

Madonna and Child with Saint John
Michelangelo Associate, ca. 1500
Egg tempera and perhaps oil on thinned wood panel
27 1/2 × 19 1/8 in. (69.9 × 48.6 cm)
Samuel H. Kress Foundation, New York, New York
(K-1569)



FIG. 1. *Madonna and Child with Saint John*, before cleaning and restoration.



FIG. 2. *Madonna and Child with Saint John* (fig. 1), after cleaning and restoration.

The Master of the Manchester Madonna: Restoration, Technique, and a Context for Attribution

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THE IDENTITY OF THE “Master of the Manchester Madonna” has been a topic of art historical debate for the better part of fifty years.¹ Recently, an exhibition publication entitled *Making and Meaning: The Young Michelangelo* acknowledged this body of scholarship and advanced it by interpreting specific observations of painting technique.² The study principally addressed material aspects of the National Gallery, London’s *Virgin and Child with Saint John and Angels* (“The Manchester Madonna,” fig. 3) and *Entombment* (fig. 4) with the intention of adding these unfinished paintings to Michelangelo’s oeuvre. The authors employed works of an artist close to Michelangelo, formerly the “Master of the Manchester Madonna” and here called Michelangelo Associate, as a foil for the two London pictures attributed to the young Michelangelo in the exhibition. As a result, the distinctive style and technique of this Michelangelo Associate were briefly explored in the *Making and Meaning* project, providing a valuable launching point for further investigation.

This paper is intended to set down selected details of the Michelangelo Associate’s painting technique as encountered during the restoration of the Kress panel *Madonna and Child with Saint John* (figs. 1 and 2). Optimally, this information will join with similar accounts to further illuminate the path towards attributing a small group of pictures traditionally considered together with the Kress painting: *Madonna and Child with Saint John the Baptist* (fig. 5); *Madonna and Child* (fig. 6); *Pietà* (Galleria Nazionale d’Arte Antica di Palazzo



FIG. 3. *Virgin and Child with Saint John and Angels* ("The Manchester Madonna"), Michelangelo, ca. 1497, egg tempera on wood panel, 41 1/2 x 30 1/2 in. (105.4 x 76.8 cm). National Gallery, London.



FIG. 4. *The Entombment*, Michelangelo, ca. 1501, oil on wood panel (identified), 63 3/8 x 59 in. (161.7 x 149.9 cm). National Gallery, London.



FIG. 5. *Madonna and Child with Saint John the Baptist*, Michelangelo Associate, ca. 1498, tempera on wood panel, 26 in. (66 cm) dia. Gemäldegalerie der Akademie der bildenden Künste, Vienna.



FIG. 6. *Madonna and Child*, Michelangelo Associate, ca. 1505, tempera and oil on panel, 14 5/8 x 11 3/4 in. (37 x 30 cm). Pinacoteca Ambrosiana, Milan.

Barberini, Rome, Inv. Nr. 948); and *Madonna and Child* (ex-Baden bei Zurich³).⁴

During the last half century, scholars have attributed these works alternatively to an Umbro-Bolognese or Florentine-Ferrarese master, among other descriptive combinations, all meant to recognize the artist's eccentric style in translating Michelangelo's designs.⁵ Most authors agree that the painter's training may have encompassed workshop practices from more than one region of Italy. The *Making and Meaning* study lent credence to this hypothesis through technical analysis: Jill Dunkerton, Senior Restorer, Conservation Department, National Gallery, London, compares the Michelangelo Associate's choice and application of materials in Vienna's *Virgin and Child with Saint John the Baptist* to painting practices believed to be characteristic of the area around Ferrara, specifically as exemplified by the works of Cosimo Tura.⁶ The potentially regional qualities of this Michelangelo Associate's distinctive painting technique as seen in three pictures, *Virgin and Child with Saint John the Baptist* (Vienna), *Madonna and Child* (Milan), and *Madonna and Child with Saint John* (New York) will be touched upon below in the context of discussing treatment of the Kress panel.

A SIGNATURE PALETTE AND METHOD OF PIGMENT APPLICATION

Madonna and Child with Saint John exhibited chronic lifting of paint along two periodically active vertical joins in the panel support. It was this persistent problem—as well as the obscuring presence of several layers of very discolored varnish—that prompted a decision to undertake the restoration of this picture despite the worn condition of the image (see figs. 1 and 2).⁷ Cleaning the Kress painting revealed a brilliant palette of jewel-like colors that had been completely suppressed by the picture's coatings of darkened resin (fig. 7). The hues uncovered are quite important to firmly linking the Kress panel to the Vienna tondo and the Ambrosiana's *Madonna and Child*, as well as to colors uniquely employed by Domenico Ghirlandaio and his followers for the creation of flesh tones.

The collection of colors used in the Kress, Vienna, and Ambrosiana paintings are strikingly similar in hue, location within each picture, and their technical application. Most notably, the mauve- and lavender-colored architectural planes discovered in the cleaned state of *Madonna and Child with Saint John* in New York are virtually identical in tone to contextual walls in the Vienna tondo image.⁸ In addition, the darkened blue of the Kress Virgin's mantle, though in compromised condition, is quite similar in hue to the deep blue of the Madonna's robe in the Ambrosiana painting, as well as to the underlying or less retouched passages of blue robe in the Vienna tondo. Furthermore, the generalized, mound-like forms of hills in the landscape of the Kress painting are much in keeping with the simple bluish-green shapes portraying distant mountains in the corners of landscape in the Vienna tondo and in the



FIG. 7. *Madonna and Child with Saint John* (fig. 1), cleaned state.

upper-right background of the Ambrosiana's *Madonna and Child*.⁹

The figures in the Kress, Vienna, and Ambrosiana paintings all exhibit skin that is virtually "opalescent" in appearance.¹⁰ This effect is a result of both the artist's selection of hues and method of applying them. The Michelangelo Associate's flesh tones are based on a limited palette of pure, strident colors very similar to those employed by Domenico Ghirlandaio and his workshop, namely an unusually blue-green underpaint modified by cool white and shades of salmon pink. Flesh painted with these bright tones has a markedly different appearance than flesh created with a palette based on more muted hues, such as the light yellow-green (or cream) preparation modeled by warm white highlights, hints of rose and yellow-brown middle tones, and earth-colored shadows that can be seen in the works of artists such as Andrea del Verrocchio, Sandro Botticelli, and others.¹¹

The Michelangelo Associate's use of a triad of brilliant hues for the modeling of flesh most likely derives from contact with Ghirlandaio or one of his pupils, such as Pinturicchio, Granacci, or Michelangelo himself, all of whose early works display this method of coloring skin to some degree.¹² Nevertheless, this relationship to Ghirlandaio's practice does not necessarily tie the Michelangelo Associate exclusively to Florence, as all the artists mentioned worked in Rome for some time near the close of the fifteenth century.¹³ The modeling of flesh in the Kress, Vienna, and Ambrosiana paintings *can* be distinctly separated from that in Ghirlandaio's pictures by the Michelangelo Associate's unique manner of unevenly disposing pigment across flesh passages, and his use of a translucent, brick-red color for shaded regions of skin.¹⁴

In the work of Ghirlandaio and his followers, the opaque white or light pink strokes that create highlights typically extend much further into the middle tone and shade areas of a form than they do in works by the Michelangelo Associate. For example, the hatching strokes that describe flesh in Domenico Ghirlandaio's *Portrait of a Woman*



FIG. 8. *Portrait of a Woman*, Domenico Ghirlandaio, ca. 1490, tempera on wood panel, 22 1/2 x 17 3/8 in. (57.1 x 44.1 cm). The Metropolitan Museum of Art, New York, NY.

