

“That for which Apelles needed colors, Dürer was able to express in monotone, using only black lines,” wrote Erasmus of Rotterdam (here paraphrased) in his dialogue on correct representation in 1528, providing an early testament to the topos of Dürer as a genius of the graphic arts that remains undiminished to this day.¹ In 1506, Dürer went to great lengths to rid himself of his bad reputation as a painter while he was in Venice, where it was said of him that he was good at engraving but did not know how to handle color. He obviously succeeded with the “Feast of the Rose Garlands,” for, as he recounted to Pirckheimer, everyone now claimed they had never beheld more wonderful colors.² Colors aside, what fascinated people north of the Alps was Dürer’s perfection and stunning brush technique. In 1532, in the preface to his Latin translation of the first two of Dürer’s books on human proportion, Joachim Camerarius evoked the competition between the ancient painters Apelles and Protogenes as retold to us by Pliny the Elder. He describes an encounter between Dürer and Bellini as follows: the latter exclaims his amazement at Dürer’s rendering of a single hair and asks him for one of the special brushes he is purported to possess that would allow him to make the same precise outline. In response, Dürer hands him a completely ordinary brush and thus affirms his outstanding virtuosity as the “new Apelles.”³

In fact, in the 16th century Dürer was so admired as a painter and the object of such widespread artistic acclaim that, ever since Joseph Heller, scholars have had trouble coming to terms with his paintings.⁴ Besides the question of original and copy, the heterogeneity of works associated with Dürer led to a series of contentious attributions of works either to Dürer himself or to other artists. Scholars cannot fully explain the lack of homogeneity in Dürer’s early work by applying a solid set of stylistic criteria and connoisseurship alone, whereas a serious study of the technology and techniques involved in the paintings does hold the promise of providing fresh insight and answers. The previous literature on Dürer’s painterly technique is clear, ranging from Ludwig Grote’s succinct evaluation of the Heller letters (which are revealing despite being written with an overtly mercantile eye), to studies of individual works and attempts at forming an overall assessment of the painterly oeuvre as a whole, as undertaken by Fedja Anzelewsky. Katherine Crawford Lubert’s and Bruno Heimberg’s studies fall somewhere in between these two points.⁵ While Lubert primarily dedicates herself to comparing the underdrawings on the paintings’ ground with Dürer’s hand drawings and investigating key influences from Venetian painting, Heimberg demonstrates a keen and groundbreaking interest in the material foundations, core painterly techniques and essential characteristics of Dürer’s painting through the example of the paintings held in the Bayerische Staatsgemäldesammlungen in Munich.

As part of the research project on the early Dürer, it has been possible for the first time to examine a chronologically arranged string of Dürer paintings spread over various museums regarding their characteristics, commonalities and differences. We already know from studies of the Munich collections that in his choice of painting materials, Dürer largely adapted himself to the differing practices of local craftsmen. Heimberg rightly noted that what was exceptional in this was not the materials themselves, but their artistic and technical application and handling.⁶ Dürer’s painterly technique thus stands at the forefront of this essay, which aims to give an insight into the composition, intended effects and brushwork that will lead to an understanding of the creative process in

DANIEL HESS / OLIVER MACK

Dürer as Painter *The Early Work up to 1505*

Translated by Lance Anderson

1 Rupprich I, p. 297.

2 Rupprich I, p. 55.

3 Rupprich I, p. 309, lines 152-184, in German translation Lüdecke/Heiland 1955, pp. 51-52, cf. also Smith 1972, pp. 326-329.

4 Heller 1827, preface.

5 Grote: Dürer 1965, pp. 8-10.—Anzelewsky 1991, pp. 88-99.—Lubert 2005 and Lubert 2010.—Heimberg 1998.

6 Heimberg 1998, p. 43.—Heimberg 2007, p. 114.

his early paintings. The observations made here are based on special imaging processes such as infrared reflectography, X-radiography and macrophotography. At the same time, existing research material in the various museums and collections involved was reassessed. Furthermore, additional examinations were undertaken on paintings in Paris and Washington as a result of the project.⁷

TRADITION AND DIVERSITY: DÜRER'S SUPPORTS

As with the painting materials used, Dürer does not differ from his contemporaries in his choice of wood and the technical fashioning of his panels. From what we can gather from recent studies of the wood's anatomical characteristics, all panels are made of good quality boards with few knots, from linden or fir trees.⁸ The boards, partly of irregular cuts,⁹ are butt-glued.¹⁰ In some instances,

crosspieces have been applied from the reverse; although there were mostly no further reinforcements of joints in smaller formats, larger panels often reveal signs that glued oakum was used to reinforce boards.¹¹ The fibers were either spread extensively over the reverse of the panels or applied in patches, often following the board joints.¹² Occasionally the joints were not covered; however the boards were fixed together with a few oakum strips running across the grain of the wood.¹³ The wood on the front of some individual panels, such as the central panel in the "Seven Sorrows of the Virgin" in Munich, is extensively coated in fine pieces of fabric on the front, or entirely covered in thin canvas, such as the "Christ as the Man of Sorrows" in Karlsruhe (cat. 175) and the portraits of Dürer's parents in Florence and Nuremberg (cats. 7, 8).¹⁴ The X-radiograph of the portrait of his mother clearly shows that a used, severely worn piece of fabric was applied for this purpose; it even had tears and holes in it. The panels, produced by carpenters, were often quite different from each other, but nearly all have a white ground.¹⁵

Whether in his early years Dürer still applied the ground himself or already assigned this task to "preparers," as the letters of Jacob Heller from 1507-1509 describe him doing in later years, is something that remains unresolved.

Besides wood panels, which were elaborately prepared, the *Tüchlein* paintings also play an important part in Dürer's early work: some nine such paintings survive dating from the period up to 1505 alone (cats. 66-71).¹⁶ Canvas paintings were common in German-speaking countries in the 15th century and, due to their relatively low material costs, were largely used as preparatory drafts, decorations for festivities or as simple, ephemeral room decorations.¹⁷ All *Tüchlein* paintings associated with Dürer are executed in an aqueous medium applied directly onto an unprimed canvas. Signs of aging, such as the severe browning of the support, and the relatively unstable, gouache-like, matte medium are responsible for the weakened intensity of the colors in these paintings.¹⁸ The unsatisfying condition of these pictures led to ever-more intrusive work being performed on them, which did little to improve their condition and has only served to further obfuscate an accurate assessment of them. Besides the fragility of the finely woven linen, these unfavorable signs of aging are certainly one of the main reasons why relatively few *Tüchlein* paintings have survived from the time around and before 1500. The fact that so many have survived by Dürer alone is definitely a consequence of the fact that the artist was greatly admired across Europe in his own lifetime and his works widely collected from very early on.

Dürer used linen of an exceptionally fine weave for his *Tüchlein* paintings, ranging from the canvas in the portrait of Frederick the Wise in Berlin (A. 19), with a density of less than twenty threads per centimeter, to a group of canvases containing around thirty threads per centimeter.¹⁹

Fig. 1
Albrecht Dürer: *Self-Portrait*,
painting, 1493. Paris,
Musée du Louvre, no. RF 2382



⁷ Cf. the dossiers of Bruno Mottin in the Centre de Recherche et de Restauration des Musées de France (C2RMF) in Paris.—On the "Virgin and Child" (cat. 53) cf. forthcoming, John Delayney/E. Melanie Gifford/Lisha Glinsman/John Hand/Catherine Metzger, in: Proceedings of the 33rd Congress of the International Committee of the History of Art, CIHA 2012, Nuremberg 2012.

⁸ The only exception here is the very small "St. Jerome" in the National Gallery, London, with its pear-wood support; many thanks to Susan Foister and Per Rumberg, London, for the details.

⁹ Cf. Heimberg 1998, p. 33, or most recently: Bisacca/Fuente Martinez 2011, pp. 18-20.

¹⁰ The five wooden pegs inserted into the right join of the "Salvator Mundi" in New York that can be seen on X-radiographs are probably the result of a later intervention.

¹¹ Heimberg 1998, p. 34.

¹² Cf. "Self-Portrait," Munich; "Holzscher Lamentation," Nuremberg (cat. 107).



Fig. 2
Albrecht Dürer: *Self-Portrait*,
X-radiography, cf. fig. 1

The wings of the Dresden altarpiece, meanwhile, contain linen of up to forty threads per centimeter.²⁰ As far as we can gather, it is probable that all canvases were spanned before being painted on, and stretch marks can clearly be seen in the regions along the edges, which make it easier to trace subsequent alterations to the picture's format. In view of their differences in motif and technique, it would hardly be accurate to speak of the *Tüchlein* paintings as a unified group. While the fragments in Paris (cats. 69-71) are reminiscent of gouache paintings on paper due to the cross-hatched modeling, paintings like the Nuremberg "Hercules and the Stymphalian Birds" (cat. 66) or the wings of the Dresden altarpiece take on the appearance of panel paintings thanks to their painstaking execution, with intricate modeling and raised areas in gold.

- 13 From the early work e.g., the "Jabach Altarpiece" (cats. 109, 110), "Mater Dolorosa," the central panel of "Seven Sorrows of the Virgin" and the Glimm "Lamentation," cf. Heimberg 1998, p. 34. See also Skaug 2008, pp. 26-27, or most recently Bisacca/Fuente Martinez 2011, p. 14.
- 14 For Karlsruhe, cf. the technological findings on no. 2183 by Jens Baudisch, April 2005, in the painting's documentation in the Staatliche Kunsthalle Karlsruhe.
- 15 The application of the ground differs widely in its strength. Particularly noteworthy are the virtually unprimed panels of the Tucher portraits in Weimar, the particularly smooth ground of "Christ as the Man of Sorrows" in Karlsruhe and the colored ground containing minium-colored admixtures in the "Portrait of Oswolt Krell" in Munich. No traces of a layered preparation can be detected on the reverse of the paintings that have been painted over several times. According to Burmester/Krekel 1998, pp. 60-61, in the analysis of the works in the Munich collections, traces of chalk of various origins were found as the extender or filler. In a few cases, structures have been revealed in X-radiographs that suggest the use of layers containing white (lead). The reddish layer in the green background of the portrait of Dürer's mother in Nuremberg, mentioned by Bartl 1999, p. 29, was not applied to the general area of the sitter's face.
- 16 Dürer uses the term *Tüchlein* on his journey to the Low Countries: cf. Rupprich I, p. 152, pp. 164-165.
- 17 Cf. further details in the text for cats. 66-71 in this volume.
- 18 Cf. Heydenreich 2008, p. 32.
- 19 Bibliothèque nationale: "Head of a Young Boy Turned to the Left" and "Head of a Young Boy Turned to the Right," each c. 26-30 threads/cm, "Head of a Woman (Head of the Virgin)," 26-30 threads/cm; Nuremberg: "Hercules and the Stymphalian Birds," c. 23-30 threads/cm; Berlin: the "Fürlegerin" portrait, c. 26-32 threads/cm.
- 20 St. Sebastian: c. 33-40 threads/cm, St. Anthony: c. 31-39 threads/cm.

