Child with Saints Jerome and Sebastian* (*The Madonna della Rondine*), was subjected to exhaustive cleaning tests. Various solvent mixtures were applied to different areas of the picture, small cotton wool swabs being employed. After testing, the surface dirt on top of the varnish was removed with a dilute form of potassium oleate soap (Vulpex). The greater part of the old varnish, dirt and retouchings was removed with a mixture of propan-2-ol or acetone, diluted with white spirit, and in some areas, dilute ammonia. For the areas of gold, ethyl acetate was used.

After the removal of the varnish, it was possible to be sure that the painting was indeed in very good condition. Some areas could be seen to have suffered some paint shrinkage, resulting in many minute pitted losses, visible only under magnification. The areas affected in this way were the book of Saint Jerome, and red areas of the Virgin's clothing, Saint Sebastian's clothing, and the fruit and the marbled parts of the composition. Some fading also seems to have occurred, particularly in Saint Jerome's light-coloured shift and in the reds of his companions. The azurite of the Virgin's robe, and also the gold decoration on it, was worn; fortunately the remains of the mordant made possible the reconstruction of the design.

It could now be seen that the painter had inscribed a number of small dots in order to aid in the execution of the straight lines behind the Virgin's head (Fig.9). Gold was used extensively in the background hangings, clothing, haloes and elsewhere, incised lines being visible around the contours of the principal areas of gold, and also in and around the Virgin's veil and robe. Remarkably, silver leaf was used on the tip of Saint Sebastian's arrow, and in the coat-of-arms.

Further examination of the edges of the panel showed that, originally, it must have had a frame attached. At the bottom right edge the paint layer was seen to consist of brown paint over the vermilion border, in turn over gold. This gold would have been applied to the original frame. Since it is beneath the paint, this demonstrates that the frame was fixed.

After cleaning, panel work was carried out, the cradle and battens being removed. The cracks, seven on the front and thirty on the reverse, were consolidated and rejoined. The thinness of the panel made it necessary for it to be built up with a layer of open net hessian in wax-resin and two layers of balsa wood. These were covered with canvas impregnated with wax, offering a

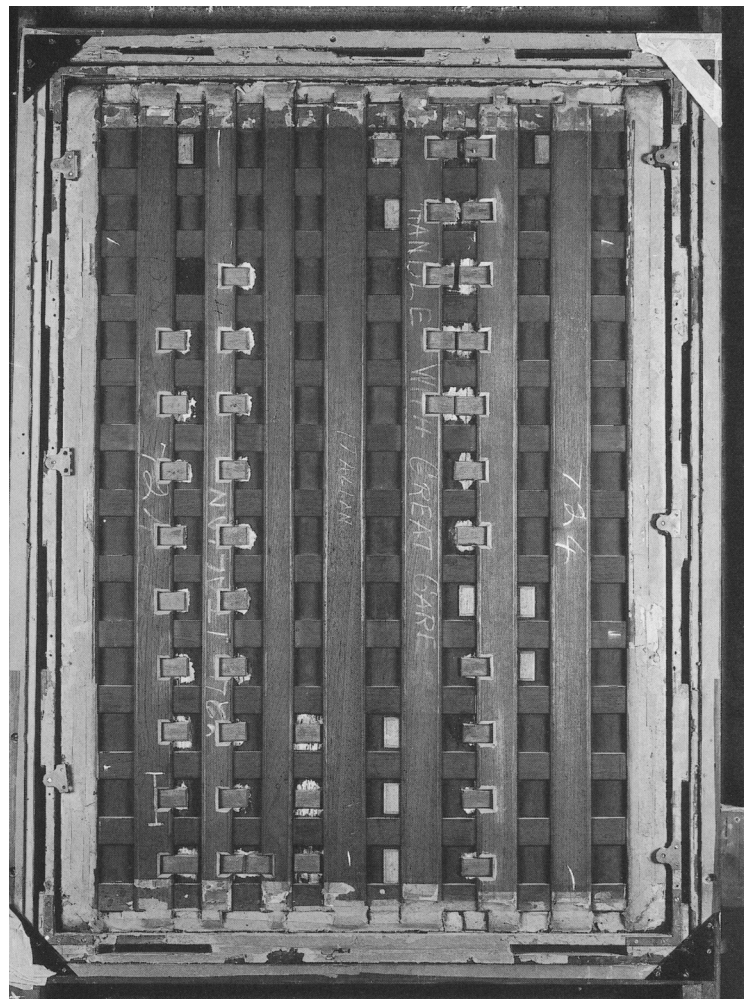


Figure 5 The back of the panel with its cradle, before treatment.

