



This essay is excerpted from *Prayers and Portraits: Unfolding the Netherlandish Diptych*, Copyright © 2006 Board of Trustees, National Gallery of Art, Washington, available November 2006.

TECHNICAL EXAMINATION HAS BEEN A VITAL COMPONENT OF OUR plan since an exhibition on the Netherlandish diptych was first conceived in 1997. We hoped — and expected — that material and technical findings would answer basic but essential questions about the production, original use, and subsequent history of these objects. Our first goal was to gather as much information on individual works as possible, and we felt encouraged when our efforts revealed significant new information on several paintings. In addition to this general approach, we had specific questions. First, because so many diptychs have been dispersed over time, a fundamental issue was establishing whether two now-separated panels were once attached to one another. Second, we needed to determine if currently paired panels retained an original relationship or if they had been joined later. Third, if two paintings did form an original pair, could we demonstrate that they constituted a folding diptych or were autonomous pendant paintings? Were they hung on a wall or displayed in another way? Are there clues that the paintings were meant to be seen at a particular, ideal angle when opened?

Initial examinations in a number of cases revealed surprising differences in the method of production between two paired paintings, which led us to formulate the working hypothesis that such works were probably produced at different times, possibly by different hands. By extension, if one image from a popular pairing appeared in greater numbers than the other panel — for example, the Virgin and Child from a devotional portrait diptych — we surmised that the more frequently recurring image could have been produced “on spec” for the open market, with a client later commissioning a portrait panel to complete a diptych if desired. Hence a fourth research goal was to look for indications that some of these paired pictures might have been painted in a staggered or “phased” process of production.

A collaborative research grant from the Getty Foundation allowed a research team of four to examine and document twenty-five pairs of paintings, fourteen single panels that were thought to have once been part of diptychs (many of them now dispersed), as well as one autonomous panel that influenced the subsequent tradition of Netherlandish paired paintings. Ideally, we would have examined such a large group of pictures with the same equipment under identical conditions, but that was not feasible because we had to travel to see many of the paintings on site. Thus the selection of the works studied was made on pragmatic grounds. For reasons of efficiency and economy, we focused our resources on those collections that house relatively large numbers of diptychs or diptych wings

and that have research facilities. We started at two of the organizing institutions: the Harvard University Art Museums in Cambridge, Massachusetts, and the National Gallery of Art in Washington, DC. We also worked at the Koninklijk Museum voor Schone Kunsten in Antwerp; the Staatlichen Museen zu Berlin, Gemäldegalerie; the Museo Nacional del Prado and the Museo Thyssen-Bornemisza in Madrid; the Stedelijke Musea in Bruges; and the Philadelphia Museum of Art. A number of works from other museums and from private collections were transported to the Stichting Restauratie Atelier Limburg in Maastricht and to the Straus Center for Conservation and Technical Studies at Harvard to be studied and documented there.

Most of the tools used in our investigation have gained long-standing recognition in the field of technical art history. We requested or commissioned x-radiography in advance of our travels so that we would have this reference material available during examinations. Peter Klein performed new dendrochronological analyses and shared earlier findings with us. Whenever possible, the paintings were unframed for our study. We scrutinized the paintings in good light, along with their frames and reverses. Two members of the team, Catharina Van Daalen and Adriaan Verburg, documented the works using infrared reflectography and relatively high resolution digital photography, in both the visible and the infrared regions of the electromagnetic spectrum — the latter being a recent innovation in the field.¹ The other two team members, Catherine Metzger and Ron Spronk, concentrated on visual inspections and on study of the works with the binocular microscope (for a complete record of this research on paintings in the exhibition, see the technical appendix later in this catalogue).

Based on painstaking examinations, extensive documentation, and meticulous review and double-checking of the data, we can offer several general observations about material aspects of Netherlandish diptychs and their production. These findings have implications regarding the practical use of the objects as well as the processes of their design and execution. In some cases, we found clear indications for workshop participation in the production and for close involvement of the donor in the final appearance of the work.

As described in greater detail in the preceding essay, a diptych consists of two hinged panels of the same size that fold open and closed like a book. Because the main imagery is visible only when the diptych is opened,

the format provides inherent protection. The reverses of both wings in a folding diptych are typically also painted, though often with secondary imagery such as coats of arms or marbling.² The two general exceptions, both of which appear to have been less common, concern relatively large or relatively small objects. Large “stationary” diptychs had only one moving panel, painted on both sides, while the other wing was affixed to a wall and had a reverse that usually remained roughly finished and unpainted. Such works would serve as altarpieces or epitaphs in public settings. With respect to one of the smallest works we studied, the Berlin Annunciation diptych by the Master of 1499 (cat. 20), the reverses have smoothed surfaces coated with a monochrome black paint but no ground layer. A *Virgin and Child* attributed to the Master of the Magdalen Legend (the left wing of cat. 23) was also treated this way,³ while the exterior of the book-shaped diptych with a *Portrait of a Man* and *Portrait of a Woman* attributed to the Master of the Benson Portraits (cat. 18) has similar surfaces. The latter panels we believe may have had a leather or cloth binding.⁴ Although small diptychs without decoratively painted reverses might have been designed for permanent display, it is equally possible that some were intended as hand-held, portable devotional aids and may have had decorative material such as leather, velvet, or brocade on the reverses. In any case, the great majority of folding diptychs had paintings on all four surfaces, which is an important factor in distinguishing diptych panels from pendant paintings.

