

Christine Ye

Professor Alexander Nemerov; TA: Christina Hobbs

ARTHIST 1B: How to Look at Art and Why: An Introduction to the History of Western Painting

8 December 2023

Viewing the Past Through Tinted Lenses: Color Degradation in Historic Paintings

Historic artwork transcends time: it has outlived the artist, and teases the viewer that it may likely outlive them, too. The art historian and the museum-goer are necessarily engaged in an act of looking backwards, of engaging with a past that is simultaneously within grasp and also many lightyears away. A painting or sculpture on display in a museum “descends” to the viewer, from the original circumstances of its creation to a new context. It thus carries the weight of its “ceaseless existence”, and exists both as a historical artifact and a contemporary creation that exists only in the present moment¹.

Proponents of historic art’s *age value* believe that visible signs of physical decay – cracks, wormholes, tears, creases, water damage, oxidation, perhaps even botched restoration attempts – give works historical authenticity, allows viewers to appreciate and romanticize the damage, and even creates deeper emotional attachment¹. Because aging changes the entire visible face of the artwork, the striking visual impact of centuries of damage can intertwine with the viewer’s own perception of the painting’s journey through time. This occurs even if the audience is not explicitly aware of the changes, or if the original artwork and its subsequent aging are perceived as effectively one and the same. Take, for example, the pristine white marble statues from the Greek and Roman Empires, which invokes a sense of untouchable purity and refined, moderate beauty. The chastity of these statues’ color palettes, in the psychology of the viewer, invokes a feeling of classical perfection and a reverence for the great civilizations past. It is no surprise, then, that those who see ancient sculptures restored to their original color schemes

¹ Nemerov, Alexander. Lectures on “Being in Time” and “Attention”, ARTHIST 1B at Stanford University

find them “jarring”, “gaudy”, or even “lurid”². As demonstrated by the white marble statues, when the shifted shades of historic art combine with the subconscious psychology of how we perceive the past, it can lead to an experience of the artwork that is significantly different than the original, historically accurate version.

Even more recent paintings – merely a few centuries old – have evolved such that they are no longer true to the original colors of the painter. For example, pigments may fade into whispers of their original colors, darken into layers of shadow, or distort in hue. These transformations, although not quite as extreme as the whitewashing of classical sculptures, still deeply change the impact and perception of the painting. Subsequently, there is still marked synergy between the psychological impact of the past and the physical shifts in color paintings undergo on their journey through time. Vincent Van Gogh’s 1888 painting of his house in Arles, France, titled *The Bedroom*, has lost its deeper red pigments over time, bringing a distorted lightness to the piece that is at odds with the painting’s original sleepiness, and Van Gogh’s turbulent final years. In contrast, Johannes Vermeer’s 1665 *Girl With a Pearl Earring* has darkened over time as translucent pigments became opaque, obscuring detail once visible to contemporaries and creating a hiddenness for the modern viewer. Through close examination of these two opposing case studies that span the range of pigment distortions – darkness in Vermeer’s *Girl With a Pearl Earring* and lightness in Van Gogh’s *The Bedroom* – this paper aims to understand how paintings lose their fidelity to their original color palettes, and analyze the impact of discoloration on the viewing experience of aged artwork.

Painted in 1665, *Girl With a Pearl Earring* (Figure 1) depicts a mysterious, unknown woman in front of what appears to be a black background. She is dressed in a deep yellow robe with a white collar; wrapped around her hair is a turban made out of light blue and yellow fabric,

² Talbot, Margaret. “The Myth of Whiteness in Classical Sculpture.”

with a long tail that drapes gently over her shoulder. A *tronie*, the painting depicts a character that is not the model herself, but rather an imaginary figure, in this case dressed almost exotically in a turban no doubt inspired by Eastern fashion, and a massive, incredibly shiny pearl³. Lips parted ever so slightly, the girl's body faces the left side of the painting, but she turns her head towards the painter, creating a dramatic 3/4 profile emphasized by the shadow of her nose, cheekbone, and jawline, which harmonizes with the gentle drape of her headpiece. Tiny glints of pure white – the sparkle in her eyes, the shine of the pearl – serve to hold the viewer's attention, as does her piercingly direct eye contact. While her turban and robe are spotted, draped, even wrinkled in some areas, her face is almost perfect – free of imperfections, beauty marks, or even strongly distinguishing features that might identify her to onlookers.