One last support medium also favored by Dürer that is worth mentioning is parchment, which he used, for instance, in his self-portrait from 1493 in Paris (figs. 1, 2). The scientific tests initiated by the project suggest that the parchment was initially drawn over a wooden panel before it was transferred to canvas in 1840, after several tears and other signs of deterioration emerged.²¹ The material findings provide nothing in support of the supposition, first proposed by Moriz Thausing in 1884 and which resurfaces from time to time in the literature on Dürer, that this picture was in fact intended as some form of “wedding contract on parchment” or an engagement picture, which was executed on parchment for the ease of dispatch.²² Heimberg has already made the differentiation between “a tradition of watercolor and gouache painting on parchment in the illumination of manuscripts as distinct to oil painting on parchment.”²³ Parchment was recommended as early as the 12th century as lamination for wood panels²⁴ and had been used in this form as a support for oil paintings ever since.²⁵ Despite the high risk of warpage and the possible imperfect bonding of the layers of paint (of which several instances are known to us), as a base, paper and parchment could be quickly and efficiently applied and were smooth, and thus served as a kind of replacement for the ground.²⁶ In addition, before being drawn over the panel, the semi-translucent material provided the artist with several simple options regarding the transfer of pictorial details; a motif, for example, could easily be traced from a template.²⁷ Before canvas, wood panels covered with parchment were used in great numbers for portraits from the 15th century onwards.²⁸ A good example of this can be seen in the diptych with the portrait of Count Georg von Löwenstein by Hans Pleydenwurff (cat. 56). While the “Christ as the Man of Sorrows” on the left wing of the Löwenstein diptych is painted on linden with a white ground, the right wing bearing the portrait has parchment pasted underneath instead of a ground.²⁹



Fig. 3
Albrecht Dürer: *Self-Portrait*,
painting, 1500. Munich,
Bayerische Staatsgemäldesamm-
lungen, Alte Pinakothek, no. 537

PROTEAN AND PRACTICAL: DÜRER'S UNDERDRAWING

In view of the broad spectrum of evidence in this area, interpreting Dürer's underdrawings poses a great challenge to scholars. Scientific examinations have so far revealed areas containing minutely detailed, dense hatching for volume, and other places where the rendering is radically reduced, pared down to mere contour. Between these two poles, scholars posited that there was a transition in Dürer's underdrawings from the “painterly early style” to a “sparsely reduced late style.”³⁰ The self-portrait from 1500 (figs. 3, 4) was seen as an exception to this rule, due to the underdrawing's exceptionally dense lines and the detail of its execution.³¹ In this chronological scheme, later works were deemed merely to “return” to the style of the early underdrawings.³² On the basis of our examination of many previously unconsidered paintings from Dürer's early period using a high-resolution mobile infrared imaging system, we can confirm and expand the broad stylistic spectrum in Dürer's underdrawings.³³ The findings do, how-

ever, cast doubt on a clear chronological development in their style.

Even one of his earliest paintings, the portrait of his mother (cat. 7), reveals an astounding array of preparatory lines, which, although systematic in appearance, cannot be explained in terms of style. This discovery thus serves as a reminder that we should take the functional character of the underdrawings into greater consideration when trying to interpret them. Due to the effects of aging, the layers of paint have become transparent and some lines of the underdrawing can now even be observed with the naked eye. With the help of infrared reflectography, they are made clear in full. The underdrawing has been worked in various distinct ways: the area of the clothing and

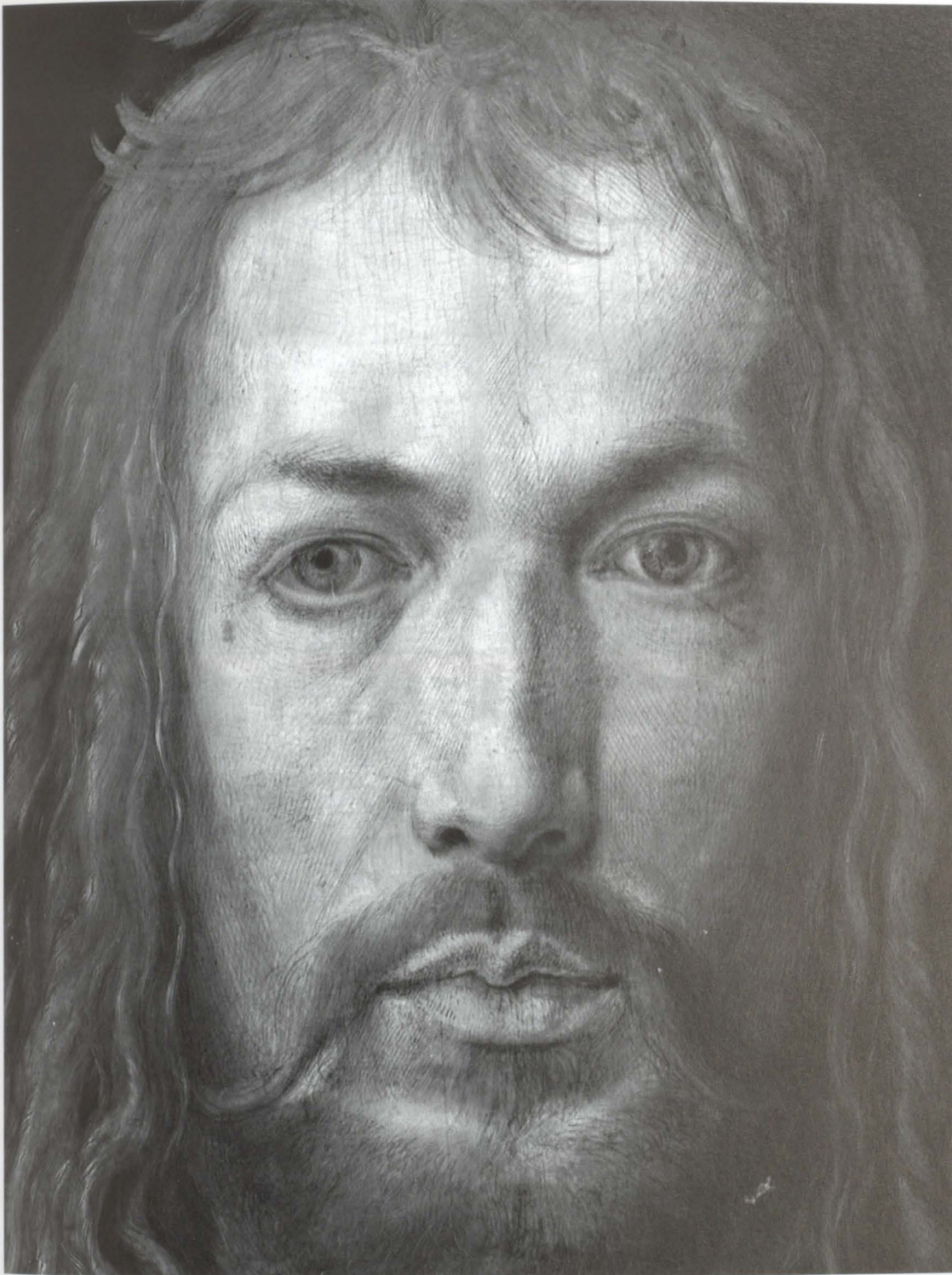


Fig. 4
 Albrecht Dürer: *Self-Portrait*,
 Infrared reflectography (detail),
 cf. fig. 4

hands has been cursorily executed with contour lines in a flowing graphic medium, whereby the relatively great tonal variation in the loose strokes would suggest they were made with a brush. This relatively free drawing (Dürer subsequently deviated from it again and again in the painting stage) was modeled by wide, brisk sections of hatching. The hatching in the area of the left sleeve is striking for the characteristic thin upstroke and wide downstroke (fig. 6). By contrast, the preparation of the face is far more carefully and less summarily executed (fig. 5). For instance, in the area of the wing of the nose, thin, delicate lines can still be made out, revealing how the artist worked

²¹ Cf. Bruno Mottin in the examination report from C2RMF, Dossier F 1536 from March 8, 2011: the analysis could not determine for certain whether paper or parchment is used here as the support, although parchment is most likely. On the transfer to canvas, cf. Thausing's contradictory statements 1876, p. 100, and 1884, vol. I, p. 132. The parchment appears to have detached itself from the original support and warped, and therefore probably broke before or during its transfer onto the canvas.

²² Cf. A. 10, as well as Shira Brisman's essay in this volume.

²³ Heimberg 1998, p. 49 (tr. from German).

²⁴ Heraclius, Lib. III, chapter XXIV: "Should the wood on which you would like to paint be uneven, stretch horseskin or parchment over it" (cited here from Ilg 1873, p. 72 [tr. from German]).

²⁵ Rief 2001/2002, pp. 27–28.—According to Röper 2001, p. 81, spanned, non-laminating sheets of parchment were only used as a support medium in their own right from the 17th century onwards.

²⁶ Regarding damaged paintings and causes, cf. Röper 2001, pp. 62–64.

²⁷ Verougstrate 1995.—Ainsworth 1999.

²⁸ Vgl. Rief 2001/2002, pp. 27–28.—Koller 1984, p. 288.

²⁹ For more on the Basel panel, cf. Sophie Eichner: scientific results on no. 1651 from July 11, 2011, Kunstmuseum, Basel. For findings on the Nuremberg panel, cf. restoration file no. Gm 128, Germanisches Nationalmuseum, Nuremberg.

³⁰ Heimberg 1998, p. 42 (tr. from German).

³¹ Heimberg 1998, pp. 41–42.—Luber 2010, pp. 66–68.

³² Luber 2010, p. 68.