The construction methods that we observed in the wings of diptychs correspond to the prevailing practices for other early Netherlandish panel paintings, the only difference being that the two panels were attached to one another by means of two metal hinges. Shallow recessed areas carved into the sides of adjoining frame members typically accommodated hinge plates that lay flush with the surface of the frame and allowed the diptych to be fully opened and closed while the hardware remained inconspicuous when the ensemble was open. The lacunae thus reveal the location of hinges even if the hinges have been removed. Some wood also had to be carved out of the edges of the frames immediately above the hinges to allow for the insertion of hinge rods.

The structure of Netherlandish panel paintings is relatively consistent throughout most of the fifteenth and sixteenth centuries. The manufacture of the panels and the frames required specialized skills, and it is assumed that a woodworker rather than a painter would have produced these.⁵ Support panels were made of oak imported from the Baltic region, which can be dated with dendrochronology (or tree-ring analysis).

Larger panels consisted of multiple boards glued together, with the joins often reinforced by dowels. The direction of the grain usually follows the largest dimension of the panel, which in our examinations was always vertical (we saw no horizontally oriented diptych wings). Until the end of the first quarter of the sixteenth century most Netherlandish paintings were framed before the painting process started, and this does not seem to have been any different for diptych wings. After a support panel arrived at the painter’s workshop, it was covered with a paste of animal glue and chalk (calcium carbonate) to provide a light colored, smooth surface for the paint layers. An underdrawing was often executed on this ground layer to lay out the main forms of the composition. This underdrawing can often be detected with infrared photography or, achieving better results, with infrared reflectography. The highly absorbent ground layer was often coated with an intermediate layer that functioned as a sealant, which could lie either under or over the underdrawing. The actual paint layers consist of an underpainting, over which the final paint layers and medium-rich glazes were applied. X-radiography was used to study the buildup of the paint layers, although infrared studies can also be informative in this regard. The precise nature of the layers of paint in a specific area of a picture can be determined through the study of paint cross sections.⁶

DIPTYCH FRAMES

The construction of the frames provides vital information about the works in question, and twenty-nine of the sixty-five panels we studied still had some or all elements of their original framing (see cats. 3, 8, 18, 19, 20, 21, 23, 24, 26, 28–32, and p. 10, figs. 6A,C). Following standard production methods for Netherlandish panel paintings, different types of frames were used for diptychs, generally depending on the size of the panels. The frames and support panels of small diptychs (less than about 30 cm high) were usually carved out of a single plank, with this “integral” frame having a raised profile only on the front of the panel and a flat surface on the reverse. Occasionally larger diptych panels with an arched top, such as the Aachen *Ecce Homo* and *Mater Dolorosa* (cat. 3), had integral frames, and the use of integral frames continued well into the sixteenth century. Indeed, sixteen of the twenty-nine panels with any remnant of original framing had integral frames (see cats. 3, 18, 20, 21, 23, 24, 28, and 30).

Diptychs with two-sided integral frames do exist, with raised profiles on both front and back of the panels. For the *Virgin in the Church* and *Abbot Christiaan de Hondt* now in the Koninklijk Museum voor Schone Kunsten in Antwerp (cat. 21), each wing was made from a single oak plank, arched at the top, and integral frames project at the front and back of both panels. All four surfaces are fully finished, and the frames are elaborately painted as imitation stone. Two-sided integral frames are also found on the Master of the Saint Ursula Legend diptych in Antwerp (cat. 24) and on the donor wing of the Master of the Magdalen Legend diptych in a private collection (cat. 23).

Rectangular panels of medium size (30–45 cm high) or larger are usually provided with “engaged” frames, made out of four grooved pieces of wood that are placed around the edges of the panel and joined at the corners, often with tenons and pins for reinforcement (those who fashioned the frames apparently varied the type of the joinery according to whether a work would be hanging or displayed in a standing position).⁷ The four grooved members, attached to the panel before the ground and paint layers were applied, created a frame on both the front and the reverse of the panel. Even when such frames were later removed, one can recognize this type of framing by the unpainted margins on the panel’s edges (initially covered by the frame) and by the presence of “barbes,” or ridges of ground and paint between the unpainted margin and the paint surface where the frame edge and panel originally came together (fig. 9). Moreover, the presence of unpainted margins and a barbe indicate that a panel that has lost its engaged frame still has its original dimensions. Eight diptychs from which we studied one or both wings, now all dispersed, either still had their engaged frames or showed barbes at their perimeters indicating that they were originally painted inside such a frame. Of these eight ensembles, six were of medium size (cats. 15, 25, 37, 38, 40, and p. 10, figs. 6A–D), while the other two were much larger and presumably functioned as stationary diptychs (see pp. 6–7, figs. 4A–C; and Jean Fouquet’s “Melun Diptych”).