(fig. 8) are all given the same pictorial weight. In this image, though hatches of white are more plentiful in areas of highlight, and pink strokes with hints of the green preparation color dominate in the shadows, the finished flesh is formed by a film that is consistent in opacity and apparent thickness from highlight to shadow. Though the Metropolitan picture may be an exaggerated example, the consistency typical of Ghirlandaio's surface is not present in the flesh passages of the three Michelangelo Associate works under discussion.¹⁵ For example, where flesh is rendered in the Kress picture, brick-colored areas of deepest shade are thin and smooth, as are the brick and salmon passages of semi-shade. The density and low relief of the Michelangelo Associate's hatching strokes notably increase at the perimeter and into the center of skin highlights, as will be further described below.

The exact sequence of pigment application in the flesh passages of the Kress *Madonna and Child with Saint John* was not determined by examining cross-sections of original paint samples. However, close study of these areas during the retouching process, with and without the aid of a stereobinocular microscope, suggested that the Michelangelo Associate created flesh in the following manner. A relatively flat layer of milky blue-green is applied to the white gesso within a figure's perimeter. This underpaint is modified by a translucent, brick-red glaze over sections destined to be middle tone and shadow, leaving the green in reserve for areas of intended highlight. In the middle shade, hints of form are subtly picked out with a few relatively liquid, curved hatching strokes of a semi-opaque deep pink over the smooth, translucent, brick-red glaze. A narrow margin of similarly shaped, short strokes in a more opaque light pink initiates an abrupt transition from middle tone into light. Finally, short, curved hatches of lean, opaque white directly over the reserved green underpaint create the volumetric areas of flesh in highest light. With this system, the final hatched strokes forming the strictly localized flesh highlights are slightly raised or in relief on the picture's otherwise porcelain-smooth surface (figs. 9 and 10).

Flesh passages created in this way have an optically scintillating quality resulting from several factors: the interplay of the complemen-

tary pink and green employed; the pearlescent aspect introduced by scumbling cool white over a lower-valued green; and the presence of significant gaps between the artist's uppermost hatching strokes which allow the color of the underlying layer to participate in the final effect. In addition, the tips of the Michelangelo Associate's cool white highlight strokes are intermeshed with the upper ends of opaque pink middle-tone strokes, and the tips of these opaque pink strokes are interlaced with the scattered, deep-pink colored hatches faintly visible over the brick-red, underglazed shade. As every point of intermeshing stroke ends, a new hue is suggested optically, and these implied transitional tones play an indispensable role in the Michelangelo Associate's delicate rendering of form. This artist's technique of creating the illusion of volume in his figures is so economical and precise in its execution, it seems probable that he painted in the presence of a model or prototype. Furthermore, the nature of the Michelangelo Associate's technical economy in these passages might suggest that he was accustomed to working in another medium such as sculpture, enamels or metalwork. In any case, there are no visible signs of working out a design during the painting process and in fact, no room in the crisply realized yet thinly executed surface layers in which to do so. Before he began painting, this artist knew precisely what he wanted to show and exactly how to achieve his end.



FIG. 9. *Madonna and Child with Saint John* (fig. 1), detail of hatching of flesh tones, Christ Child's foot (cleaned state).



FIG. 10. *Madonna and Child with Saint John* (fig. 1), detail of hatching of flesh tones, Christ Child's chest (cleaned state).

As was suggested above, a more specific articulation of the regional roots of the Michelangelo Associate's painting technique will be fundamental to further study of his identity. To this end, it is important to state that the Michelangelo Associate's coloration of flesh has much more in common with the work of Domenico Ghirlandaio (see fig. 8) than with that of Cosimo Tura (fig. 11), a suggested source for the Michelangelo Associate pictures' extra-Florentine or Ferrarese elements. Cosimo Tura's flesh tones often have a glowing, pearl-like quality resulting from his use of strong highlights scumbled over a darker underlayer (and perhaps the presence of a heightened underdrawing); however his flesh passages are much more somber in overall tonality, and do not



FIG. 11. *Virgin and Child with a Female Martyr and Saint Jerome*, Cosimo Tura, oil on canvas mounted to wood, 60 1/4 × 43 1/2 in. (153 × 110.5 cm). Musée Fesch, Ajaccio, Corsica, France.

employ the brilliant hues that are a hallmark of the Ghirlandaio-derived system of modeling.¹⁶

If the palette of the Michelangelo Associate's flesh tones in the Kress panel cannot be linked to the work of artists such as Cosimo Tura, his physical application of pigments to the panel in flesh and drapery areas might be. The Michelangelo Associate's predilection for modeling that shows thickly applied, localized highlights juxtaposed to relatively smooth, thin middle tones and shadows seems related in its technical execution to works produced by Cosimo Tura and his followers (see figs. 9 and 11). This can be seen in the X-radiograph of the Kress *Madonna and Child with Saint John* (fig. 12).¹⁷ In a similar vein, the Michelangelo Associate's positioning of strong lights on the edges of drapery folds may be connected to the visual example of the Paduan Andrea Mantegna's art—through the Tura circle or directly.¹⁸

AUTOGRAPH HATCHES AND APPROACHES TO RESTORATION

During the process of thinning darkened varnish layers from the Kress *Madonna and Child with Saint John*, semi-opaque scumbles of an aged restoration were also cleared from the painting's surface. The removal of these restorer's touches from the interstices of original brushwork recovered a surface that is alive with eccentrically placed, hatched strokes. The Michelangelo Associate's use of these hatchings is strictly limited to the Virgin's mantle and to passages of flesh. The rest of the painting is executed in fluid, blended brushwork that is barely detectable.¹⁹

The function and execution of these strokes are different in the mantle and skin areas. Intermittently placed, unblended hatchings of crisp white on the blue mantle highlight the edges of drapery folds and summarily suggest selected planes in between these fold ridges. A very similar effect can be seen in the Metropolitan Museum's Ghirlandaio, *Portrait of a Woman*, where light falling on the sitter's upper sleeve is briefly indicated with pale pigment (see fig. 8). The relative



FIG. 12. *Madonna and Child with Saint John* (fig. 1), X-radiograph, detail.