³³ OSIRIS. Digital infrared imaging system from Opus Instruments Ltd. Sensitivity: 900–1700 nm.

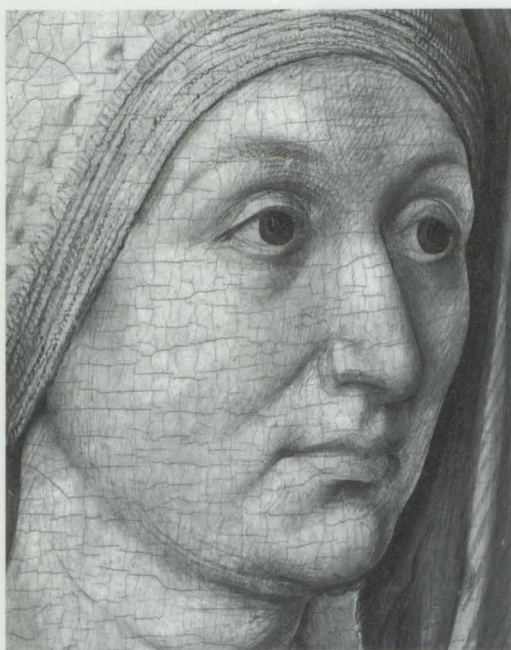


Fig. 5
Albrecht Dürer: *Portrait of Barbara Dürer*, Infrared reflectography (detail), cf. cat. 7

Fig. 6
Albrecht Dürer: *Portrait of Barbara Dürer*, Infrared reflectography (detail), cf. fig. 5



out the form. Once the form was finalized, the modeling was achieved through fine, precisely executed hatching and crosshatching. For this early private painting we can, with certainty, rule out the idea that assistants were involved, which also means that the formal differences cannot be explained as the result of a division of labor. In rendering the shape and volume of the face, Dürer obviously deemed a different process more appropriate than that used in other, more summarily executed sections of the painting.

A similar approach can be observed in the *Madonna in Vienna* (cat. 51). Here, too, we find an outline largely reduced to contours, rendered with a relatively wide brush. In this work Dürer also departed from the underdrawing, as seen in the painterly execution of the Christ child's head and the design for the Virgin's hand (later abandoned). The Madonna's face, by contrast, was prepared in finely hatched detail. This trend is also evident in the preparatory drawing of the figure in the portrait of the artist's father, now in Florence (cat. 8).³⁴ A recent examination of this picture has revealed how Dürer fundamentally rethought its design (fig. 7, cf. p. 106, fig. 6 [complete picture]). The initial designs for this painting have the sitter placed inside a room below an

arched window, with a view of the landscape beyond and a ceiling supported by corbels. This composition, which draws heavily from the Netherlandish portrait tradition, was ultimately abandoned in favor of a neutral green background.³⁵ The corrections to the face suggest that over the course of the design the head had become too large in proportion to the surrounding interior, which was outlined with a few white lines.

The sketch-like character of the underdrawing becomes particularly apparent in the Nuremberg painting "Hercules and the Stymphalian Birds" (figs. 8, cat. 66). The ancient hero, whose figure is depicted in a challenging pose with his back toward the viewer, was sketched out on the canvas in loose strokes. The back of the head is rendered in a few lines, his calf is worked up through a multitude of lightly varying strokes, corrections were made to the quiver, and the bow's position

was altered several times, which resulted in an ever-shifting bowstring. The right foot, initially seen from the side, was eventually abandoned completely in the painting stage, which explains the subsequent, anatomically somewhat unsatisfactory solution of concealing it behind a plant. An examination of the "Christ as the Man of Sorrows" in Karlsruhe (cat. 175) also reveals how Dürer struggled to derive the form, as evidenced in the numerous departures from the underdrawing in the painting. Here, a corner of the loincloth was originally supposed to hang over the ledge, while the position of the hand and proportion of the face have been altered. In the underdrawing, we can trace how the artist tried to hit upon the right outline for the shoulder, the render-

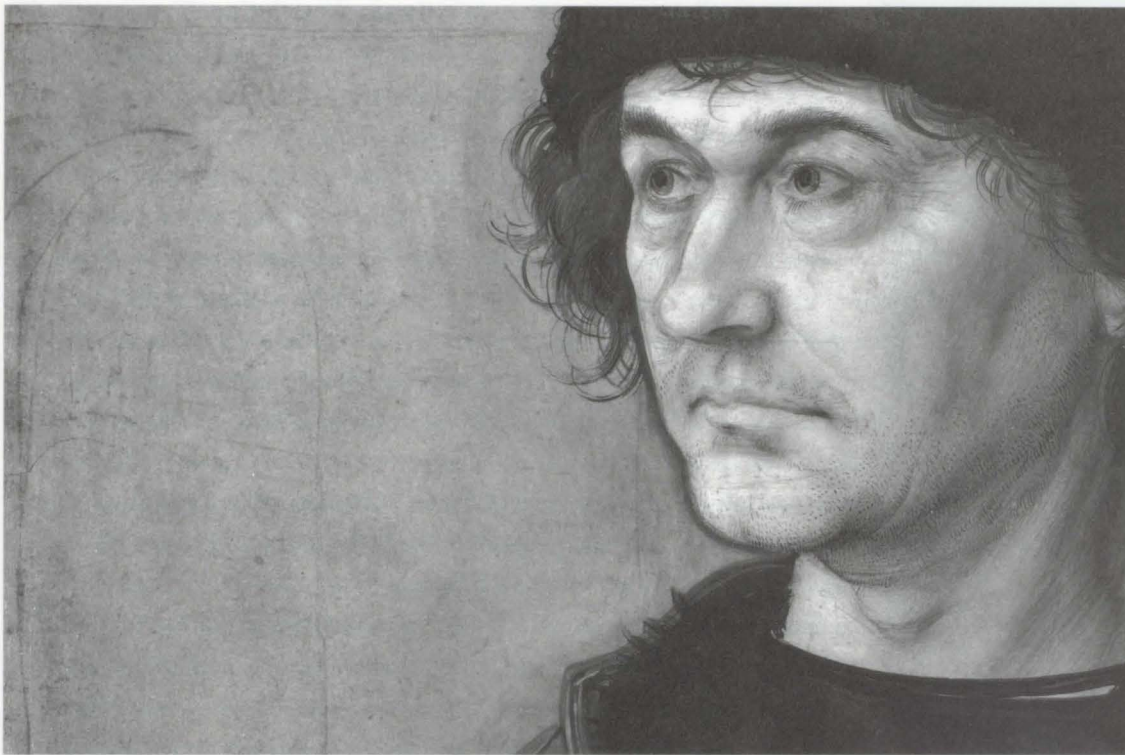
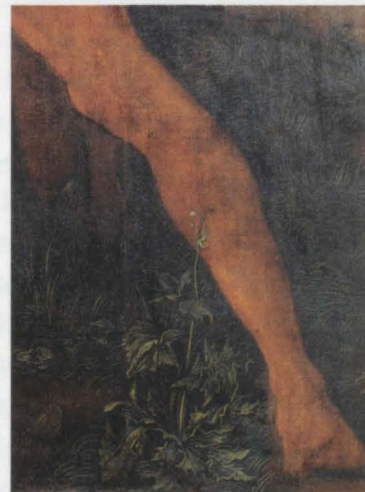
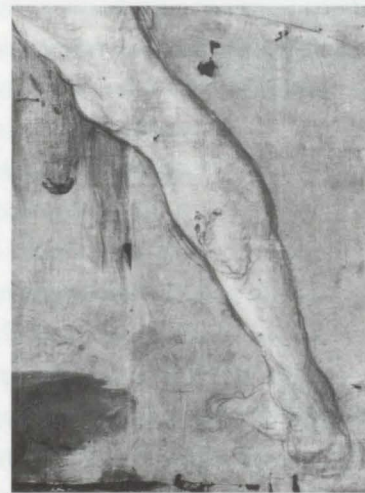


Fig. 7
 Albrecht Dürer: *Portrait of Albrecht Dürer the Elder*,
 Infrared reflectography (detail),
 cf. cat. 8

Figs. 8a-d
 Albrecht Dürer: *Hercules and the Stymphalian Birds*, cf. cat. 66,
 details of the Infrared reflectography and of the painting



³⁴ Bartl 1999, p. 29 describes differences in the underdrawing of both paintings. The new infrared scans made as part of this research project were unable to confirm the stated differences completely. The underdrawing of the mother is not shaded in detail, in tight crosshatching throughout, while such hatching is entirely missing in the father's portrait.

³⁵ Cf. further details cats. 7-8 in this volume.

ing of which also remains anatomically somewhat unconvincing in the painting. There are limits to the scientific analyses of underdrawings using infrared reflectography: in paintings that contain lines and areas of shading already visible to the naked eye, such marks cannot be clearly seen with infrared technology. A striking example of this can be found in the two small panels in Bremen depicting Sts. Onuphrius and John the Baptist (A. 84, 85). Both pictures were never completed; additionally, their paint layers have since thinned. As a result, by merely shining a light on them, a detailed underdrawing can be seen in unusual clarity. The medium Dürer used, however, obviously absorbs the infrared rays so weakly that no contrasts show up in the reflectograph at all.³⁶ Particularly instructive in this regard is the comparison with Dürer's watercolors and gouaches, whereby the sheet with the three jousting helmets (cat. 185) is especially revealing of his approach to this more spontaneous medium. While the first of the three views was started using a brownish medium, clearly discernible at the edges, the two other views were executed in the same color that was subsequently used in the painting stage of the first helmet.³⁷ Infrared reflectography probably would not have revealed any of this preparatory drawing. Perhaps the use of such non- or barely-absorbent drawing media also explains the scant or partial findings for the existence of underdrawings in Dürer's early commissioned pieces and his self-portraits in Madrid and Paris.³⁸ Even in paintings in which infrared technology has provided clear evidence of some form of underdrawing, other kinds of preparatory work in other media, now no longer traceable, cannot be ruled out.

The "Virgin and Child" in Washington (cat. 53) confirms that Dürer did not always outline his compositions in a single phase prior to painting them in. While hatching, exposed over time as the paint has gradually become more translucent, is now clearly discernible with the naked eye in the area of flesh below the Madonna's hand and on the left thigh, it can barely be detected with infrared reflectography.³⁹ In contrast, corrections, seen for instance in the child's right foot and several contour lines, are clearly discernible, at least in part. They are, however, inhomogeneous and may have been executed in various media at various stages in the painting process. Also striking are the lines, strongly reinforced in decisive strokes that surround the figure and follow the contour of the child's head, making it seem raised from the surface.