In addition to the integral and engaged frames, we encountered three other types of frames in this project, but they seem to represent rare occurrences. The wings of one relatively small work, the *Lentulus* diptych from Utrecht (cat. 29), have original “applied” frames, for which the four separately carved frame moldings were nailed onto the outer edges of the front surface of the panels. Jan van Eyck’s *Annunciation* diptych in Madrid and the *Saint Peter* and *Saint Paul* panels from Antwerp (cats. 8, 19) have “semi-integral” frames, combining integral and applied framing elements:



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vertical members of the interior frames were carved from the same plank as the panels, but the moldings at the top and bottom, with the grain running across that of the panels, were produced out of separately carved pieces of wood. Finally, an exceptionally large portrait diptych by Bernard de Rijckere (cat. 32) has “box” frames constructed of mitered boards, which were placed around the painted panels after the painting process was completed.

The close examination of the original frame can hold crucial information for the reconstruction of a diptych. For example, our study of the frame on the *Virgin and Child* by the Master of the Saint Ursula Legend in Harvard’s Fogg Art Museum has definitively confirmed the proposal that the panel originally functioned as the left wing of a folding diptych, adjoining the portrait of *Lodovico Portinari* in the Philadelphia Museum of Art (see figs. 6A, B). The frame on the portrait of *Lodovico Portinari* has been lost, but the engaged frame on the Fogg’s *Virgin and Child* is clearly original.⁸

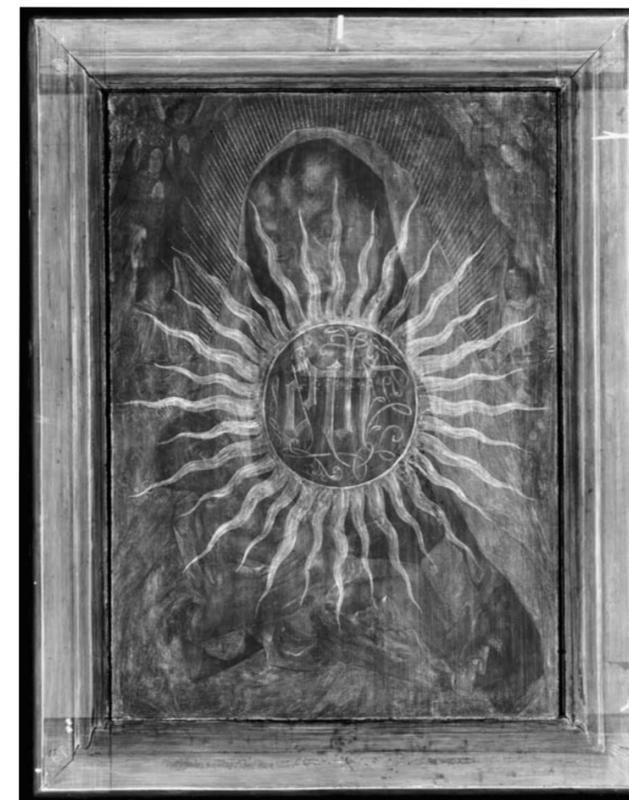
FIG. 9
Macrograph of left edge of *Joos van der Burch and Saint Simon of Jerusalem* (cat. 40), showing unpainted margin and barbe



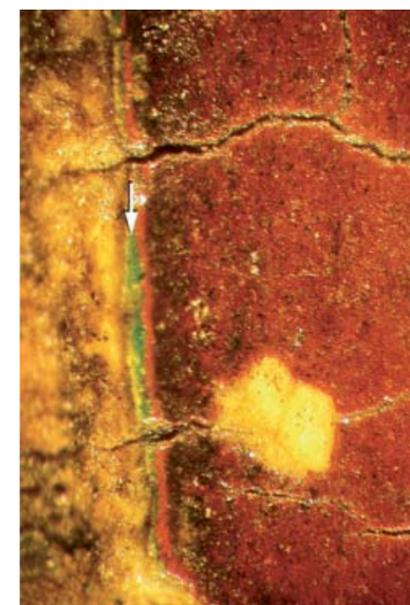
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Its method of construction is fully comparable with that of other frames from the period. Although the support panel has shrunk considerably over time, and relatively broad strips of unpainted wood have become visible at the top and lateral edges within the frame, there can be no doubt that the panel was painted within this frame: traces of the red dots on the gilded background of the panel can be observed on the frame using a microscope (fig. 10), and there is a corresponding topography in the break between the paint film on the panel and that on the frame. Knowing that the frame is original, it becomes significant that there are two slots carved for hinges in the right frame member. The hinges are now missing but were attached with hand-forged nails, some of which are still visible in the x-radiograph (fig. 11). The x-radiograph also reveals corrosion from a nail hole just below the vertical center of the left frame member, which must have served to attach a closing device. This nail was hammered “horizontally” into the left outer edge of the frame, parallel to the support panel—an important indication that the panels originally constituted a diptych, for only that format would be closed by a hook and eye placed on the outer edges of the wings’ frames. (The wings of a triptych, which close side by side like window shutters, would have closing devices on the reverse faces of the frame, attached with nails hammered perpendicular to the support panel.)⁹ The decisive evidence linking the Fogg’s *Virgin and Child* with Philadelphia’s portrait of *Lodovico Portinari* was found during our examination of the reverse of the latter, where ample remnants of a green paint appear on the outer perimeter of the crimson background (fig. 12) that are identical to the color of the inner bevels of the frame on the reverse of the *Virgin and Child*.