FIG. 13. *Madonna and Child with Saint John* (fig. 1), detail of hatching of blue mantle highlights (cleaned state).

isolation of the white hatches on the Kress panel's abraded blue mantle gives these strokes a quality of decorative accents, though they were once obviously more integrated with the fabric portrayed (fig. 13). In the flesh passages, the Michelangelo Associate's use of hatched strokes is more extensive. Here, a profusion of roughly parallel yet variously angled white and pale pink hatches concisely structure a mannered, bulbous musculature underlying highlighted skin (see figs. 9 and 10).

In approaching the retouching of the Kress Michelangelo Associate painting, the seemingly signature quality of the peculiar hatching strokes in the blue drapery and flesh prompted trips to study the surfaces of the Vienna tondo, the Barberini *Pietà*, and the Ambrosiana panel to look for similarly hatched passages. Travel was also undertaken with the hope of locating a model on which to base any reconstruction of form in the Kress panel's quite fragmentary blue mantle.²⁰ Careful study of these related pictures' surfaces, albeit in gallery conditions for the latter two, revealed that hatching strokes remarkably close in appearance to those found in the Kress painting are present on all three panels. Furthermore, in the Vienna tondo and the Ambrosiana *Madonna and Child*, the individual sizes, shapes and spacing of the hatching strokes not only bear a striking resemblance to those in the Kress painting, but in each picture they are similarly concentrated in the flesh and blue mantle passages.

The virtually identical hatching strokes discovered in the Vienna and Ambrosiana images indicated that the restoration of the Kress panel obviously should retain the legibility of this signature hatching technique while visually reintegrating areas of loss with extant original passages. These calligraphic hatching strokes are so distinctly recognizable that they may one day serve—in combination with other material and documentary evidence—to facilitate the discovery of this artist's identity.

During the treatment of the Kress painting, maintaining the integrity and visibility of these signature hatches in the blue drapery and figures'

flesh was also important to the process of restoration itself. The Kress Virgin's blue mantle is so extensively damaged that, in most areas, only the fragmentary white accent hatchings remain to suggest the original placement of drapery folds (see figs. 7 and 13). In passages of flesh, the Michelangelo Associate's signature hatchings effectively governed the retouching process by their large scale relative to the dimension of each figure. As was noted above in the discussion of painting technique, the length, individual shape and spacing of each extant hatched stroke is indispensable to the illusion of volume in the Kress figures' musculature, as well as to the suggestion of form in the Virgin's blue mantle. It was necessary to study the autograph hatches surrounding losses, particularly in the flesh, on a stroke-by-stroke basis before broken or interrupted forms could be connected across voids in the paint layer without any illusionary compromise to the continuous net of flickering, original strokes that economically create volume.

It proved particularly valuable to have seen the other paintings attributed to this Michelangelo Associate when considering the reintegration of local losses to the network of hatches forming the flesh. The first-hand observation of related works ultimately informed our decision regarding how far to close—or to what degree to retouch—abraded flesh passages in the Kress panel. It was important to consider whether or not to replace the previous restorer's milky touches that were removed with the discolored varnish. These touches, intended to unify or smooth the appearance of the figures' skin, had been applied over hints of green earth underpaint showing in between the lattice of original white and pink hatches in the Kress picture. First-hand study of the Barberini, Vienna, and Ambrosiana paintings not only provided similar original surfaces to study, but also presented different ways of approaching the restoration of pictures created with the Michelangelo Associate's unusual painting technique.

The Barberini *Pietà* and Vienna tondo were both restored quite recently, the latter just prior to the 1994 *Young Michelangelo* exhibition at the

National Gallery, London. The *Pietà* is currently displayed in a modern frame within a Plexiglas vitrine that was presumably created to protect and/or transport this multi-planked panel. Retouching of losses to the Barberini painting was carried out in *selezione cromatica*, the Italian method of compensating areas of loss with painted lines of diverse colors that blend optically into a single tone when viewed from a distance. The restoration is in the Roman style of *rigatini*: the lines are painted in a rigidly vertical orientation (rather than being directionally placed to suggest form in areas of loss, as is the practice in Florence). Though the intention of this broken-stroke retouching technique is that restorations can be separated from passages of original paint upon close scrutiny, in the case of the Barberini *Pietà*, which is rendered in a restricted *grisaille* palette, this mode of retouching conflicts aesthetically with the painting's unique, original hatching technique.

The 1994 restoration of Vienna's *Virgin and Child with Saint John* was accomplished with retouching that is meant to be invisible upon casual inspection, presenting an integral image for the viewer's enjoyment.²¹ Losses and surface abrasion in the Vienna tondo have been retouched to quite an advanced level of finish. During the treatment of this picture in preparation for its exhibition in London, the restorer appears to have chosen to knit together the Michelangelo Associate's hatched strokes, placing translucent scumbles in between them, thereby producing a tonally even or smooth surface in the flesh passages and some areas of the blue mantle in the Vienna painting.²²

The *Madonna and Child* in the Pinacoteca Ambrosiana was last restored employing both intentionally visible and less apparent methods of loss compensation. A large part of the original background in the upper left corner of this painting no longer exists. This area of the Ambrosiana picture is currently toned with a simple beige color, a retouching technique known in Italy as *neutro*, the filling of areas of total image loss with a tone intended as neutral. The rest of the picture has been loosely retouched in colors that currently

do not exactly match the surrounding original pigment. Though the transparency and colorlessness of the current varnish on this painting allow one to appreciate the Michelangelo Associate's characteristic palette, the imprecision of the retouches in placement and hue compromises the legibility of the original hatching brushwork, particularly in the figures' flesh.

The study of these three diverse approaches to restoring paintings attributed to the Michelangelo Associate reconfirmed the fragility of this artist's particular mode of image making and its vulnerability to aesthetic compromise. Tonal transitions in flesh passages of the Vienna, Ambrosiana, and Kress paintings have all been affected by strong cleaning in the past, with some loss to middle tone and mid-shade pink hatchings which may contain the often sensitive vermilion. Due to the abraded state of these pictures, it is unclear whether or not the opalescent white flesh highlights were once covered with a now faded or lost glaze. In addition, the degree to which the skeletal hatching strokes in the flesh tones were originally incorporated with their surround by scumbles covering interstices in the extant brushwork lattice also remains unknown. To avoid aesthetic or visual confusion, losses to the figures' flesh in the Kress *Madonna and Child with Saint John* were reintegrated with comparative restraint during the recently concluded restoration.

Flesh passages of the Kress painting were retouched in roughly the same sequence that they were originally painted, from shade, to middle tone, to highlight. At points of complete loss, the voids were filled with new, white gesso and then toned to match the Michelangelo Associate's signature blue-green shade of flesh underpaint. Next, these toned losses, as well as spots of the original green preparation exposed by abrasion, were locally glazed with brick red in passages of middle tone and shadow to integrate them with the prevalent original color. The green toned losses in areas of highlighted flesh were not glazed with red but were left in reserve. As the translucent, brick-red layer in the shadows and middle tones was unified by retouching, it became

increasingly possible to see the faint, hot pink strokes delicately suggesting form on top of this layer in the middle tones. Where broken, these original pink strokes were reconnected, but no further retouching was applied to these areas. Finally, the palest pink and pure white highlights of the flesh were retouched by discreetly connecting points where original hatches of paint had obviously been interrupted by pigment loss mid-stroke. Due to the Michelangelo Associate's abbreviated mode of indicating form, the overall shape of each highlight in his figures' flesh is of crucial importance to the intended illusion. Thus, during the final retouching of the flesh highlights, much time was spent studying the original strokes at the edges of the lighted areas, and retouching along these margins was intentionally minimal in order to preserve an impression of the original, though abraded, transitions and isolated shapes building the eccentric musculature of this artist's figures.