Plate 6 Carlo Crivelli, *Altarpiece: The Virgin and Child with Saint Jerome and Saint Sebastian* (*The Madonna della Rondine*) (No.724).

- (a) The predella, after cleaning and before restoration.
- (b) Detail of the main panel before cleaning, with cleaning tests.
- (c) Upper portion of the main frame during cleaning, showing the progressive removal of later layers.
- (d) Detail of Saint Catherine on the predella during cleaning of the predella frame.
- (e) Side-view of the right-hand return of the predella frame during cleaning. The original decoration is exposed beneath later layers of gesso and gilding.

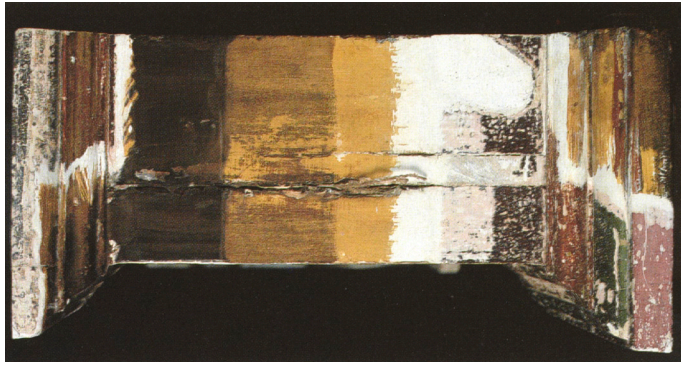


Plate 6(a–e) Carlo Crivelli, *Altarpiece: The Virgin and Child with Saint Jerome and Saint Sebastian (The Madonna della Rondine)* (No. 724). See full caption on facing page.



Figure 6 The predella, before treatment.



Figure 7 Reverse of the predella.