Johannes Vermeer is celebrated for his ability to lovingly capture the light, weightlessness, and absolute peace of interior domestic scenes, which he usually painted in bright tones⁴. Like his other works, *Girl With a Pearl Earring* captures an infinitesimally small moment in time, the threshold of the girl turning away from or towards the viewer. Yet the painting also stands out in that the subject is totally unknown, a representation of a character in Vermeer's mind rather than the real women in realistic contexts depicted in his other paintings. Thus the viewer's understanding of the girl is a dichotomy: there is a connection in the eye contact she makes with a viewer and the way she holds their attention, but also an identity that, centuries later, is lost to time. Incredibly famous among modern viewers, the girl's identity and backstory are an exciting topic of conversation, an enigma that fuels a feedback loop of popularity. The color, shading, and light of the painting only deepen the mystery.

The figure in *Girl With a Pearl Earring*, upon first glance, seems to appear straight out of the darkness, posing in front of a monochromatic near-black background. This means the viewer

³ Machemer, Theresa. "Researchers Reveal Hidden Details in Vermeer's 'Girl with a Pearl Earring.'"

⁴ Nemorov, Alexander. Lecture on "Moments of Being"

is unable to actually locate her in a physical space; she is more of a vision than a real, physical girl. But by applying modern optical and X-ray imaging techniques, researchers discovered that the background in *Girl With a Pearl Earring* is not actually opaque darkness⁵. Rather, the background was actually composed of layers of translucent green pigment over a dark underpainting, with the pigment becoming opaque over time such that lighter details were eventually obscured. Evidence was found for diagonal lines of color in the upper right-hand corner emulating ripples in a piece of fabric, suggesting that the background was actually a dark green curtain⁵. This places the girl in a real-world environment, and suggests Vermeer originally painted her inside a house. But when the painting is viewed today, thanks to the shifts in pigment opacity the room's mundane details are lost to time. With the disappearance of the curtain comes the loss of any details that might contextualize the girl; the unidentified woman emerges from a mass of plain, black shadows, her mystery only deepening with time.

In the case of *Girl With a Pearl Earring*, the tangible, physical shifts that the artwork has undergone over time invokes a sense of lost understanding that couples with the psychological weight of the past. Any artifact with a long and storied history necessarily carries some heft in the mind of the viewer, an appreciation of the secrets that have been lost to time. The modern museum-goer acknowledges that they will never have the complete picture, and possesses the freedom to invent their own mythologies in the void. And in this painting, the literal changes that the pigments have undergone over three and a half centuries have a synergistic effect with the audience's preconceptions. The *Girl* becomes more of a mystery as the shifting color palette separates her from her original domestic context. Without an understanding of what the original painting actually looked like, the audience readily embraces the enigmatic portrait, and ponders the identity of the unidentified, funny-dressed girl appearing from the darkness.

⁵ Machemer, Theresa. "Researchers Reveal Hidden Details in Vermeer's 'Girl with a Pearl Earring.'"

The darkening of the *Girl* over time not only impacts perceptions of her identity, but also the nature of Vermeer's portrayal. *Sfumato*, literally translating to “shaded off” in Italian, refers to the painting technique of defining subjects with smoky, borderless shadows⁶. Closely related is *chiaroscuro*, the use of strong light-dark contrast to breathe three-dimensional life into two-dimensional painting subjects. Vermeer uses both in *Girl*, captures the subject from the side as she looks over her shoulder, a bright light source from somewhere to the upper left casting shadows on her cheek, temple, and nose, as well as the folds of her turban and the back of her robe. This creates a spotlight-like effect on the girl, making her stand out from the curtain background. Yet when viewed against a pitch dark background, without the domesticating context of the curtain folds, the shadows in *Girl With a Pearl Earring* lose their gentle intimacy. The contrast of the girl’s pale skin with the dark background makes the contours of her face appear harsher. With the *Girl* is placed in a black void, as a viewer today would see, the lighting shifts from that of a home to that of a stage, or perhaps even a studio photoshoot.

