

18 / “Dead-Coloring,” or Underpainting

Having completed the underdrawing, the artist proceeded to the second stage of the multi-step painting process called “dead-coloring” (*doodverf* in Dutch), or underpainting as it is commonly called today. In one form or another, underpainting was ubiquitously employed from the Renaissance to the birth of the Impressionist movement. Without an adequate mastery of the underpainting technique, the extraordinary pictorial coherence which characterizes baroque painting could not have been achieved.

Underpainting was so important that it was mandatory in the early days of Flemish painting. In 1546, in the ‘s Hertogenbosch guild rules there appears the following regulation: “7. item. All painters will be bound to work with good paints, and they will not make any paintings than on good dry oak planks or wainscot, being each color first dead-colored and this on a double ground...” It was not uncommon in the busier seventeenth-century studios that assistants worked up large amounts of paintings to the dead-coloring stage. In this way, large batches of paintings could be prepared that only needed to be finished by the master.¹ Very few seventeenth-century paintings in the dead-coloring state have survived.

Today, underpainting is seldom practiced, and its underlying logic is not clear even to many practicing painters. For the last century and a half, artists have simply begun to paint with full color directly on their white canvas surpassing any other passage except, perhaps, for an abbreviated sketch. Why then, should a painter labor hours on his underpainting only to cover it up in the later stages of the painting process?

In the simplest terms, an underpainting is a monochrome or a low-key colored version of the final painting. The lack of color probably explains the word “dead” in the term dead-coloring). In the underpainting stage, the artist attempts to fix the main compositional elements, give volume to each form and distribute the darks and lights to create an effect of illumination. A correctly executed underpainting anticipates the artist’s final intentions to a significant degree. Underpainting is particularly recommended for works with intricate compositions or strong chiaroscuro effects. Underpainting was not only a rapid way to envision and eventually correct an elaborate composition; it provided a sort of tonal map to which the subsequent layers of colored paint could be matched—it is much harder to judge tonal value of colored paint than with shades of monochrome—and aided the painter in creating optical effects that cannot be achieved by a direct one-to-one color matching. Underpainting was generally done with cheap earth colors for economic motives and, equally importantly, because dull colors do not overwhelm the eye or adversely affect the colors that would be superimposed over it. By working in monochrome the painter can direct his full attention to tonal relationships and compositional unity.

Forms of underpainting

With the advent of chiaroscuro painting, underpainting underwent a fundamental transformation. The outlines were still relatively thin, although they were executed more flowingly with a fine-

pointed brush. Most importantly, the shadows were blocked in full force, with a brush loaded with translucent or semi-opaque paint. The most subtle chiaroscuro transitions, especially those belonging to human anatomy, were often scumbled with soft, pigment-poor brushes. The deeper shadows were rendered as darkly as they would appear in the final painting, if not darker still. In contrast with early Flemish underpainting methods (fig. 1), the baroque underpainting characteristically exhibits a much looser quality than the finished work. Highlights and details were rarely introduced to avoid distracting from the broader tonal relationships, which are indispensable for creating strong, coherent effects of volume, light and composition. Underpaint was generally rich in pigment and poor in binding medium, which creates a matte effect when dry (it is difficult to paint over glossy paint), or contrarily, washes, which are rich in binding medium.

In the seventeenth century, underpainting appeared in various forms, and it is clear that the defunct term was somewhat flexible. Sometimes the underpainting was executed in strict monochrome and at others as an assembly of evenly blocked-out areas of dull colors that anticipated the final color with a flat tint (localized underpainting). Van Dyck wrote: “Dead-coloring is called the *maniera lavata*, that is to say, the washed manner; because it fills in the area within the outline only with one color.” For most painters, the underpainting was not so much a transitional stage, but a provisionally completed whole.