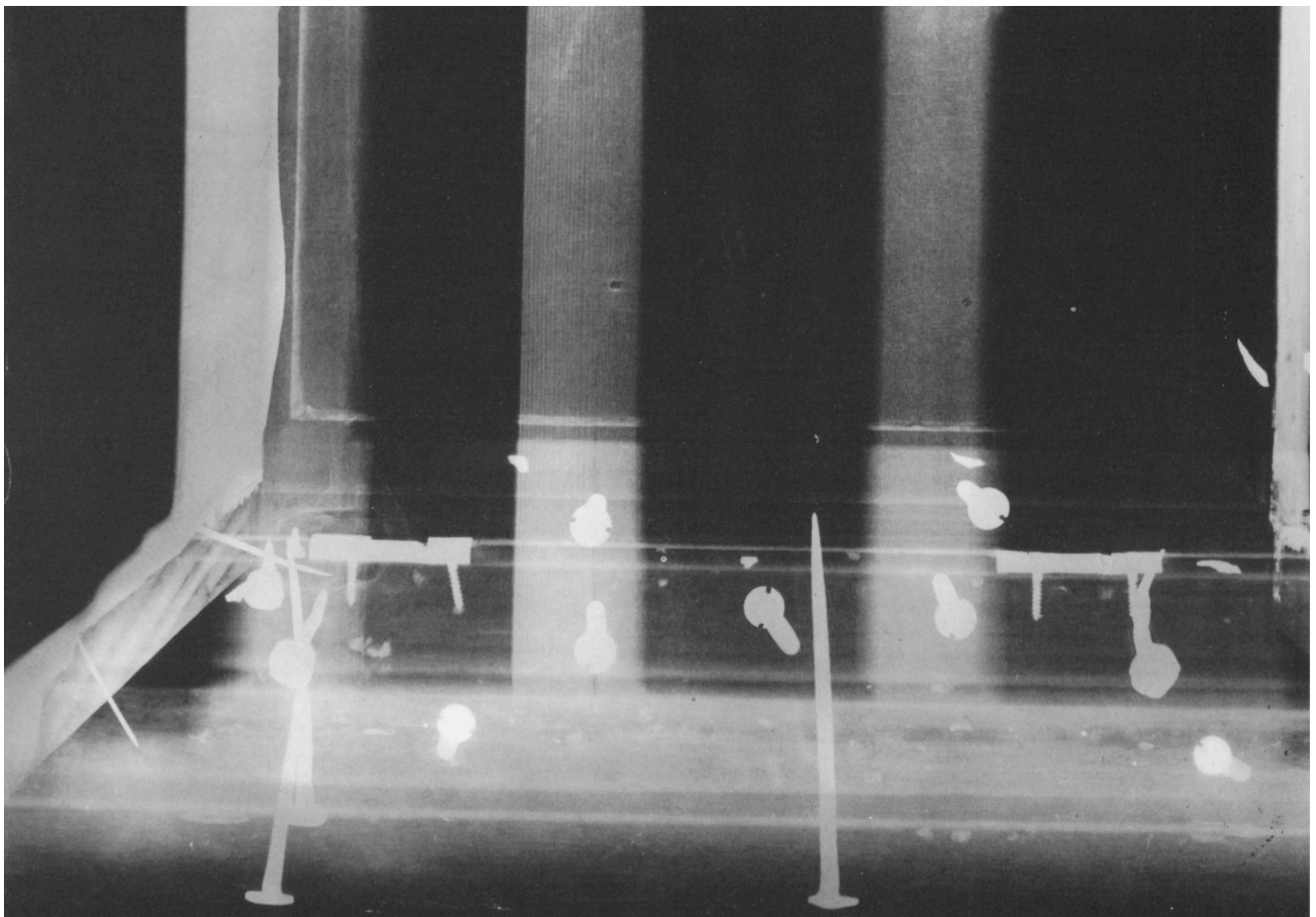


Figure 8 X-radiograph detail of the predella.



Figure 9 (Above, top) The position of inscribed points (white) marking out the parapet behind the Virgin's throne.

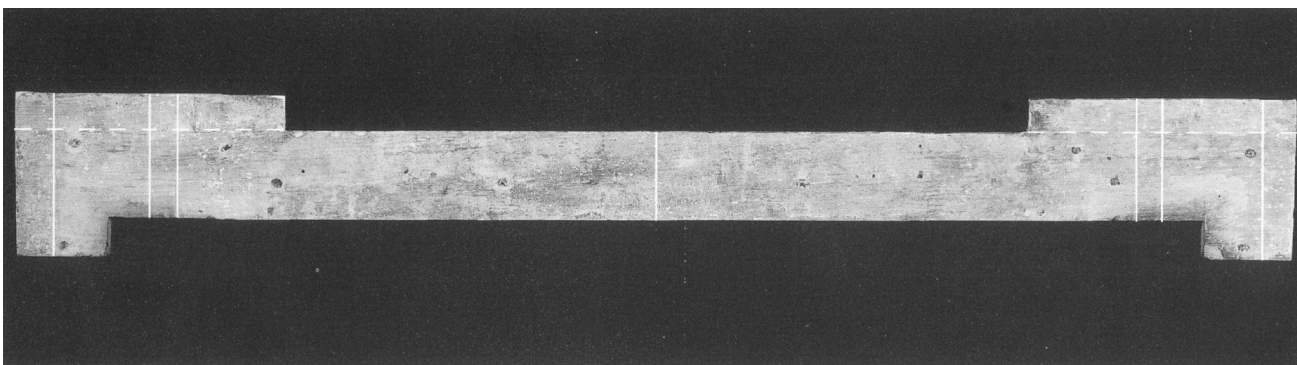


Figure 10 (Above) The incised lines (solid line) and joins in the wood (broken line) on the upper surface of the predella.

solid, light, stable support [14]. The picture was re-touched using Paraloid B72 and varnished with Ketone-N. On the gold, Paraloid B72 and gold powder were used. Losses in the gold background were restored with bole, gold powder and gelatine.

The predella: paintings and frame

The main frame was removed from the predella frame. X-radiographs (see Fig.8) showed that the predella was held together with old, hand-beaten nails, some as small as 1 in. and some as large as 5 in. in length. The nail causing the crack visible in Fig.7 helped attach part of the frame to the main predella panel.