Infrared images, even when they only reveal faint traces of underdrawing, provide illuminating insights into how the artist designed the composition. When combined with the X-radiographs and the visible surface of the painting, they lay bare the artist's working practices and clearly demonstrate that determining the form of the composition was not a process restricted merely to the underdrawing stage. Dürer altered or accentuated individual forms and perfected the contour even during the painting stage. As the X-radiograph of the self-portrait in Paris (fig. 2) shows, he also worked toward finding the right contour for the face and neck against the black ground through a series of dense, parallel brushstrokes, before finally completing this process with a decisive dark outline now visible on the surface. As seen in the Karlsruhe painting "Christ as the Man of Sorrows," in favor of this clear line Dürer was even prepared to make compromises in the anatomical accuracy of the shoulder, neck and collarbone.

A primary example of the complexity of Dürer's underdrawing methods is revealed through infrared reflectography (figs. 9) in his "Adoration of the Magi" in Florence (cat. 106). The underdrawing is characterized by a mass of tight strokes. These give volume, most of all, to sections of the robes, and are typical of the frequently-mentioned painterly technique of Dürer's underdrawings. In addition to these lines, however, are traces of other processes that probably took place before this modeling. Tiny holes pierce the wood where the compass point was inserted, while

³⁶ At the time of our examinations, the Bremen panels were on display in Karlsruhe. The examination took place in the collection rooms in Karlsruhe. After preliminary attempts using a filtered CCD camera (Sony DSC F-828, with a Schott RG 830 filter) set to the appropriate settings, we decided not to go on with the planned imaging with the OSIRIS system, due to the reasons stated above.

³⁷ For more on the painting techniques used on this sheet, cf. the essay by Daniel Hess in this volume.

³⁸ The research on such media used in the underdrawings is patchy. According to Dörr's findings in 2010, red was predominantly used for underdrawings in the 14th and early 15th century; we only have written sources for the practices used in wall painting. The clue (Kirsch 2004, p. 312) to the use of red chalk ("rotstrich") in preparing the picture, in specific relation to Dürer's "Glastafelapparat" (a perspective machine mentioned in his treatise on measurement), has since turned out to be a reading error. In the passage, Dürer recommends that the sitter keeps his head still until the painter has completed his "notstrich" (Dürer 1525, fol. Q Iir.—Schoch/Mende/Scherbaum, no. 274.196). According to Bartl/Krekel/Lautenschlager/Oltrogge 2005, p. 278, ann. 234, we have no accurate definition for the term "notstrich;" it may also apply to an older specialist term for "shading."

³⁹ The barely visible diagonal structures in the Madonna's face that have been taken for washes are more likely to have arisen, in our opinion, when the support was treated. The same structures can be observed in the background and seem to bear no relation to the painting.

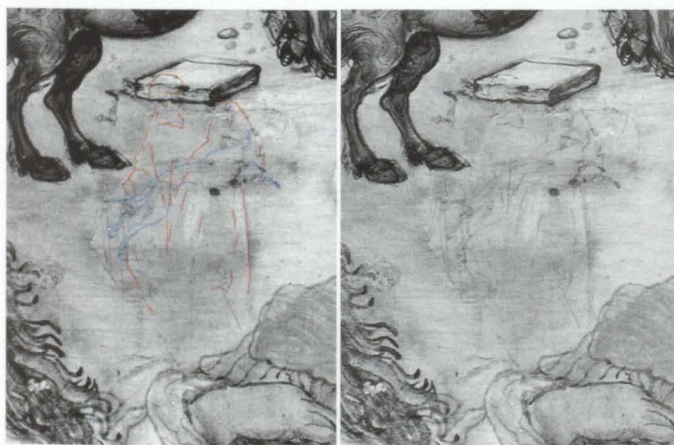
circles indicate the outline for the architectural arches in the middle distance. Besides these, fine lines can also be found that gave form to the composition as a whole and to the architecture.⁴⁰ In addition to the departures from the underdrawing (most clearly seen in the painted view of the town and the landscape, typical of Dürer), what is most striking are the modifications that seem uncertain and tentative when seen in comparison with the deft modeling of the robe.⁴¹ Dürer made at least two attempts to conceal the breaks in the spatial logic of the scene by including staffage in the distance. He first tried to fill the empty space by inserting a man with a beard, then a smaller dog. Both these attempts were eventually abandoned and the breaks in the spatial logic were never fully resolved.

The underdrawing of the faces seems to lack any sign of preparatory design whatsoever (fig. 9d). None of the lines appear to help determine the form or can be explained as a spontaneous design. It is more likely that the double lines shaped like the bridge of a nose and the other interior forms, indicated variations in brightness or changes in color or shade. In our opinion, they can only have been specifications relating to an existing form, developed elsewhere.⁴² We can only conclude that the heads and faces of the protagonists were based on separate sketches, possibly executed on paper, and now lost. Such sketches obviously fell victim to Dürer's repeated revision and re-ordering of his own collection of drawings; they only seem to survive in related clusters when the execution of the motif was carried out by other artists, such as in glass paintings or woodcuts.

In a separate development, extremely fine lines are visible in the infrared reflectographs of the Florentine "Adoration" (fig. 9e), which open up another possibility to us. Even if these lines bear



Figs. 9a-c
Albrecht Dürer: *Adoration of the Magi*, cf. cat. 106, *Infrared reflectography, detail with Caspar; detail of the backdrop with dog (blue traces) and figure (red traces) as well as the same detail without traces*



no relation to the final painting, they could have arisen during work on the underdrawing that can no longer be traced. Even though Dürer is believed not to have been familiar with Cennino Cennini's treatise on painting, in the chapter 122 Cennini describes what appears to have been a common practice, whereby the painter initially made a faint impression on the panel with charcoal, with a feather at the ready to erase lines that did not meet with his approval, then going over them until he was satisfied with the result.⁴³ Once the form had been found, the drawing was apparently "marked out more clearly" in ink, after which the charcoal drawing was erased completely.⁴⁴ The lines observed in the "Adoration of the Magi" may be the result of charcoal particles that have settled in the ridges created when the ground was smoothed over, which would explain the findings of the scientific tests. It therefore cannot be ruled out that Dürer prepared his pictures not only in sketches on paper, but also in charcoal drawings executed below the painting itself, which he replaced with other media and

no relation to the final painting, they could have arisen during work on the underdrawing that can no longer be traced. Even though Dürer is believed not to have been familiar with Cennino Cennini's treatise on painting, in the chapter 122 Cennini describes what appears to have been a common practice, whereby the painter initially made a faint impression on the panel with charcoal, with a feather at the ready to erase lines

⁴⁰ The use of a compass has already been described regarding the design of the nimbus for the Virgin in Munich. The arches in the architecture of the central panel of the "Paumgartner Altarpiece" were also created this way (Heimberg 1998, p. 37). Furthermore, the lines that match up with and lead off the compass point's dot were undoubtedly also used to organize the gaps between the stones in the exposed brickwork on the central panel of the "Paumgartner Altarpiece."

⁴¹ Cf. also Heimberg 1998, p. 43.

⁴² The same approach to preparing faces can be found, for instance, in the Holzschuher "Lamentation" in Nuremberg.

⁴³ Burmester/Krekel 1998, p. 55.

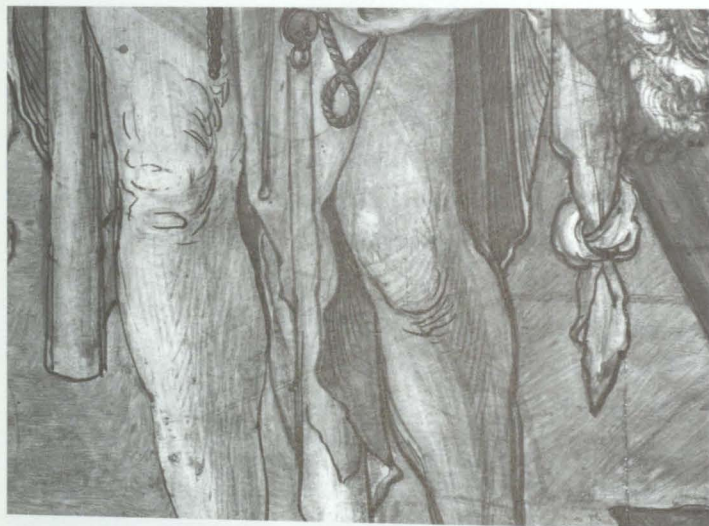
⁴⁴ Cennino Cennini: *Libro dell'Arte*, chapter 28 (quoted in Cennini/Ilg 1440/1871, pp. 77-78 [tr. from German]).

Figs. 9d-e
 Albrecht Dürer: *Adoration of the
 Magi*, Infrared reflectography,
 detail with Melchior's head and
 a detail of Caspar



densely hatched areas of shading and masses of fine strokes (fig. 4). The “*Salvator Mundi*” in New York (figs. 10) has an underdrawing that is equally rich in detail, but which has been largely overshadowed by the Munich piece, probably due to the Metropolitan painting’s problematic state of preservation. The panel painting, described as early as the 16th century in the Imhoff inventories as incomplete, is in such a ruined condition (the result of the disastrous attempts to clean and retouch the painting in the 19th century) that assessing the painterly skill that originally went into it is no easy task. However, the panel is of unique importance for us in understanding Dürer’s painterly technique and his working process. The underdrawing boasts a similar degree of perfection as that in the Munich self-portrait, whereby the strokes appear freer and less stereotypical. Shading in the regions of the body and robes has been modeled in dense, fine strokes that are reminiscent of the artist’s engravings. The detailed drawing illustrates just how ambitious Dürer’s

plans for the depiction were. Fascinating details, such as the considered construction of the crystal orb, can be seen more clearly in the underdrawing than in the partially completed areas of the painting itself. Infrared reflectography shows that Dürer modeled the orb not only by accentuating light and shadow, but also through its material, the depiction of which remains unfinished. A window was supposed to be reflected on the left half of the glass ball, only to be reflected again on the opposite side. The section of robe draped behind the orb was supposed to be illuminated by a bright rectangular patch of light, reflecting off the glass. Dürer even took into consideration how to offset the contours of the robe and depict the refraction of the light through the orb. The exceptionally intricate execution of



the painting is a clear indication of Dürer’s great aspirations for this work, as seen, for instance, in the calligraphic rendering of individual hairs. These are not only drawn with an extremely fine brush but are even accompanied by shadow lines and are heightened with white.