The passage showing the most extensive paint loss in *Madonna and Child with Saint John* is the blue mantle of the Virgin (see figs. 7 and 13). The fragmentary state of the Kress mantle and numerous past campaigns of restoration in this area make a clear assessment of the original painting technique quite difficult. Scattered hints collected from selected, better preserved parts of the robe can merely suggest the original order in which the layers of pigment were applied. In several areas of complete paint loss, abraded sections of a dark brown, summary design drawn with a brush can be seen on the exposed amber-colored gesso ground. These preparatory lines seem to sketch the placement of drapery folds, but the extant fragments are few and far between, and it was not possible to link them into a meaningful drawing. During the initial stage of painting, passages intended to be deepest shade in the mantle appear to have been coated with a hot, brown glaze directly over the sized gesso ground.²³ Areas of semi-shade and middle tone were then laid in with a translucent, bright green that was subsequently covered with a medium, opaque blue, quite smoothly rendered, showing little or no trace of brushwork. The margins of intended

highlight along the edges of folds in these flat, middle tone areas were then prepared with a thicker layer of paler, opaque blue, slightly in relief of the middle tone surface. With the basic locations of deep shade, middle tone and highlight already indicated, isolated sequences of pure white hatching strokes were applied to concisely articulate the tubular curves of drapery fold apices on top of the paler blue margins, and to summarily suggest light falling on slumped planes of interfold fabric in the flat, middle tone blue passages.²⁴ Finally, transparent blue glazes were applied, presumably to soften or modify the transitions from shadow to middle tone to highlight, however these uppermost glazes are now extremely abraded in some areas and entirely lost in others.

It is interesting to note that the Madonna's blue robe in the Vienna tondo is also significantly damaged. Furthermore, there is a remarkable similarity between the patterns of loss in the Vienna and Kress mantles. In their cleaned state, both the Kress and Vienna paintings present blue mantles in which losses are distributed in such a way that they give the false impression of a patchwork or brocade fabric (see fig. 7). The similarity of the damages in the mantles of the Kress and Vienna paintings may support the supposition that these two pictures are by the same hand or from the same studio; the evidence is in the pattern of the loss. The like patterns of loss would suggest that the mantles in both paintings were constructed with similar, if not identical, sequences of layers and mixtures of pigments/media—a "fingerprint" strata that had a specific chemical vulnerability—and thus, were identically affected by their later, isolated cleanings.²⁵

An exceptionally well-preserved passage of blue mantle in the lower left corner of the Ambrosiana's *Madonna and Child* may provide an example of how the finishing layers on the blue robes of the Kress and Vienna paintings once appeared (see fig. 6). In this beautiful bit of eccentrically realized drapery, hints of the bright green preparatory layer, the opaque, medium-blue middle tone, and the carefully placed white hatches of the highlights described above are ultimately unified by a pool-

ing, pure blue glaze and selected, liquid strokes of a hot brown transparent color similar to that forming deepest shade in the mantle of the Kress Virgin. In the Ambrosiana mantle, sections of the hatching strokes meant to show textile edges in brightest highlight are pure white. However, the extremities of these same white strokes lie underneath an ultra-transparent glaze of blue. The signature hatching strokes remain crisp and unblended, yet the selectively placed final glaze introduces a subtler transition from light into shade.²⁶

MATERIAL ASPECTS OF TECHNIQUE

During restoration of the Kress Michelangelo Associate painting, it was possible to examine only the Kress panel and the Vienna tondo in the context of a conservation studio. Close inspection confirmed many physical similarities between these two works that were briefly addressed by the *Making and Meaning* project. In her essay, "The painting technique of the *Manchester Madonna*," Dunkerton discusses a profusion of tiny craters that can be seen in lighter passages of the *Manchester Madonna*, the *Entombment*, and to some extent, Michelangelo's *Doni Tondo*. In addition, she notes that these craters—suspected to be a result of burst bubbles in a rapidly or vigorously applied gesso—are present in the preparation of the National Gallery, London's *Virgin and Child* by Domenico Ghirlandaio.²⁷ In the cleaned state of the Kress Michelangelo Associate painting, craters were also discovered in the thinly painted areas such as the lower sky at the left horizon, the *cangiante* cloth under the Christ Child (see fig. 9), and the Virgin's lilac-shaded veil. The craters observed in the surface of the Kress painting are extremely similar in size and distribution to those noted in the gesso grounds of Ghirlandaio and Michelangelo. This detail, which may signify a specific workshop's process, might eventually lend support to the hypothesis that the Michelangelo Associate had some in-studio contact with Ghirlandaio or one of his pupils.

Since the Virgin's blue mantle is extremely damaged in both the Kress Michelangelo Associate panel and the Vienna tondo, it was possible

during the cleaning of each picture to see the remarkably amber-yellow appearance of the gesso in areas of complete paint loss (see figs. 7 and 13). At first glance, this amber tone could be attributed merely to the presence of a sealing layer of glue on top of a white gesso, or to staining imparted by later oils, resins and glues introduced during restorations. However, cross-sections of samples taken from the blue robe of the Kress painting show that the actual gesso layer appears quite uniformly yellow. The color apparent seems to be largely a result of an unusually high glue content in the gesso and perhaps some trace inclusion of pigments, as scattered particles of red lake and black were identified in the Kress samples analyzed.²⁸ These findings are in accord with Franz Maringer's analysis of the amber colored preparation layer in the Vienna tondo, where he observed a very glue-rich gesso containing particles of the pigment red ochre.²⁹ Maringer has also been able to identify a similar ground in a Venetian picture.³⁰ During a discussion of the Vienna tondo in the *Making and Meaning* study, Dunkerton noted that this yellow-toned, glue-rich gesso is not found in paintings produced by the Ghirlandaio studio, though it has been identified in works of Cosimo Tura and other artists painting in and around Ferrara.³¹ Thus, the presence of a remarkably glue-rich gesso in the Kress and Vienna pictures of the Michelangelo Associate may indicate that this artist had an early exposure to technical practices in northern Italy.