It was decided to clean the frame before the picture, to protect the latter from debris. Plate 6d (p.35) shows the removal of nineteenth-century gilding on the front, in the area of the nail. The first layer of dirt and toning readily came away with moisture. The second layer consisted of oil gilding, which was removed with acetone. Third came a layer of yellow bole with some of the medium (perhaps shellac) for the gold layer remaining in it. This was softened using acetone and water. Beneath this was a white gesso layer and, finally, a fifth layer of pink-tinted gesso. These were removed with alternate use of damp swabs of cotton wool and by scraping.

Beneath these accretions, the remains of the original gold extending to the edge of the panel depicting Saint Jerome was exposed. Working towards Saint Catherine, a red panel painted with vermilion was uncovered. The borders of the pictures were found to be finished with a vermilion line abutting the gold leaf of the frame. The moulding below Saint Catherine (Plate 6d, p.35) was then cleaned revealing more gold, then a band of green marbling, and finally, a band of pink marbling. Both the returns of the predella were cleaned to reveal brown

marbling, in imitation of porphyry (Plate 6e, p.35). On the top moulding of the predella a discoloured layer of what was probably tin leaf was uncovered (Plate 6a, p.35). No trace of an original finish survives on the top plane of the predella, bare wood being exposed. This area is often left uncovered in fifteenth-century altarpieces. It showed the incised lines used for marking out the proportions of the predella (Fig.10).

The remainder of the frame was cleaned by the same method. The only new additions to be found were the replacement of the moulding on the bottom left side of the predella. In the corner where the main plank meets the red side of the Saint Catherine panel, there is a $\frac{1}{4}$ in. gap. This is too large to be the result of expansion and contraction, and suggests either that a piece of wood had been lost or that someone excavated it. The vertical grain of the Saint Catherine panel can be seen in the gap.

The paintings in the predella were then cleaned in the same manner as the main panel. The dirt and varnish were easily removed. The true condition of these paintings is documented in Plate 5 (p.31). With the exceptions of the vertical damage through the *Nativity* (perhaps caused by liquid running down the picture behind the glass which was once fixed in front of it), and the small scattered splash-like losses (possibly caused by hot wax), they are in good condition.

The crack in the wood was relaxed, realigned and consolidated to hold it in its existing position, in order to stop further shrinkage of the exposed edges with a possible lengthening of the crack. No attempt was made to remove the nail, although the end was straightened to allow better impregnation of the consolidation material.

The restoration was carried out in Paraloid B72. Ketone-N was used as the varnish. The tin leaf area and top of the predella were left almost unrestored (Plate 6a, p.35).

Treatment of the principal frame

Christine Powell

As examination progressed it was found that the original finish had become quite worn, with the red bole which lay beneath the gold exposed in some areas. It was perhaps this wear that prompted an earlier decision to 'restore' the frame. In addition to the repainting of the blue areas surrounding the carved decorations, the brown sides, red inner edges and marbled pieces at the end of the entablature, as well as the original gilding, had been gessoed over and mordant gilded. Although this gilding would have been originally bright, it would have been less so than the water gilding employed in the fifteenth century.

The application of gesso over the original carved and gilded areas clearly resulted in loss of detail. It was found also that the nineteenth-century overpainting and gilding neither strictly followed the original colour scheme, nor did it restore the gilded areas to their original lustre.

Nevertheless, the later gesso had bound firmly to the exposed bole and painted areas, making the removal of over-gessoing a difficult and time-consuming process. The mordant gilding had formed a tough and resilient film which had to be softened by the application of solvents before the gesso could be removed. This done, there began the laborious process of mechanically removing the gesso, taking care not to lift or scrape the original [11]. Gesso *can* be softened with water but this also softens the original gesso below, with the risk that it will pull away. Dry scraping is sometimes more desirable, although in effect at times one has to 'cut' away the later gesso from the original (Plate 6c, p.35).

After removal of the modern gesso and paint, the condition of the frame was found to be as described below.

The entablature

The gilding was quite worn with much bole showing through, but a rich metallic quality still remained. There was some bad abrasion, mainly to the right, and some scrapes and pitting of the gesso surface. Both cornice returns had bad repairs, with putty used to fill old nail-holes. The marbled return of the frieze was damaged. The one on the left had been lost and replaced with a mahogany piece without its being marbled. The blue background of the carved frieze was in good condition with little paint losses. Red paint on the lower edge of the architrave showed tiny spottings of gesso below it. Gaps and minor splits, due to shrinkage or bad reconstruction, were in evidence throughout the entablature.