FIG. 10
Macrograph of top edge of the Master of the Saint Ursula Legend, *Virgin and Child* (p. 10, fig. 6A), showing background dots overlapping frame



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FIG. 11
X-radiograph of the Master of the Saint Ursula Legend, *Virgin and Child* (paint on the reverse also registers)

FIG. 12
Micrograph of left edge from the Master of the Saint Ursula Legend, *Coat of Arms of the Portinari Family* (p. 10, fig. 6B), showing remnants of green paint

We also had the opportunity to examine briefly the engaged frames of two diptychs that are still fully intact: Hans Memling's *Virgin and Child with Maarten van Nieuwenhove* (cat. 26) and Jan Provoost's *Christ Carrying the Cross with the Portrait of a Fifty-four-year-old Franciscan* (cat. 31). Both are medium-size half-length devotional portrait diptychs (measuring roughly 50 × 40 cm, including the frames). The molding profiles of the frames differ from one diptych to the other, but all surfaces of both pairs were covered with either paint or gold leaf. There are differences in the ways the joins were constructed, however, which may hold information on the practical handling of these works. The joins of the frame for the Provoost diptych have horizontal tenons secured with pins, similar to the construction of frames for the wings of triptychs, and may imply that the panels were meant to be hung. The frame for the Memling diptych is more complex: joins at the top corners are half-mitered and half-overlapped, without tenons, whereas joins at the bottom are mortise-and-tenon, with vertical tenons secured with pins.¹⁰ Vertical tenons are typically found in the frames of the central, standing section of a triptych and may signify a standing display for the Memling.¹¹ The lack of tenons or pins in the upper joins on the Memling point to a non-supportive role there as well.

The different moldings used on the frames for the diptychs by Memling and Provoost may reinforce the suggestion of distinct uses for the two works. The interior frames of the wings of both diptychs have identical profiles: a flat field between concave profiles, with a sloping bottom molding for the Provoost; and a concave curve between two convex elements for the Memling.¹² The exterior frames were treated differently, however: there are identical moldings for both halves of the Provoost (flat with a short beveled edge); but there are dissimilar moldings on the two exterior frames for the Memling (the reverse of the *Virgin and Child* framed in a flat profile with no beveled edges, and the reverse of the donor wing framed in a flat profile with a beveled interior edge at the bottom). Verougstraete and Van Schoute have suggested that this subtle distinction in the Memling told the user which wing to open, an idea they based on the strikingly different perspective systems for the interior panels.¹³ It must be emphasized that much evidence has been lost over time, and it is not clear how much we should infer from so few remaining original frames. Yet we hope these hypotheses will invite further study.

The technical examination of original frames can sometimes document changing tastes and fashions. The wings of the large De Rijckere portrait diptych (cat. 32) from 1563 are still housed in their original box frames, but probably sometime in the seventeenth century the presentation of the



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paintings changed dramatically. Originally installed as a stationary diptych—with the left panel attached to the wall and the right panel hinged so that it could fold closed over the fixed wing—the two paintings now hang separately as pendant portraits. The hinges were removed, and wooden shims were set in their places. Closing devices were also removed, although traces of their use remain visible on the edges of the frames. X-radiographs revealed that the faces of the frames had once been elaborately decorated with mordant gilded scrollwork, but the frames were

FIG. 13
Detail from the reverse of
Bernard de Rijckere, *Anna van
Hertsbeeke and Her Daughter
Catharina and Son Jan Baptiste*
(cat. 32), showing hanging
device on top of frame

covered with black paint (p. 219, fig. 1), presumably in the seventeenth century when this style became popular.¹⁴ Each panel has a hanging device that consists of a wooden shank attached by hand-forged nails (fig. 13). We are not certain if these devices date from 1563, for they are fully comparable with similar objects from the seventeenth century,¹⁵ when this diptych was modernized and made into two pendant portraits.

Only three diptychs that we studied still appear to have their original hinges—the works by Provoost and Memling discussed above and that by the Saint Ursula Master in Antwerp (cat. 24)—but because a folding diptych by definition has hinges, we expected to find evidence of hinges whenever we encountered original frames. Indeed, x-radiography nearly always revealed the nails that were used to attach the hinges or corrosion traces that indicate their earlier presence. In some cases when we did not find signs of hinges, the absence could be explained by a later alteration in a frame. In the diptych by Jan Mostaert, for example, now divided between Enschede and Madrid (cat. 28), only the inner moldings from the integral frames survive, so it is possible that existing evidence of hinges was removed when the outer edges of the frames were trimmed off. In other cases, however, the absence of hinge marks on original frames could indicate that the panels were never part of a folding diptych, especially if the reverses remained roughly finished and unpainted.