Under natural light, no significant traces of any preparatory underdrawing are visible on the surface of the Kress painting. While relatively bold lines realized in warm brown pigment applied with a thin brush can be seen circumscribing John the Baptist's left arm and hand, these lines seem to be an in-process articulation or strengthening of contours within the paint layer, rather than a preparatory underdrawing. Furthermore, these brown contour lines in the Kress picture may once have been slightly covered and visually softened by a translucent, final scumble of flesh coloring; due to surface abrasion, it is possible to see in the cleaned state of the painting that similar brown

lines echoing the outermost contours of the Christ Child's right, inner arm, left shin and left foot are actually slightly within the finally realized perimeter of each limb (see figs. 9 and 10). During its restoration, the surface of the Kress panel was examined via infrared reflectography (IRR) with a Hamamatsu vidicon camera and Sony monitor in order to look for preparatory underdrawing beneath the paint layers of the Michelangelo Associate's picture. An image of any underdrawing in the area of the extremely damaged blue mantle might have assisted the restorer in recovering some semblance of the original arrangement of drapery folds during retouching of the robe. Unfortunately, virtually no underdrawing was visible in the Kress painting with the vidicon camera, save for a few dark, brush-applied shapes near the upper left edge in the swag of red curtain.

IRR images of the Vienna tondo do show some dark underdrawing, though the drawing recorded consists of only a scant description of drapery forms and a pronounced adjustment to the position of the proper right foot of the Virgin in the foreground. In fact, it may be interesting to note that the drawing visible via IRR in the Vienna tondo seems to be confined to corrections of the picture's design. It has been speculated that the characteristic mint green underpaint in the flesh of the Michelangelo Associate's pictures is comprised of a green earth that is particularly opaque to IRR inspection.³² In addition to this, any drawing done in a transparent red or reddish-brown color may be invisible to infrared examination as these hues become transparent when viewed by an IRR camera while illuminated by light from the infrared part of the visible light spectrum. In theory, the Michelangelo Associate could have made a more involved preparatory design for both the Kress and Vienna paintings than can be imaged by IRR.³³ However, if this artist was painting in the presence of a model or finished drawing for all or parts of his picture, it might be reasonable to assume that only a brief indication of form was necessary in the underdrawing phase. This lack of detectible underdrawing in the Kress panel is distinctly different from the profusion

of preliminary designs evident in Cosimo Tura's works. With Tura's later paintings especially, strongly hatched underdrawings are commonly quite legible when the pictures are scanned with an IRR camera. At the very least, this would imply that the Michelangelo Associate made a selection of drawing materials and underpaint pigments that differ from those employed by Cosimo Tura. It would be equally interesting to compare IRR images of paintings from the workshop of Ghirlandaio with those taken from the Michelangelo Associate's pictures, particularly in the context of the significant body of highly finished drawings for paintings left by Ghirlandaio.

Preparatory incisions in the gesso ground of the Kress, Vienna, and Barberini pictures take the place of drawing in designing an architectural context for each painting's figures. Linear incisions in the Kress panel define the straight edges of the foreground plinth and the top of the wall extending behind the Michelangelo Associate's figures. Incisions cut into the ground of the Vienna tondo also indicate the intersections of architectural planes as well as the placement of squares in the picture's checkered tile floor. Curiously, the general locations of the reading stand at left and the figure of John the Baptist at lower right in the Vienna tondo are marked in the picture's gesso by incisions that circumscribe a vertically oriented ellipse of pictorial surface occupied by each painted figure. (These incised ellipses might be later vandalism, but they are not accompanied by any chipping or damage to the original paint.) Incisions describing architecture in the Kress and Vienna paintings are remarkably similar with regard to their imprecise character; the incised lines do not meet exactly at corners of planes where they intersect, but over-shoot the mark in a like manner in each picture. Furthermore, the planes that are finally realized in paint are slightly corrected in position or do not rigidly follow the preliminary incisions, and the nature of these corrections in the painting phase is quite comparable in the two images. Since the conception of space in the Ambrosiana panel has often been thought to be the most advanced or Michelangesque of

the group of paintings under discussion, it might be useful to study any incisions in this panel and their relationship to the final, painted forms.

The Kress panel and the Vienna tondo are also alike in finishing details that would have been applied in the last stages of painting: two parallel bands of mordant gilding trim the edges of both pictures' blue mantles—as well as the Madonna's veil in the Ambrosiana, Vienna, and Barberini paintings and the drapery under the dead Christ in the *Pietà*. This double line of mordant gilt trim actually interrupts diagonally placed signature hatching strokes at the highlighted edge of a drapery fold identically in the Kress picture and in the Barberini panel. Additional gilding decorates the Vienna tondo's cloth of honor and the Kress Virgin's neckline, cuffs, and the buttons closing her red tunic at the wrists, and all of the paintings in the Michelangelo Associate group



FIG. 14. *The Libyan Sibyl*, Michelangelo. Sistine Chapel, Vatican Palace, Vatican State. Lunette fresco, after restoration.

have mordant gilt haloes. The presence of delicate mordant gilt detail on the Michelangelo Associate's paintings at first seems oddly *retardataire* in the context of the sculptural monumentality commonly associated with Michelangelo's art. However, Dunkerton has noted that the use of decorative mordant gilding is a persistent feature of paintings produced by the studio of Ghirlandaio and that it can also be found on paintings by Granacci.³⁴ It would be difficult to speculate about any gilt decoration that may have been planned for the National Gallery, London's *Manchester Madonna* as mordant gilding is typically a final step in the creation process and the picture is unfinished. Nonetheless, there are selected mordant gilt details enlivening the surface of Michelangelo's later *Doni Tondo* in the Gallerie degli Uffizi, Florence.³⁵

Another final-stage element that the Kress panel and the Vienna tondo share is a quarter-inch-wide, black painted border applied around the entire perimeter of each image. In areas of surface wear or pinpoint losses to this border, it is possible to see that original pigment lies underneath. The images appear to have been finished out to the edges of the support before this border was superimposed. These black borders would be an intriguing topic for further investigation, particularly with regard to period practice in appending frames to the paintings. It could also be useful to investigate whether the painted black border is part of a specific regional tradition. In the last decade of the fifteenth century and the opening decade of the sixteenth, similarly painted borders frame many of the images by the Bolognese artist Francesco Francia and his son Giacomo; they have also been observed on late paintings of Perugino and early pictures of Raphael. It may be that these borders have not been studied because they seem to be routinely cropped out of photographic reproductions of the paintings. In addition, the past trimming of panel edges may have caused many examples to be lost over time.

CONCLUDING REMARKS:
SCULPTURAL SOURCES AND EMULATION



FIG. 15. *Fanciullo Arciere*, Attributed to Michelangelo, marble.

During the late fifteenth- and early sixteenth-century period in which the Michelangelo Associate produced his images, painters were particularly influenced by their study and emulation of sculpture, both contemporary and antique. The most obvious manifestation of this in the Kress panel would be the similarity of the Christ Child and John the Baptist figures to sculpted antique cupids which were quite popular objects with artists and collectors at the beginning of the sixteenth century. It is more than likely that the Michelangelo Associate copied this motif from Michelangelo rather than consciously working after the antique himself (figs. 14 and 15). The Michelangelo Associate routinely translated designs by Michelangelo in his compositions, and Michelangelo himself is known to have generously shared his drawings and *cartonetti* with



FIG. 16. *Virgin and Child with the Infant Saint John (Taddei Tondo)*, Michelangelo, ca. 1504–05, marble. Royal Academy of Arts, London.