Pilasters

In much worse condition than the gilding on the entablature and badly worn in areas, with much gesso showing. The gesso was pitted and worn, with some gesso infills. There was worm damage in some areas which had resulted in wood loss on the surface. The blue background on the right pilaster showed considerable white spotting due to paint loss. The blue paint on the left pilaster was in better condition. The brown paint on the outer returns was sound apart from small flake losses

The colour plates on p.39 opposite refer to the article on C.D.Friedrich's *Winter Landscape* (p.44) and to 'Ultra-Violet Filters for Artificial Light Sources' (p.61).

Plate 9 C. D. Friedrich, *Winter Landscape* (No.6517). Photomicrographs of paint cross-sections, photographed in reflected light under the microscope at 480 × (a) and 540 × (b). Actual magnification on the printed page shown opposite.

(a) Pale mauve sky, upper left edge.

The sky paint consists of a single layer of grey-blue smalt and lead white, with a few particles of red iron oxide and carbon black. The ground beneath comprises two layers: both consist of a mixture of lead white and chalk with some umber and ochre. The upper layer contains a lower proportion of earth pigment, and consequently is lighter and cooler in tone.

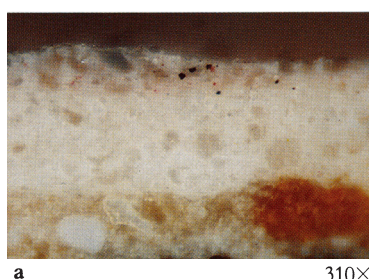
(b) Greenish brown grass, lower edge.

No ground is present in the sample. The grass is painted directly over the snow in the foreground. The snow is painted in lead white and pale grey smalt, which appears as translucent angular particles in a white matrix. The paint of the grass is a complex mixture of smalt, Naples yellow, bone black, ochre and perhaps also some Prussian blue.

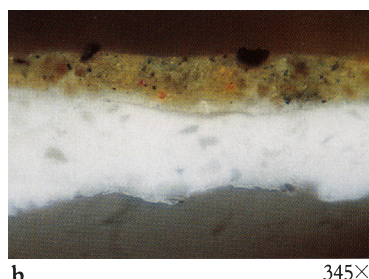
Plate 7
C.D. Friedrich, *Winter Landscape* (No.6517), after cleaning and restoration.



Plate 8 Detail of the upper left of No.6517 during cleaning.



310×



345×

Plate 9 C.D. Friedrich, *Winter Landscape* (No.6517), paint cross-sections. Full caption on facing page.

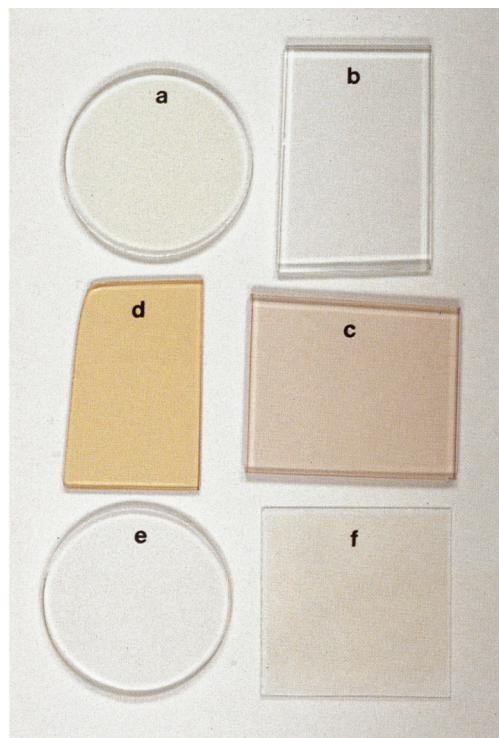


Plate 10 Six of the heat resistant ultra-violet filters detailed in Table 3 (p.66) photographed against a white background (a) Bausch & Lomb thin-film dichroic filter (b) Window glass (c) Schott Oralan glass (d) Schott Uvilex 1 glass (e) Borosilicate glass (f) Balzers thin-film dichroic filter.

of various sizes. The red paint on the inner returns was in good condition.

Pilaster capitals

Worn, with much bole and gesso showing. Some missing gesso.

Pilaster bases

The gilding was worn with much bole and more gesso showing than gold. Gesso infills were in evidence.