The underpainting of Del Sarto's (1486–1530) unfinished *The Sacrifice of Isaac* (c. 1527; fig. 2) appears to be an aggregate of the monochrome and the localized method of underpainting. This approach, which allows the painter to adapt features of both types to obtain specific aesthetic outcomes, may have been useful to particularly creative artists who were less likely to follow conventional prescription dogmatically. In any case, the anatomical features immersed in the shadow of the kneeling Isaac, like those of

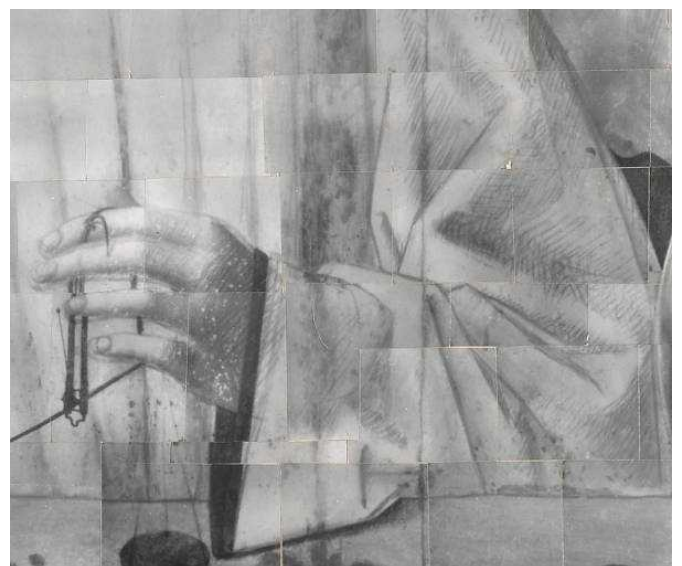


fig. 1 *A Goldsmith in His Shop, Possibly Saint Eligius* (detail of an IRR computer assembled image), Petrus Christus, 1449, Oil on oak panel, 98 x 85.2 cm., Metropolitan Museum of Art, New York

the angel who flutters above him, are firmly underpainted in monochrome with translucent brown paint (umber?). Brushwork is speedy and to the point. The brown paint is so thinly applied in some areas of Isaac's chest that a few lines of the underdrawing along his collar bones can be made out. The barely covered yellowish ground creates the effect of reflected light on the upper chest and right-hand thigh. The light-catching surfaces are brought up with light, flesh-toned paint, thin enough to allow the underdrawing to occasionally transpire. Care has been taken to avoid excessive intermingling the semi-opaque lights and the translucent shadows except ever so slightly where the two contrasting tones abut. The illuminated parts of the angel's body have been left untouched, thereby allowing the warm ground to function, at least temporarily, as a softly illuminated surface. The background tree is vigorously underpainted with dense brown paint, which largely conceals the ground. The rumpled sleeves of Abraham appear to have been initially blocked in with brown but reworked in the shadows with a dull green pigment. This passage would have most likely been glazed with some sort of green, typically verdigris. The foreground and background rock formations are loosely defined with brown underpaint: the background architectural features to the right were subsequently touched up with a bit of local color after being summarily roughed in with lights shades of brown. Other parts of the composition, however, seem to be executed without the aid of a monochrome under-structure, but directly modeled with lighter and darker shades of their respective local color. The densely painted red drapery of Abraham most likely consists of shades of pure vermilion with carefully calibrated additions of black in the shadows. The vermilion of the most advanced part of the shoulder is lightened with a bit of white. This type of preparation was commonly glazed with red madder to create rich red drapery and protect the vermilion from degradation. On close inspection, a small patch of light blue drapery sandwiched between the green and red drapery to the right of Isaac reveals no evidence of brown underpainting, as does the swath of pinkish cloth folded up in the lower left-hand corner of the composition. Analogous compositions by Del Sarto suggest that almost every passage in the present work would necessitate further definition in the working-up and retouching phases.

Monochrome underpaintings were usually executed with earth pigments, especially browns, or neutral grays. Some painters brought up the overall level of finish gradually, while some seemed to have concentrated on the most crucial areas of the composition before moving on to others (fig. 3). For various reasons, raw umber was probably the most frequently employed pigment for monochrome underpainting. It is cheap, stable and semi-transparent. It dries quickly creating a strong, matte film that is very easy to paint over, creating a "friendly," neutral overall effect. By itself, raw umber is an unexciting brown that can range from a muddy greenish to a cleaner brown, but it never approaches the reddish tone of burnt umber or the fiery burnt sienna. Its main drawback is it has a chalky appearance when compared to Van Dyck brown, asphaltum or the deep browns that can be produced by mixing black with red and yellow lakes. But each of these pigments has serious drawbacks with respect to umber. Da Vinci's unfinished *Head of a Woman* (fig. 4) gives one idea of how a monochrome underpainting was done, and some Italian painters imitated his procedures. Sometimes raw umber was deepened with black when greater contrast was necessary, or to further neutralize umber's subdued warmth. Black was used by itself for the underpainting of blue drapery. Also popular were gray underpaintings made with black and white, which are particularly effective for warm color schemes.