We cannot know for sure what Dürer’s exact intentions were when he meticulously prepared areas of skin or even entire figures through fine hatching in the underdrawing stage. Did they serve as pre-modeling or perhaps even as a sample for the patron who had commissioned the piece?⁴⁵ We can assume that surfaces that bore preliminary designs altered the overall color when the first layers of paint were applied, visibly adding a shade of gray to them, an effect which can again be seen in the aged and now more transparent layers of paint. We can only speculate as to how much this affected the completed paintings, although the “*Adam and Eve*” panels in Madrid provide us with a

⁴⁵ Cf. most recently Burmester/
 Schawe 2011, p. 70.

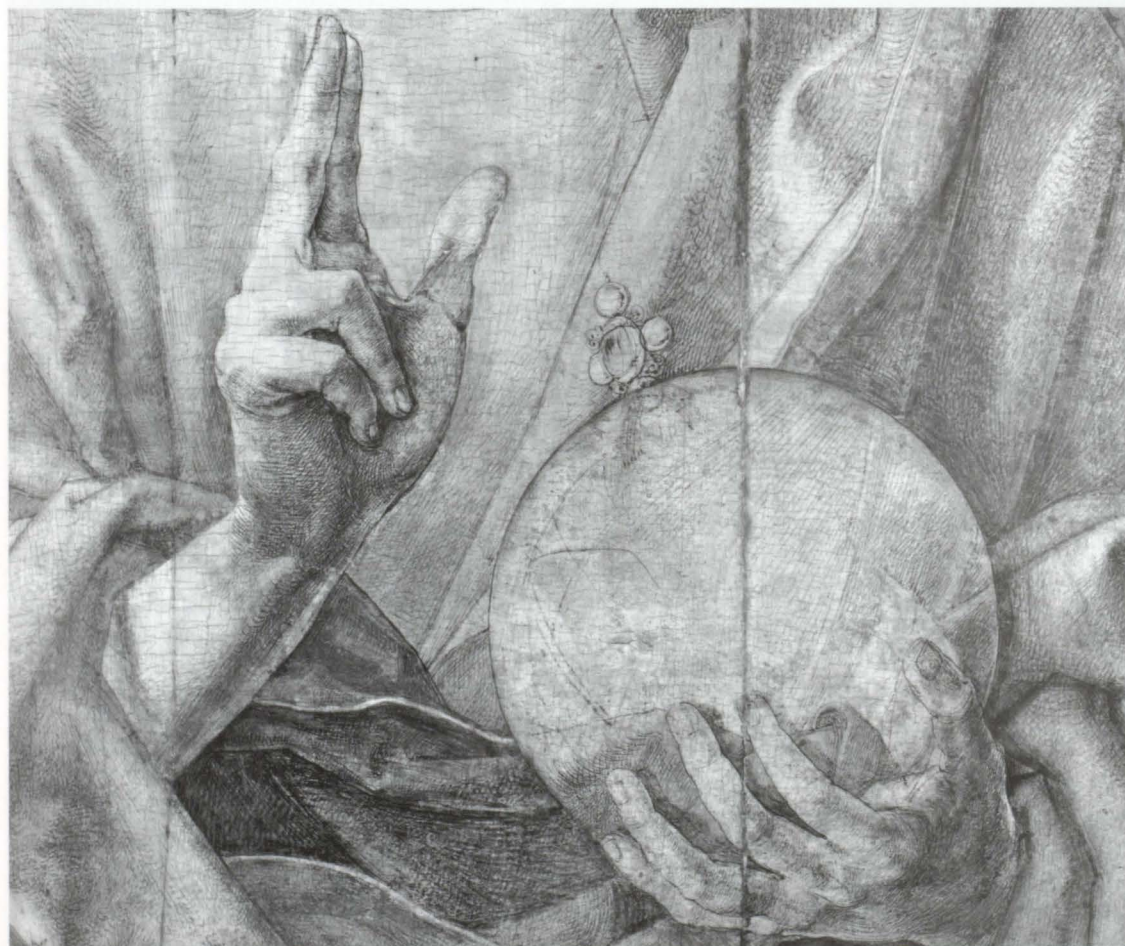
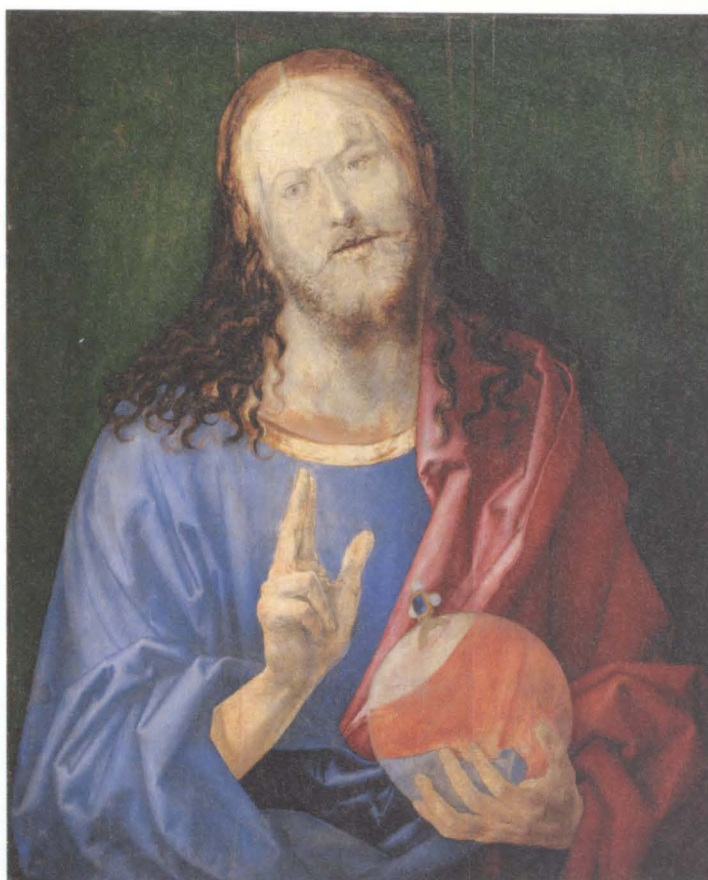


Fig. 10a
 Albrecht Dürer: *Salvator Mundi*,
 painting, c. 1504/1505. New
 York, The Metropolitan Museum
 of Art, no. 32.100.64

Fig. 10b
 Albrecht Dürer: *Salvator Mundi*,
 Infrared reflectography (detail)

clue to this question. Striking in their case are the fundamental differences between underdrawing and painting in the composition of the flesh of both figures.⁴⁶ As these differences effectively apply to a single work executed at the same point in time, they cannot be put down to stylistic development. They document the interdependency between underdrawing and the layers of paint, and emphasize the extent to which the respective underdrawing was adapted to serve a specific function (figs. 11). The densely and opaquely painted female body lies over an underdrawing of hatching comparable in its clarity to that in the Munich "Seven Sorrows of the Virgin."⁴⁷ However, the body of Adam, conceived according to antique ideals, reveals an underdrawing of painstaking detail, which, when compared to that of Eve, is finely structured throughout. Combined with the stippled, translucent brown glazes, it helps create the finely graduated, soft modeling of the male body.

TEXTURE AND LINE: DÜRER'S BRUSHWORK

The Adam and Eve panels demonstrate how important it was to Dürer to use artistic techniques that allowed him to create a variety of surface structures. In the portrait diptych of Dürer's parents



Figs. 11a-d
Albrecht Dürer: Adam (detail),
painting, 1507. Madrid,
Museo del Prado, no. 2177

Albrecht Dürer: Adam,
Infrared reflectography (detail),
cf. fig. 11a

Albrecht Dürer: Eve (detail),
painting, 1507. Madrid,
Museo del Prado, no. 2178

Albrecht Dürer: Eve, Infrared
reflectography (detail), cf. fig. 11c

(cats. 7, 8), the glossiness of the eyelashes is depicted using white strokes, and thickly applied paint is used to convey the texture of the fabric of the mother's bonnet and the fine wrinkles around the father's forehead and eyes, as well as the folds of the skin on his fingers. Similar effects can be seen in areas of skin that are accentuated using thickly applied paint, as is particularly evident in the hand resting on the ledge in the painting "Christ as the Man of Sorrows" in Karlsruhe (cat. 175). The Madrid "Self-Portrait" from 1498 (fig. 12a) is a particularly clear example of such effects created through structured brushwork. The artist uses the handle of the paintbrush or similar tools to break up the thick layers of paint and convey the physical characteristics of various surfaces and textures as vividly as possible. Glazes are not only thinly spread, but are also applied in stippled brushwork and worked using the artist's fingers. The use of fingers and the ball of the hand was already recognized as a prominent characteristic of Dürer's painting technique in early studies of his work, but such analyses were mostly limited to attempts to identify and attribute disputed paintings by dactyloscopic methods.⁴⁸ Due to a lack of knowledge of the artist's anatomy, the results remained doubtful, including the theory that Dürer learned this technique in Bellini's studio in Venice. It has since



Fig. 12a
Albrecht Dürer: *Self-Portrait*
(detail), painting, 1498. Madrid,
Museo del Prado, no. 2179

been demonstrated that the use of fingers and the ball of the hand was a technique employed by many other painters both north and south of the Alps, and that it was most often used in order to spread paint or create subtle shadings and special atmospheric effects.⁴⁹ Dürer's finger-painting technique belongs to this tradition, which was also practiced by Albrecht Altdorfer, among others, but differs from the method known since the 17th century at the latest under the term *sfregazzi*, in which the finger is used to smear and rub paint.⁵⁰ Dürer, by contrast, applied a stippling technique to the hardening layer of dark glazes in order to achieve airy effects through a fine network of papillary lines, subtle transitions and smooth shadings without sacrificing texture. The Madrid "Self-Portrait" shows countless papillary lines in the shaded portions of the glove and the hands, the areas of the cloak facing away from the light, as well as the neck, chin and collarbone. Along with

⁴⁶ Most recently Garrido Perez/García-Máiquez 2008.