TRACES OF ORIGINAL DISPLAY

The Aachen *Ecce Homo* and *Mater Dolorosa* (cat. 3), attributed to Albrecht Bouts, present an unusual situation. Now combined to form the center section of a triptych, this configuration is not original and was most likely created in the nineteenth century. Based on our technical examination, we believe that these two images might have functioned independently or as pendant images but were probably not attached to one another. We observed significant disparities in production methods between the paintings—with respect to their ground layers as well as the technique and style of underdrawing and paint handling—and dendrochronology established a twenty-five-year difference in the earliest possible felling dates for trees that were used to make the panels. Additionally, cross sections revealed distinct restoration histories for the paintings. It seems prudent to conclude that the two paintings now framed together in Aachen were not produced in tandem. Though it is not impossible that the *Mater Dolorosa* was painted later in the Bouts workshop to be paired with an existing *Ecce Homo*, it seems more likely that the paintings were executed in the same workshop

but not associated until much later, when they were placed in the present composite frame.

The *Man of Sorrows* and *Mater Dolorosa* in the Fogg Art Museum (cat. 4), which are also attributed to Albrecht Bouts, showed significant differences in production method as well, most notably in the handling and style of their underdrawings and in the ways their gilded backgrounds were adorned with reddish dots. Yet these works have probably always been a pair. The painting technique is fully comparable for both pictures, and dendrochronological analyses established that the support panels came from the same tree.¹⁶ It is no longer possible to determine in what exact format these paired images appeared, because the pictures have lost their original frames, and their reverses were planed when cradles were applied. Yet we surmise that this and other pairings of the *Man of Sorrows* or *Ecce Homo* and the *Mater Dolorosa* functioned as pendant paintings rather than as folding diptychs, because we know of no fifteenth- or sixteenth-century examples with painted reverses.

Although we assume that most diptychs, unlike pendant paintings, were not on permanent display, it is known from inventories and pictorial sources that some did hang on a wall or at the head of a bed, possibly between devotional uses. In addition to the De Rijckere diptych, only one other work in our study still has what appear to be its original hanging devices: the Lentulus diptych (cat. 29) has metal hangers in the form of a keyhole, with a loop on a triangular base (p. 204, fig. 3). The style and placement of the hardware are typical for the period.¹⁷ The frames are worn at the locations of the metal hanging devices, perhaps a testament to its repeated use. The Lentulus diptych is relatively uncommon as a type in early Netherlandish painting, however, so we should not try to derive any general conclusions for other diptychs.

Nearly all of the original frames that we studied showed evidence of some fastening at the center of the top frame member.¹⁸ These traces—such as drilled holes with straight edges, actual nails still present, or corrosion traces of now-empty nail holes—might indicate hanging devices that were later removed, but it is impossible to determine if they were original. (We did find several examples of clearly modern interventions, such as screws and industrially produced nails, evincing more recent means of display.) When the joinery of a frame was designed to accommodate hanging (see cat. 31), with horizontal tenons to increase strength in that position, we might view traces in the top frame member as a sign of an



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original hanging device. By contrast, when the joinery appears to suggest a standing display (see cat. 26), with vertical tenons in the bottom joins, we might interpret similar traces to derive from a later alteration. Most original hardware on Netherlandish paintings has been lost over time, but the small number of original (or possibly original) hanging devices that we did find supports the assumption that most diptychs were probably not hung but laid on a pillow or stood upright on a table or altar. In these positions, the wings would not be fully opened but would rest at an angle in relation to one another, a hypothesis that accords well with other findings from our technical examinations discussed below.

FIG. 14
Rogier van der Weyden, *Saint Luke Drawing the Virgin*, c. 1435–1440, panel. Museum of Fine Arts, Boston, Gift of Mr. and Mrs. Henry Lee Higginson

EVIDENCE OF WORKSHOP INVOLVEMENT

Around the same time that the diptych format enjoyed a sharp increase in popularity, the open art market was also coming to the fore. In response to the growing demand, painters streamlined their production and marketing methods, a development that appears to have benefited diptychs especially. Workshop assistants could produce multiple versions of favorite images based on pattern drawings and stock compositions, without needing much creative input from the master painter. The predominant appearance of the Virgin and Child on the left wing of a devotional half-length portrait diptych thus allowed the shop to work “on spec” for the open market and to finish this wing relatively independently. When a client commissioned a portrait to complete the diptych, the master would become more involved. And after the panels were joined, refinements and revisions could be made to enhance the visual relationship between the two paintings—for example, in the sight lines and gestures of the main figures—usually reflecting the hand of the master. Our technical examinations revealed ample evidence for studio participation throughout the stages of production.