In monochrome underpainting, the middle tones were achieved not by physically admixing white with the dark monochrome tint, but by varying pressure of the brush and/or by adding small quantities of drying oil or diluent, allowing the lighter-toned ground to act as the lights. The darkest values were achieved by applying thick paint as densely as possible. Some painters used white to bring up the light-catching parts of form, creating a more dynamic sense of spatial push and pull, as well as to ensure the maximum brilliance of the colors which would be eventually superimposed over it. The *Portrait of a Young Girl, the Daughter of the Artist, Rubens* (fig. 5), by Rubens may give some indication of how a brown monochrome underpainting might be worked up



fig. 3 *Portrait of a Lady and Her Daughter*, Titian, c. 1550, Oil on canvas, 88.3 x 80.6 cm., Metropolitan Museum of Art, New York



fig. 4 *Head of a Woman (La Scapigliata)* Leonardo da Vinci, c. 1500–1505, Oil, earth, and white lead pigments on poplar, 24.6 x 21 cm., Galleria Nazionale di Parma, Parma



fig. 2 Andrea del Sarto, *The Sacrifice of Isaac* (detail), c. 1527, Oil on wood, 178 x 138 cm., Cleveland Museum of Art, Cleveland (OH)



fig 6 *Portrait of a Young Girl, possibly Clara Serena Rubens, Rubens, 1620s, Oil on panel, 35.6 x 26 cm., Metropolitan Museum of Art, New York*

with white (and a touch of local color) to reinforce plasticity and suggest the play of light (see the reflective highlights on the forehead, the tip of the nose and the catchlights of the eyes). Nonetheless, it is difficult to determine if what we see today is a monochrome sketch, complete in itself, or an underpainting that was for some reason not worked up to the same level of completion as a very similar work. In the black-based types of underpainting, instead, variations in tone were generally achieved by admixing white into the black (rather than by diluting or scumbling), a technique that produces a range of fine grays (fig. 7). When black paint is used alone it tends to produce a drab, inky effect typical of the engraving or the lithograph.

Thus, with a minimum of effort and expense, a properly executed underpainting allowed an artist to envision the totality of his idea with reasonable accuracy. He could observe the defective parts of the composition and correct them with ease before attempting to introduce color and fine detail. It is far easier to model and make compositional corrections with a few neutral tones than with complex color mixtures. The German artist Joachim Sandrart (1608–1688) recommended to “examine” the underpainting and then “correct the errors still to be found...” with the same underpainting materials, called *herdoodverven* (re-dead coloring).

Although its function remained the same, the exact pigments, degree of contrast and detail used in underpainting varied greatly. Early Flemish artists defined their underpaintings with extreme care while the underpaintings of Rembrandt and Rubens were much more abbreviated. Rubens was so sure of his drawing skill that he underpainted with a lively expressionist brushwork, capturing the dynamic force of the figures as well as the chiaroscuro transitions, and leaving the definition of form to a later phase (fig. 8). There are many instances in which painters barely retouched the darkest areas of the flesh, allowing the translucent underpaint to function as the shadows in the final painting, not only in the darkest mass shadows but in those typically under the eyes, nostrils and chin (fig. 9). The illuminated areas flesh could be underpainted in strict monochrome



fig. 5 *Portrait of Clara Serena Rubens, the Daughter of the Artist, Rubens, c. 1616, Oil on canvas on wood, The Princely Collections, Vaduz-Vienna*



fig. 7 *Jean Auguste Dominique Ingres and Workshop, Odalisque in Grisaille, c. 1824–1834, Oil on canvas, 83.2 x 109.2 cm., Metropolitan Museum of Art, New York*



fig. 8 *Peter Paul Rubens, Henri IV at the Battle of Ivry (unfinished), c. 1624–1626, Oil on canvas, 174 x 260 cm., Rubenshuis, Antwerp*