⁴⁷ This becomes especially striking in the assessment of the X-radiographs.

⁴⁸ Heindl 1927, pp. 485-498.—Winzinger 1977, pp. 42-43.—Brachert/Brachert 1989, p. 27.—Holzheu 1989.

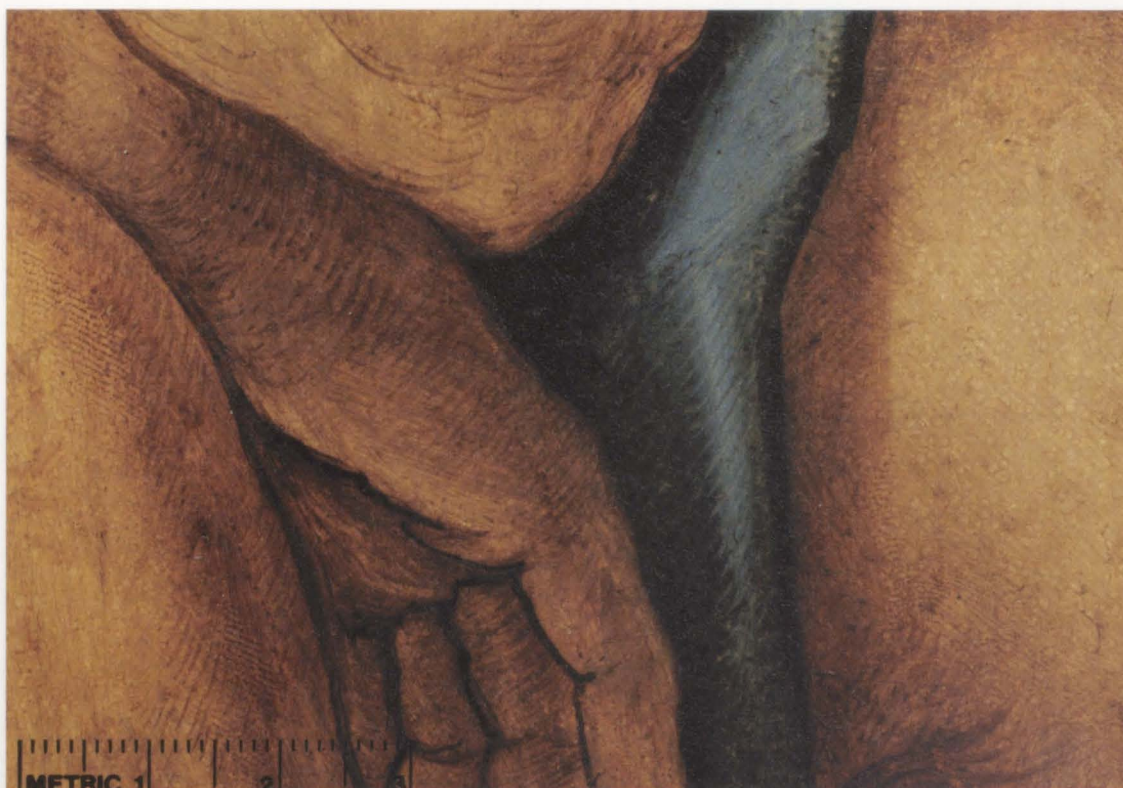
⁴⁹ Cf. Wolfthal 2003.

⁵⁰ On Altdorfer's finger-painting technique, see Hess/Mack 2007, p. 126; on similar effects used by Hans Burgkmair, see Schawe 1999, pp. 100, 103. On *sfregazzi*, see Straub 1984, p. 224.—Brachert 2001, pp. 229-230.—Wolfthal 2003, p. 94.

the artist's fingers, paintbrush handles and dry brushes were also used on glazes, as well as short, brown strokes of glaze in order to deepen the shadows. Dürer also used his fingers and the ball of his hand to add texture to the brown glaze of the kings' robes in the "Adoration of the Magi" (fig. 12b, cat. 106). This allowed him to achieve fine gradations of shining and matte gold, and also gives shape to the shaded areas. The glazed shadings of the bonnet in the portrait of Elsbeth Tucher (cat. 63), the neck area in the portrait of Oswolt Krell (cat. 59), and individual heads, hands and landscape areas in the "Paumgartner Altarpiece" and the Glimm "Lamentation" in Munich also show fingerprints. Dürer used particularly elaborate methods of surface treatment and brushwork in the exterior panels of the "Jabach Altarpiece" in Cologne and Frankfurt (cats. 109, 110). Immediately apparent is the richness of variation in the red glazes, which are applied in multiple layers in broad, flat strokes or stippled brushwork, and in some cases are partially thinned out using a dry brush.



Fig. 12b
Albrecht Dürer: *Adoration of the Magi* (detail with garment and cup), 1504, cf. cat. 106



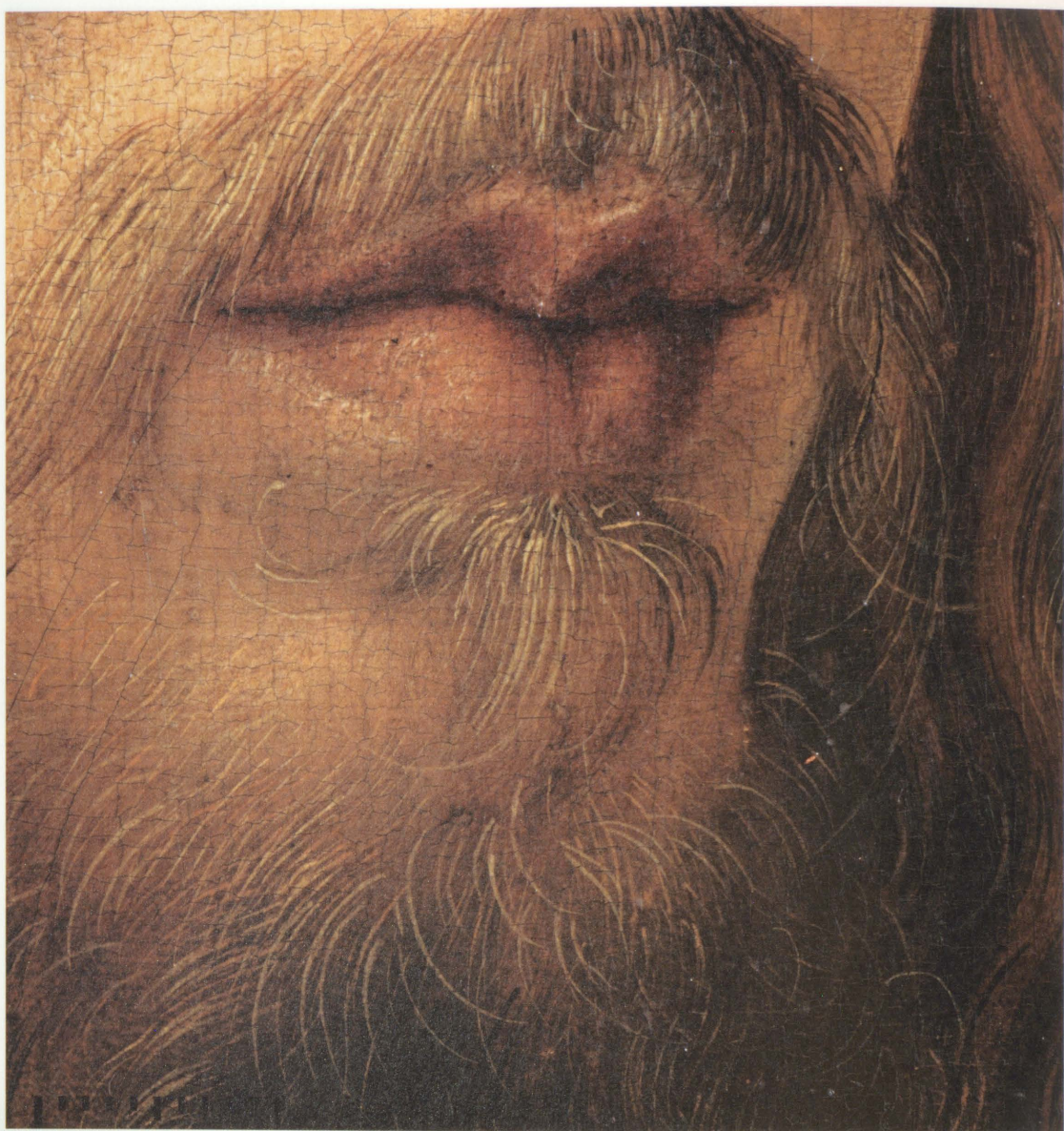
Dürer adds shadings to these tones using thickly applied strokes of glaze, and subtracts texture by reducing the freshly applied coats of glaze with a brush or a stick, thus exposing the underlying layers of paint. This painting technique reaches its culmination in the rendering of Job's skin: various structures are layered over the ground color—painted in streaks with thick, bristly strokes in ochre tones—by applying glazes with a stippled and hatched technique, or by digging them into smoother layers of glaze using the method outlined above. Using the ball of his hand, Dürer covered shaded areas with a fine network of papillary lines and used this texture, along with hatched brushwork, in order to add variation to his modeling of light and darkness (fig. 12c). The porous, round structures of Job's skin at first appear to indicate mistakes in painting technique, but they most likely result from Dürer's use of solvents such as turpentine oil, which were sprayed onto freshly applied oil glazes, creating small, round depressions in the glazes (figs. 12c-d). This allowed him to create an astonishingly naturalistic imitation of the boils covering the skin of this patient sufferer from the Old Testament.

In addition to these suggestive surface effects, the use of line plays a prominent role in the technique of Dürer's early paintings. Hair, beards and furs are rendered using a system of finely curved lines over a smoothly applied ground color, a common painting technique in Dürer's time. Once again, Dürer uses his extraordinary abilities to create effects of the utmost perfection. The most impressive example of this can be found in the self-portraits in Madrid and Munich, as well as in the "Salvator Mundi" in New York, as can be seen in what remains of the poorly preserved hair. His free yet controlled use of the pointed brush allows him to add glossy effects to individual long, curving hairs, which he renders with the highest precision thanks to his absolute mastery of the tool (figs. 13).