It was found that the entablature was the best preserved part of the frame, probably because of its inaccessibility. It was decided to restore the other areas to that degree.

The whole of the frame was treated with water and swabs to clean the surface of any dirt and traces of nineteenth-century gesso or size. Any remaining mordant size and gesso and dark blue paint were scraped away. Bad earlier repairs were removed.

Areas of gesso wear and damage were carefully filled with new gesso and smoothed. Bole was made to match the colour of the original. Major areas that showed white were carefully in-painted around the original gold, only painting over the original bole where it was worn thin. This produced a red dominated frame, and, therefore, gold was applied where needed, with care taken to overlap the original gold as little as possible. The new gold was distressed in order to be in harmony with the original but still distinguishable at close inspection.

In areas where worm had eaten at the surface of the frame, the wood was pared back and new pieces of poplar glued and inserted. These were in turn gessoed, boled and gilded to match the rest of the frame.

A new piece of poplar was cut for the left-hand return of the entablature, gessoed and marbled like its opposite. The most disturbing losses in the painted areas were retouched using Paraloid B72 and vanished with Ketone-N.

The frame had clearly been dismantled in the past (see above), reconstructed and re-backed. The sight moulding part of the frame that would originally have been attached to the panel had been lost. This conclusion was confirmed by traces of gilding and bole which were found at the edge of the main panel, where the gesso of the panel rose to cover the original (now lost) moulding.

A new moulding in keeping with the rest of the frame was made and gessoed. This was boled and gilded to be in keeping with the original gilding on the frame and panel. The new moulding was fixed to the frame but not to the panel [12].

Conclusion

Alistair Smith

The restoration of the *Madonna della Rondine* is remarkable in that it involved the cleaning of the frame as well as of the paintings. The removal of varnish on the paintings now allows greater visibility of the crispness and precision of Crivelli's technique. The full richness of Crivelli's colour is also now revealed. We are now able to agree, with full evidence, with the assessments of the painting by Mündler ('A matchless specimen of C. Crivelli's finest stile'), Eastlake ('very fine') and Morelli ('stupenda opera').

Crivelli died in 1493, and the Ottoni altarpiece is thus classifiable as a late work. The works of the artist's late period are generally recognized as being less energetically executed than the few early works extant, and there have been suggestions of studio intervention in some works. The central panel of the altarpiece would, nevertheless, appear to be executed by the same, high quality, hand throughout. There is, of course, a great contrast with the work in the paintings in the predella, probably because of the disparity in scale, subject-matter and function. Indeed, the contrast between the elaborate decorative finish of the main panel, and the lively action scenes, set in deep perspective, in the predella, is marked. This difference is as much psychological as technical, the narrative scenes displaying extraverted vigour while the inhabitants of the main panel are subdued and isolated from one another in the characteristic Crivelli way.

The cleaning of the main frame and predella frame has equally revealed the original finish of both, with the exception of the upper plane of the predella which revealed no original gold, tin, pigment or gesso. The main frame has been found to be all of one piece, in terms of materials and execution, yet it cannot be entirely verified that it was the original frame of the altarpiece, although it has been found to be aesthetically satisfying [13]. Most remarkable is the contrast with the framing of the predella with its mouldings finished in gold, green marbling, pink marbling and tin leaf, with the returns painted in porphyry imitation. Nothing like this seems to exist in other frames now around paintings by Crivelli and further research in the area is clearly necessary.