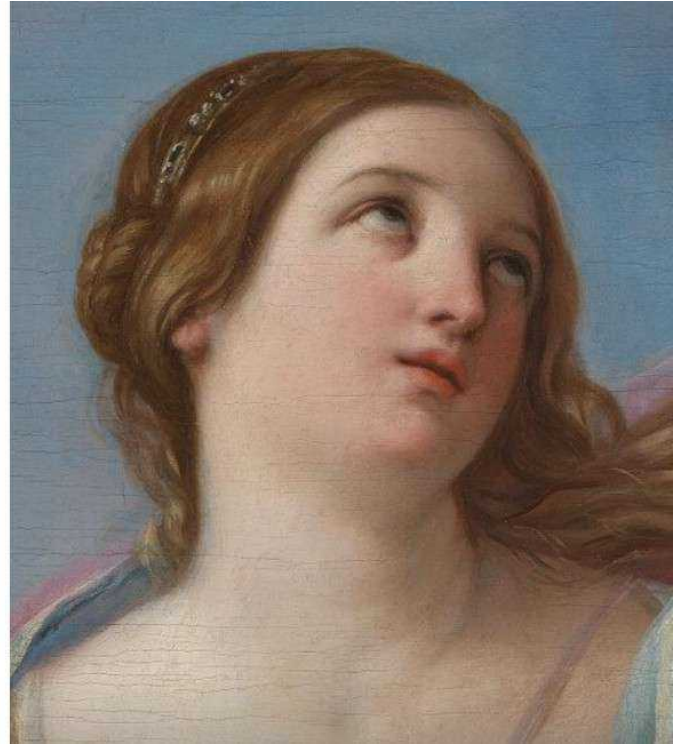
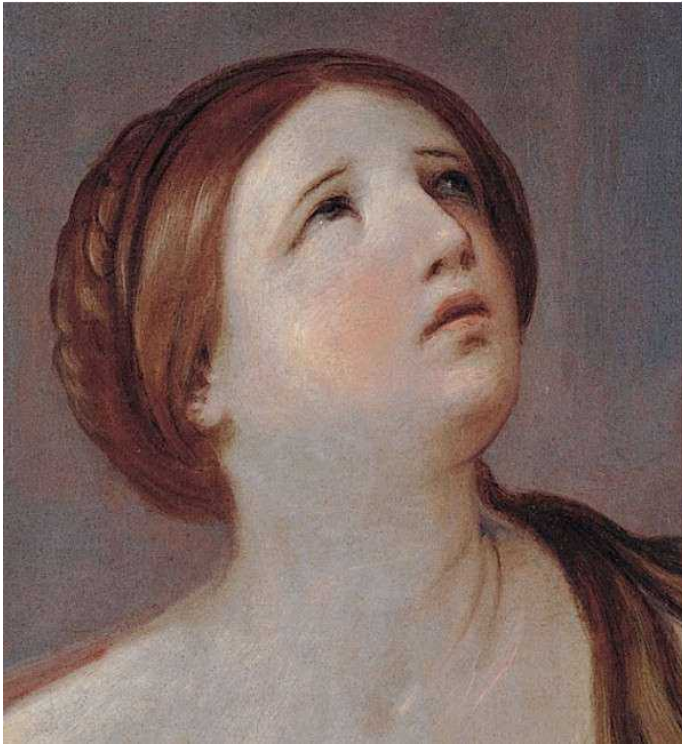


fig. 10 (left) Guido Reni, *Cleopatra* (unfinished; detail), c. 1640–1642, Oil on canvas, 73 x 91 cm. Musei Capitolini, Rome, Italy | (right) Guido Reni, *The Rape of Europa* (detail), c. 1637-1639, Oil on canvas, 177 x 129.5 cm. National Gallery, London

or muted flesh tones (fig. 10), which would be intensified in later phases.

Some Dutch painters, such as Van Goyen, allowed the underpainting to play a fundamental role in the finished work. First, the large masses of darks and lights were loosely brushed in with medium-rich dark paint (fig. 11) without the aid of an underdrawing. Minor forms and effects of light were picked out and further elaborated allowing the whole to slowly coagulate. This method, which recalls a technique first suggested by Da Vinci, was described by Van Hoogstraten as such:

He covered his whole panel with broad strokes, here light, there dark, more or less like a variegated agate or marbled paper, such that various amusing drolleries were to be found in the paint, which he made recognizable with little effort and many small touches, so that yonder appeared a pleasant prospect, adorned with peasant villages, here could be seen an old stronghold with gateway and landing stage and, reflected in the lapping water, ships and barges laden with cargoes or passengers, embarking or disembarking. In short, his eye, as though looking for forms that lay hidden in the chaos of paint, steered his hand and intellect so skillfully that one saw a completed painting before one could properly make out what he had done.



fig. 9 Pontormo, *Monsignor della Casa* (detail), c. 1541–1544, Oil on panel, 102 x 78.9 cm., National Gallery of Art, Washington, D.C.