Fig. 12c
Albrecht Dürer: *Job on the Dung Heap* (detail with hand),
painting, c. 1503/1505, cf. cat. 109

Fig. 12d
Albrecht Dürer: *Job on the Dung Heap* (detail of the leg), cf. fig. 12c





Often he uses this effect only in a limited area, without developing the entire surface in a naturalistic manner; thus, the illusionistic effect is created only in the eye of the viewer. With economic means and his impressive drawing abilities, Dürer creates the same effect in watercolors—such as in the “Young Hare” (p. 119, fig. 3)—which contributed to his decisive victory in the previously-mentioned encounter with Bellini.

In light of such examples of his refined drawing technique, the enormous importance of contour lines for the effect of Dürer’s paintings cannot be overlooked. As has already been demonstrated, the search for the correct contour took place in every stage of the painting process. However, particularly apparent are the black lines—apparently one of his final steps in the production of numerous paintings—that seem to lie on a separate level atop the colored areas. These lines serve to accentuate shapes, garments and landscape elements when viewed from a distance. Many paintings, including the Holzschuher “Lamentation” (cat. 107), the “Paumgartner Altarpiece” and the interior panels of the “Jabach Altarpiece,” show similar black contours and interior lines added in the final stage of painting, in which physiognomic details are defined using only a few strokes on the painting.

Fig. 13a
Albrecht Dürer: *Self-Portrait*
(detail), painting, 1498. Madrid,
Museo del Prado, no. 2179

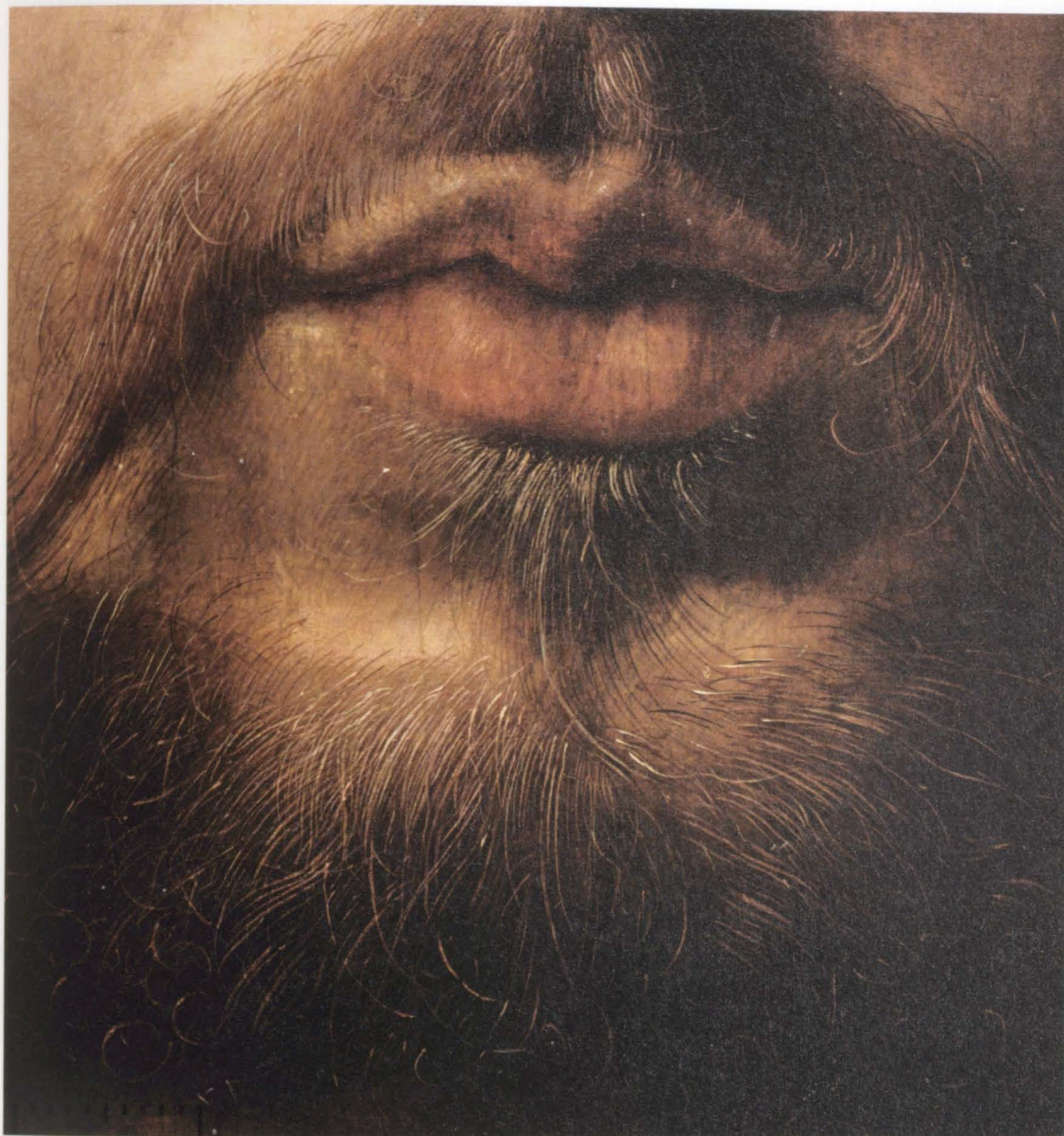


Fig. 13b
 Albrecht Dürer: *Self-Portrait*
 (detail), painting, 1500. Munich,
 Bayerische Staatsgemäldesamm-
 lungen, Alte Pinakothek, no. 537

In his letters written in 1508 and 1509 to Jakob Heller, with whom Dürer haggled for an appropriate price for an altarpiece on which he was working, Dürer explained the delay in the painting's completion by emphasizing not only the expensive materials he used, but also the high level of artistic and technical expertise that was necessary. Dürer wrote that he could make many ordinary paintings in a year, but this was not possible if diligent attention to detail and the utmost workmanship were to be applied.⁵¹ Dürer even characterized the amount of labor dedicated to the painting by differentiating between "the utmost," "great" and "exceptional" workmanship. The front and reverse of the "Virgin and Child" (cat. 53) demonstrate that Dürer was not referring to differences in painting technique, but to fine degrees of detail in the execution of the painting, as are evidenced in many of his early works. The front side of the panel shows an elaborate, multilayered, carefully executed painting that used expensive materials such as ultramarine, rare in German Renaissance paintings.⁵² The back was painted quickly and economically on the unprimed panel, as was also the case in the portraits of Dürer's parents (cats. 7, 8), the Tucher portraits in Weimar (cats. 62, 63) and the painting "Christ as the Man of Sorrows" in Karlsruhe (cat. 175). The use of the rare ultramarine

⁵¹ Rupprich I, pp. 68, 72.

⁵² Although there is no proof of trade in ultramarine in Germany during Dürer's lifetime (cf. Burmester/Krekel: *Ultramarine* 1998 and Krekel/Burmester 2010, pp. 17–20), it was nonetheless used. The evidence for this includes a considerable number of Dürer's paintings (Burmester/Krekel 1998, p. 75.—Spring 2007, p. 138). On the "Virgin and Child," see ann. 7 above. In addition to works by Dürer, it has been demonstrated that ultramarine was used in a painting by Jakob Elsner (Burmester/Krekel 1998, p. 75) and by Cranach in commissions from the nobility (Heydenreich 2010, p. 307). Numerous examples can be found in Cologne Renaissance paintings (cf. Kühn 1990, pp. 571–663, among others).

pigment for the rather inconspicuous grayish-blue color of the bag Lot's daughter carries on her head containing her salvaged possessions shows that this work was completed around the same time as the front side of the panel. Although it was certainly common for the front and reverse of late Gothic panel paintings to be executed with differing degrees of workmanship—as was particularly the case with reredos—the “Virgin and Child” opens new levels of understanding with regard to Dürer's early paintings.

The varying quality of workmanship in Dürer's portraits is particularly striking. In individual works such as the portraits of Hans and Felicitas Tucher in Weimar (cats. 62, 63), the combination of a highly economical painting technique and individual formulaic elements led to the view that Dürer did not paint these works on his own, since a constantly high level of quality was expected of his work.⁵³ In light of these circumstances, it is worth noting that Dürer's early works were not necessarily created in a workshop. Although there is proof that, starting in 1497, Dürer employed colporteurs to sell his prints, there has not yet been any definitive evidence of Dürer employing workers and apprentices for his paintings before 1505.⁵⁴ The various levels of detail Dürer used can be seen by comparing the eyes in some of his undisputed works (figs. 14). While the “Self-Portrait” of 1500 shows an impressively detailed and realistic rendering of the pupil, eyelid and eyelashes, the eyes in the two other self-portraits are more heavily schematized, as is also the case in the portraits of Dürer's parents. The eyes in later works show a further reduction, even if they retain some formal elements such as the red line of the eyelid or the rendering of the pupil and inner corner of the eye with the tear duct. In the “Adoration of the Magi,” the “Jabach Altarpiece” and the Holzschuher “Lamentation,” these features are reduced to quickly sketched brushstrokes and the characteristically free and defined contour lines. The eyes in the Tucher portraits fall within a comparable spectrum (p. 112, figs. 11b-c). A similarly wide range is evident in the background landscapes, with the front and back of the “Virgin and Child” marking the two extremes of this series of paintings (figs. 15).⁵⁵ The front of the picture shows a landscape rendered in minute detail with subtle color gradations, as are also evident in the Madrid self-portrait, in which, however,



Figs. 14a-c

Albrecht Dürer: *Self-Portrait* (detail with left eye), painting, 1500. Munich, Bayerische Staatsgemäldesammlungen, Alte Pinakothek, Nr. 537

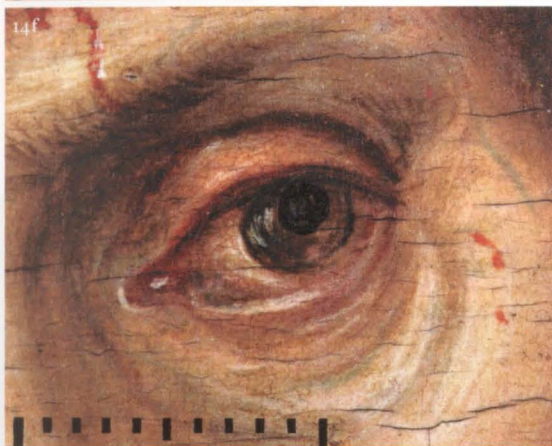
Albrecht Dürer: *Self-Portrait* (detail with right eye), painting, 1498. Madrid, Museo del Prado

Albrecht Dürer: *Self-Portrait* (detail with left eye), painting, 1493. Paris, Musée du Louvre

⁵³ See also Dagmar Hirschfelder's essay in this volume.