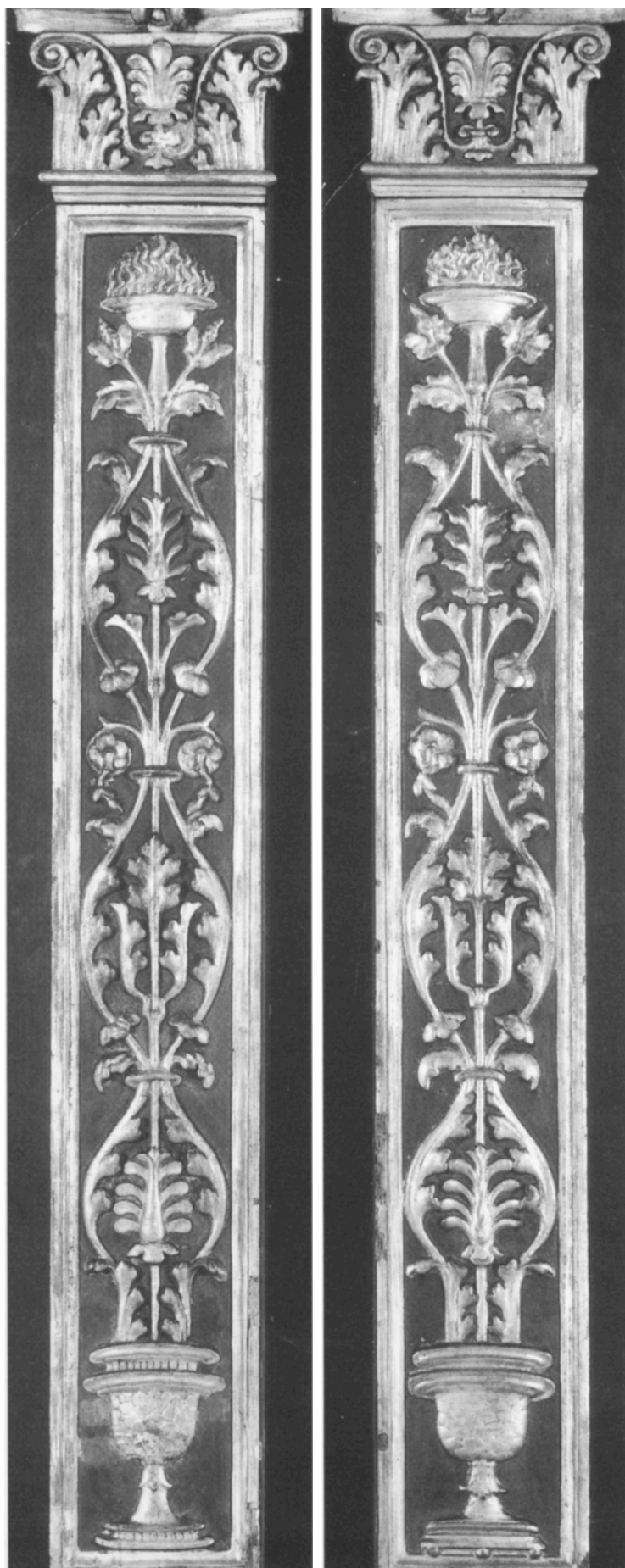


Figure 11 The two pilasters of the main frame.

Appendix 1:

The carving on the pilasters of the frame

Christine Powell

During restoration it was noticed that the carvings on the two pilasters of the frame showed marked differences (Fig.11). These appear to be caused by each column being worked on by a separate carver. The differences generally were that of form, fullness, relief and size of ornament, and seem too minor to be deliberate variations. Even the more obvious differences seem more likely to be due to the individual carver's personal interpretation or variation of a design. The principal differences are given in the Table.

<i>From bottom to top</i> <i>Left pilaster</i>	<i>Right pilaster</i>
No balls on base of vase	Three balls on base of vase
Fluting on base of vase	No fluting on base of vase
Fluting on top of vase	No fluting on top of vase
Higher relief foliage	Lower relief foliage
Regular flat first feature	Fuller rounded first feature
Fuller leaves and petals where foliage is bound	Softer flatter leaves and petals
Narrower higher relief second feature	Wider flatter second feature
Flowers tilt down and buds full	Flowers do not tilt, buds are flatter
Fuller petals	Flatter petals
Sharper raised third feature	Flatter softer third feature
Seed pods with seeds	Very slight evidence of seeds in pods
Higher relief flaming torch	Low relief torch
Different handling of flames	

Other altarpieces of the same period show slight differences of a similar nature.

It is interesting to note that in Crivelli's *Annunciation* (No.739; Fig.12), the Virgin is framed by the architecture of the door frame. There are distinct variations in the decoration of the two pilasters, although the two at first appear identical. It seems likely that the painting depicts an actual state of affairs, as exemplified by the Ottoni altarpiece frame, and many architectural examples.



Figure 12
Detail of the painted
pilasters in Carlo
Crivelli's *Annunciation*
(No. 739).