Although the change in the painting is subtle – a couple of shades darker, a handful of lines lost – the impact on the experience of a modern audience is distinct. The mystery of her identity and the dramatization of her portrayal is especially evident in recreations and parodies of the *Girl*: the background is pure black, the lighting harsher, the shadows deeper, the poses and facial expressions harsher⁷. While for 17th-century viewers the painting fits in with Vermeer’s trove of household scenes, seemingly mundane images captured lovingly and gently with oil on canvas, in the modern imagination the painting loses this caring touch, and takes on a drama and personality made possible by the darkening of the pigments over time. The relatability of Vermeer’s domestic scene is lost both because of the chromatic shifts, and the psychological

⁶Nemerov, Alexander. Lecture on “The Self Undone, The Self Become”

⁷“Johannes Vermeer -- Girl with a Pearl Earring.” Mauritshuis.

separation viewers place between their own homes and this relic from the past. Instead, pushed by the subconscious gravity of the centuries-old painting – the grandeur and hiddenness of the past – the modern-day viewer invents the narrative of the *Girl* as enigmatic, dramatic, and dark.

Two centuries later, painters struck by the animation and light of open-air scenes sought to capture fleeting “impressions” of the world around them⁸. These painters – Impressionists – made use of bright palettes to more accurately capture the world around them. They depicted shadows and highlights in color rather than black and white tones, juxtaposed complementary colors to dramatic effect, and strived for the saturation of sunlit scenes. Vincent van Gogh, a generation older than the Impressionists, drew from their saturated, lively palettes, as well as the colors and lines of Japanese prints. In letters to his brother, Van Gogh declared himself as an “arbitrary colorist”, and wrote about his use of bright blocks of colors with figurative meaning⁹. For example, he used red and green tones as “passion”, “blood”, and a violent “clash”, and depicted “infinity” as “the richest, intensest blue that [he] could contrive”⁹. Van Gogh’s colors were intended to invoke a visceral emotional reaction, giving his palette a symbolic importance. Yet these new colors, made possible by the widespread availability of cheap, bright pigments invented in the 19th century, later proved to be unstable, fading and distorting over mere decades¹⁰. Today, like *Girl With the Pearl Earring*, many of Van Gogh’s paintings also show signs of color degradation, shifting the emotional response Van Gogh originally engineered.

In winter of 1888, Van Gogh moved from Paris to a house in Arles, France, also known as the “Yellow House”, which he described as decorated with green blinds, a whitewashed inside, and red tiles. In a “little white studio” over the course of 15 months he produced over 180 paintings, and where he lived full-time until his stint in the Saint-Remy mental asylum⁹. One of

⁸ Nemerov, Alexander. Lecture on “The Clearing”

⁹ Pickvance, Ronald. *Van Gogh in Arles*. New York: Metropolitan Museum of Art, 1984.

¹⁰ Berns, Roy S. “Digital Color Reconstructions of Cultural Heritage Using Color-managed Imaging and Small-aperture Spectrophotometry.”

these paintings, *The Bedroom*, depicts Van Gogh's own bedroom. In *The Bedroom*, the walls are a pale sky blue, slightly patchy on the upper right, the doors on either side a slightly darker shade; on the back wall is a large window framed in green, with lightly tinted glass. The floor, grayish-brown in some parts and mint green in others, is streaked with brushstrokes, with edges of wooden tiles defined only in some areas with thick brown lines. Hanging on the rightmost wall are two sketches and two portraits, *The Poet* and *The Lover*. Both are sketched in crude detail and thick, overlapping brush strokes, a solid-colored patchwork of the original inspiration. On the back wall hangs a small rectangular mirror and a framed landscape of unknown origin, perhaps a Japanese print. Two yellow-brown chairs with pale green cushions sit by the left door and the window, respectively, both facing a bed made of the same yellow-brown wood and draped with a brownish-red blanket. A bedside table made of slightly darker wood, set with some manner of glass artifices, sits in the corner. The neatly arranged clothing – a hanging rack with jackets and a hat behind the headrest, a red-striped towel perched by the left door – suggest the house is kept in neat order. Altogether, the room is clearly a well-loved place in Van Gogh's mind, a place worthy of attention, captured in caring detail in the painting.