A *Virgin and Child* that formed a folding diptych with Joos van der Burch and Saint Simon of Jerusalem (cat. 40), both at the Fogg Art Museum, bears all the hallmarks of workshop involvement. It is one of myriad copies of a detail from Rogier van der Weyden’s famous composition of *Saint Luke Drawing the Virgin* (fig. 14). Many variations of Rogier’s *Virgin and Child* motif appeared after its introduction in the mid-1430s. Indeed, the *Virgin and Child* in Cambridge and four other close versions of the composition may have all been produced by studio assistants from a single pattern drawing.¹⁹

The left wing of a diptych by the Master of 1499, with the Abbot Christiaan de Hondt as the donor wing (cat. 21), has Jan van Eyck’s famed *Virgin in the Church* in Berlin as its ultimate source. Yet several features indicate that the Master of 1499 based his painting on a linear source, probably a drawing, not on the original painting by Van Eyck. Intriguingly, when Simon Bening used a detail from the *Virgin* for an illumination in the *Dublin Rosarium* (fig. 15), he adopted the color scheme of the Master of 1499 rather than Van Eyck,²⁰ and he depicted the Virgin with a relatively narrow crown, a change that the Master of 1499 introduced very late in the painting process (p. 288, fig. 2).

One way to transfer a model or pattern drawing to a new surface is by means of pouncing. A pattern drawing’s main contours are pricked, and the sheet is placed on the intended support. An open-weave bag with fine black powder is then repeatedly pounced on the sheet, releasing powder



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dust that passes through the holes in the paper and leaves a series of dots on the new support. These dots can then be connected and the excess powder brushed off to create a replica of the pattern drawing on the prepared surface. We found traces of pouncing in the *Man of Sorrows* and the *Mater Dolorosa* at Harvard (pp. 54–55, figs. 2A,B), both attributed to Albrecht Bouts,

FIG. 15
Simon Bening, *Virgin and Child*, facing a prayer that addresses Mary as Queen of Heaven, from the *Rosarium* manuscript (w. 9, fol. 44v–45r). Chester Beatty Library, Dublin



whose workshop is generally believed to have produced these images in remarkably large numbers.²¹ The underdrawings for the Harvard paintings as well as for an *Ecce Homo* and *Mater Dolorosa* in Aachen (pp. 44–45, figs. 3A,B) do share a general visual language but differ widely in style and execution, an indication of workshop participation.²² Interestingly, the hands of Christ in these images are sometimes underdrawn differently

than the rest of the panel, suggesting that this detail might have been added later to characterize either a Man of Sorrows or an Ecce Homo.²³

Workshop collaborations were observed not only in the underdrawings but in the paint layers as well. In the case of the Harvard *Man of Sorrows* and *Mater Dolorosa*, the same master, a superbly skilled craftsman, must have painted the flesh tones in both panels, considering their consistent painting technique and high-quality execution (pp. 54–55, figs. 1 and 3). One or both of the gilded backgrounds (which would have been completed before the figures were started) might have been done by an assistant, for the organization of the fields of dots differs dramatically between the two works; clearly they were the work of two different hands. Our examination of *The Trinity* by the Master of the Lille Adoration (cat. 22), which we believe related to the *Saint Jerome* as a pendant rather than part of a folding diptych, also revealed workshop collaboration in the underdrawings and the handling of both the background and the figures of the putti. Because multiple pairings of the Trinity and Saint Jerome apparently existed, it seems that the imagery was in demand, and it may have been worthwhile to produce the works in quantity.

Striking stylistic distinctions between the wings of the diptych of the *Virgin and Child* and *Three Donors* by the Master of the Saint Ursula Legend (cat. 24) have suggested that these panels were painted by different hands,²⁴ and the technical examination confirmed distinctive working methods for the two panels. Multiple pattern drawings might have been used to create the *Virgin and Child*,²⁵ and the resulting stock image, with its fully frontal composition and the absence of sight lines between the figures, might have functioned as an autonomous image that was later converted into the left wing of a diptych.

A small number of panels originally represented a different subject altogether, and it appears that the images were changed by the painter to facilitate their being paired with other images. The initial underdrawing for the *Mater Dolorosa* at Harvard, for instance, described a centrally placed head, in a frontal position—possibly the face of Christ or a Holy Face in the Byzantine tradition (p. 55, fig. 2 B). This face was not taken into the paint stage; instead, the artist simply superimposed the underdrawing and painting of the *Mater Dolorosa* and paired it with the *Man of Sorrows*. Another example of the conversion of existing images into the wings of a diptych is Quentin Massys' *Virgin at Prayer* and *Christ as Savior* in Antwerp (cat. 15).²⁶ In this case an earlier stage showed the Virgin wearing the somber garb

of a *Mater Dolorosa*, but she was later transformed into a more regal figure. At the same time, what appears to have been an earlier Holy Face was transformed into Christ as Savior by the addition of his hands and scepter, while indications of cropping at the left side of the panel suggest that it was trimmed to match the size of the *Virgin at Prayer* so that they could function as a diptych.

A separate category of changes, all initiated very late in the production process, seem to have served to correct or improve the patterns of communication between the figures on the two wings. These adjustments appear to be directly related to the angle at which the panels were meant to be viewed,²⁷ for we encountered them primarily in standing diptychs, which would necessarily have the wings set an angle to achieve a stable position, and in diptychs that were presumably placed on a pillow as a prayer book or held in the hands, such as Jan van Eyck's Annunciation diptych in Madrid (cat. 8). Throughout the process of painting these panels, Van Eyck appears to have made minute refinements that influence the angle at which the wings were to be viewed as well as the proximity of the viewer to the panel surfaces.