This manner allowed Van Goyen to complete a landscape in a single day.

By the seventeenth century, underpaintings were executed in oils. However, tempera gives greater luminosity to the superimposed oil paints and has the advantage that it quickly hardens and becomes insoluble with respect to the binding and painting medium of oil color, making it very easy to remove defective overpainting without disturbing the tempera base. However, tempera dries so quickly that fine blending and precise modeling are virtually impossible without resorting to the extremely tedious cross-hatching technique. For this reason, tempera was used for underpainting only by the meticulous Flemish masters.

Traces of Vermeer's underpaintings

As far as it is possible to understand, which, unfortunately, is relatively little, Vermeer appears to have used underpainting methods common among Northern painters. Melanie Gifford, the chief research conservator at the National Gallery of Art who has extensively investigated the technique of the painter, wrote that Vermeer's monochrome underpainting "was not simply a



fig. 11 Jan van Goyen, *View of the Castle of Wijk at Duurstede* (detail), 1649, Oil on panel, 20 3/4 x 29 in, J.Paul Getty Museum, Los Angeles



fig. 12 Johannes Vermeer, *The Geographer* (detail), c. 1668–1669. Oil on canvas, 53 x 46.6 cm., Städelsches Kunstinstitut, Frankfurt am Main, Germany

compositional guide; from the start he used it to establish the play of light as a central element describing the composition. For example, in *Woman Holding a Balance* the broader areas of dark brown underpaint represented the masses of shadows with the light buff color of the ground serving as the lights.⁷² In the *Diana and her Companions* the dark shadows of the figures, particularly of Diana and the seated figure, were blocked in with dark underpaint, which can be made out through abraded paint layers. Other indications of underpainting can be seen in *The Geographer*; one as a triangular-shaped shadow cast by the cupboard onto the floor, slightly behind the two rolls of paper (fig. 12). This area is painted with a dark mixture of brownish-gray paint, which exhibits the sketchy, semi-transparent substance typical of the underpainting method. In the same work, the chassis of the window frame and the deeply shadowed areas of the foreground carpet are roughed in with monochrome underpaint, very likely composed of a brown earth pigment deepened by black. The horizontal and vertical muntin bars of the window seem also to have been underpainted with the same combination of pigments. What is almost certainly the brown underpainting transpires through the more thinly painted passages of the partially completed blue-green gown of *A Lady Seated at a Virginal*, as well as in the interstices between the right-hand contour of the gown and the light gray background wall.

Observation and some technical examinations, including cross sections of paint layers, would suggest that Vermeer was apt to employ raw umber or a mixture of raw umber and black for his underpaintings (fig. 13), although black and red madder, in a more restricted manner, were also detected.

However, other than some evidence of monochromatic underpainting, occasional examples of localized underpainting have also come to light that were meant to rationalize the painting process and/or produce particular optical effects. For example, the large shadowed area of the front side of the oriental carpet in *The Music Lesson* was underpainted with a layer of deep red to create a base on which the elaborate designs of the decorative patterns could be worked up in blues, ochres and light grays. This technique saved

the painter considerable time because it allowed him to concentrate fully on the definition of the carpet's intricate patterns and colors, independently, as it were, from the background color. Superimposing intricate patterns over folded drapery—obviously, the underpainting must be thoroughly dry—was practiced from the very beginnings of Renaissance). In *The Milkmaid*, broad brushstrokes of carbon-rich black underpaint, no longer visible to the naked eye but revealed by an infrared reflectogram, correspond to the shadowed folds of the woman's deep blue apron (dark blue drapery was often underpainted with black). The subtle greenish nuance of the illuminated swags blue tablecloth that drapes from the table of *A Lady Writing* was created not by admixing or superimposing a yellowish tint over the blue color of the cloth, but by allowing an underpaint, including a coarse grade of lead-tin



fig. 13 Hypothetical reconstruction the monochrome underpainting of Vermeer's *The Music Lesson*

yellow, to protrude through the delicate final paint layers of ultramarine and black.³ In *The Glass of Wine*, the floor was initially blocked in with a flat layer of earth red as a base for the red-and-black tiles. The background wall of the same picture was underpainted with ochre to mitigate the pale cool gray which lies above it.⁴ In the *Young Woman Holding a Water Pitcher*, conservators have speculated that Vermeer had applied a base layer of red paint beneath the gilt basin to lend it an inner warmth (some red can be made out with the naked eye along the basin’s upper contour).