FIG. 17. *Virgin and Child with the Infant Saint John (Pitti Tondo)*, Michelangelo, ca. 1503, marble. Museo Nazionale del Bargello, Florence, Italy.

other artists.³⁶ However, if the Michelangelo Associate was as intimate with Michelangelo as is currently believed, he may have had direct access not only to drawings of the master but also to his in-progress sculptural projects and paintings.³⁷ In some instances, the Michelangelo Associate may have emulated sculpture by borrowing motifs directly from or in the presence of Michelangelo's reliefs.³⁸ It is tempting to see the opalescent quality of the Michelangelo Associate's flesh passages as an attempt to transcribe light refracted by the surface of carved marble. It may be equally fanciful to suggest that his signature hatching strokes in flesh and drapery reflect an aesthetic appreciation of the parallel scoring lines of a stone chisel that cover selected surfaces of sculptures such as Michelangelo's *Virgin and Child with the Infant Saint John (Taddei Tondo, fig. 16)*, or his *Pitti Tondo* of the same subject (fig. 17).

Parts of the figures portrayed in the Kress *Madonna and Child with Saint John* are certainly derived from specific passages in Michelangelo's oeuvre. The Kress Virgin's head in profile and the general form of her veil are most definitely a quotation of the head and veil in Michelangelo's *Madonna della Scala* (fig. 18).³⁹ The deportment of the Virgin's hands and wrists in the Kress painting is resonantly similar to that realized in the *Madonna della Scala*, the *Pitti Tondo* and the *Manchester Madonna* (see figs. 2, 3, 17 and 18). The Michelangelo Associate's above-waist poses for the Christ Child and the young Saint John in the Kress picture correspond quite closely to the positions of the two unfinished angels in the upper left corner of Michelangelo's *Manchester Madonna*, and also appear notably similar to the two painted figures behind the *Libyan Sibyl* in the Sistine Chapel (see figs. 2, 3, and 14). The Kress Virgin's standing form with outstretched arms holding a book is initially reminiscent of poses in Annunciation scenes, and seems oddly incongruous with the Kress image. However, the position of the Kress Virgin has much in common with the standing angel at the far right in the *Manchester Madonna* and is quite similar to the upper part of the seated figure in the lower left

corner of the *Entombment* (see figs. 2, 3, and 4), and thus again may simply be a design lifted from Michelangelo's imagery.

As Michelangelo's motifs are, for the most part, faithfully repeated by the Michelangelo Associate, a direct comparison between their treatments of a figure in space is possible. It is sufficient to say here that the Michelangelo Associate does not approach Michelangelo's mastery of form and seamless spatial transitions. Rather, the Michelangelo Associate's pictures evoke a sense of compressed space and cut-out figures. The impression that the Michelangelo Associate's figures are cut-out or isolated from their pictorial context may be partially a result of his picture-making method. As noted above, only sections of each figure portrayed in the Kress painting can be linked with a known Michelangelesque source. It is possible that the isolation of the



FIG. 18. *Madonna della Scala*, Michelangelo, ca. 1490, marble. Casa Buonarroti, Florence, Italy.

Michelangelo Associate's figures is a result of his disparate borrowings, the whole being a pastiche. In addition, the effect of shallow space may partly come from his literal interpretation of a model; the head of the Kress Virgin may appear relatively flat if it was directly copied from the *Madonna della Scala*, a stone image sculpted in low relief. The Michelangelo Associate's figures' disconnection from their context and each other may also result from his emulation but incomplete realization of Michelangelo's painting sequence. The unfinished pictures in the National Gallery, London show that Michelangelo the painter typically brought individual color areas of his composition to a high degree of finish at different times (see figs. 3 and 4). If our Associate was in a position to observe Michelangelo working, he may have attempted to copy this method even though he seemingly lacked the painterly skill to achieve Michelangelo's ultimately seamless result.

A developed understanding of the unique character of the Michelangelo Associate's adaptations of Michelangelo's designs will ultimately assist scholars in discovering his identity. The Ferrarese or extra-Florentine elongation of figures in his pictures is affected both by selected passages of eccentrically realized form apparently drawn free-hand, and by his inequal distribution of pigment in areas of drapery and flesh. The perimeters of figures that can be directly linked to Michelangelesque models are actually quite artfully proportioned. However, within these outlines, the greater density and opacity of this Michelangelo Associate's highlights imply attenuated shapes within his compositions that overwhelm the relatively smooth, translucent planes of middle tone and shadow, creating elongated linear accents in his pictures that are almost visually detached from the image portrayed.

Despite the peculiarities of our artist's approach to image making, his unique points of concordance with Michelangelo's painting practice should not be underestimated. During the search for the Michelangelo Associate's identity, there may eventually be sufficient technical evidence to disqualify any artist who did not have

the most intimate access to Michelangelo as he painted. On close inspection, it is possible to see that Michelangelo himself also structured the highlights in his flesh passages with hatching, though his strokes are infinitely finer and more smoothly blended together than the autograph hatches of the Michelangelo Associate (see figs. 2 and 3). The brick-red color that notably separated the Michelangelo Associate's palette of flesh colors from that of the Ghirlandaio studio *does* appear in some of Michelangelo's paintings; as noted previously, a brick-red hue similar to that employed by the Michelangelo Associate is used by Michelangelo to articulate the middle tones and shadows of Adam's body in the central Sistine Chapel *Creation*, as well as those of figures such as the Libyan Sibyl in the lunettes. Furthermore, painted brown contour lines such as those that circumscribe the limbs of figures in the Kress panel can also be seen articulating exterior contours of Michelangelo's figures in the *Entombment* and in the Uffizi's *Doni Tondo*. Michelangelo seems to employ these red-brown lines for initial design as well as for a more advanced strengthening of contours during the painting process, a technique also observed in the works of the Michelangelo Associate. However, the function of Michelangelo's finally applied brown lines is to emphasize the illusion of his figures' volume, making their limbs seem to almost protrude from the picture plane, an effect not matched by the Michelangelo Associate.

In conclusion, it should be re-emphasized that the autograph hatching strokes of the Michelangelo Associate are fundamentally unique in their execution and pictorial placement. As such, they may prove to be the most significant material evidence we have to identify other works and, one hopes, the artist himself. These hatchings seem to have much in common with similarly placed marks found in period drawings, particularly those of Ghirlandaio, for example, his *Drapery Study for a Kneeling Figure* in Florence (though the likeness of the Michelangelo Associate's painted hatches to Ghirlandaio's drawn ones may simply reflect this master's draughts-

manship methods as digested by Michelangelo and passed on to our Associate).⁴⁰ In future investigations of the Michelangelo Associate's identity it may also be important to examine the drawings of artists in the circle of Cosimo Tura; strokes quite similar to our artist's signature hatches can be seen in works such as Tura's *Evangelist*, and technical analyses of the Vienna tondo and the Kress panel have strengthened the hypothesis that the Michelangelo Associate had an early exposure to practices in the Ferrara region.⁴¹ Further collection of detailed observations of these paintings supported by directed, comparative analysis of their materials and rigorous archival research should one day crystallize an identity and link a name to the unmistakably recognizable hand of this Michelangelo Associate.