As it is viewed today, *The Bedroom* looks almost whimsical in its composition and color scheme. The painting is composed of rigidly defined objects in bright solid colors, each outlined in dark brown, blue, or green lines, almost like a comic book graphic. There is no subtlety or even shadow in the painting; each object has its own flat color. Rectangles and trapezoids – window panels, seat cushions, wooden planks, portrait frames – echo each other from across the room. Even the hat and the towel follow subtle geometric guidelines. The color palette is dominated by the color of the walls, a light sky blue, which is echoed in the pitcher on the bedside table and the clothes hanging behind the headboard. Also prominent are the cool green

of the floor tiles, the lighter green of the window glass, and the warm yellow-brown of the furniture. The only red in the painting is the blanket on the bed, which the eye is naturally drawn towards. The impact of the color is emphasized by the lack of three-dimensional realism, especially in the wood of Van Gogh's bed and paint on his walls, giving the painting a youthful and imaginative air. These bright, pastel-like colors also have an almost boyish quality, emulating a lightness that might suggest a sunny morning in Arles.

Writing about *The Bedroom* in another letter to his brother, Van Gogh described his vision for the role of color: “the color has to do its job here, and through its being simplified by giving a grander style of things, to be suggestive here of rest or of sleep in general. In short, looking at the painting should rest the mind, or rather, the imagination”¹¹. Like the other works Van Gogh produced in Arles, the color palette was intended not to capture an accurate image but to evoke a specific feeling. For example, the Yellow House in reality had whitewashed walls – the color the walls were given in the painting was an intentional, emotional choice. Clearly, knowledge of Van Gogh's intended color scheme is paramount for understanding the viewing experience of the painting. However, *The Bedroom* made extensive use of red lead and carmine lake pigments in order to create a vibrant red tone, both of which are unstable on the timescale of decades. As a result, while the chrome yellows, Prussian blues, and zinc whites of the painting have remained relatively unchanged, the reds, purples, and browns are distorted for the modern viewer¹². The painting visible in the Rijksmuseum is indeed quite different from the reproductions created by art historians (see bottom half of Figure 2), which rely on X-ray pigment analysis, microscope inspection of paint chip samples, and Van Gogh's own writings to envision what *The Bedroom* looked like in its original conception¹³.

¹¹ Letter from Vincent van Gogh to Theo van Gogh, 1888.

¹² Salvant, Johanna. “A comparative study of Vincent van Gogh’s Bedroom series.”

¹³ “Vincent van Gogh - The Bedroom.” Van Gogh Museum.

Unlike the Vermeer, *The Bedroom* has lightened and distorted in color over time. In his letters, Van Gogh describes the walls as “pale violet”, the floor as “red tiles”, the bed and chairs as “fresh butter yellow”, and the doors as “lilac”¹¹. Indeed, recreations of the original painting feature purple walls and doors, red floors, and a pale pink sky on the back wall’s landscape painting¹⁴. The original palette of the painting is dominated by a rich purple, a tone that immediately soothes the eye and invokes feelings of night, not day¹⁵. The same is true for the warm red-brown tone of the floor tiles, which is rich and inviting, in contrast with the whimsical greens we see today. Moreover, because only the red pigments have visibly shifted, the restorations feature complementary colors – purple and yellow, blue and orange, red and green – that were much less obvious in the faded version. In the faded version, the complementary pairs still exist but are much less balanced, with the sheer surface area of green and blue outshining the reds and oranges; in the true-to-original recreations, the color pairs are properly balanced and create harmony in the painting, giving it a relaxing cohesiveness. On the whole, the re-addition of red to the painting breathes a warmth and heaviness into the painting. While *The Bedroom* today feels cartoonish, light, even cheerful, the “unshakeable repose” Van Gogh aimed to capture is evident when the painting is restored to its original color scheme.

In his artwork, Van Gogh’s use of color was extremely emotional, reflecting his internal state while also creating a distinct visual experience for the viewer. *The Bedroom* in particular was almost an emotional crutch; he created two more “repetitions” after cutting off his ear and subsequently being hospitalized, and described in a letter how “when I saw my canvases again after my illness, what seemed to me the best was the bedroom”¹⁴. Yet the modern-day viewing experience of *The Bedroom* nearly erases this depth, replacing the comfort, seclusion, and despair with whimsy and levity. Indeed, in today’s world Van Gogh is a figure whose turbulent

¹⁴ “Vincent van Gogh - The Bedroom.” Van Gogh Museum.