In some devotional portrait diptychs it appears that the panel with the *Virgin and Child* was to be seen frontally, while the donor panel was at an angle. This is suggested by the position of the figures relative to the viewer. Additionally, the relationship of the donors to the *Virgin* was carefully described. In the diptych of the *Virgin and Child* with *Three Donors* by the Master of the Saint Ursula Legend, for instance, we found a significant change in the sight lines between the main figures. The *Virgin* was initially painted looking to the right, toward the donors, but her gaze was later directed down toward the Christ child (p. 168, fig. 3). The final image creates a convincing circular pattern of communication, with the donors addressing their prayers not directly to the Christ child but to the *Virgin*, who looks down at the Child, who in turn looks at the donors. This change occurred late in production, perhaps only after the panels were joined.

One obviously needs to be careful in interpreting such changes. We also observed, for example, several adjustments to the sight lines in the diptych of the *Virgin and Child* and the portrait of *Diego de Guevara*(?) by Michel Sittow, now divided between Berlin and Washington (cat. 34). Yet these revisions are most likely not related to the issues of display described

above. A stone parapet covered with a carpet is depicted over both panels, and the presence of this strong horizontal element, placed parallel to the bottom edge, virtually excludes the credible display of the wings at an angle. Moreover, Sittow is known to have frequently repainted the eyes of his figures.²⁸

SIGNS OF DONOR INFLUENCE

The individuals who commissioned diptychs apparently also instigated changes, some of which were quite dramatic. On the right wing of Provoost's diptych pairing *Christ Carrying the Cross* with the *Portrait of a Fifty-four-year-old Franciscan* in Bruges (cat. 31), the monk was initially depicted in a fully furnished room. It seems likely that it was the donor himself who requested that the interior setting be painted out, perhaps in keeping with his vows of poverty, perhaps to increase the visual focus on Christ's Passion. At an even later stage the monk's head was enlarged so that it partly overlapped the new background. Infrared reflectography also revealed an early change in the underdrawing: the wrists of the donor were originally bound together with a rope that appears to have led to the bound wrists of Christ on the other panel. The rope binding Christ's hands was painted as planned, but this element was abandoned on the portrait wing, most likely reflecting the donor's wishes. An important part of the artist's conception—and seemingly related to the rebus on the frames above the images, which reads "Franciscan cords carry (or draw) the most hearts"—this detail may have created an impression that did not concur with the monk's vows of modesty.

We encountered another major revision probably prompted by the donor in Hans Memling's diptych of the *Virgin and Child* with *Maarten van Nieuwenhove* (cat. 26). The arched stained-glass window at the top left of the *Virgin and Child* had initially been rectangular with clear glass and a vertical and horizontal division, like the window to the right, but was changed to display the coats of arms of the Van Nieuwenhove family. The background landscape visible at the right had initially continued through both windows, as in a *Virgin and Child* by Memling that once functioned as the center panel of his *Triptych of Benedetto Portinari* (see p. 184, figs. 3 A, B, 4). It is conceivable that the coats of arms were first planned for the reverse of the portrait of Maarten van Nieuwenhove but that the donor later favored the present, more prominent placement.

Some changes are less obvious but still suggestive of a donor's influence over the final composition. The right wing of a diptych by Jan Mostaert, representing *Christ Appearing to His Mother in Limbo* and a *Kneeling*

Female Donor with the Redeemed of the Old Testament (cat. 28), includes what is probably a posthumous portrait of Mary of Burgundy. The source of Mostaert's portrait may have been a secular depiction of Mary in a costume with a rather deep décolleté, but the diptych is thought to have been commissioned by Margaret of Austria, Mary's daughter, and at late stage in painting Mary was given a higher neckline more befitting her piety, perhaps at Margaret's request.

Donor portraits were sometimes completely replaced. In the diptych of the *Virgin and Child* with *Three Donors* by the Master of the Saint Ursula Legend, the young woman at the far right was underdrawn and painted on top of a different donor whose image was first painted out (p. 168, figs. 4 A, B). The reasons for this radical change remain unknown, but in other cases it has been possible to gather information that sheds light on similar alterations. For instance, in the devotional half-length portrait diptych of Joos van der Burch at the Fogg (cat. 40) the donor's likeness appears to have replaced that of his son Simon at some point after Joos' death in 1496. The function of the picture also seems to have been dramatically altered, with Simon van der Burch's name saint painted out and his coats of arms on the reverse replaced by an epitaph for Joos and his wife. The diptych was mounted over the couple's grave in the Church of Saint Walburga in Furness, in which Simon was later interred as well.²⁹

In a variation on this theme a second donor portrait was added to the diptych of the *Virgin in the Church* with *Abbot Christiaan de Hondt* by the Master of 1499 (cat. 21). Originally commissioned by De Hondt, who was the abbot of the Cistercian abbey of Ter Duinen between 1495 and 1509, the reverse of the abbot's portrait was painted with a red and black porphyry imitation. But this surface was later adorned with the portrait of Robrecht de Clercq, the abbot of Ter Duinen between 1519 and 1557. De Hondt was directing his prayers to the *Virgin* in the left-hand panel, and De Clercq now directed his prayers to the *Salvator Mundi* on the panel to the right (the reverse of the wing portraying the *Virgin*). At the same time the portrait of De Clercq was added, the trompe-l'oeil stone frame was copied from the *Salvator Mundi*, effectively creating a double diptych. A small but telling change was also revealed at the lower left corner of the *Salvator Mundi*, where De Clercq had the coat of arms of the abbey replaced by the arms of his own family (see p. 141 and p. 148, fig. 7).