Appendix 2:

A summary of some aspects of the materials and technique of the central panel and predella frames

Aviva Burnstock

Variations in the thickness of the wooden structure, and the asymmetry of the carved detail which decorates the front of the main frame, initially led to speculation that parts of the frame were executed at different times by different hands. However, these inconsistencies are not apparent in the materials and techniques used for the frame. The pigments and application in the painted parts are consistent on the left and right sides of the frame. The same is true for the predella frame. Similarities in the materials and techniques used for the frame and predella make it likely that they were executed at the same time, although not necessarily by the same hand, as suggested by Christine Powell above (Appendix 1).

The blue background to the carved and gilded parts of the frame consists of a mixture of indigo and lead white painted directly on a gesso ground (calcium sulphate). Over the indigo and white layer are the remains of an azurite layer which contains large bright blue particles, which are poorly bound to the layer beneath. The green lower edge of the predella frame contains the same indigo and white underpaint as the blue background of the frame. The marbled surface paint here comprises a layer of an artificial copper green pigment mixed with lead white, bearing a discontinuous green glaze also containing copper. The solid green pigment is interesting. EDX analysis showed only copper and chlorine in any quantity in a sample, while XRD analysis suggested a mixture of basic copper chlorides (perhaps paratacamite and calumetite). These would have been synthetic green pigments occasionally used in place of verdigris or malachite.

The gilding on the frame is carried out in a conventional manner, with reddish orange bole beneath the gold leaf.

Vermilion is used extensively in parts of the frame and predella: it is mixed with black for the brown outer edges of the frame and for the undermodelling of the marbling on the outer edges of both the frame and predella. Vermilion forms the border between the scenes on the predella and on the inside edges of the frame.

Both the outer edges of the frame and predella show areas of greenish brown marbling. The technique used is similar in each case, with a warm brown underlayer of vermilion and black with either a layer of a copper green or a red lake pigment mixed with white as the surface paint. A green glaze has been applied in places to produce a marbled effect.

The uppermost edge of the frame of the predella bears a damaged dark brownish black layer over the gesso ground. Analysis by LMA and EDX showed a high concentration of tin as the only detectable element in a sample, while XRD analysis gave powder patterns in agreement with brown tin (I) oxide (romarchite) as one of the phases present. It is assumed that this material represents the product of oxidation of metallic tin foil applied to the upper edge of the predella frame as part of its original decoration. A cross-section showed the

presence of some remaining unchanged metal beneath the degraded surface. By contrast, the point of Saint Sebastian's arrow on the main panel was found by EDX analysis to be true metallic silver, surprisingly untarnished.

Notes and references

1. DAVIES, M., *The Earlier Italian Schools: National Gallery Catalogues* (London 1961), p.158, No.724. Davies describes the painting as, 'an altarpiece complete in its original frame', although some doubt might have been maintained.
2. ZAMPETTI, R., *Carlo Crivelli* (Florence 1986), p.17.
3. LANZI, L., *Storia Pittorica della Italia*, Vol.II, Part I (Florence 1795–6), p.15.
4. RICCI, A., *Memorie storiche delle arti e degli artisti della Marca di Ancona*, Vol.I (Macerata 1834), p.214.
5. 'The Travel Diaries of Otto Mündler, 1855–58', edited and indexed by Carol Togneri Dowd; introduction by Jaynie Anderson; foreword by Burton B. Fredericksen in *The Walpole Society*, 55 (1985), p.249.
6. The exact location of the altarpiece has not previously been recorded in the literature. By 'third chapel on left wall', Eastlake meant the third chapel at the left when viewed from the high altar. (Eastlake Notebooks, National Gallery Archive.)
7. ZAMPETTI, *op. cit.*, p.296.
8. CAVALCASELLE, G.B. and MORELLI, G., 'Catalogo delle opere d'arte nelle Marche e nell'Umbria (1861–62)' in *Le Gallerie Nazionali Italiane*, Anno II (Roma 1896), p.325. Morelli's note is dated 17 May 1861.
9. National Gallery Archive.
10. National Gallery Archive.
11. This part of the work was carried out by Beth Hatt of the National Gallery Framing Department.
12. The new moulding was made by Brian Eastwood, Framing Department.
13. ZAMPETTI, *op. cit.*, p.296.
14. This technique is fully described in SMITH, A., REEVE, A. and ROY, A., 'Francesco del Cossa's "S. Vincent Ferrer"', *National Gallery Technical Bulletin*, 5 (1981), pp.47–54.