¹⁵ Connor, Steve. “Van Gogh’s purple period: true colours of his paintings revealed.”

emotions captivate audiences, whose struggles with mental health and instability are often either glossed over or over-dramatized for entertainment. The romantic view of history – the psychologically tendency of the human mind to censor negative emotions from the past – is thus deeply intertwined with the two contrasting experiences of *The Bedroom*. Just as the aged, lightened version of the bedroom replaces the feeling of deep repose with one of bright alertness, the modern imagination prefers to see Van Gogh himself as a tortured but brilliant genius, the idealized “starving artist”, rather than truly acknowledge his exhaustion and turmoil. Ultimately today’s viewers, who will only see the faded version of *The Bedroom*, have an experience that is at odds with Van Gogh’s emotions, and yet aligned with their own subconscious understanding of Van Gogh’s past and history itself.

Color, as used by Vermeer to depict gentle love and attention, or by Van Gogh to communicate intangibly strong emotion, is unfortunately a fleeting messenger. In both case study paintings, different pigments have faded at different rates and different ways, oxidizing and morphing until the painting was deeply and fundamentally changed, even if the viewer today is not conscious of the shifts that have been undergone. And yet while two pieces of artwork can age in completely different directions, gaining new layers of shadow like Vermeer’s *Girl With a Pearl Earring* or taking on new meaning through fading and distortion as in Van Gogh’s *The Bedroom*, the “new versions” of these paintings are, in their own unique way, both increasingly aligned with the psychological impact of the past. The audience is equally able to picture the past as dark and mysterious, or as light and whimsical, just as the paint itself may also shift in either direction. Overall, no matter the painting, the audience's experience is deeply affected by the changes undergone over time. Yet even if the viewer is not consciously aware, these changes are readily aligned with one’s invented notions of the past, enriching the experience of the artwork.



Fig. 1, Vermeer, Johannes, *Girl with a Pearl Earring*, oil on canvas, 1665



Fig. 2, Van Gogh, Vincent, *The Bedroom*, oil on canvas, 1888.
Top: current color; bottom: original color restoration

Bibliography

- Berns, Roy S. "Digital Color Reconstructions of Cultural Heritage Using Color-managed Imaging and Small-aperture Spectrophotometry." *Color Research & Application* 44, no. 4 (2019): 531–46. <https://doi.org/10.1002/col.22371>.
- Connor, Steve. "Van Gogh's purple period: true colours of his paintings revealed." *The Independent*, February 15 2016
- Harris, Gareth. "Online storm erupts over AI work in Dutch museum's 'Girl with a Pearl Earring' display." *The Art Newspaper*. Accessed 6 December 2023.
<https://www.theartnewspaper.com/2023/03/13/online-storm-erupts-over-ai-work-in-dutch-museums-girl-with-a-pearl-earring-display>
- "Johannes Vermeer -- Girl with a Pearl Earring." Mauritshuis. Accessed December 4, 2023.
<https://www.mauritshuis.nl/en/our-collection/artworks/670-girl-with-a-pearl-earring/>.
- Machemer, Theresa. "Researchers Reveal Hidden Details in Vermeer's 'Girl with a Pearl Earring.'" Smithsonian Magazine, April 29, 2020.
<https://www.smithsonianmag.com/smart-news/hague-shares-new-insights-vermeers-girl-pearl-earring-180974775/>.
- Pickvance, Ronald. *Van Gogh in Arles*. New York: Metropolitan Museum of Art, 1984.
- Salvant, Johanna. "A comparative study of Vincent van Gogh's Bedroom series." *The National Gallery Technical Bulletin 30th Anniversary Conference Postprints*, 2011.
- Talbot, Margaret. "The Myth of Whiteness in Classical Sculpture." *The New Yorker*, October 22, 2018.
<https://www.newyorker.com/magazine/2018/10/29/the-myth-of-whiteness-in-classical-sculpture>.
- "Vincent van Gogh - The Bedroom." Van Gogh Museum. Accessed December 4, 2023.
<https://www.vangoghmuseum.nl/en/collection/s0047v1962>.
- Vincent van Gogh to Theo van Gogh (Arles, October 16, 1888).
<https://vangoghletters.org/vg/letters/let705/letter.html>