16A

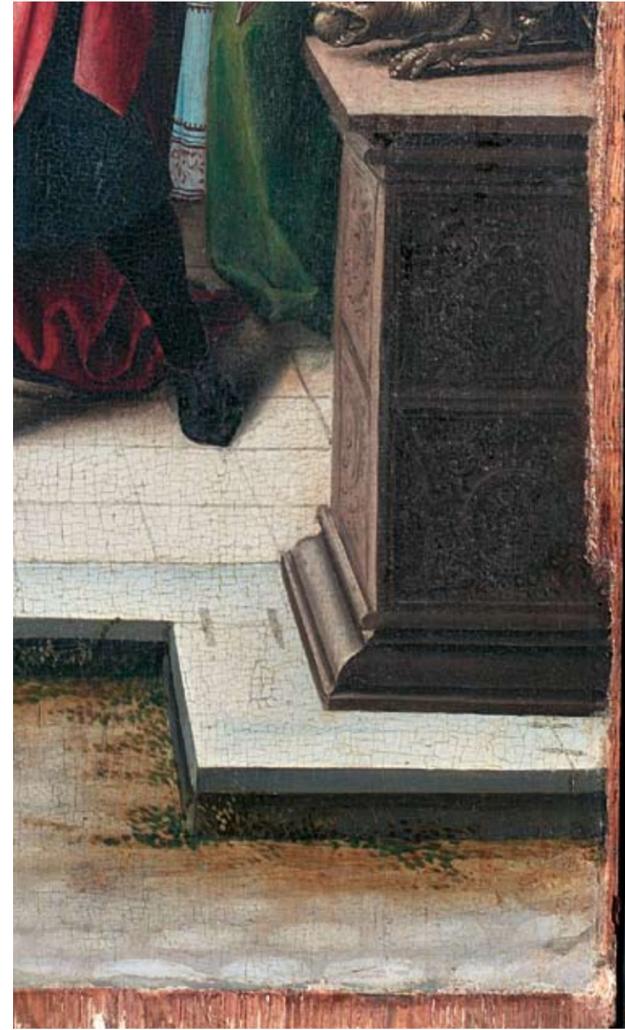


16B

Occasionally our examinations established that panels long assumed to be the wings of a diptych actually functioned in a different format. Bernard van Orley's *Christ Among the Doctors* and the *Marriage of the Virgin* at the National Gallery of Art in Washington (figs. 16A,B) are presented as a diptych in hinged, modern frames.³⁰ Yet our examination of the barbes and unpainted edges of these panels made clear that the panels originally had a frame that was shaped as an inverted T (fig. 17), ruling out an original pairing as a folding diptych. Furthermore, the reverse of *Christ Among the Doctors* depicts a Putto with the Arms of Jacques Coëne (fig. 18) as if seen from the left, in contrast to the frontal perspective system commonly used for imag-

ery on the reverses of diptych wings.³¹ These panels were probably part of a now-disassembled triptych. It has also been suggested that the *Saint George and the Dragon* at the National Gallery of Art in Washington and the *Virgin and Child* at the Museo Thyssen-Bornemisza in Madrid by Rogier van der Weyden (cat. 36) formed a diptych.³² It has now been determined, however, that these two images are most likely the separated front and back of the same panel, which has a vertical split beginning at the center of the lower edge that corresponds exactly in the two paintings.³³

The two panels of *Saint Peter* and *Saint Paul* attributed to the Master of the Female Half-Lengths (cat. 19) are hinged as a diptych, but our technical examination led us to conclude that these works were originally the



17

FIG. 17
Detail from lower right corner of Van Orley's *Marriage of the Virgin* (fig. 16B), showing an irregular barbe



18

The specific findings on the individual works in the exhibition are presented in greater detail in the following catalogue entries, with material and technical aspects integrated into the art historical discussions. Although technical examination provided a wealth of new information on these engaging paintings, we must be cautious in formulating general conclusions from our data. Much of the material evidence for Netherlandish diptychs has been lost over time, and numerous paintings have not yet been thoroughly examined using technical means. It is our hope that the present study will inspire more research into the subject.

FIGS. 16A,B
Bernard van Orley, *Christ Among the Doctors* and *The Marriage of the Virgin*, c. 1513, panel. National Gallery of Art, Washington, Samuel H. Kress Collection

FIG. 18
Bernard van Orley, *Putto with the Arms of Jacques Coëne* (reverse of fig. 16A)