ACKNOWLEDGEMENTS

Heartfelt thanks are due to Professor Dianne Dwyer Modestini for assigning me the restoration of the Kress *Madonna and Child with Saint John* and for her support throughout this lengthy project. It was a distinct privilege to have worked with both Dianne and Mario Modestini. My deepest appreciation should also be expressed to Areli Marina, Robert La France and William Haluska for their careful readings and helpful suggestions during the writing of this paper. Finally, I would like to gratefully acknowledge Lisa Ackerman, Executive Vice President of the Samuel H. Kress Foundation, and the Foundation itself for their peerless commitment to funding unique advanced training opportunities in the field of Conservation.

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Gallerie degli Uffizi, Florence. She has a private studio for the restoration of Old Master paintings in New York and specializes in Italian pictures.

NOTES

1. Zeri (1953).
2. Hirst and Dunkerton (1994).
3. For illustrations of the ex-Baden bei Zurich painting and the Barberini *Pietà*, see Freedberg (1972), Vol. 2, figs. 335 and 334, respectively. A color reproduction of the *Pietà* appears on p. 39, plate 26 of Hirst and Dunkerton (1994).
4. Though these paintings are often discussed together, opinions differ as to whether they are all by the same artist. To this viewer, the Barberini *Pietà* and the *Madonna and Child*, ex-Baden bei Zurich, seem stylistically quite similar to each other, for example, in the contorted flex of the hands portrayed and the pinched features of the faces. The Kress panel, the Vienna tondo, and the Ambrosiana's *Madonna and Child* do not share these qualities but are extremely close to each other in terms of surface character, palette, and execution. In the past, the Ambrosiana picture has been noted as possessing a sophisticated construction of space that is not present in the Kress and Vienna paintings. However, this might be explained by the Michelangelo Associate's use of another artist's more advanced cartoon or model for the Ambrosiana image; the surface quality, brushwork, and coloration of the cleaned Ambrosiana painting are extremely similar to those in the Kress panel and the Vienna tondo.
5. See for example: Freedberg (1972), Vol. 1, pp. 255–8.
6. Dr. Martina Fleischer of the Gemäldegalerie der Akademie der Bildenden Künste is preparing a manuscript on the Vienna tondo, and I would like to thank Dr. Franz Maringer for several hours of valuable discussion regarding this painting, as well as Professor Norbert Baer of the Conservation Center of the Institute of Fine Arts for introducing me to Dr. Maringer. For the first part of the technical information to be published about the Vienna tondo, see Maringer (1996). For Cosimo Tura's technique, see articles by Dunkerton and Marcello Toffanello in Campbell (2002). For an earlier assessment of Tura's technique, see Dunkerton (1994).
7. During the course of the Kress painting's restoration, a heavy, "Pichetto" cradle was removed from the panel's reverse. This allowed the plank to acquire a very slightly convex, natural curve, which seems to have alleviated much of the internal stresses that caused the past instability of the paint layers adjacent to the two vertical joins; see Ann Hoenigswald's article in this volume.
8. In the *Making and Meaning* study, Dunkerton describes a soft lavender color typically used in frescoes of this period as "morellone." Though she rightly speculates that in easel painting the color is often derived from a mixture of lead white, red lake, and a blue pigment, *Caput Mortuum* has been identified as a coloring component of the architectural planes in the Vienna tondo. Libby Sheldon of UCL Paintings Analysis, University College, London is currently studying the pigments used in the creation of the Kress painting, and these results will be published at a later date. For Dunkerton's comment on *morellone*, see Hirst and Dunkerton (1994), p. 102. The Vienna tondo pigment analysis is unpublished as of this printing.
9. It is important to compare the Ambrosiana panel in its most current state to the Kress and Vienna images. An old photograph in the Contini-Volterra Archive at Vanderbilt University shows the Ambrosiana picture when it was quite heavily restored. Any studies based on the appearance of this old photo of a now-absent restoration campaign would be misleading as the figures' flesh, the left-hand architectural forms and the background landscape were once extensively repainted, changing the palette and style of this image entirely. Many thanks to Joseph Mella, Director of the Vanderbilt Fine Arts Gallery, for facilitating our visit to the archive.
10. The term "opalescent" was aptly used previously by Dunkerton in Hirst and Dunkerton (1994).
11. Compare the coloration of flesh in the National Gallery, London's Ghirlandaio, *The Virgin and Child* (N63939) to the *Virgin and Child with Two Angels* (N6296), attributed to Andrea del Verrocchio in the same collection. The brilliant colors characteristic of the Ghirlandaio studio may be associated with a persistent use of pure tempera technique in this workshop during years when oil painting was already quite widely practiced (see Hirst and Dunkerton (1994), p. 84). Joyce Plesters has associated Verrocchio and his followers' warmer, subtler technique of modeling flesh with the practice of *buon fresco*, where the light color of the ground seen through applied color washes affects "all but the strongest highlights." See Plesters in National Gallery (1970), p. 27.
12. Roughly concurrent with the ascendance of oil painting as a popular technique, most Ghirlandaio pupils such as Granacci seem to have moved away from the bright, pure-color modeling of flesh in their later works. (For example, see the beautiful Granacci, *Madonna and Child* recently given to the Metropolitan Museum of Art, New York by Mario and Dianne Dwyer Modestini.)
13. A curious occurrence of this white-blue/green-pink modeling of flesh can be seen in the work of the Abruzzese artist, Saturnino Gatti, painting in 1510. See the Metropolitan Museum of Art's Gatti, *The Translation of the Holy House of Loreto*, 1973.319. For one version of the Roman dates of Pinturicchio, Granacci, and Michelangelo, see Gallwitz (1999), pp. 120, 136, 148.
14. Even so, in Milan there is an *Adoration of the Child* currently attributed to the workshop of Ghirlandaio in which traces of a brick-red hue are scantily employed for flesh middle tones (Pinacoteca Ambrosiana, Inv. Nr. 2. Brivio Donation, 1959). As will be noted below, though this brick-red hue is not routinely employed by Ghirlandaio, if at all, it *can* be found in shaded flesh passages of paintings by Michelangelo, for example, in the recently cleaned Sistine Chapel figures of the Libyan Sibyl and Adam (see fig. 14).
15. This lack of continuous opacity or consistent film thickness across flesh passages of the Michelangelo Associate's paintings may be slightly over-emphasized today due to the apparent susceptibility of his surfaces to mechanical and chemical abrasion. Nonetheless, as will be described, the transition from dense, thickly applied strokes in highlights