⁵⁴ Cf. Dürer Matrix, no. 76, in this volume.

⁵⁵ See also Dagmar Hirschfelder's essay in this volume.



Figs. 14d-k

Albrecht Dürer: Albrecht Dürer the Elder (detail with right eye), cf. cat. 8

Albrecht Dürer: Haller Madonna (detail with left eye), cf. cat. 53

Albrecht Dürer: Christ as the Man of Sorrows (detail with right eye), cf. cat. 175

Albrecht Dürer: The Adoration of the Magi (detail with Caspar's right eye), cf. cat. 106

Albrecht Dürer: Piper and Drummer (detail with the drummer's right eye), cf. cat. 110

Albrecht Dürer: Sts. Joseph und Joachim (detail with Joachim's right eye), painting, c. 1503/1505. Munich, Bayerische Staatsgemäldesammlungen, Alte Pinakothek, no. WAF 228

Albrecht Dürer: The Lamentation (detail with St. Nikodemus's right eye), cf. cat. 107

Albrecht Dürer: Hans XI Tucher (detail with right eye), cf. cat. 64

they are achieved using thicker and freer brushstrokes. The Tucher panels in Weimar are similar in their choice of colors and the formal characteristics of individual elements, but they show a further reduction in detail and the use of line and color appears somewhat schematic in the Tucher portrait in Kassel. Dürer's characteristic use of line, however, remains the same and also shows similarities with the Holzschuher "Lamentation" (cat. 107) and the painting of Hercules (cat. 66), for example in the dark contours of the horizon lines used to contrast with the rolling hills. The layering of paint in the landscapes follows the pattern typical of the time: individual forms are sketched using more or less detailed brushstrokes in bright and dark tones over a smooth ground color, and are only rendered in detail through the addition of shadings and glazes. A comparison with the paintings on paper, such as the "Willow Mill," with its only partially completed trees (cat. 192), further demonstrates the effects achieved by this method and the economy of means used by the artist.

The Holzschuher "Lamentation" is also relevant in this context, and has been contrasted with the Glimm "Lamentation" due to differences in composition and motifs. These differences are attributed to the involvement of workshop employees as well as a long gap between the creation of



the works.⁵⁶ According to current opinions, the underdrawing shows similarities to Dürer's drawings in its characteristic style, but appears less precise, less focused and rather decorative in comparison to the underdrawings in some of his other paintings.⁵⁷ Indeed, the underdrawing is executed in a free and summary style, particularly in contrast to the more meticulous underdrawing of the Glimm "Lamentation" with its modeling of light and shadow. However, there are clear parallels to the "Adoration" in Florence (fig. 9a), for example in the rendering of the face of Joseph of Arimathea. Similarly free underdrawings can also be seen in the Hercules painting (cat. 66) as well as in areas of the portrait of Dürer's mother (cat. 7) and in the painting of "Christ as the Man of Sorrows" (cat. 175). The forms in these works were rendered in detail only in the painting stage, and in the case of the Holzschuher "Lamentation" a series of changes were made, not only in the rendering of the town and the crucifixion group in particular, but also in the main figures and their faces. Particularly in the rendering of skin, this economical painting technique is based on a middle tone and the outlining of forms, which is achieved using the black contours found in many of Dürer's paintings, as well as a few brushstrokes in local colors and accented white strokes. The head of Joseph of Arimathea and the head of Nicodemus in the Glimm "Lamentation" show close similarities in painting technique: the beards are sketched using fine white and gray strokes on a smooth middle tone and show traces of black in the shaded areas. The landscape is also worth noting, due to its similarities to the Hercules painting (cat. 66), including details of the townscape with the rowboats, the spatial gradation of the headlands bordered by trees and the modeling of the mountains. The illusion of depth that is achieved to a large extent through overlapping elements in the Holzschuher "Lamentation" is applied with greater continuity in the painting of Hercules, thus forming a bridge to the Glimm "Lamentation." The mountains in these two latter paintings create a more suggestive, atmospheric effect with their accented pink strokes. Dürer tested and developed these effects in his watercolor landscapes, among which the most prominent example of his rendering of a mountain landscape is "Trent seen from the North" (cat. 104).⁵⁸



The "Adoration of the Magi" in Basel (fig. 16), which has been associated with Dürer or the "Master of the Terence Illustrations" since 1924, demonstrates that there are limits to the spectrum of workmanship evident in works attributed to Dürer.⁵⁹ Even the underdrawing, with its impulsive, freely drawn lines, differs significantly from what has so far been described. This is particularly evident in its almost dancing, dramatically ebbing and swelling brushstrokes that abruptly change direction, forming oases and hooked shapes (fig. 17). The painting technique in the landscape and the figures also lacks any of the characteristics found even in Dürer's simpler paintings, including the systematic structuring of surfaces, the physical modeling and the clear contours of developed forms. The brushwork in the hair, the contour lines of the hands and the rendering of the gold offerings and fur trimmings lack the

Figs. 15a-f
Details of backdrop landscapes
in paintings by Albrecht Dürer:

Haller Madonna, cf. cat. 53

Self-Portrait, 1498. Madrid,
Museo del Prado, Nr. 2179

Hans XI Tucher, cf. cat. 64

Felicitas Tucher, cf. cat. 65

Elsbeth Tucher, cf. cat. 63

Lot Fleeing Sodom with his
Family, cf. cat. 53

⁵⁶ Cf. Goldberg/Heimberg/Schawe 1998, nos. 4, 5.

⁵⁷ Heimberg 1998, pp. 37-40.— Goldberg/Heimberg/Schawe 1998, no. 4, p. 301.

⁵⁸ See also notes to cats. 95-104 by Daniel Hess in this volume.

⁵⁹ Ganz 1924, pp. 89-90.—A. 6.

Fig. 16
 Unknown Basel Master:
The Adoration of the Magi,
 painting, c. 1490/1495. Basel,
 Kunstmuseum, no. 555



characteristic refinement and accentuation found even in Dürer's early works. For this reason, we believe that the "Adoration" in Basel falls outside the boundaries of the varying degrees of workmanship evident in works by Dürer. Nor do the work's iconography and motifs support an attribution to Dürer: the similarities with the Terence illustrations (cats. 115-118, 120), which are often cited in discussions of the artist's work, are ultimately limited to individual analogies between motifs and have not yet helped clarify the many open questions regarding Dürer's stay in Basel.⁶⁰

The analysis of the painting technique and the reconstruction of the artistic processes evidenced in early paintings by Dürer offer many new insights, but also present phenomena that leave room for questions and various models of interpretation. A single characteristic painting technique does not make a Dürer, and in questions regarding attribution and dating it will always be necessary to consult subjective, expert opinions. Therefore, the preliminary conclusion of our investigation is intended not to be a catalogue of criteria for future debates on attribution and dating, but an attempt to offer nuanced insights into complex artistic processes that do not follow a single pattern or linear development. The underdrawings in the early paintings already demonstrate that these phenomena cannot be explained solely on the basis of stylistic development. It is necessary to remember that the underdrawing served functions within the artistic process, and that there may be differences in the preparation and execution of individual works. Furthermore, one must bear in mind the intended interactions with the overlying layer of paint and its individual qualities, such as transparency or opacity. The underdrawing does not represent a completed phase within the process of a work's creation; rather, it can lead to a seamless transition into painting, at which point these two stages continue to influence one another. Furthermore, departures from the underdrawing have been demonstrated by studies using infrared reflectography.

Just as differences in underdrawing cannot always be explained on the basis of style, in our view the same is also true of painting. Therefore, due to a lack of reliable indications about the existence of a workshop prior to 1505, variations in the level of workmanship evident in individual works do not necessarily point to the involvement of assistants, and therefore can hardly be used as evidence of a division of labor in a given work. Among the paintings from Dürer's early work, the portraits of the artist's parents and the self-portraits, as well as perhaps the unfinished "Salvator Mundi," were created without taking economic considerations into account, while the other works, and the portraits in particular, were subject to the agreements made with the respective patrons regarding the

⁶⁰ On the Terence illustrations, see the contributions by Roth and Schmidt in this volume.

⁶¹ Rupprich I, p. 72.

⁶² Cf. summary in Anzelewsky 1991, pp. 13-15.

⁶³ Rupprich II, pp. 95-96.

amount of effort and time to be expended, in addition to formal requirements. While Dürer was prepared to go to any lengths to demonstrate his artistic prowess in his self-portraits, the degree of workmanship applied in other works depended on the individual circumstances of the commission, as the artist's correspondence with Jakob Heller shows. The previously-mentioned letter from August 26, 1509 demonstrates that Dürer did not always execute these works with great enthusiasm, as is evident in his remark that he could make many ordinary paintings in a year and thus also increase his profits. However, he wrote, this was not possible with a diligent attention to detail, and for this reason he preferred to stick to engravings in order to earn more money.⁶¹ Such meticulous workmanship did not bring him vast sums of money, but it did result in fame and admiration.

It may seem pretentious to ask whether Dürer was a great painter, or whether the effect of his paintings was due to his abilities and resources as a gifted draftsman and illustrator. However, to this day the one-sided opinion (in existence even during his lifetime) of Dürer as a master of the black line has led to an implicitly negative opinion of Dürer as a painter.⁶² Yet a detailed investigation of Dürer's paintings demonstrates that in many of these works he sought to achieve the same technical precision and perfection as in his prints, and thus to expand the boundaries of what was technically possible at the time. His ambition to understand and apply art and its resources in their totality is evident in both media. Dürer planned to collect the experiences he gained throughout his painting processes in the first textbook on painting published north of the Alps, in order to pass on his knowledge. He worked on this project from 1507 until his death and wrote various drafts, with the goal of creating nothing less than an equivalent to Vitruvius's "Ten Books on Architecture," as is evident from the work's table of contents.⁶³ Just as this ultimately unfinished work had the highest of ambitions, so too did Dürer's paintings, which express his struggle for naturalism and perfection through a masterful economy of means.

Fig. 17
Unknown Basel Master:
The Adoration of the Magi,
Infrared reflectography (detail
with Melchior), cf. fig. 16