Vermeer seems to have used a localized underpainting for depicting textiles in at least three cases. In *The Art of Painting*, a copper-based underpainting (verdigris?) was recently detected below a semi-transparent layer of ultramarine, for the teal textile draped from the table at left.⁵ Verdigris was also detected by Kühn beneath a layer of natural ultramarine in the tablecloth of the *Maid and Mistress*. Above the white ground lies a brown-black layer, then a dark completely transparent layer of green with a high copper content (verdigris?). Over that is a thin layer of lead white, and finally a layer with natural ultramarine.⁶ While restoring *Woman in Blue Reading a Letter*, the conservator Ige Verslype discovered that Vermeer used a copper-green undercoat which, in her opinion, was meant to give the color of the blue morning jacket extra depth, “in all of its glorious nuances.”⁷

After all is said and done, it possible to envision with any degree of certainty what Vermeer’s underpaintings looked like if none have survived? Various hypotheses may be brought forward, but few can be considered more than speculative. Given the scarcity of direct evidence, the only practicable route would be to harmonize what we can glean from historical documents, technical analysis and informed observation regarding Vermeer’s presumed underpainting methods with surviving examples of period underpaintings. But, unfortunately, although underpaintings are occasionally listed in inventories taken a painter’s estates, exceeding few have survived because they would have been quickly worked up by someone else and sold. And of the few underpaintings that have survived none were by the hand of a painter whose technique or style might be analogous to those of Vermeer.

Nonetheless, to provide the more curious reader with a minimally acceptable hypothesis, the author of this volume, who is a painter and who has spent decades studying seventeenth-century painting techniques and attempted to emulate the methods and styles of Vermeer, would venture so far as to submit two versions by his own hand. The first (fig. 14) is underpainted in strict monochrome brown (raw umber and black) on an evenly toned ground, which I believe, is in accordance, or at least not in conflict, with the most reasonable hypotheses advanced by conservators, painters and art historians who are sufficiently knowledgeable in seventeenth-century studio culture. The second version (fig. 15) is essentially the same as the first, but instead of leaving the untouched light ground alone to stand for the surfaces of objects exposed to light, those surfaces which catch the greatest amount of light have been brought up with white. The addition of white creates a more dynamic sense of space and light. The reader will certainly notice that I have used Vermeer’s *Woman with a Pearl Necklace* as the base for both versions, but he will also notice a rather large map of the Netherlands behind the figure, a musical instrument (a cittern) propped up against the back of the foreground chair) as well as a few more floor tiles beneath the table, none one of which is visible in the painting as we know it today. I chose to include these elements because infrared photography has revealed they were indeed part of Vermeer’s original composition, which most likely had been underpainted but not developed any further before being canceled. I do believe that the figure, whitewashed wall, the wall map, the chair and the cittern of the hypothetical underpaintings reflects something of Vermeer’s underpainting method, but I am unsure that either the large blue tablecloth and the shadowed Chinese ginger-jar near the left-hand border of the painting were underpainted with the same color as the rest of the underpainting. I suspect that the tablecloth would have been underpainted with some mixtures of a cheap blue (smalt?) and back while the ginger-jar in black. Also to be noted, an infrared reflectogram image shows that the features of the wall map are brushed much more broadly than in my rendition. This discrepancy may certainly be due to a misunderstanding of Vermeer’s painting technique on my part but it cannot be ruled out that, at least to some degree, the technical limitations of the infrared process do not allow a sufficient grade of precision.



fig. 14 Hypothetical reconstruction of the original composition of Johannes Vermeer's *Woman with a Pearl Necklace* in the initial monochrome underpainting stage



fig. 15 Hypothetical reconstruction of the original composition of Johannes Vermeer's *Woman with a Pearl Necklace* showing the initial monochrome underpainting stage with white paint in the lights