- to a smooth, barely articulated surface in deep shadow is also a feature of the Michelangelo Associate's original painting technique.
16. For discussion of Tura's technique of heightening or adding lights to his underdrawing, see comments throughout Campbell (2002), especially p. 127.
 17. Due to the nature of the pigments used by the Michelangelo Associate for flesh tones, the differences in thickness of application between highlight and shadow are fortuitously diagrammed by an X-radiograph of the painting (see fig. 12), providing a map of this technique. For future investigations of attribution, comparative study of the X-radiograph images of pictures that may be by this Michelangelo Associate, as well as those of paintings by Tura and other non-Florentine artists might be useful.
 18. See Marcello Toffanello's wonderful essay, "Cosmè Tura: drawing and its pictorial complements" in Campbell (2002), pp. 153–72. The painted draperies of Andrea Mantegna are consistently heightened along fold edges with concentrated touches of opaque pigment or gold. Mantegna's articulation of edges in turn may be related to the art of Giovanni Bellini. Please see the gold heightening applied in hatches that illuminates the blue robe of Christ in Bellini's *Agony in the Garden*, circa 1465, N6726, National Gallery, London, as well as Andrea Mantegna's *Adoration of the Shepherds*, 32.130.2, Metropolitan Museum of Art, New York.
 19. The only exception to this in the Kress painting would be the green fringe that sporadically trims the red drapery in the upper register. The strokes that form this fringe are similar in scale and appearance to those accenting the blue mantle and creating mass in the flesh. However, in the case of the curtain, each stroke is actually a string of fringe. The function is much more direct or decoratively literal, as opposed to the roles of hatching strokes indicating light in the blue mantle and volume in the flesh passages.
 20. Travel to Vienna, Milan, and Rome was funded by the Samuel H. Kress Foundation as part of a Fellowship for Advanced Training in Paintings Conservation at the Conservation Center of the Institute of Fine Arts, New York.
 21. I must extend warm thanks to Dr. Renate Trnek, Director, and Professor Peter Halbgebauer, Chief Restorer, of the Gemäldegalerie der Akademie der Bildenden Künste for allowing me access to the painting and for helpfully commenting on its restoration, which was accomplished under great time pressure in preparation for the London exhibition.
 22. The existence of old retouches in between the Michelangelo Associate's strokes in the flesh tones of the Vienna tondo prior to the most recent cleaning was noted in a report on the picture from the Museum's files, generously shared with me by Dr. Franz Maringer in his Vienna offices.
 23. This hot brown glaze may be altered in color from its original appearance. The pigments employed have not yet been analyzed.
 24. During cleaning of the Kress picture, a curious, relatively under-bound, opaque, dull green could be seen sporadically throughout the damaged mantle, sometimes in association with or as a preparation for another very lean blue. These color layers were subsequently found to contain the pigment blue ochre and identified as eighteenth-century restorations by Libby Sheldon of UCL Painting Analysis, London, in her study of paint samples from the Kress robe.
 25. Dr. Renate Trnek, Director of the Gemäldegalerie der Akademie der Bildenden Künste, generously granted permission for me to inspect the cleaned-state photographs of the Vienna tondo.
 26. Following my departure from the Samuel H. Kress Program in Paintings Conservation in May 2002, Dianne Dwyer Modestini applied final glazes to the highlights of the Kress panel's blue mantle and flesh, and added final touches to the landscape and the halo of Saint John. The painting's restoration was deemed complete; the picture was placed in a new vitrine and returned to the Kress Foundation in October 2002.
 27. Dunkerton in Hirst and Dunkerton (1994), pp. 90–91. Several illustrations of these craters appear on page 90 of this catalogue (plates 66, 67, 68, 69). It would be interesting to confirm whether these craters are actually in the gesso layer, or rather, are within a cream-colored imprimatura selectively laid over the warm-toned gesso in areas intended to be relatively light or pale in the final design.
 28. Again, these preliminary results are the wonderful work of Libby Sheldon, UCL Painting Analysis, London who is completing the examination of cross-sections from the Kress Michelangelo Associate panel.
 29. See Maringer (1996).
 30. Fleischer and Maringer (1990).
 31. See Dunkerton in Hirst and Dunkerton (1994), pp. 94–5. Dunkerton also mentions that a high glue content, effectively an aggressive sealing of the gesso layer, would be quite expected if the artist were preparing to paint in oil, and that Ferrara was one of the earliest centers of oil painting development in Italy.
 32. Dunkerton in Hirst and Dunkerton (1994), p. 92 and Maringer in a personal communication during my visit to Vienna.
 33. It is interesting to note that in the Ambrosiana's *Madonna and Child*, hints of a summary, blackish preparatory drawing can be seen under gallery lighting conditions around the edges of forms such as the Virgin's hands and wrists.
 34. Dunkerton in Hirst and Dunkerton (1994), p. 102.
 35. For the location of gilt details on the *Doni Tondo*, *ibid.*
 36. See Wilde (1959).
 37. For Michael Hirst's recent suggestion that Michelangelo's personal assistant and friend, Piero d'Argenta, may be the Master of the Manchester Madonna or Michelangelo Associate, see Hirst in Hirst and Dunkerton (1994), p. 41, and Agosti and Hirst (1996).
 38. A pentimento of the Kress Virgin's neckline that was revealed in an X-radiograph image of the panel may reflect the Michelangelo Associate's awareness of Michelangelo's sculptural works. The Virgin's red robe in the Kress picture was initially designed with a square neckline that was subsequently changed during the painting process to the "V"-shaped neckline. This pentimento might suggest a relationship between the Kress picture and a shift in tasteful fashion recorded by the different necklines in Michelangelo's *Taddei Tondo*, ca. 1502 and his *Pitti Tondo*, ca. 1503 (see figs 12, 16, and 17). It is known that Michelangelo was keenly aware of contemporary fashions of dress; his later painting, the *Doni Tondo*, also shows an up-to-date V-neckline in the costume of the Madonna.

39. The head of the Madonna in Michelangelo's *Madonna della Scala* seems generally derived from Donatello's famous relief, the *Pazzi Madonna* in the Staatliche Museen zu Berlin. However, where Donatello fully describes the Virgin's ear in his image, Michelangelo chose to cover her ear with drapery. In the Kress panel, the Michelangelo Associate has drawn from Michelangelo's design with the ear concealed. Thus, though Freedberg once described the Michelangelo Associate as an artist who seems to have spent many hours studying Donatello, it may be that this hint of Donatello in the Michelangelo Associate's works actually was passed to him through Michelangelo. See Freedberg (1972), p. 256. (The *Madonna della Scala* has also been likened to Donatello's *Dudley Madonna* in the Victoria and Albert Museum, London. Donatello *did* cover the Madonna's ear with drapery in this relief, however its underlying form is clearly indicated in the veil fabric, a detail mimicked by Michelangelo in the *Madonna della Scala* but *not* by the Michelangelo Associate in the Kress painting.)
40. Ghirlandaio, *Drapery Study for a Kneeling Figure*. Inv. 316E (as Mainardi), Gabinetto dei Disegni, Gallerie degli Uffizi, Florence.
41. Cosmè Tura, *Evangelist*. Gabinetto dei Disegni, Gallerie degli Uffizi, Florence. This drawing is reproduced in Campbell (2002), p. 161, fig. 73.

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